

# College Students Online Love to Participate in the Promotion Activities

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## Abstract

With the rapid development of big data, there are more and more consumption ways of online shopping online. As China's e-commerce platforms continue to expand, various e-commerce shopping festivals also emerge. At the same time, the competition among online businesses has become increasingly fierce, and different promotion means emerge in endlessly. Therefore, businesses should seize the opportunity, seize the opportunity, and study the vast consumer group of college students. College students are an emerging consumer group of online shopping software. Many college students will buy on impulse under the stimulation of various promotional activities. For example, after swiping discounts on TikTok, Kuaishou and other video software, they are easy to have the desire for impulse consumption. In addition, college students mainly show the continuity of purchase when buying goods. If they have a good experience in the process of buying goods, they may continue to buy products of the same brand, and will recommend the products to their friends and relatives. College students stand at the front of the consumption concept, easy to contact, but also easy to accept new things, consumption concept ahead and change relatively fast. Secondly, college students should pursue the practical ability brought by commodities more often. College students have now become one of the main forces of consumption. This paper takes the domestic online consumption environment as the research background, and through the review of questionnaires and literature, studies the influence of product promotion mode on the impulsive purchase of product promotion. his paper explores which kind of promotion method that college students love to participate in in online shopping in China. The consumption phenomenon of college students is expected to provide reference for merchants to carry out online shopping promotion.

## Keywords

Online shopping, promotion, college student

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## 1. A General Overview

### 1.1 Characteristics of Online Shopping of College Students

As a special and important part of the society, the shopping characteristics of college students not only reflect the vitality and fashion of young people, but also show their unique consumption concept and value orientation. The following is a general description of the shopping characteristics of college students:

#### (1) Pursue personality and fashion

College students are in the prime of life, full of vitality and exploration spirit. Their pursuit of personality and fashion, reflected in shopping, they tend to choose products that can show their own style and taste.

Whether it's clothing, shoes, hats or electronics, they all want to show their uniqueness and fashion sense by shopping. Therefore, the trend elements, novel design and personalized customized products on the market can often attract the attention of college students.

(2) Pay attention to cost performance and practicality

Although college students pursue individuality and fashion, they also know that money does not come easily, so they will pay attention to cost performance and practicality when shopping. They make decisions by comparing the performance, price and user reviews of different brands and products, aiming to save money while buying their desired products. In addition, for daily necessities, college students are more inclined to choose practical and reliable quality products to meet the needs of daily life.

(3) Online shopping becomes the mainstream

With the continuous development of Internet technology, online shopping has become the main way of college students' shopping. They can browse various products through e-commerce platforms, learn about price, performance and other information, and buy them anytime and anywhere. The convenience, richness and preferential activities of online shopping are deeply attracting college students. At the same time, the rise of social media and short video platforms has also provided more shopping references and recommendations for college students, further promoting the development of online shopping.

(4) Be vulnerable to group influence and word of mouth communication

College students live in a collective environment, and the communication and influence between classmates and friends can not be ignored. Their shopping decisions are often influenced by the people around them, such as classmate recommendation and friend sharing. In addition, word-of-mouth communication also plays an important role in college students' shopping. If a product is widely praised, it is likely to quickly become popular among college students. Therefore, for businesses, pay attention to product quality and service quality, actively create a good reputation image, is the key to attract college students consumers.

(5) The awareness of environmental protection is gradually increasing

With the popularity of environmental protection concept, more and more college students begin to pay attention to environmental protection issues, and reflect it in their shopping behavior. They prefer to choose products made from environmentally friendly materials, supporting green packaging and recyclable shopping methods. At the same time, they will also pay attention to the environmental protection policies and measures of businesses, and choose those businesses who have a sense of social responsibility and actively participate in environmental protection undertakings for consumption.

(6) Rational consumption and impulse shopping coexist

College students show both a rational side and sometimes are driven by impulse when shopping. In the face of large spending or important decisions, they often deliberate and weigh the pros and cons. However, they may also be attracted by the price to make impulse purchase decisions in the face of some promotions or time-limited offers. Therefore, businesses need to fully consider their consumer psychology and behavioral characteristics and formulate appropriate marketing strategies when conducting marketing for college students.

To sum up, the shopping characteristics of college students not only reflect the vitality and fashion pursuit of young people, but also show their rational and practical consumption concepts. As the society continues to develop and change, these characteristics may also change accordingly. Therefore, we need to continue to pay attention to the consumption trends and trends of college students, in order to better meet their needs and promote the healthy development of the market.

## 1.2 Characteristics of the Five Promotion Methods

(1) Discount and promotion

Discount promotion is one of the most direct and traditional promotions. It is characterized by a direct price reduction, and consumers can clearly see the amount of savings, so it has a strong appeal. Discount

promotions can quickly increase sales and stimulate consumers' desire to buy. However, discount promotions also have some disadvantages, such as raising consumers' doubts about the quality of the products, or causing a decline in the brand image. Therefore, when using discount promotion, merchants need to weigh the pros and cons and set the discount range and period reasonably.

#### (2) Red envelope / shopping voucher issuance

As a virtual currency, red envelopes and shopping vouchers can increase consumers' purchase intention to a certain extent. They are characterized by strong flexibility, and can be customized according to the needs of merchants, such as setting different denominations, use conditions, etc. In addition, red envelopes and shopping vouchers can also increase consumers' stickiness and encourage them to buy them again. However, the distribution of red envelopes and vouchers also needs to control costs to avoid excessive profits.

#### (3) Full sales promotion

Its characteristic is to require consumers to reach a certain consumption amount to enjoy preferential treatment, such as full 100 minus 20. Full sales promotion helps to increase the customer unit price and promote consumers to increase the purchase volume. At the same time, by setting different full quota conditions, businesses can also guide consumers to buy more goods. However, full sales promotion may also lead to consumers to buy unnecessary goods in order to raise orders, increasing the risk of returns.

#### (4) Limited time / limited purchase

It is characterized by a limited time or quantity, and consumers need to complete the purchase within the specified time or quantity. This promotion can stimulate consumers' desire to buy and encourage them to make decisions as soon as possible. At the same time, limited time / limited purchases can also help increase their scarcity and increase their attractiveness. However, this promotion may also cause consumers to be disappointed or dissatisfied with missing opportunities.

#### (5) Freight rate discount

Freight discounts are particularly common in the e-commerce sectors. It is characterized by reducing or exempting consumers from freight expenses, thus lowering the threshold of shopping. Freight discounts can help increase consumers' willingness to buy, especially for small orders or heavy goods. In addition, freight concessions can also increase the competitiveness of businesses, to attract more consumers to choose their own products. However, freight discounts may also increase the operating costs of merchants, so merchants need to weigh them according to the actual situation.

To sum up, each of the five promotion methods has its own characteristics, and businesses can choose the appropriate promotion methods according to their own product characteristics, market demand and budget situation. At the same time, businesses also need to pay attention to the control of promotion costs to avoid excessive promotion resulting to profit decline. In practical application, businesses can also combine these five promotional methods in combination to achieve better promotion effect.

### **1.3 Research Significance**

Combining the shopping characteristics of college students with the characteristics of five promotion methods can formulate promotion strategies for college students more accurately and improve the pertinacity and effectiveness of promotion activities. At the same time, this research also helps enterprises to better understand the market of college students, grasp the market trend, and provide strong support for the future market expansion and product development.

To sum up, this paper is of various significance to study the shopping characteristics of college students and the characteristics of the five promotion methods, which can not only help enterprises to develop more effective marketing strategies, but also promote college students to form a healthy consumption concept and promote the healthy development of the market.

### 1.4 Literature Reference

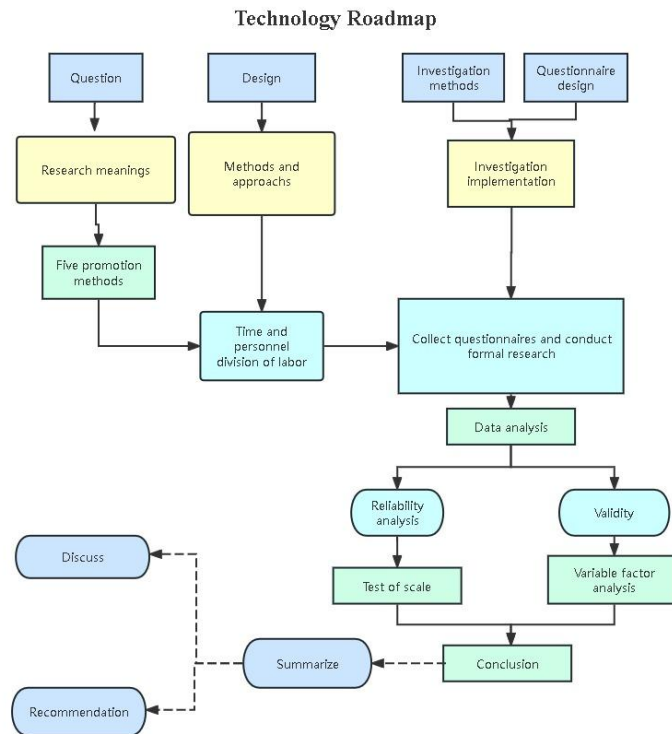
College students are the main force of online shopping and have their own consumption characteristics. Jiang (2023) in Anhui school students for research, the survey found: “00” in higher vocational college students for network shopping section has strong participation, price is the main reason of driving higher vocational students shopping decisions, however, the research after data analysis the final conclusion is that the most popular students like promotion is limited / limited purchase, and the merchants provide mail package benefits, but when the merchants do price discount, more can attract college students to browse the page. This is not the same as the views of our predecessors.

With the rapid promotion of e-shopping platforms in colleges and universities, there are more and more e-shopping service websites that college students can choose freely. According to Ge et al. (2022), the most popular online shopping service platforms among college students are Taobao (55.6% active users), Jingdong (31.5% of users), Youpin Hui (8.4% total users), goods (3.4%), and other platforms (1.1%).

Based on the consumption psychology of college students is not fully mature enough, and the consciousness and ability of network rights protection are insufficient, it is necessary to guide college students to establish a rational consumption concept, and promote college students to regulate their own consumption behavior and achieve reasonable consumption. And create a good and harmonious campus shopping atmosphere, so that college students in such an atmosphere, constantly improve their own consumption awareness. At the same time, the behavior of merchants need to standardize, relevant departments also need to strengthen supervision, shopping platform also should take measures to supervise the business behavior and broaden the channels of rights protection, college students consumers, platform, government, businesses need to give full play to their role in the network rights construction, guide college students can on the basis of rational consumption, can safeguard their legitimate consumer rights and interests, improve the legal knowledge, become knowledge have the ability to safeguard their legitimate rights and interests of outstanding college students.

### 1.5 Technical Roadmap

Figure 1: Technology roadmap



## **2. Conceptual Design**

### **2.1 Investigation Methods and Research**

#### (1) Literature research method

Check the relevant literature of predecessors on the website, basically understand the relevant information about business promotion activities, consult the theoretical sources of research, find the questionnaire of previous research, and design the questionnaire and data analysis in the next step.

#### (2) Questionnaire survey method

After reading the literature, the questionnaire was designed, and the questionnaire and questions were determined, and the questionnaire was distributed online to monitor the quality of the recovered questionnaire data, organize the data, and conduct the next step of data analysis.

#### (3) Data analysis method

For the data collected by the questionnaire, SPSS20.0 software was used for data analysis and statistics. Analysis of variance, factor analysis and correlation analysis were used to verify the research hypothesis, and finally draw conclusions and suggestions.

In order to study the contemporary college students online shopping favorite to participate in the promotion type, first of all, we through the relevant literature to understand the current status quo of college students online, understand their dependence on online shopping, such as the cost of living need online food, more need budget each spending is cost-effective, secondly we offline visit part of college students, interview them face to face, understand their online habits with platform, and the most often participate in shopping promotion way, to determine the topic of the questionnaire. Before the formal questionnaire, we have carried on the survey, and the topic is modified and perfect, finally the questionnaire, and back the questionnaire for a preliminary screening, effective available data, then use SPSS20.0 data analysis of effective data results, to get some results.

Through the preliminary data analysis, we conclude that the total cost of college students on online shopping is about 300 yuan. Specifically, 31.87% of students spend online shopping costs less than 50 yuan per month, 31.14% spend their expenses between 300 and 500 yuan, and 12.69% of students spend online shopping costs more than 500 yuan per month. 10.14 percent of people charge between 50 and 100 yuan per month, and 14.16 percent charge between 100 and 300 yuan

## **2.2 Scheme Design**

### **2.2.1 Design of the Survey Scheme**

#### (1) Purpose of the investigation

First of all, this survey uses questionnaires to analyze the preferential attitude of college students towards online shopping through empirical research. With the gradual development of network consumption, electric business platform sales gradually increase, increasingly good development prospects, college students as the main force of young people consumption, make about their attitude towards network shopping is crucial, if you can grasp only college students online shopping preferential direction, will undoubtedly make a good contribution to the future development of network shopping

#### (2) Survey subjects

Questionnaire survey object: college students in Changchun city

#### (3) Investigation process

Pre-investigation: the line down Changchun university campus intercept, focus on whether often online shopping investigation.

Network survey: According to the network data, the current online shopping needs of college students, the satisfaction of college students to the e-commerce platform, and the willingness and demand of college

students for online shopping, the most important is the amount of money that college students are willing to pay in online shopping.

Interview: Select some college students for a simple visit to understand the preliminary situation.

#### (4) Investigation method

This experiment mainly adopts the method of combining questionnaire survey and literature research, and is supplemented by the method of secondary data and network survey, and the combination of quantitative and qualitative analysis.

### 2.2.2 Statistical Analysis Method

Statistical analysis is divided into qualitative analysis and quantitative analysis. Qualitative analysis is an exploratory research method designed to provide a deeper understanding and understanding of problem orientation or initiation, or use qualitative analysis to define problems or find ways to deal with the problem. However, the samples for qualitative analysis are generally few, and the accuracy of the results may be difficult to guarantee. Therefore, qualitative analysis requires analysts to have a high professional level, and qualitative analysis is a kind of judging the nature, characteristics of things, the development and change of the analysis object mainly depends on the specific operation of the analysts and the past and present situation of the analysis object and the latest current situation investigation.

## 2.3 Questionnaire Design Scheme

The questionnaire is based on the types of users who are mainly college students. The questionnaire is divided into three parts. One is the basic information of the respondents: including the gender, age, study subjects and monthly living expenses; the other is the characteristics of users: including monthly online shopping amount, preferential attitude, online shopping attitude, etc. Third, the influencing factors of college students' online shopping: this part is composed of a four-point scale of evaluation type

### 2.3.1 Questionnaire Process

There are two main ways to collect formal questionnaires: online distribution and on-site distribution. Taking college students from Jilin Province and Changchun city as the respondents, 1117 questionnaires were collected and 1095 valid questionnaires were collected, with a recovery rate of 98%. The questionnaire was collected from 31 January 2024 to 10 February 2024 for one and a half months. After data collection, it were processed and analyzed using SPSS software, and the questionnaire was tested.

### 2.3.2 Investigation Time

December 15,2023-April 5,2024

## 2.4 Investigation and Organization Work

### 2.4.1 Organizational Division of Labor

*Table 1: Organization division of labor*

Person	
Han Mengdi	Determine the specific process of the survey implementation, read the literature, retrieve the relevant literature, and be responsible for the general overview of the report
Jia-ze Chen	Determine the division of labor and time arrangement, and make a table
Mi handsome	Pre-investigation and interview, and conduct the specific implementation arrangements of the survey
Zhang Lin	Design the questionnaire and perform data analysis on the questionnaire
Gu Han meaning	Sent and was responsible for collecting the questionnaires

During the implementation of the survey, we mastered the relevant knowledge through the online related courses. Personnel and time are arranged and divided, as shown in the table above.

## 2.4.2 Arrangement of investigation

Table 2: The survey schedule

start stop time	Investigation steps and contents	participant
2023.12.15-- 2024.01.15	Read the relevant literature of CNKI, and have many group discussions. Determine the initial investigation ideas and technical roadmap, determine the time arrangement and personnel division of labor.	Team staff
2024.01.16-- 2024.01.30	On the basis of the previous questionnaires, the topic of the questionnaire was determined according to the interview. The final questionnaire was determined on the basis of the pre-survey.	
2024.01.31-- 2024.02.10	Prepare questionnaire distribution and determine quality control measures during the questionnaire filling; assign assignment during the survey.	
2024.02.11-- 2024.03.20	Entering the formal investigation stage, the data was obtained by issuing the online questionnaire, and the SPSS 20 was used to process and analyze the questionnaire data. The group collaborated in writing the study.	
2024.03.21-- 2024.04.01	Group discussion, drawing conclusions and recommendations. Make the PPT and record the video from the report. Submit results.	

## 3. Investigation Implementation

### 3.1 Specific Process of Investigation and Implementation

#### 3.1.1 Interview Process

Online shopping promotions are mainly included

1. Discount promotion 2. Combination sales promotion 3. Second kill promotion 4. Time / free promotion 9.

Chinese scholars Zhao Li and Luo Ya (2008), through the analysis of the three e-commerce platforms of Yixun, Vipshop and Taobao, found that there are generally eight promotion methods in e-commerce companies, mainly including price reduction, discount, coupon return, lottery, free mail, flash sale, rebate and so on. Lin Jianping (2012) obtained five online holiday promotion methods by analyzing the marketing strategies launched by e-commerce during the festival, namely, pre-sale mode, purchase restriction strategy, grab red envelope, free mail, and mobile port.

We selected some college students for interviews, and finally established the five common promotion methods to be studied in this paper, namely 1. Full reduction promotion 2. limited time / limited purchase promotion 3. red envelope / shopping coupon 4. Price reduction 5. free mail.

Figure 2: Interview photos



### 3.1.2 Investigation Process

This questionnaire is mainly distributed in the form of questionnaires, including questionnaire star website, WeChat circle of friends, QQ group, etc., to college students from all over the country. With the help of teachers and students, a total of 1117 questionnaires were distributed, and 1095 valid questionnaires were finally recovered, with a recovery rate of 98%.

## 3.2 Pre-research

### 3.2.1 Pre-investigation and Introduction

The pre-investigation phase is the basis of the whole survey process. Its purpose is to determine the purpose, object and scope of the survey, design the questionnaire or interview outline, and predict the possible problems and formulate the coping strategies. At this stage, the researchers need to deeply analyze the research topics and clarify the core issues and secondary issues of the investigation, so as to lay a solid foundation for the formal investigation.

In the operation part of the pre-investigation, the literature review is generally conducted first, to understand the previous research results and shortcomings, and to provide theoretical support for their own investigation. Then, the rationality of the questionnaire design and the completeness of the interview outline were tested through the small-scale trial survey or expert consultation. In this process, potential deviations and omissions can be found and corrected. In addition, the pre-survey should also include the consideration of the sample selection method to ensure that the sample can represent the overall population and improve the credibility and representativeness of the survey.

Only after the pre-investigation is completed can we officially enter the investigation stage.

### 3.2.2 Specific Steps of Pre-investigation

(1) Determine the objectives and research questions of the questionnaire: before starting the pre-survey, it is necessary to clarify the objectives of the questionnaire and the research questions, so as to evaluate the effectiveness of the questionnaire in the pre-survey.

(2) Subject selection: some representative subjects were selected for the pre-survey, including the age, gender, education, occupation and other factors of the questionnaire subjects. These subjects can be your friends, classmates, or relatives, etc.

(3) Testing and recording: send the questionnaire to the subjects to fill in, and record their filling time and answers. After completing the questionnaire filling, the subjects can be interviewed to understand their filling process and understanding, and to collect their feedback and suggestions.



(4) Analysis and adjustment of the questionnaire: analyze and adjust the questionnaire according to the subjects' filling in and feedback. For example, if some problems are not clear enough or are likely to cause ambiguity, they can be modified to better reflect the research problem.

(5) Repeat testing and adjustment: According to the revised questionnaire, repeat testing and adjustment until the validity and credibility of the questionnaire are guaranteed.

### 3.3 Formal Research

#### 3.3.1 Method

Formal questionnaire collection mainly online questionnaires, with college students around the survey object, recovered the questionnaire from all over the country a total of 1117, including 1095 effective questionnaire, questionnaire efficiency is 98%, collection time for 1 week, the data collection using SPSS20 software processing analysis, and test its validity.

#### 3.3.2 Reliability Analysis and Validity Analysis

##### (1) Reliability analysis

Reliability is the degree of consistency or stability of the measured results (data). Consistency mainly reflects the relationship between the internal questions, examining whether the measured content or characteristics of each topic are the same. Stability refers to the reliability of the results at different times through a questionnaire. If the questionnaire is reasonably designed, the results of repeated measurements should be highly relevant. Since multiple measurements have not been made in this survey, we mainly considered using indicators reflecting internal consistency to measure the reliability of the data. The reliability coefficient of the scale Cronbach's Alpha was used to test the reliability of the scale, namely, the internal consistency. In this study, SPSS26.0 data analysis software.

Table 3: Reliability analysis

Cronbach's Alpha	number of terms
0.980304	47

As shown in the table, Cronbach's Alpha coefficient is 0.98 greater than 0.7 greater than conventional data. Scale reliability test is successful and consistency is high, indicating that the scale has reliability.

##### (2) Validity analysis

Validity analysis: it is used to test the validity of the questionnaire and determine whether the items are reasonable and effectively reflect the purpose of the survey. According to the results of the factor analysis, the KMO value was higher than 0.8 and passed the Bartlett spherical test, and the variance interpretation rate after the factor rotation was 68.278% > 50%. It means that the information content of the research item can be effectively extracted. It shows that the study data is very suitable for extracting information and the validity from the side is good.

Table 4: Validity analysis

KMO and Bartlett		
KMO price		0.983
	Approximate chi square	11710.165
Bartlett Sphericity test	<i>df</i>	78
	<i>p price</i>	0.000

### 3.4 Process of Modifying and Perfecting the Questionnaire

#### 3.4.1 Design of the Questionnaire

First, make clear the research purpose. The questionnaire design must revolve around the research questions, ensuring that each question has its own value. In the process of modification, we should constantly review the research objectives, eliminate those questions that are not related to the topic or are not highly related, to ensure the pertinence and effectiveness of the questionnaire.

Second, optimize the problem presentation. The question should be concise and to the point, avoiding professional terms or complex sentence patterns so that respondents can easily understand. At the same time, we should pay attention to the neutrality of the problem, to avoid guiding questions, so as not to affect the objectivity of the data.

Third, adjust the order of the questions. Proper order of the questions helps to improve the completion rate of the questionnaire. In general, simple questions should be placed in front to help the respondents make it quickly; complex or sensitive questions should be placed behind, trusting the questionnaire after completing the previous questions and are more willing to answer the subsequent questions patiently.

Fourth, choose the right type of questions. According to the research needs, we can use different types of questions, such as multiple choice questions, fill in the blank questions, scale questions, etc. Multiple choice questions are convenient for statistics and analysis, while filling in the blanks provides more in-depth information. Scale questions are often used to measure the respondents' attitudes or feelings, but it should be noted that the scale should be designed scientifically and reasonably to ensure the reliability of the results.

Fifth, conduct a pre-test test. Pre-testing is an essential step before the questionnaire is officially released. Through small-scale pretesting, we can find possible problems in the questionnaire, such as ambiguity, understanding difficulty, and adjust them accordingly. This can not only improve the quality of the questionnaire, but also enhance our confidence in the research.

### **3.4.2 Modification and Improvement of the Questionnaire**

The modification and improvement of the questionnaire is a continuous and iterative process. Through communication with experts and audience feedback, we can constantly adjust and optimize the questionnaire to more accurately serve our research objectives.

Revision and refinement of the questionnaire is a complex but crucial process. We need to consider questions from multiple perspectives, including the purpose of the questionnaire, its content, structure, and data processing. Only in this way can we design questionnaires that accurately reflect the conditions of our study subjects and thus improve the quality of our study.

During the interviews, we focused on the data processing and analysis. Make sure that the problem can produce the data available for analysis. In addition, we also need to pay attention to the quality control of data, avoid invalid or wrong data, carry out repeated tests and modifications, constantly collect feedback, analyze the data, and then modify and improve the questionnaire according to these information. Only then can we ensure that our questionnaire effectively collects the information we need.

Each of the questions was carefully reviewed based on the feedback collected. We check whether the expression of the problem is clear, whether there is ambiguity, whether there is guiding or biased language. If such a problem is found, the wording needs to be revisited to avoid affecting the objectivity of the data. At the same time, we pay attention to the order of the problems, and try to follow the principles from general to specific, so that the respondents are easier to adapt and think.

The modification and improvement of the questionnaire design is a process of constant reflection and continuous practice. We are constantly adjusting the setting, order, options and layout of the questions according to their feedback and changes in the research objectives to improve the quality and validity of the questionnaire. Only in this way can our questionnaire survey get true and effective research results and make a strong proof for the interview results.

### **3.4.3 Quality Monitoring of the Questionnaire**

#### **(1) Principle**

- a) Specific: not only to accurately describe the question to be asked, do not make people ambiguous or unable to confirm what it is being asked, the expression can not be abstract.
- b) Single: that is, a question only asks a question, unless it is necessary, do not mix two or more questions into a question to ask.

- c) Accurate: that is, do not use possible words, often, occasionally, sometimes and other words should be used as little as possible, it is best to use the specific frequency or length to express accurately.
- d) Simple: that is, the language should be easy to understand, concise, do not use rare words, do not use professional terms, semantics do not repeat the expression, no language disease.
- e) Objective: that is, do not use the induced tendentious statement, the question stem can not intentionally or unintentionally express the right and wrong, preferences, etc., avoid the use of authoritative views in the question.
- f) Non-negative: that is, try to use statements or simple questions, do not use negative sentences, rhetorical questions, etc., can not let people accurately understand the meaning of the question and bother.
- g) Independence: that is, the different options of the same topic should be independent of each other, mutual exclusion, there can be no place to contain each other, otherwise it will make people unable to choose.

## (2) Method

- a) Set the answer time: Setting the answer time reasonably is a key step to improve the quality of the questionnaire. A scientific setting can prevent the respondents from rushing to answer or overthinking and affect the naturalness and authenticity of the answers. For example, for more complex questions, the answer time can be extended appropriately; and for simple and direct problems, the time limit should be shortened. Such strategies help to balance the thinking time required for different topics, thereby improving the validity of the data.
- b) Set answer restrictions: the setting of answer restrictions can also not be ignored. When designing questions, clearly informing respondents whether there are restrictions on multiple choices, single choices or open answers can effectively reduce invalid or misleading answers. In addition, appropriate limitations can lead respondents to think more intensively, thus providing more targeted responses.
- c) Set up screening questions: the setting of answer restrictions can also not be ignored. When designing questions, clearly informing respondents whether there are restrictions on multiple choices, single choices or open answers can effectively reduce invalid or misleading answers. In addition, appropriate limitations can lead respondents to think more intensively, thus providing more targeted responses.
- d) Set up the trap questions: The clever design of the trap questions is also a way to test the quality of the questionnaire. By deliberately setting some error-prone or ambiguous questions, it is possible to detect whether respondents have carefully read and understood the questions. This method can effectively exclude those invalid answers that are filled in at will or not carefully considered to ensure the accuracy of the survey results.
- e) Sample service: Providing high-quality sample service is an important link to improve the feedback rate and quality of the questionnaire. Ensuring the diversity and representativeness of the sample can make the survey results more universal and valuable. At the same time, providing certain incentives, such as small gifts or other benefits, can also encourage more people to participate in the questionnaire, thus obtaining broader data support.

By carefully setting the answer time and limit, skillfully using the screening and trap questions, and providing high-quality sample services, we can effectively improve the quality of the questionnaire and ensure the scientific and accuracy of the survey results. In this process, every detail may affect the final survey results, therefore, we must treat every step of the questionnaire design with a professional attitude to ensure that our research work can achieve the expected goals.

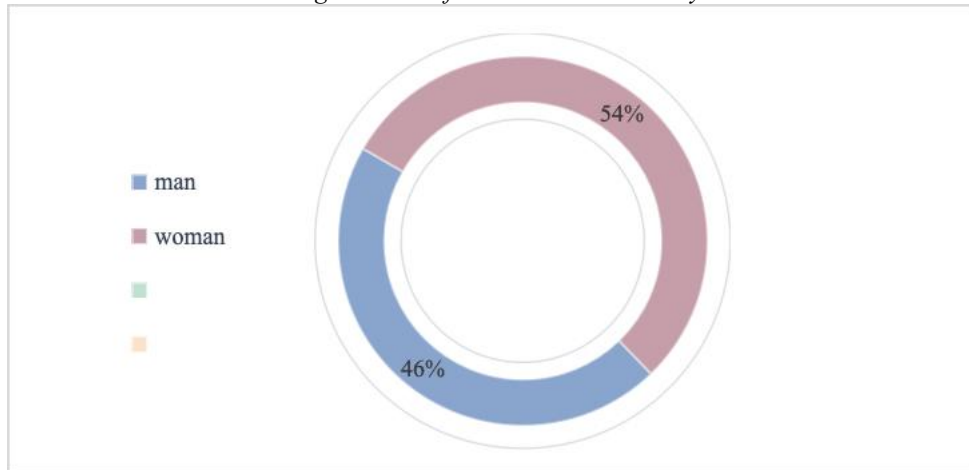
## 4. Data Analysis

## 4.1 Descriptive Analysis

### 4.1.1 Sex Analysis

There are 1095 people, among which male college students account for 45.57% and female college students account for 54.43%. It can be seen that the proportion of women participating in this survey is higher, which is also in line with the objective reality that female college students are more keen on online shopping. Meanwhile, the ratio of men and women is also relatively uniform. From the Figure 3, the distribution of the samples is more reasonable.

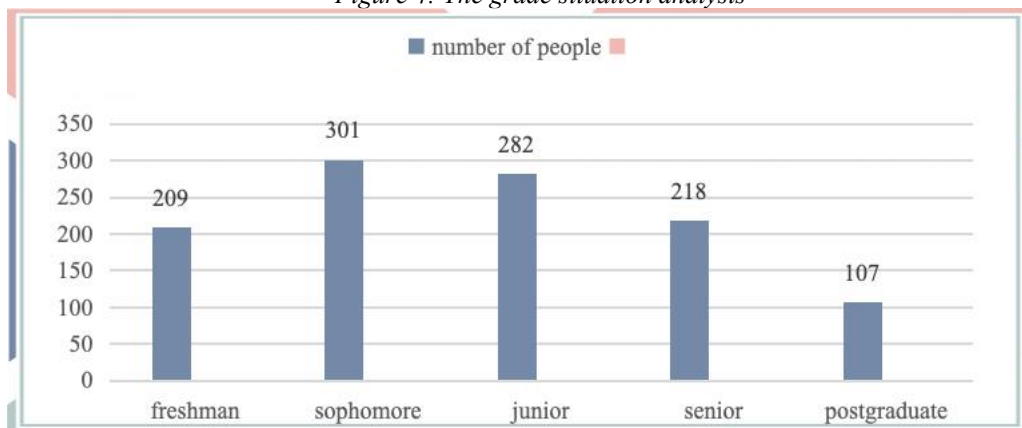
Figure 3: The female-male ratio analysis



### 4.1.2 Grade 1

As can be seen from the data form, the effective number of 1117 people to fill in this question. Among them, the proportion of sophomore was the highest, reaching 26.95%, followed by the junior and freshman, 25.25% and 18.71% respectively. The proportion of senior year and graduate students was relatively low, at 19.52% and 9.58%, respectively. It can be seen that most of the people who fill in this question are undergraduates, and the proportion of sophomore year is the highest. As the object of this survey is college students, it is also in line with the needs of the actual research.

Figure 4: The grade situation analysis



### 4.1.3 Cost Statistics Used for Online Shopping

The participants showed a relatively uniform distribution of monthly online shopping expenses. Specifically, 31.87% of people spend less than 50 yuan per month on online shopping, 31.14% of them spend between 300,500 yuan, and 12.69% spend more than 500 yuan per month on online shopping. 10.14 percent of people spend between 50,100 yuan a month on online shopping, and 14.16 percent spend between 100,300 yuan on online shopping. The proportions of the two groups are not different but both are relatively

small. In general, the cost of the surveyed college students on online shopping is concentrated between 50 yuan and 500 yuan.

#### 4.1.4 Analysis of Online Shopping Platform

Table 5: Online shopping platform analysis

Option	Number of individual diseases	response ratio	popularity rate
Tmall	237	8.39%	21.64%
east of Beijing	376	13.31%	34.34%
Suning	254	8.99%	23.2%
Meituan	514	18.2%	46.94%
taobao	268	9.49%	24.47%
Pinduoduo	261	9.24%	23.84%
Vipshop	338	11.97%	30.87%
Eleme	281	9.95%	25.66%
other	295	10.45%	26.94%
amount to	2824	100%	257.9%

According to the data table, we can see that among the most commonly used online shopping websites, Meituan is the most popular choice, accounting for 46.94% of the total effective times. Followed by Jingdong, accounting for 34.34%, while Tmall ranked the third, accounting for 21.64%. This may be because college students will often order takeout, which is also in line with the objective reality.

Suning, Taobao and Pinduoduo were relatively low, with 23.2%, 24.47% and 23.84%, respectively. This suggests that these sites have relatively low usage among their users. The selection ratio of Vipshop and Ele. me was 30.87% and 25.66%, respectively. Relatively speaking, users favor these two websites highly.

The selection proportion of the other options was 26.94%, which may be due to the user choosing other online shopping sites that are not listed in the options.

To sum up, Meituan, Jingdong and Tmall are the most commonly used online shopping websites, while Suning, Taobao and Pinduoduo have relatively low usage rates. Vipshop and Ele. me have also been favored to some extent. The cumulative arrival rate and frequency analysis are not repeated. In the case of limited resources, select the most effective strategy or marketing combination, and cover the largest population with as few resources as possible. The portion of the total number of effective times.

Table 6: TURF analyzes the optimal combination of options

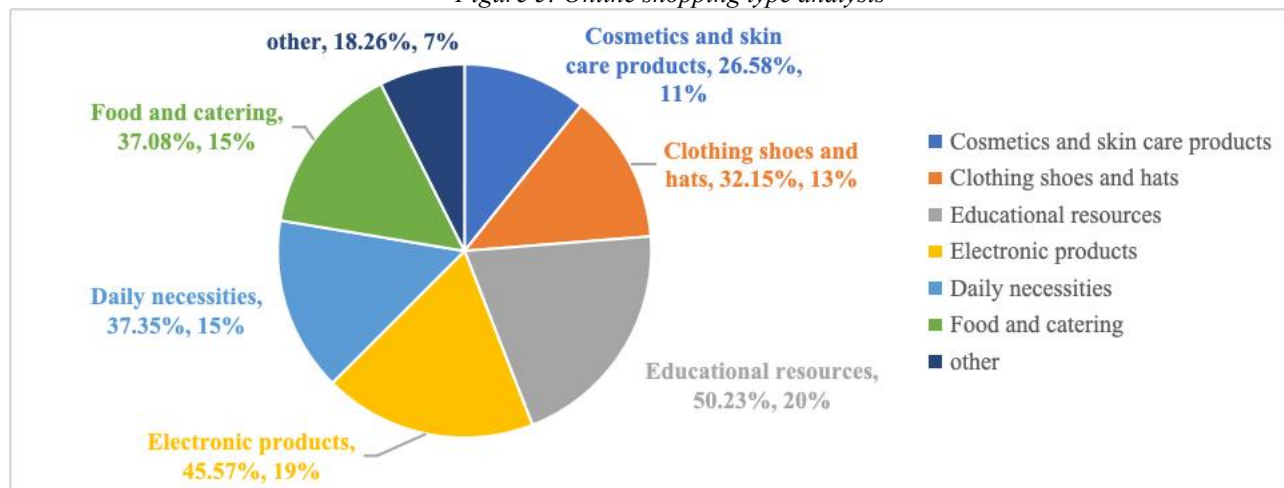
Number of combination options	The optimal combination of options	Do not repeat the number of arrival	No repeat arrival rate	New arrival rate
1	Meituan	514	46.94%	-
2	Jingdong, Meituan	748	68.31%	21.37%
3	Jingdong, Meituan, and others	879	80.27%	11.96%
4	Tmall, Jingdong, Meituan, other	967	88.31%	8.04%
5	Tmall, Jingdong, Meituan, Vipshop, other	1027	93.79%	5.48%
6	Tmall, Jingdong, Meituan, Taobao, Vipshop, other	1067	97.44%	3.65%
7	Tmall, Jingdong, Suning, Meituan, Taobao, Vipshop, others	1084	99%	1.56%
8	Tmall, Jingdong, Suning, Meituan, Taobao, Pinduoduo, Vipshop, other	1092	99.73%	0.73%

#### 4.1.5 Analysis of Online Shopping Types

According to the data statistics, it is found that the three main options are purchased: educational resources: 550 people chose this option, accounting for 50.23%. It can be seen that educational resources are the most popular shopping options. Is the most popular shopping option. Clothing, shoes and hats: 352 people chose this option, accounting for 32.15%. Clothing, shoes and hats are the second most popular shopping option. Electronic products: 499 people chose this option, accounting for 45.57%. Electronics is the third most popular shopping option. In addition to the above three options, the number of choices and the proportion of the other

options are relatively low. To sum up, educational resources, clothing, shoes and hats, and electronic products are the three most important purchase options in the online shopping of the survey population. See the table below.

Figure 5: Online shopping type analysis



## 4.2 Descriptive Statistics of the Variable Measurements

The following chart uses the average and standard deviation to analyze the distribution of red envelopes / shopping vouchers, full reduction promotion, limited time / limited purchase, price reduction, free mail discount, stimulating purchase intention and perceived value, so as to test the rationality of the data. See table below:

Table 7: Scale describes the analytical statistics

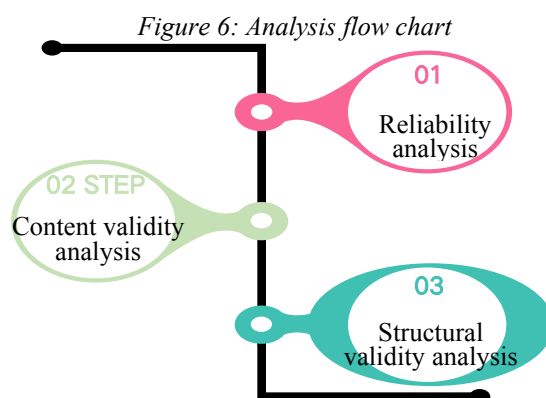
Scale describes the analytical statistics	average value	standard error
When shopping online, the red envelopes / vouchers issued by the store attracted my attention	3.847	0.951
When shopping online, when the store makes red envelopes / vouchers, I will browse the page to select the goods	3.951	1.111
When shopping online, I like the red envelopes / vouchers made by the store	3.871	0.967
When shopping online, the store attracted my attention	3.912	0.999
When shopping online, when the store is doing a full reduction promotion, I will browse the page to select the products	3.883	0.976
When shopping online, I like the full discount promotion made by the store	3.892	0.977
When shopping online, the store made limited time / limited purchases that attracted my attention	3.878	0.957
When shopping online, I will browse the page to select the products when making a limited time / limited purchase	3.852	0.948
When shopping online, I like the limited time / limited purchase made by the stores	3.986	1.135
When shopping online, the store attracted my attention	3.843	0.922
When shopping online, when the store buys at the reduced price, I will browse the page to select the products	3.871	1.042
When shopping online, I like the reduced price purchase made by the store shopping	3.843	0.899
When shopping online, the store's free shipping benefits attracted my attention	3.930	0.993
When shopping online, I will browse the page to select the products	3.896	0.976
When shopping online, I like the shipping package of the store shopping	3.905	0.979
I am often influenced by my mood to have a sudden and strong desire to buy	3.845	0.936
I have a lot of items that I buy and rarely use in real life	3.974	1.075
I often buy products without careful thought	3.917	1.063
In online shopping promotions, I feel like the money is worth it	3.942	1.028
In the online shopping promotion, I felt the product is worth it	3.953	1.141
I feel that the promotion of online shopping is interesting	3.854	0.974
I was very happy to experience the online shopping promotion	3.898	1.039

Scale describes the analytical statistics		
title	average value	standard error
All in all, the consumption of online shopping promotions makes me feel very good	3.820	0.874

As can be seen from the table, the standard deviation of red envelope / shopping voucher issuance, full reduction promotion, limited time / limited purchase, price reduction, free mail discount, stimulating purchase intention and perceived value are all less than the average, and they are all greater than 0.5, which indicates that the data difference is small and has good concentration. Therefore, the scale data is reasonable. And also lays the foundation for further analysis.

### 4.3 Reliability and Validity Analysis

To verify the data, reliability and validity analysis requires the data.



#### 4.3.1 The Reliability Analysis

The reliability analysis was used to measure whether the sample answer results are reliable, cloning the Bach reliability coefficient Cronbach’s Alpha, if the coefficient value is above 0.8, the reliability of the test or scale is very good. This survey conducts the reliability analysis of the five promotion methods, stimulating purchase intention and perceived value, and the results are as below:

*Table 8: Scale reliability analysis table*

variable	The Cronbach's Alpha coefficient	project
Red envelope / shopping voucher	0.842	3
Full reduction promotion	0.857	3
Limited time / limited purchase	0.831	3
cut price	0.852	3
Free shipping	0.862	3
Stimulate the willingness to buy	0.850	3
Perceived value	0.900	5

As can be seen from the table, five promotion methods, stimulating purchase intention and perceived value. The Cronbach's Alpha coefficient is above 0.8, indicating that the reliability of the scale is high, and the next analysis can be tested.

#### 4.3.2 Analysis of Content Validity

This research scale reference to the previous mature scale (Chan, 1996; Meng, 2017), and modified according to the research problems, such as the “electricity shopping festival do full promotion attracted my attention”, instead of “online shopping, merchants do full minus promotion attracted my attention”, after an interview and find information to determine the final scale. So the scale of this survey has good content validity.

### 4.3.3 Analysis of Construct Validity

Analyze KMO value; if this value is higher than 0.8, the study data is very suitable for extracting information and conducting validity analysis of five promotion methods, stimulating purchase intention and perceived value in the scale. The results are shown below.

Table 9: KMO values

variable	KMO price	Spherical value of Bartlett	project	Cumulative variance interpretation rate (after rotation)	Sin.
Issuance of red envelopes / shopping vouchers	0.728	1367.051	3	76.366%	0.000
Full reduction promotion	0.735	1477.717	3	77.791%	0.000
Limited time / limited purchase	0.724	1276.130	3	75.196%	0.000
cut price	0.734	1452.909	3	77.514%	0.000
Free shipping	0.736	1533.426	3	78.416%	0.000
Stimulate the willingness to buy	0.732	1434.724	3	77.262%	0.000
Perceived value	0.895	3209.733	5	72.021%	0.000

Table 10: Variable factor load

variable	title	factor loading
Issuance of red envelopes / shopping vouchers	When shopping online, the promotion attracted my attention	0.882
	When shopping online, when the store does this promotion, I will browse the page to select the products	0.861
	When shopping online, I like the red envelopes / vouchers made by the store	0.879
Full reduction promotion	When shopping online, the store owner attracted my attention when doing this promotion method	0.880
	When shopping online, when the store does this promotion, I will browse the page to select the products	0.889
	When shopping online, I like the full discount sales promotion made by the store	0.878
Limited time / limited purchase	When shopping online, the store attracted my attention	0.861
	When shopping online, when the store does this promotion, I will browse the page to select the products	0.878
	When shopping online, I like the limited time / limited purchase made by the stores	0.862
cut price	When shopping online, the promotion attracted my attention	0.879
	When shopping online, when the store does this promotion, I will browse the page to select the products	0.878
	When shopping online, I like the price reduction made by the store	0.884
Free shipping	When shopping online, the promotion attracted my attention	0.876
	When shopping online, when the store does this promotion, I will browse the page to select the products	0.890
	When shopping online, I like the free shipping discount made by the store	0.890
Stimulate the willingness to buy	I am often influenced by my mood to have a sudden and strong desire to buy	0.879
	I have a lot of items that I buy and rarely use in real life	0.886
Perceived value	I often buy products without careful thought	0.872
	In online shopping promotions, I feel like the money is worth it	0.854
	In the online shopping promotion, I felt the product is worth it	0.823
	I feel that the promotion of online shopping is interesting	0.866
	I was very happy to experience the online shopping promotion	0.843
	All in all, the consumption of online shopping promotions makes me feel very good	0.857

According to the graph, the KMO values are greater than 0.7, which indicates that the data can be effectively extracted information. The spherical test of Bartlett is less than 0.05, indicating that the scale of

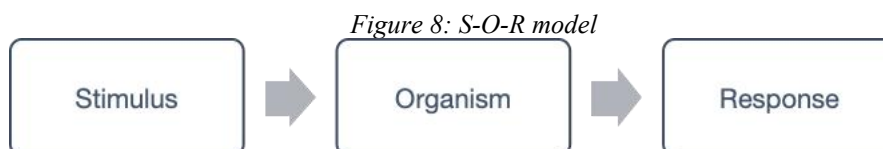


the questionnaire is suitable for factor analysis. The factor load of each variable was greater than 0.8, indicating that the title of the scale was credible, i. e., the validation questionnaire had good reliability.

#### 4.4 Study Hypothesis

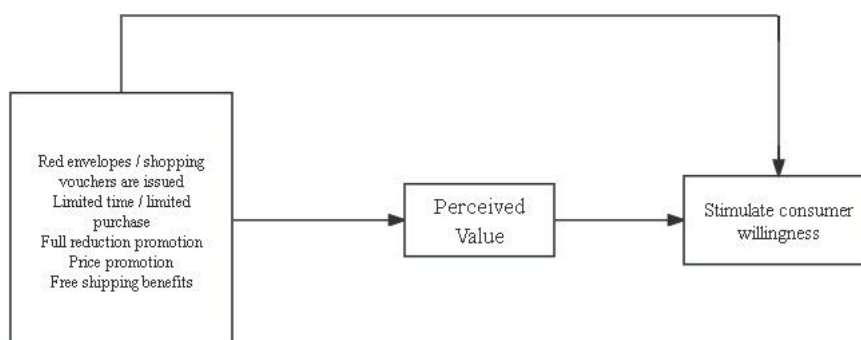
##### 4.4.1 Theoretical Source

Through the establishment of S-O-R model, the data model is introduced with the issuance of red envelope / coupon, full reduction promotion, limited time / limited purchase, price reduction, free mail discount as external stimulus factor (S), perceived value as intermediary factor (O), and purchase intention as behavioral factor (R).



According to the S-O-R model, on the basis of the existing model of {Meng, 2017 #1053@@author-yearons were made to establish specific analysis models for the five promotion methods. The following table.

*Figure 9: model*



##### 4.4.2 Make a Hypothesis

(1) Promotion activities of merchants have a significant impact on consumers' purchasing behavior. {Meng, 2017 #1053@@author-yearr different ways of red envelope / voucher issuance, full promotion, limited time / limited purchase and freight discount in e-commerce shopping festival promotion, which have a significant impact on impulse purchase. He proposed the following assumptions based on his research:

Ha1: In the online shopping promotion activities, the issuance of red envelopes / shopping vouchers made by merchants has a positive impact on the purchase intention of college students.

Ha2: In the online shopping promotion activities, the full reduction promotion made by merchants has a positive impact on the purchase intention of college students.

Ha3: In the online shopping promotions, the limited time / limited purchases made by the merchants have a positive impact on the purchase intention of college students.

Ha4: In online shopping promotions, the price reduction made by merchants has a positive impact on the purchase intention of college students.

Ha5: In the online shopping promotion activities, the free shipping benefits made by the merchants have a positive impact on the purchase intention of college students.

(2) In previous research, {Beatty, 1998 #1054@@author-yearat the greater the perceived value, the more people's purchasing behavior, and the promotional activities of merchants will affect the perceived value of shoppers, and then the purchasing willingness of shoppers. According on previous research, we analyze the

impact of the distribution of red envelopes / vouchers, full reduction promotion, limited time / limited purchase, price reduction and free shipping discount on perceived value, and propose the following assumptions:

Hb 1: In the online shopping promotion activities, the issuance of red envelopes / shopping vouchers made by merchants has a positive impact on the perceived value of college students.

Hb 2: In the online shopping promotion activities, the full reduction promotion made by merchants has a positive impact on the perceived value of college students.

Hb 3: In the promotion activities of online shopping, the limited time / limited purchases made by merchants have a positive impact on the perceived value of college students.

Hb 4: In the promotion activities of online shopping, the price reduction promotion made by merchants has a positive impact on the perceived value of college students.

Hb 5: In the promotion of online shopping, the free shipping discount made by merchants have a positive impact on the perceived value of college students.

#### 4.4.3 Hypothesis Testing-Correlation Analysis

Correlation analysis is used to study the relationship between quantitative data. There are two common types of correlation coefficient, namely Pearson and Spearman. Pearson correlation coefficient is used for analysis. See the table below.

Table 11: Pearson Analysis of the related variables

	Red envelopes / shopping vouchers are issued	Limited time / limited purchase	Full reduction promotion	Price promotion	Free shipping benefits	willingness to buy	Perceived value
Red envelopes / shopping vouchers are issued	1						
Limited time / limited purchase	0.657**	1					
Full reduction promotion	0.653**	0.618**	1				
Price promotion	0.649**	0.638**	0.641**	1			
Free shipping benefits	0.656**	0.625**	0.633**	0.624**	1		
willingness to buy	0.676**	0.673**	0.652**	0.655**	0.677**	1	
Perceived value	0.653**	0.622**	0.645**	0.636**	0.658**	0.670**	1

\* p < 0.05 \*\* p < 0.01

As can be seen from the chart, the correlation between the five promotion methods and perceived value and purchase intention is greater than 0, indicating that there is a good correlation between them. The next step of the regression analysis can be performed.

#### 4.4.4 Hypothesis Testing-Regression Analysis

(1) Regression analysis of online shopping promotion and college students' purchasing intention

The five promotion methods were analyzed as independent variables and college students' purchasing intention as dependent variables. Regression analysis is used to study the influence of X (quantitative or specific) on Y (quantitative), whether there is a relationship, and how the direction and degree of influence.

Table 12: The regression analysis of the promotion mode and purchasing intention to attract college students

	Non-standardized coefficients		Standardization coefficient	t	p	collinearity diagnostics	
	B	standard error	Beta			VIF	tolerance
constant	0.317	0.085	-	3.739	0.000**	-	-
The issuance of red envelopes / vouchers attracted my attention	0.178	0.029	0.181	6.223	0.000**	2.453	0.408

Results of the linear regression analysis (n =1095)

	Non-standardized coefficients		Standardization coefficient	t	p	collinearity diagnostics	
	B	standard error	Beta			VIF	tolerance
Full reduction sales promotion caught my attention	0.147	0.026	0.157	5.650	0.000**	2.247	0.445
Limited time / limited purchase caught my attention	0.211	0.027	0.215	7.779	0.000**	2.230	0.448
The price promotion caught my attention	0.161	0.028	0.159	5.706	0.000**	2.263	0.442
The free mail benefit has caught my attention	0.212	0.026	0.225	8.133	0.000**	2.227	0.449
F	F (5,1089)=364.322,p =0.000						
D-W price	2.023						

Dependent variable: the purchase intention of college students

\* p <0.05 \*\* p <0.01

According to the standardization coefficient in the table, it can be obtained that under the condition that the five promotion methods attract the attention of college students, they have a positive impact on the purchase intention. Among them, the standardized value of free mail welfare is 0.212, which shows that using free mail welfare to attract the attention of college students can attract the purchase intention of college students.

Table 13: Attracts college students to browse the page to select products and purchase intention regression analysis

Results of the linear regression analysis (n =1095)

	Non-standardized coefficients		Standardization coefficient	t	p	collinearity diagnostics	
	B	standard error	Beta			VIF	tolerance
constant	0.486	0.082	-	5.942	0.000**	-	-
When the store is making red envelopes / vouchers, I will browse the page to select the goods	0.144	0.023	0.171	6.376	0.000**	2.068	0.484
When the store is doing the full reduction promotion, I will browse the page to select the products	0.159	0.029	0.166	5.565	0.000**	2.573	0.389
When the store makes a limited time / limited purchase, I will browse the page to select the products	0.218	0.028	0.221	7.839	0.000**	2.284	0.438
When the store buys at a reduced price, I will browse the page to select the items	0.185	0.026	0.206	7.043	0.000**	2.463	0.406
When the store offers free shipping benefits, I will browse the page to select the goods	0.159	0.028	0.166	5.628	0.000**	2.503	0.400
F	F (5,1089)=359.095,p =0.000						
D-W price	1.985						

Dependent variable: purchase intention of college students

\* p <0.05 \*\* p <0.01

According to the standardized coefficient in the table, can get: in five ways of promotion to attract college students to browse the condition of selecting products, has a positive effect on purchase intention, the limited / limited purchase standardized value is 0.218, in the use of limited / limited purchase promotion way to attract college students to browse the page, more can cause college students' purchase intention.

Table 14: The regression analysis of the promotion methods and purchase intention of college students

Results of the linear regression analysis (n =1095)

	Non-standardized coefficients		Standardization coefficient	t	p	collinearity diagnostics	
	B	standard error	Beta			VIF	tolerance

Results of the linear regression analysis (n =1095)

	Non-standardized coefficients		Standardization coefficient	t	p	collinearity diagnostics	
	B	standard error	Beta			VIF	tolerance
constant	0.431	0.084	-	5.157	0.000**	-	-
When shopping online, I like the red envelopes / vouchers made by the store	0.185	0.029	0.191	6.464	0.000**	2.485	0.402
When shopping online, I like the full discount promotion made by the store	0.148	0.029	0.155	5.148	0.000**	2.573	0.389
When shopping online, I like the limited time / limited purchase made by the stores	0.132	0.022	0.160	5.902	0.000**	2.093	0.478
When shopping online, I like the reduced price purchase made by the store shopping	0.267	0.032	0.257	8.389	0.000**	2.675	0.374
When shopping online, I like the shipping package of the store shopping	0.146	0.029	0.153	4.993	0.000**	2.676	0.374
F	F (5,1089)=352.845,p =0.000						
D-W price	1.973						

Dependent variable: purchase intention of college students

\* p <0.05 \*\* p <0.01

According to the standardization coefficient in the table, it can be obtained that the five promotion methods that college students like have a positive impact on the purchase intention. Among them, the standardized value of purchase at reduced price is 0.267, which shows that the promotion method favored by college students can cause the purchase intention of college students.

From the above three tables, we can prove that the hypothesis of Ha1, Ha2, Ha3, Ha4, and Ha5 is correct.

(2) Regression analysis of online shopping promotion and the perceived value of college students

Five promotion methods were analyzed as independent variables and the perceived value of college students as dependent variables. See the table below.

Table 15: Regression analysis of the table online shopping promotion and the perceived value of college students

Results of the linear regression analysis (n =1095)

	Non-standardized coefficients		Standardization coefficient	t	p	collinearity diagnostics	
	B	standard error	Beta			VIF	tolerance
constant	0.314	0.100	-	3.134	0.002**	-	-
Red envelopes / shopping vouchers are issued	0.159	0.034	0.148	4.631	0.000**	2.485	0.402
Full reduction promotion	0.211	0.034	0.198	6.111	0.000**	2.573	0.389
Limited time / limited purchase	0.132	0.027	0.144	4.938	0.000**	2.093	0.478
Price promotion	0.236	0.038	0.205	6.188	0.000**	2.675	0.374
Free shipping benefits	0.183	0.035	0.172	5.212	0.000**	2.676	0.374
F	F (5,1089)=271.535,p =0.000						
D-W price	1.996						

Dependent variable: the perceived value of college students

\* p <0.05 \*\* p <0.01

According to the standard coefficient in the table, it can be seen that the five promotion methods have a positive impact on the perceived value of college students. Among them, the standardized coefficient of price reduction promotion is the highest, at 0.236. This data shows that in the online shopping promotion activities, the price reduction promotion done by merchants can most touch the perceived value of college students.

4.5 Test Results

Table 16: Hypothesis 1 Test results

grade hypothesis	bear fruit
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Ha1	In online shopping promotions, the issuance of red envelopes / shopping vouchers made by merchants has a positive impact on the purchase intention of college students.	found
Ha2	In online shopping promotions, the full reduction promotion made by merchants has a positive impact on the purchase intention of college students.	found
Ha3	In the online shopping promotion activities, the limited time / limited purchases made by merchants have a positive impact on the purchase intention of college students.	found
Ha4	In online shopping promotions, the price reduction made by merchants has a positive impact on the purchase intention of college students.	found
Ha5	In the online shopping promotion activities, the free shipping benefits made by the merchants have a positive impact on the purchase intention of college students.	found

*Table 17: Hypothesis 2 Test results*

grade	hypothesis	bear fruit
Hb1	In online shopping promotion activities, the issuance of red envelopes / shopping vouchers made by merchants has a positive impact on the perceived value of college students.	found
Hb2	In the online shopping promotion activities, the full reduction promotion done by merchants has a positive impact on the perceived value of college students.	found
Hb3	In the online shopping promotion activities, the limited time / limited purchases made by merchants have a positive impact on the perceived value of college students.	found
Hb4	In the online shopping promotion activities, the price reduction made by the merchants has a positive impact on the perceived value of college students.	found
Hb5	In the online shopping promotion activities, the free shipping benefits made by the merchants have a positive impact on the perceived value of college students.	found

## 5. The Results Discussed

### 5.1 Study Results

This study discusses the influence of product promotion mode on the impulsive buying behavior of college students. In this paper, the research results are discussed as follows.

(1) According to the results of the research questionnaire, most respondents have a positive attitude towards the information displayed in commodity promotion activities. The number of transaction records indicates that the transaction records have the greatest impact on the respondents' purchase decisions. The picture information provided by the merchant, and the security measures provided by the merchant, the average score is low. The transaction amount of commodities is beneficial for college students to compare the reference when buying commodities, and draw the conclusion of whether the commodity is suitable for purchase based on the quantity. For college students, it is usually possible to decide whether to buy a product on the first page. Therefore, the information displayed on the business page is particularly important.

(2) The most popular promotion method for college students is limited time / limited purchase, and free shipping benefits provided by merchants. However, when merchants are offering price discounts, it can better attract college students to browse the page. This promotion method can make college students feel a certain discount, can feel the comparison with the previous price, more willing to buy, there is a kind of "earned" psychology.

(3) Participants were generally satisfied with the promotional activities of online shopping, but had low scores in perceiving the promotional activities. College students have a strong ability to accept new things, and pay more attention to the interest and entertainment of commodities. For the consumer group of college students, they have three most obvious characteristics, which need to pay attention to businesses, that is, new aesthetics, new consumption and new connection.

### 5.2 Suggestions

According to the research S-O-R theory, it is concluded that consumers are psychologically stimulated after seeing the special offers brought by promotional activities, which leads to their impulse and have a stronger desire to shop. From the perspective of emotional value, the promotion means should give preferential treatment to college students in different aspects, so that they can feel that they can get more

emotional and emotional value. Therefore, according to our previous research results, the author puts forward the following suggestions on the way of product promotion:

- 1) It is suggested that the businesses should improve the beauty and practicality of the goods, and improve the security measures

Today's college students consumers pay more attention to the beauty and performance of goods, and pay more attention to the long-term effect it can bring to attract more crowds and increase the number of visitors. The impulse consumption of college students increases, and the price of goods can also continuously increase. In the eyes of college students, the brand size of a commodity is not only a way to identify the quality, but also a means of symbol to taste the quality. They have a very strong brand awareness, positive product information and security measures of merchants are very important for college students.

- 2) Comprehensive use of a variety of promotional methods

Merchants should pay special attention to the promotion effect of shopping, pay attention to the revenue effect of the promotion method, and use short-term promotion to obtain more profits. College students' pursuit of personality and fashion is reflected in shopping because they tend to choose products that can show their own style and taste. They want to shop to show off their uniqueness and fashion sense. Therefore, the trend elements, novel design and personalized customized products on the market can often attract the attention of college students. Therefore, businesses should make comprehensive use of a variety of commodity promotion methods to enhance the diversification of commodity promotion methods, so as to attract more college students to buy goods.

- 3) Improve the perceived value of participants and enhance the interest of promotional activities

Can increase grab red envelopes, exchange shopping vouchers and other recreational activities. College students pay more attention to the cost performance of the goods when buying goods. The lower the price is, the more they can promote their desire to buy. However, the use of various goods promotion means can reduce the amount of money they pay, increase the degree of discount, and feel that they save money. Also recreational promotion form more popular with college students, they can through these recreational behavior, get shopping pleasure and satisfaction, feel yourself through these ways get cheaper and cheap goods, to cater to the college students' pursuit of interesting entertaining emotional needs, college students in the process of the stimulation will produce purchase desire, so the most likely to buy impulse, at the same time effectively increase the transformation of marketing effect. According to the above research results, the change of the promotion mode also needs to increase the interest of the activities.

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## Conflicts of Interest

The authors declare no conflict of interest.

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## Appendix: Questionnaire

Contemporary college students online shopping most love to participate in the type of promotional activities

Dear participants,

We are very grateful for your valuable time to participate in this survey. The survey is related to the online shopping by college students. We hope that by collecting your comments and experience, we can provide valuable insights and suggestions for our research.

We warrant you that all information provided will be kept strictly confidential and will be used only for the study of this investigation. Your personal information will be processed anonymously to ensure your privacy and security.

This questionnaire is expected to take three minutes to complete. We understand that your time is very precious, so we really appreciate your cooperation and contribution.

Thank you again for your participation and support!

With best wishes!

1. Your gender [Multiple choice] \*

Male  female

2. Your grade [Multiple choice] \*

Freshman  sophomore  junior  senior  graduate students

3. Your major [Single choice] \*

Liberal arts  Science and engineering  Art and sports department

4. Your monthly living expenses [single choice] \*

1000 yuan  1000-2000 yuan  2000-3000 yuan  3000 yuan above

5. Have you ever had any online shopping experience? [Multiple choice] \*

With  with No

6. Your monthly cost for online shopping is [multiple choice] \*

Within  50 yuan  50-100  100-300  300-500  500 yuan above

7. The average time you go online is [single choice] \*

Within  15 min  15 – 30 min  30 – 60 min  60 min or more

8. Your average monthly frequency of online shopping is [single choice] \*

0-5 times per month  5 to 10 times per month  10 times

9. Your most commonly used online shopping website is available from (up to three online shopping sites) [Multiple choice] \*

Tmall  Jingdong  Suning  Tesco  Meituan  Taobao  Pinduoduo  Vipshop  Ele. me  Other

10. Your online purchases (up to three) [Multiple choice] \*

Cosmetics and skin care products  clothing, shoes and hats  educational resources  electronic products

Daily necessities  Food and catering  others

11. perceived ease of use [Matrix Scale questions] \*

	I don't agree	disagree	same as	agree	Very agree
Online shopping operation is very easy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online shopping can quickly find the goods you need	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online shopping has channels for complaints and rights protection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online businesses pay attention to integrity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Purchase intention [Matrix scale questions] \*

	It doesn't fit	inconformity	same as	accord with	Very consistent with
Have a great interest in the online shopping promotion experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Every time shopping will first think of online shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You will recommend people around you to shop online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shopping online will continue in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Will the information displayed in the following product promotion activities prompt you to buy it? Whether: [Matrix Scale Question] \*

	It doesn't fit	inconformity	same as	accord with	Very consistent with
The product information, pictures and text description provided by the website are very clear, beautiful and rich, which will make me want to buy the product more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The transaction record of goods will make me want	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



to buy this goods					
The security measures provided by the website for the quality and payment method of the goods (such as return and exchange, payment on delivery, etc.) will make me want to buy the goods more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. In the case of product promotion, will the following conditions prompt you to purchase: [Matrix scale question] \*

	It doesn't fit	inconformity	same as	accord with	Very consistent with
This product has a very short promotion time, which will make me want to buy the goods more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The time I decide to buy goods is very short, which makes me want to buy goods more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. Please recall your emotions generated during the online shopping promotion and answer the following questions: [Matrix Scale Question] \*

	I don't agree	disagree	same as	agree	Very agree
I often buy items I didn't intend to buy during promotions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a lot of items that I buy and rarely use in real life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am often influenced by my mood to have a sudden and strong desire to buy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often buy products without careful thought	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Issuance of red envelopes / shopping vouchers [Matrix Scale Question] \*

	It doesn't fit	inconformity	same as	accord with	Very consistent with
When shopping online, the red envelopes / vouchers issued by the store attracted my attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When shopping online, when the store makes red envelopes / vouchers, I will browse the page to select	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

the goods					
When shopping online, I like the red envelopes / vouchers made by the store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Full reduction promotion [Matrix scale title] \*

	It doesn't fit	inconformity	same as	accord with	Very consistent with
When shopping online, the store attracted my attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When shopping online, when the store is doing a full reduction promotion, I will browse the page to select the products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When shopping online, I like the full discount promotion made by the store	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. Limited time / limited purchase [Matrix Scale Question] \*

	It doesn't fit	inconformity	same as	accord with	Very consistent with
When shopping online, the store made limited time / limited purchases that attracted my attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When shopping online, I will browse the page to select the products when making a limited time / limited purchase	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When shopping online, I like the limited time / limited purchase made by the stores	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Price reduction for purchase [Matrix Scale Question] \*

	It doesn't fit	inconformity	same as	accord with	Very consistent with
When shopping online, the store attracted my attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When shopping online, when the store buys at the reduced price, I will browse the page to select the products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When shopping online, I like the reduced price purchase made by the store shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 20. Free shipping benefits [Matrix Scale title] \*

	It doesn't fit	inconformity	same as	accord with	Very consistent with
When shopping online, the store's free shipping benefits attracted my attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When shopping online, I will browse the page to select the products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When shopping online, I like the shipping package of the store shopping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 21. Perceived value [Matrix scale question] \*

	It doesn't fit	inconformity	same as	accord with	Very consistent with
In online shopping promotions, I feel like the money is worth it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the online shopping promotion, I felt the product is worth it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the promotion of online shopping is interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was very happy to experience the online shopping promotion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All in all, the consumption of online shopping promotions makes me feel very good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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