



# An Exploration of the Relationship Between Consumption Plans and Impulse Buying Through the Lens of Framing Effect

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**Abstract.** Impulsive buying behaviour has been a key part of consumer pattern analysis, recently with the development of online purchases, this behaviour has been exacerbated given the impulse nature of online purchases. This paper aims to combine impulsive buying behaviour with the “framing effect” in psychology, this paper analyzes the motivation factors of the impulsive buying behavior, and discusses its causes from three aspects: business level, time period level, and emotional level. Through the collection of quantitative data in the form of questionnaires, this paper investigates and analyzes the impulse buying of different groups, which is divided into two parts: “making consumption planning” and “not making consumption planning”. Through data analysis, this paper discusses which factors have the greatest impact on impulse buying behavior in an online purchasing environment. The results show that consumers are most vulnerable to the temptation of merchants’ price reduction promotions; Whether planned or not, it has no effect on impulse buying. However, in price reduction and promotion, people with plans are more likely to consume impulsively; Consumers are most likely to spend impulsively during nighttime.

**Keywords:** Impulse buying · Framing effect · Consumption plan · Promotion activities · Emotion and time

## 1 Introduction

The term “impulsive buying” is often considered synonymous with “unplanned purchase”. Unplanned purchase describes any consumption that consumers make or have made without planning in advance. About the “framing effect” is reflected in the “psychology” level, Kahneman and Tversky demonstrated that “we use the term “decision frame” to refer to the decision maker’s concept of the acts, outcomes, and contacts associated with a particular choice” [4]. According to the research, there are more and more “online shopping”, which leads to an increase in consumer behavior without consumption planning, and the “accesses” of this behavior also increase [5]. These factors

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can be divided into “external framework”, “internal framework”, as well as “positive framework” and “negative framework”, because these frameworks lead to impulse buying. One of the purposes of this paper is to explore the interaction between “framing effect” and “impulse buying”. However, when it comes to topics with strong attitudes or high personal participation, the “framing effect” will gradually decrease [25]. Therefore, another purpose of this paper is to study whether people’s impulsive buying behavior will be weakened under these specific circumstances. This aims to provide corresponding measures to effectively slow down the “impulsive buying” behavior. We used the form of online questionnaire to collect the data of different audience groups, and analyzed the experimental data group with SPSS.

## 2 Main Body

### 2.1 Promotion Activities and the Goal Framing Effect

Levin and Gaeth developed a typology to distinguish between three different kinds of framing effect, that is risk choice framing, attributing framing, and goal framing. The goal framing effect describes the individuals’ goal and behavior to achieve a certain result, stressing the consequences of performing an act [23]. According to the scholars, impulse purchasing is a purchase that is the result of exposure to the stimulus, decided on the spot. Also, impulse buying is a hedonic goal-oriented consumption behavior that harms individuals in the long term or has delayed detriment to the individuals. Although this type of buying could enable consumers to have timely enjoyment and satisfaction, it may have many negative effects on consumers from a long-term perspective. And impulse buying may cause wasted resources and impulse buyers tend to generate negative emotions, such as guilt, regret, and anger, after the decision-making process, and it is usually seen as unhealthy and low self-control behavior. However, the merchants do plenty of promotion activities, such as price reduction and discounts, discounts after a certain amount, live broadcast marketing, and so on, to increase the impulse buying to maximize the profits with the goal framing effect.

Some past research suggested that impulse buying is a tendency to buy on a whim or action with less rational decision making [12, 13]. For consumers, each purchase action needs a motivation that drives people to act. Wozniak classified motives as either rational or emotional. Rational motives mean planned, logical and objective-oriented [29]. The emotional motives mean unplanned, mostly depend on the subjective factors, such as feelings. Moreover, it is of great importance to know about the purchase goals. Some researchers have divided the purchase goals into utilitarian needs and hedonic needs [20, 28]. To a certain extent, rational consumers tend to focus on the products’ function and price while making purchase decisions. Rational consumers might search for information and compare several other alternatives in advance to make a list of the products to buy [35]. While the consumers with emotional needs are likely influenced by feelings like happiness and fun, external factors like promotion activities. And during the consumption, their feelings are largely influenced by promotion activities (merchants’ goal framing effect), which is directly related to purchasing.

So, consumers with emotional motives and having hedonic needs are easily influenced by their feelings instead of the products’ quality, which is seen as irrational, and

the external factors usually affect one's feelings, such as the promotion activities (merchants' goal framing effect) possibly affect consumers' mood. Compared to consumers with emotional motives and having hedonic needs, consumers with rational motives and having utilitarian needs tend to make plans and be more rational. Thus, it is hypothesized that:

Hypothesis 1 (H1) making plans might decrease the impulse buying caused by the effect of promotion activities (merchants' goal framing effect).

## 2.2 Emotion

Keltner, Ellsworth, and Edwards discovered that emotions impacted subsequent judgments of a target unrelated to the origin of the emotions in a way that was consistent with the appraisals associated with those feelings [26]. Emotions may provide feedback to the individual after the discrete emotional reaction has been distilled through the process of appraising personally relevant information. When an emotion is felt and recognized, it can be interpreted as additional information about the situation, and behaviors considered or performed in response to the emotion can also provide responses to the individual about their goals and the situation (Johnson and Stewart 2005).

As Richins notes, "the importance of emotions in the sphere of consumer behavior has been firmly established" (p. 127) [34]. Consumers perceive a "balance beam" effect in decision-making, caused by internal and external inputs, between affective (emotional) wants and cognitive (reasoning) willpower. As emotion rises, intellect falls, resulting in impulsivity [2]. Also, Lim, Martin, and Kwak discussed the influence of emotions on the formation of attitudes, thus leading to consumers' consumption behaviors [8]. In addition, Hirschman and Stern claim that entertainment commerce benefits greatly from the emotions created by the previously mentioned consumptions and requires far more emotional dispensation and sensory stimulation than cognitive processing [18]. Impulse buyers see themselves as more emotional than non-buyers. Information processing also plays a role in purchasing decisions. But while the purchase may later be justified, it has a smaller effect than emotional engagement [32].

The emotion that encompasses affect and mood is an important factor in consumer decision-making. Typically, emotion is classified into two orthogonal dimensions (e.g., positive, negative) [11].

Chang, Yan, and Eckman found that consumers' positive emotional response to the retail environment has a direct impact on impulse buying behavior [21]. The hedonic paradigm is important, because it allows for the examination of experiential factors (e.g., pleasure, excitement) that may lead to a better understanding of the importance of emotions in consumer behavior and how emotions influence consumer attitudes. Impulse buyers are more likely to overspend when purchasing because they experience more positive emotions (e.g., pleasure, excitement) [33]. Impulse purchasing is frequently linked to happiness and pleasure, but it has also been linked to negative feelings and low self-esteem [6].

As a result, consumer mood can be a crucial determinant of impulse buying [16]. Furthermore, as compared to negative emotion, positive emotion customers showed more impulsive buying due to sentiments of freedom, a desire to reward oneself, and higher energy levels [15].

Therefore, this paper wants to do research to find whether consumers with or without a plan will have a difference in their emotions during impulse buying. Here is the second hypothesis of the paper:

Hypothesis 2 (H2) Consumption plan can impact emotion and thus reduce impulse buying.

### 2.3 Time When Consuming

The reason for spending at night and late at night is that people's thinking ability and judgment ability decline in the middle of the night, fall into a state of disunity or out of control at the level of consciousness, and appear in a "chaotic state" of brain; Moreover, people are very tired of working and studying during the day. They have a "compensation psychology" and will compensate themselves with impulsive buying; Then, the hormone research on the human body shows that during the day, people's frontal and temporal lobe systems will be more excited, and rational thinking activities will prevail; At night, the activity of the limbic system will strengthen, that is, it is easy to produce emotional response, and the activities of the frontal and temporal systems are at a disadvantage; Finally, with the rise of "night economy" [3], various business platforms broadcast promotions and star promotions live.

We choose the characteristics of consumer behavior, the consumption time, as an additional hypothesis that a consumption plan can indirectly impact impulse buying from this aspect. Consumers may have different time when they prefer to consume including impulse buying. There may be some relation between making consumption plan and time of impulse buying. This is why the Hypothesis 3 is made as below:

Hypothesis 3 (H3) Consumption plan can impact time when consuming and thus reduce impulse buying.

## 3 Method

### 3.1 Study Population

The participants (N = 191) we collected from diverse populations from various places and relied on the power of the internet and advertising to get the survey distributed, our subject types included a wide range of respondents no matter whether they had academic knowledge and were included in the subject categories or not. The final data show that there are a large number of people in the age group under 35, that is, the majority of people who have just entered the society and college students.

We spent four days posting the survey on social media platforms, public school websites, and major online contact groups and had subjects fill out 13 questions. Written informed consent was not required, but we did state at the beginning of the survey in the 'reminder box' that the survey was anonymous and that the information and results would not be disclosed. The purpose of the survey was detailed, and completion was voluntary (Table 1).

**Table 1.** Subjects Characteristics

Subjects Characteristics (n=191)				
Gender(%)		Age(%)		
Female	72.25%	Below 20s	28.80%	
Male	27.75%	20-35s	57.59%	
		35-50s	7.85%	
		Above 50s	5.76%	
Income or living expenses(¥)				
0-1500		38.74%		
1500-3000		29.32%		
3000-5000		12.04%		
5000-10000		14.14%		
10000-20000		2.09%		
Over 20000		3.66%		

### 3.2 Questionnaire

Using a web-based questionnaire, users rely on an online questionnaire site with no geographical restrictions. The questionnaire takes the form of a delivery questionnaire in a self-administered questionnaire. The self-administered questionnaire included 13 items requesting demographic information and multiple hypothetical scenarios, each with a multiple-choice or single-choice question. The demographic information included a description of gender, age, and wage level. In the hypothetical situation, participants were asked to imagine that they were in the midst of a major promotional sale on an e-commerce platform (e.g., “Black Friday”) and were asked several questions about their preferences for whether they would “spend impulsively” on that promotional holiday. The question of preference on whether they would “spend impulsively” on the promotion, the multiple factors question, etc., was answered by choice. The holiday lasts over some time and has different overlapping discounts at different points in time and is evaluated in varying degrees using the “5-Likert scale”.

First, we designed the questions based on “motivational factors for impulse spending” [5]. Subjects were asked to do a multiple-choice question (the main expression “external framework”), which included several main influences collected from life and the Internet as options for them to answer. The second major question was designed as a psychological question (“self-framing effect”), such as an assessment of impulsive spending in the context of “academic discomfort”, “own emotions”, and “time influence”. Finally, the third major question was designed as a “rational planning” question, in which the participant, as a consumer, had to answer the question “do you plan clearly before spending” and use the “5-Likert scale” to assess “whether you are rigorous in purchasing goods as planned”.

## 4 Results

To demonstrate that when there is a framework of strong attitudes and high personal involvement, it is possible to bring about a degree of deterrence against impulsive buying. A total of 213 participants completed our questionnaire during the study. 22 invalid questionnaires were resulted based on a rule that if a sample has many same numbers at

**Table 2.** Performance of People Making Plans or Not Making Plans in Age and Gender

variable	Do you have a clear plan for your consumption?		c <sup>2</sup>	p
	yes	no		
gender				
male	28	25	0.384	0.536
female	66	72		
age				
below 20s	26	29	1.038	0.792
20-35s	54	56		
35-50s	7	8		
above 50s	7	4		

the same time, or many missing data without filling in the blanks [22], resulting in 191 valid questionnaires. The test data (Table 2) consists of the subjects who were generally in the middle-aged and young adult age group of 20–35 years old (57.59%), as well as in the teenage group of under 20 years old (28.8%). Based on the definition of impulsive spending, we divided the study population into two groups: those who “planned their spending” (49.21%) and those who “did not plan their spending” (50.79%). We used SPSS software to measure independent samples t-tests [38] for these 191 data sets, as well as chi-square analysis to analyze the factors influenced by impulse buying in the consumption planning group.

The data were analyzed from the point of view of demographic variables, the results of the test indicate that the effect of gender ( $\chi^2 = 0.384, p = 0.536$ ) and age ( $\chi^2 = 1.038, p = 0.792$ ) on consumption planning are insignificant for both those who have ‘planned their consumption’ and those who have not.

#### 4.1 Data Entry and Analysis

All data were input by SPSS software, and the software was used to screen out invalid questionnaires. We used an independent sample t-test [38] and chi-square analysis to analyze the influencing factors of impulsive buying among consumption planning groups.

From the perspective of “merchant level”, and it also can be seen from the data analysis of independent sample t-test and chi-square test (Table 3) that “the commodity pictures are beautiful and the introduction details are exquisite” shows that no matter whether they have made planning or not, the figure is  $\chi^2 = 1.583, P = 0.208$ ; For the factor of “commodity price reduction and discount”, the data is  $\chi^2 = 3.982, P = 0.046$ ; As can be seen from “Live broadcast with goods, marketing recommendation” and “based on commodity evaluation and sales quantity”, the number of experimental subjects which correspond to  $\chi^2 = 0.313, P = 0.576, \chi^2 = 0.001, P = 0.997$ .

Sort the number of people and data selected for each option of the clear planning group and no clear planning group, and the results are shown in Table 4.

There are great differences among the options in the “clear planning” group ( $\chi^2 = 55.187, P < 0.001$ ), that is, the impact of “commodity price reduction and discount” is

**Table 3.** Performance of People Making Plans or Not Making Plans in Motivational Factor

Motivational factors	Do you have a clear plan for your consumption?		c <sup>2</sup>	p
	yes	no		
<b>Beautiful picture and clear introduction</b>				
0	56	49	1.583	0.208
1	38	48		
<b>Price reduction and discount</b>				
0	19	32	3.982	0.046
1	75	65		
<b>Discount after a certain amount</b>				
0	42	56	3.255	0.071
1	52	41		
<b>Limited time and limited price rush purchase</b>				
0	51	56	0.234	0.628
1	43	41		
<b>Live broadcast marketing</b>				
0	83	83	0.313	0.576
1	11	14		
<b>Commodity evaluation, sales quantity</b>				
0	62	64	0.001	0.997
1	32	33		

**Table 4.** Order of the Number of People Making Plans or Not Making Plans Out of the Six Motivational Factors

Rank	1	2	3	4	5	6
<b>Clear planning</b> (n=251)	Price reduction and discount (n=75)	Discount after a certain amount (n=52)	Limited time and limited price rush purchase (n=43)	Beautiful pictures and comprehensive introduction (n=38)	Commodity evaluation consumption quantity (n=32)	Live broadcast with goods marketing (n=11)
<b>No clear planning</b> (n=242)	Price reduction and discount (n=65)	Beautiful pictures and comprehensive introduction (n=48)	Limited time and limited price rush purchase (n=41)	Discount after a certain amount (n=41)	Commodity evaluation consumption quantity (n=33)	Live broadcast with goods marketing (n=14)

**Table 5.** Performance of People Making Plans or Not Making Plans in Behavioral Level

Behavioral level	Do you have a clear plan for your consumption?		t	df	p
	yes (n=94)	no (n=97)			
Purchase behavior under discount superposition	3.04 ± 0.087	2.77 ± 0.212	1.615	189	0.108
Purchase behavior under optional conditions	2.68 ± 0.362	3.82 ± 0.346	-0.731	189	0.464
Purchase behavior during consumption period	12.50 ± 5.512 (n=80)	9.52 ± 5.737 (n=84)	2.213	162	0.028

the most significant. While “commodity evaluation and sales quantity” and “live delivery mode” have the least significant impact on impulse buying. For the “no clear planning” group, there are also significant differences ( $\chi^2 = 35.000$ ,  $P < 0.001$ ). Specifically, the impact of “commodity price reduction and discount” and “beautiful pictures and comprehensive introduction” is the largest, while the impact of “commodity evaluation and sales quantity” and “live delivery marketing mode” is the smallest.

From the perspective of “behavior itself” (Table 5), we use the “5-Likert scale” to present five different degrees of implementation. According to the analysis, there is no significant difference in the purchase behavior of subjects with or without clear planning under “superposition discount”, which is also consistent with the conclusion of the above “merchant influencing factors”. Under the influence of “emotional factors”, this factor has no significant impact on impulse buying ( $t = 0.734$ ,  $P = 0.464$ ). Under the influence of consumption time, take the group median of each consumption time to represent the consumption time for analysis. The results of the t-test show that “whether there is consumption planning” has a significant difference in consumption time ( $t = 2.213$ ,  $P = 0.028$ ). However, the errors of the data are very large  $\delta = 8.512$  and  $\delta = 8.737$ , so this influencing factor is meaningful from another point of view, that is, the “number of consumers” corresponding to different times periods. Therefore, we mainly judge and analyze the “number of consumers” in different periods. The statistical data show that the subjects who “whether they have made consumption planning or not” account for the largest proportion in the evening (18:00–22:00) and late-night (22:00–5:00), 36.65% and 37.7% respectively.

In addition, we investigated the consumer’s emotional state prior to impulsive spending and categorized it into four emotions. The results were that of the 94 subjects who did plan, more than half (51.06%) were “happy”. On the contrary, “fear and worry” accounted for the least, only 3.19%. Among the 97 subjects who did not make the plan, the same “happy” accounted for the largest proportion (44.33%). On the contrary, the proportion of “fear and worry” was the least, which was 6.19%.

To sum up, at the demographic level, the relationship between gender and age is not significant whether there is pre-consumption planning or not; At the merchant level, the planning group is most affected by “commodity price reduction and discount” and “certain discount for a certain amount of purchase”, while the non-planning group is most affected by “commodity price reduction and discount” and “commodity picture beauty and introduction”. Among them, subjects with or without planning are not vulnerable to “commodity evaluation and consumption quantity” and “live delivery”; At the level of consumer behavior, the subjects, whether they have made consumption planning or not, are vulnerable to the factors of a time, especially in the evening and late night. However, there is no significant difference in other behaviors.

## 5 Discussion

### 5.1 The Influence of Planning on Impulse Buying Motivation Resulted from Promotion Activities

From the perspective of the external factors of promotion activities, “the price reduction and discount” is the most influential factor, and all motivational factors related to price



reduction have a relatively big impact on impulse buying. However, surprisingly, those with a buying plan tend to be more impressionable to purchase impulsively than those without a plan when exposed to price reduction. So, generally making plans will not help reduce the impulse buying caused by promotion activities and even lead to more impulse buying when there is a price reduction. (H1).

People with a buying plan are more likely to suffer from an internal anchoring effect on the commodity's price. According to Tversky and Kahneman, the anchoring effect is the product of the anchoring and adjustment heuristic where estimation starts with the anchor value and then adjusts deliberately, step by step until a satisfactory answer is reached [3]. Many of the steps are often not available, because people who stop adjusting the anchor once they reach a seemingly acceptable first answer are seen as the result of this prematurely terminated serial process.

Before making the plan, they must have collected some information about the commodity they plan to buy to some extent, so they will have the expected price of the commodity, which is their subjective market value of the commodity while other information is less likely to be taken into consideration. Under the anchoring effect, their first exposure to the planned price of the commodity will act as the anchor, which will have a significant impact on the final decision because they will tend to be over-dependent on the first information they have got. Because different starting points produce different estimates, which are biased towards the initial value [31]. When they observe the information of commodity and select the ideal one, they will pay most attention to the information (the price) because the information that is activated to solve the comparison anchoring task is more readily to be noticed and taken seriously and anchor values associated with dimensions other than the target dimension have a decreasing assimilation effect [19].

During this period, the consumer will devote himself to making the comparison between the planned price as the anchor and the new prices he is exposed to, neglecting to consider those new prices to adjust his anchor. Also, other information except price will be more likely neglected. Some research results show that the compatibility between the anchor point and uncertain focus is the key determinant of whether the anchoring effect occurs [24]. Lack of intake for more information on commodity prices and a wider range of horizontal comparison, consideration is limited in such a judgment standard of the expected price, which causes his lack of rational thinking and more impulse of buying those goods of lower prices than expected.

Their expectation will form a frame that if he buys the commodity, he can get benefit from it. While missing the opportunity of buying it will cause expected regret because the consumer may feel regret when he has to pay a higher price for it in the future.

Zeelenberg and Beattie emphasize the role of expected regret and hold that people tend to choose where the emotion of expected regret is activated regret minimizes decisions, not the least risky ones [27]. Studies have shown that the level of regret that consumers miss out on buying a product at a lower price is greater than the level of regret caused by buying a product at a higher price. If consumers anticipate future regret, they will be more likely to buy now rather than wait for a better price. It can be seen that expected regret can affect the purchase time of consumers, making them buy now instead of delaying the purchase.

Hoch and Loewenstein proposed a theory of impulsive purchasing that goes beyond just discounting delayed benefits in favor of current ones [36]. They suggested that impulse buying can be explained as a change in the consumer's reference point, where not owning the product is the consumer's default reference point, and owning the product is his or her reference point after purchase. If consumers suddenly experience the typical feelings of impulsiveness and excitement associated with impulse buying, these sentiments may shift the reference point to the position usually taken after the purchase. In other words, consumers "own" the product before they buy it. The result of the reference point shift is that when an impulsive buyer walks away from the desired product, he or she experiences deprivation and loss.

Thus, under the effect of anchor effect and expected regret, the consumer will feel more urgent and willing to pay for those commodities with price reduction and be more likely to buy impulsively under the impact of price induction.

Meanwhile, people without a plan, lack the price anchor in their minds and are less sensitive to the impulse buying motivations on price. When consumers without plans made unfamiliar price decisions due to their "intuitive experience" in this specific consumer experience, they were more vulnerable to the impact of the set experience environment set by merchants. Therefore, the atmosphere factors through which they experience interaction are more diverse and complex. This leads to consumers' scarcity of higher cognitive resources, resulting in more anchor point adjustment and Mental processing to compensate for cognitive scarcity. This external anchoring effect has a stronger self-regulation ability and can optimize prediction by perceiving more information.

Therefore, the external anchor of new information set by the merchant will constantly adjust the anchor point, so when making a comparison between the merchant's external anchoring effect and the consumer's internal anchor effect for prices, the latter will have a stronger influence on impulsive buying during a promotion.

As can be seen from the results, under the "Live broadcast with goods, marketing recommendation" and "based on commodity evaluation and sales quantity", two groups of those who "planned their spending" and those who "did not plan their spending" show no difference. Kotler pointed out that in some cases, the atmosphere of the shopping environment is more influential than the product itself in the purchase decision [30]. And what is the atmosphere? Atmospherics is the effort to design the environment to produce specific emotional effects to enhance buyers' purchase probability. As online shopping grows, there are varieties of commodity supplies and sellers try to use more interesting ways to attract buyers, such as the Live broadcast with goods, which is the real-time audio and video transmission of an event over the internet [7]. It is also interactive with consumers and makes the atmosphere better. The sellers attach importance to the atmosphere of purchase, so the factors, that is, live broadcasts with goods, beautiful pictures, a comprehensive introduction, and commodity evaluation, tend to be more crucial. The improved attractiveness to vision will give an instant satisfaction and a pleasant feeling, resulting in impulsive buying [10]. This time, atmospherics become the most important factors for consumers to be impulse buyers, instead of whether consumers have plans.

## 5.2 Rank (Comparing Different Impulse Buying Motivations)

From the perspective of the promotion activities, the goal framing effect influences the experimenters' motivation for impulsive buying. They mostly prefer "commodity price reduction and discount", buy a certain amount and give a certain discount" and "limited time and limited price rush purchase", which can be regarded as the negative frame. The negative frame conveys the message: if you do not pay at the limited time or miss the discount, you will have to pay an additional surcharge to buy the same item. Whereas there are other options such as "detailed introduction of product functions and beautiful product pictures" and "live broadcasting", which can be regarded as the positive frame. The positive frame conveys the message: if you pay for this item, you will receive a discount price. According to the results and the goal framing effect [23], the options in the negative frames have a higher proportion than that in the positive frames, consequently, the negative frame would have a greater persuasive impact on enabling people to be the impulse buyers. It verifies the relationship between framing effect and impulsive buying. Marketers have a good understanding of people's consumption psychology for many types of products. Through different marketing methods, the role of positive and negative framing has led to consumers' impulsive buying to a certain extent.

According to the order of the influence of motivational factors of promotion on impulse buying, a conclusion can be made as follows: the influence of motivational factors on impulsive buying has a positive relationship with information complexity and time required for information processing. In detail, the more complex the information is, the longer time and more energy the processing of information needs, the consumption will be more rational, and impulsive buying will be reduced.

Additional information processing overload muddles product selection, enhancing the benefits of alternative section heuristics such as impulsive buying [1].

Another possibility is that accuracy effects are at play. Accuracy effects may reduce impulse purchase behavior by influencing the perceived trade-off between cognitive effort and decision-making accuracy, according to this article. Information overload can amplify this moderating impact by lowering perceived accuracy or lowering real accuracy [9].

The direct stimulus brought by low price or price reduction is of lower information complexity and needs shorter contact and thinking time. Therefore, the psychological impact and emotional fluctuations caused by the single message of price reduction will be greater, which has the strongest influence on impulse buying. Piron pointed out that impulse purchasing is formally defined as a purchase that was the result of exposure to the stimulus, decided on the spot, and ignored the long-term, potential gains [40]. And when consumers acquire a reward from promotion activities, faster feedback and less energy spent will speed up reaching a buying decision. Thus, the immediate-reward promotion, such as the discount will promote stronger impulse buying.

"Limited time and limited price rush purchase" and "Discount after a certain amount" both involve the influx of more information and even the calculation of time and price. Consumers may run simulations to estimate how they will get the most out of their purchases under the pressure of time limits, and so on. Consequently, the influence on impulse buying will be less.

The product evaluation and the hosts' introduction (including live comments online) in "Live Broadcast with Goods Marketing" and "Commodity Evaluation and Consumption Quantity" "can result in more complex and multifaceted information within a short period. If considering these factors from various aspects, people will spend more time thinking about the comprehensive evaluation of both positive and negative sides, the evaluation from various perspectives (personal feelings, aesthetics, durability, etc.). It even involves more details (such as whether it has side effects), the evaluation involved a lot of subjective feeling and evaluation, so we fall at the speed of processing information, and process information more rationally for all kinds of information during classification and summary.

When comparative judgments contain anchors that are difficult to compare, it takes more time to generate absolute judgments, so judgments can be made without relevant target information [19]. At that time, the longer contact time of commodity information, with the increase of information complexity, induces a more rational and multi-faceted way of thinking will reduce impulsive buying.

### **5.3 The Influence of Planning on Emotion During Impulse Buying Motivation**

The result shows that there is no apparent difference in the emotion during the impulse buying between people who have a plan and have not. And the emotion of positive emotions including happiness and pressure have a significant impact on impulse buying (far more than those negative emotions). (H2).

So, probably it is not the emotion that impulses buying. Instead, the impulse buying itself accompanies or even leads to the positive emotion of happiness and enjoyment.

Kemp and Kopp studied how individuals regulate their emotions by consuming hedonic products [17]. They introduced a new concept, emotion regulated consumption (ERC), which involves the consumption or purchase of goods or services to relieve, repair, or manage emotions in the short term.

Impulse buying is crucial for satisfying hedonistic cravings linked with hedonistic consumerism [1, 40]. This involvement bolsters the idea that hedonic shopping motivation and impulsive purchase behavior are linked. That is, when consumers are motivated by hedonic demands or non-economic motives such as amusement or emotional fulfillment, they are more likely to participate in impulsive buying [1, 14]. Hedonic consumption and impulse buying have a significant influence on positive emotions. The idea that impulse buying is a prevalent kind of product selection is supported by data, in part because the act of shopping and impulse product choosing both generate hedonic pleasures. Impulse buying may be perceived as a valued pastime rather than merely a way of getting stuff if hedonic factors are included [1].

### **5.4 Observations About the Time of Impulsive Buying**

In addition, there is an interesting finding that the impulse buying time of planned people and unplanned people is different. (H3).

The difference in consumption time may mean distinct consumption aims for different kinds of commodities and thus make the consumer have different sensitivity to feeling the emotional stimulation.

People who have clear plans tend to make impulse buying earlier (usually at night), which probably means, during this period, they're more consciously going through their planned shopping lists and making purchases of important, urgent, or necessary goods of utility because just after the working time they can still keep the rational thinking to some extent rather than give their mind an overall rest and just listen to emotion and feeling, which probably lead to impulsive buying.

People who have no plans tend to make impulse buying at later times (usually at midnight). At that time, they have more leisure time after one day of tiring work or learning, so the consumption desire will be mostly motivated by hedonism, purely for pleasure with no clear purpose of consumption.

What the goods provide is not necessarily utility, but the excitement of the commodity itself and the consumption itself. That pleasure and relaxation, as a kind of instant feeling and satisfaction, will make people more likely to be influenced by various factors and buy impulsively.

Because people's state of consciousness at night is more relaxed, and their thinking ability and judgment ability are reduced, they fall into the inconsistency of consciousness level. This is consistent with current literature on "decision fatigue" [39]. At the same time, because most people feel deeply tired from work and study during the day, it brings them a "compensation psychology" before going to bed and relaxing at night, which leads to a lot of consumption, including "irrational consumption".

## 6 Conclusion

From this discussion on impulsive buying and framing effect, we reached a few valuable conclusions.

Our data shows that the consumption plan has no impact on impulse buying. At the same time, the consumption plan may not be complied with. They may consume planned goods at a larger amount or higher price than expected; they may also buy things out of plan impulsively.

Secondly, in terms of emotion, we originally suppose that emotion affects impulse buying. However, the experimental data show that consumers' emotional expression occurs only after consumption is completed. Therefore, emotion and consumption are concomitant and occur at the same time: the more serious the impulsive buying behavior is, the more happiness you experience, and the more likely you will buy impulsively. Therefore, the two influence each other.

Lastly, through the lens of consumption time, we believe that people are most likely to spend impulsively at night and late at night.

Based on the conclusions above, we will give the following suggestions:

First, making consumption plan before consumption will not help consumers reduce the probability of impulse buying, which is opposite to the public's cognition and general idea. This can be a further research direction.

Secondly, emotion is the concomitant product of impulsive buying. Pay attention to and perceive your emotions in time. Before making a purchase decision, think about what accompanying emotions will appear, and predict whether there will be regret after buying. If so, it may be impulse buying, and you can postpone or stop buying as appropriate.

Finally, try to buy the commodities you want during the day and avoid buying them at night.

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