Frontiers in Economics and Management Volume 7 Issue 1, 2026
ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

Research on the Influence of Individual Decision Reversal under an Information Cascade Reversal Scenario

Chenxi Zhang, Ziwei Wang

School of Public Administration, Sichuan University, Chengdu 610065, China

Abstract

Information cascade reversal is a common phenomenon in real-world societies. Our study mainly investigates whether the reversal of group beliefs in information cascade reversal impacts the decision behavior of prior users. Through experimental research, we examine the moderating effects of information accuracy and regulatory focus on the relationship between decision consistency and individuals' decision reversal. The empirical analysis reveals that information accuracy moderates the impact of decision consistency on weakening prior belief, with the effect being more pronounced in contexts with low information accuracy. Regulatory focus also moderates the effect of information accuracy on weakening prior belief, with a more significant difference observed between prevention focus and promotion focus regarding decision consistency and weakening prior belief. Weakening prior belief positively and significantly influences decision reversal, mediating between decision consistency and decision reversal. Our study explores the factors and mechanisms underlying decision reversal in information cascade reversals, providing valuable insights for advancing theoretical understanding and expanding practical applications in the study of information cascade.

Keywords

Information Cascade; Decision Reversal; Decision Consistency; Information Accuracy; Regulatory Focus.

1. Introduction

The information cascade is triggered when decision-makers do not consider self-sourced information in the decision-making process and choose to imitate others who faced the same decision earlier [1]. The information cascade reflects that groups easily influence individuals and spontaneously form certain consistent behaviors in the decision-making process. However, such consistent behaviors are often based on others' decisions rather than their judgment or information analysis, making them highly vulnerable [2]. Once the external environment changes or new information intervenes, the information cascade is susceptible to collapse and reversal.

The phenomenon of information cascade reversal is widespread in human social life, such as shifts in stock market investment trends, reversals in e-commerce product reviews, and changes in public opinion on hot topics in social media [3]. Goeree et al. [4] find in long-sequence information cascade experimental research that information cascade is transient and often undergoes reversals during the self-correction process of group decision-making information. Although the existence of this reversal has been discovered, the reasons for the reversal of the information cascade have not yet been explained. Kim et al. [5] find that in the early diffusion stage of decision-making within market social networks, incorrect decisions can significantly lead to erroneous information cascade, but this effect may be reversed later. Reina et al. [6] propose that information cascade reversal occurs mainly in asynchronous decision-making, where early decisions are often incorrect and dominate the decision dynamics, making

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

information cascade highly prone to reversal after information is confirmed. In the real world's decision-making, information does not have a clear distinction between right and wrong. Faced with asymmetric and ambiguous information, individuals often tend to make their decisions based on the emergence of new information and changes in the social environment, which could potentially lead to reversals of subsequent information cascades [7]. Although scholars have analyzed and explored the reasons for the reversal of information cascade, current research primarily focuses on the behavior of subsequent decision-makers. There is little research on the impact of the reversal of group consensus trends in sequential decision-making under the scenario of information cascade reversal on the re-decision-making of prior decision-makers. That is, when individuals have the choice to decide again, whether their decisions will also reverse with the new reversed information cascade. This behavior of individuals re-deciding is common in real-world scenarios but has not been thoroughly investigated in empirical research.

Therefore, our study focuses on the research of individual decision reversal behavior in the context of information cascade reversal and attempts to address the following issues: (1) As a significant reference factor that decision-makers can observe, how does the reversed consensus trend formed by group decision-making affect individual decision-making behavior when individual decision-makers make decisions again? (2) What is the role of private information (information accuracy) in this process, and does it impact the re-decision-making of individuals? (3) Different individual regulatory focus can lead to cognitive and decision-making differences; does this impact decision reversal behavior? By discussing these issues, we aim to reveal the mechanisms of decision reversal in information cascade reversal to some extent, providing new perspectives and theoretical foundations for understanding individual decision behavior in the context of information cascade reversal.

2. Literature Review

2.1. Information Cascade.

Information cascade is a phenomenon of “herding” in the process of information-based sequential decision-making by individuals in groups [8]. The phenomenon describes a behavior in which people ignore their own assessment of information and follow their predecessors' choices when their choices are influenced by predecessors' information [9]. Following the discovery and proposal of the information cascade, many scholars have applied it to real-world scenarios to explain various economic and social phenomena, such as the market crash stampedes in the financial sector [10], the spread and diffusion of public opinion on social media platforms such as twitter, and sequential purchase decisions by consumers in e-commerce processes. These applications provide an important theoretical perspective for understanding and analyzing complex group behaviors in modern society.

In addition to exploring practical applications mentioned above, many scholars have also used experimental research to delve into the mechanisms behind the formation of information cascade. Anderson et al. [11] model the process of belief updating in group sequential decision-making using Bayesian updating rules. Through a ball-drawing experiment, they validated the Bayesian rationality of information cascade, systematically describing the formation and triggering mechanisms of information cascade. Goeree et al. [4] find through experimentation that individual behavior changes with the shifts in group beliefs. They observe that information cascade are not persistent but rather consist of multiple short-lived cascade. Within these brief cascade, the lack of informative signals can lead to dynamic instability, making information cascade prone to reversal, but the reversed cascade is capable of self-correction. Bikhchandani et al. [8] investigate the correlation between the order of user decisions and cascading effects within communities, and they reveal the fragility of information cascade in communities and the inherent self-correction.

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

While research on information cascade has yielded rich results, there is limited study on the reversal process of information cascade. Although Ziegelmeyer et al. [12] reveal the transient and reversible nature of information cascade during experimental methods, and Peres et al. [13] also validate the fragility of information cascade, which makes them highly susceptible to reversal, they do not delve into the specific mechanisms and individual behavioral patterns during the reversal process. Our study attempts to investigate the behavior of individual decision reversal during the reversal of information cascade to contribute to the development of information cascade theory.

2.2. Individual Decision Reversal Behavior.

Individual decision behavior arises from the interplay of internal psychological processes and external environmental factors, manifesting in individuals' choices in response to specific events or issues [14]. The theory of bounded rationality suggests that decision-makers, constrained by incomplete information and cognitive limitations, often fail to achieve optimal rationality in their real-world choices [15]. Opinion dynamics delves deeper into the dynamic processes underlying individual decision-making within groups. It highlights that when confronted with particular events or issues, individuals will independently form decisions based on their comprehension and the information they have gathered. These decisions then circulate, disseminate, and coalesce across the group through interpersonal interactions, ultimately converging towards a collective consensus [16]. Yet, decisions that stem from bounded rationality are inherently fragile. As new or altered factors emerge in subsequent phases, individuals reevaluate and reassess their previous opinions, which can provoke a shift in their perspectives, attitudes, or emotional responses. This can potentially result in a re-alignment towards consensus or even a complete reversal of decisions, thus giving rise to the phenomenon of individual decision reversal [17].

The information cascade theory also focuses on the changes in individual decision-making behavior in the group decision-making process; that is, individual belief may be weakened by group beliefs in the decision-making process, and as a result, they may abandon their original decision-making behavior [18]. Peres et al. [13] observe through experiments that information cascade can consist of multiple short-lived information cascade, in which the incompleteness of information leads to instability in the dynamic process, making the information cascade prone to reversal. Our study explores whether individuals' beliefs in decision-making will reverse in such situations of information cascade reversal, as well as the influence mechanism of this reversal. As an extension of the classic information cascade experiment, this study focuses on environmental factors that directly impact the subjects' group decision consistency and the accuracy of environmental information within the experimental setting, examining whether these factors influence individuals' existing beliefs and precipitate reversals in their decisions.

2.3. Regulatory Focus.

Regulatory focus theory, initially proposed by Higgins and grounded in the traditional self-discrepancy theory, synthesizes psychological and motivational perspectives to deepen our insights into individuals' goal pursuit and self-regulatory processes [19]. This theory differentiates between two distinct regulatory orientations: promotion focus and prevention focus, each exhibiting unique influences on individuals' needs, motivations, decision-making, and emotional responses [20]. Individuals with the promotion focus tend to pursue positive outcomes, prioritizing opportunities for success and employing proactive strategies to advance their goals [21]. Conversely, individuals with a prevention focus are more concerned with avoiding negative outcomes, prioritizing avoiding potential risks, and adopting cautious strategies to prevent adverse consequences [22].

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

In the realm of individual decision-making, regulatory focus manifests as an individual's preferences in processing information, forming beliefs, and making choices. When individuals' behavioral decisions align with their regulatory focus type, their motivation to decide is significantly bolstered [23]. Therefore, we incorporate the regulatory focus theory to examine whether individuals' regulatory focus will impact the reversal of their decision-making behavior in the face of information cascade reversal, aiming to shed light on the motivational underpinnings and selection processes of individuals' decision-making behavior.

3. Research Hypotheses

3.1. The Influence of Decision Consistency.

Decision consistency refers to the level of consensus or agreement among group members during the decision-making process [24]. Given the uncertainty of the decision-making process itself and the bounded rationality of decision-makers, individuals often tend to the collective decision-making actions of the group as a means to navigate this uncertainty, and this tendency can, to some extent, result in the overlooking of one's own beliefs [25]. Wang et al. [26] have demonstrated through experimental research that decision consistency can impact individual beliefs. When a significant number of arguments align in the same direction, individuals may begin to question and weaken their original beliefs and pay more attention to the decision-making behavior of others. In the information cascade, decision consistency serves both as an outcome and a crucial reference point for subsequent decision-makers, significantly influencing their decisions. Liu et al. [27] discover in their examination of information cascade that the alignment of strategies can indeed affect the decision-making beliefs of individuals. Similarly, Zhu et al. [28] find in their study of information cascade in flash sale decision-making that highly consistent reviews can intervene and diminish decision-makers' personal beliefs. Consequently, we contend that in the case of information waterfall reversal, decision consistency, as an intuitive and indispensable influencing factor, plays a vital role in weakening the original decision beliefs of individuals. Drawing from these observations and theories, we propose the following hypothesis:

H1: In the scenario of information cascade reversal, decision consistency positively impacts the weakening of prior belief.

3.2. The Influence of Information Accuracy.

Information is an essential prerequisite for decision-making, and the decision-making process is not independent of information. Bounded rationality suggests that the accuracy of information influences individual decision-making behavior [29]. Experimental studies on information cascade have shown that the probability of an information cascade is related to the accuracy of environmental information, with higher accuracy increasing the likelihood of a cascade [30]. In delving into the information cascade, Shen et al. [31] finds that high-quality information better helps decision-makers reduce uncertainty and risk, providing them with a more reliable basis for judgment and assessment, and is therefore more likely to trigger herd behavior. Our study further examines individual decision-making behaviors when reversals occur following the onset of an information cascade based on the classical information cascade ball-draw experimental design. Information accuracy is critical in prompting the initial decisions in an information cascade, and as a constant variable, its presence in situations of information cascade reversal may influence the adjustment of individual beliefs [32]. That is, the interplay between the intrinsic property of event information accuracy and the extrinsic property of group decision consistency collectively affects individuals' belief adjustment and decision-making during an information cascade reversal. Hence, we propose the following hypothesis:

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

H2: In the scenario of an information cascade reversal, the information accuracy acts as a moderating factor in the relationship between decision consistency and weakening prior belief.

3.3. The Influence of Regulatory Focus.

Individuals with different regulatory focus profiles demonstrate pronounced differences in their decision-making judgments. That is, distinct regulatory focus traits result in diverse inclinations and preferences regarding decision-making judgments [33]. Individuals with promotion focus are generally more open and accepting of new information and perspectives. They tend to seek out various options and decision-making strategies proactively and are more inclined to take risks and explore new decision choices [34]. When faced with a decision change, they may be more likely to make adjustments and changes. On the other hand, individuals with prevention focus strongly emphasize stability and risk avoidance. They tend to exhibit a more conservative attitude, seeking to minimize potential uncertainty and risk [35]. When faced with a decision change, they may preserve the status quo and adhere to conventional decision-making strategies. When individuals face the information cascade reversal, meaning when a sudden shift in group beliefs conflicts with their original decisions, they typically engage in a certain amount of thought and evaluation. Whether decision-makers choose to trust the outcome of the group's decision and revise their original choice or to stick to their initial decision, this process reflects the classic traits of regulatory focus [36]. Hence, we propose the following hypothesis:

H3: In the scenario of an information cascade reversal, the regulatory focus acts as a moderating factor in the relationship between decision consistency and weakening prior belief.

3.4. The Influence of Weakening Prior Belief on Individual Decision Reversal.

Weakening prior belief occurs when individuals are less confident or sure about their beliefs and judgments, resulting in a subconscious bias toward making adjustments or modifications [37]. Decisions made with limited information are inherently fraught with uncertainty, and when new information, perspectives, or evidence emerge, previous decisions can become highly susceptible to influence. This may result in decision-makers abruptly altering their positions or even discarding their earlier decisions entirely [38]. In the context of studying online rumors through the lens of information cascade, Wang et al. [26] through the information cascade study of rumors, find that when individuals encounter rumors or contentious viewpoints, their initial belief may be swayed by arguments that support the rumor, leading them to abandon their prior beliefs and instead subscribe to the veracity of the rumor. Consequently, our paper suggests that in scenarios where there is a reversal in information cascade, the dilution of individuals' prior beliefs due to a sudden change in group beliefs will further influence their decision-making behaviors. Hence, we propose the following hypothesis:

H4: Weakening prior belief positively impacts the individual decision reversal.

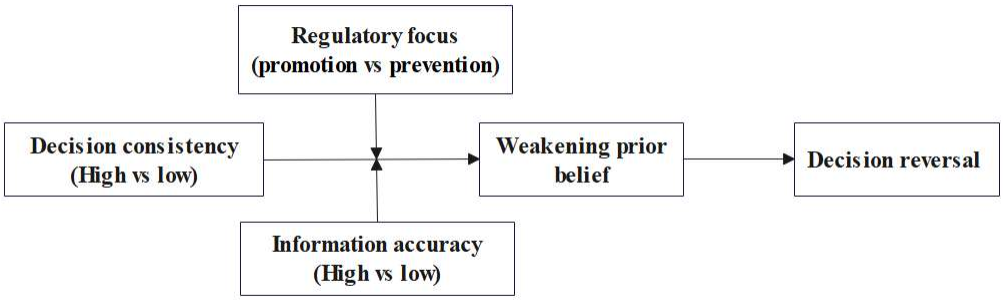

Fig. 1 The research model

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

4. Research Design

4.1. Experimental Design.

This experiment uses a 2 (Information accuracy: low accuracy, high accuracy) * 2 (Decision consistency: low consistency, high consistency) * 2 (Regulatory Focus: promotion focus, prevention focus) experimental research design. We select 159 college students in Chengdu, China as our sample (all participants were enrolled voluntarily). The experiment is divided into two parts.

The first part is designed to establish an information cascade environment. We use the classic information cascade ball-drawing experiment as our model and created this environment through an online simulation. Participants are presented with two indistinguishable boxes, A and B, each containing balls of two colors, a and b, with a total of 9 balls in each box The probabilities P(a/A) or P(b/B) are set at 5/9 and 7/9, respectively, to represent low and high levels of environmental information accuracy. At the start of the experiment, a research assistant randomly selects either box A or B, from which each participant draws a ball. Based on the color of the ball they've drawn and the decisions made by previous decision-makers, participants must decide in turn whether the box is A or B. In each round, the participant is consistently placed in the 6th position, and the decision discrepancy among the first five positions is fixed at three, ensuring that each round takes place within the context of an information cascade, unbeknownst to the participant. To investigate whether decision-makers are influenced by the information cascade, the prior decision representation information in each round is deliberately set to contradict the private information. Upon completing the information cascade task, participants are asked to complete a regulatory focus measurement scale to assess their regulatory focus.

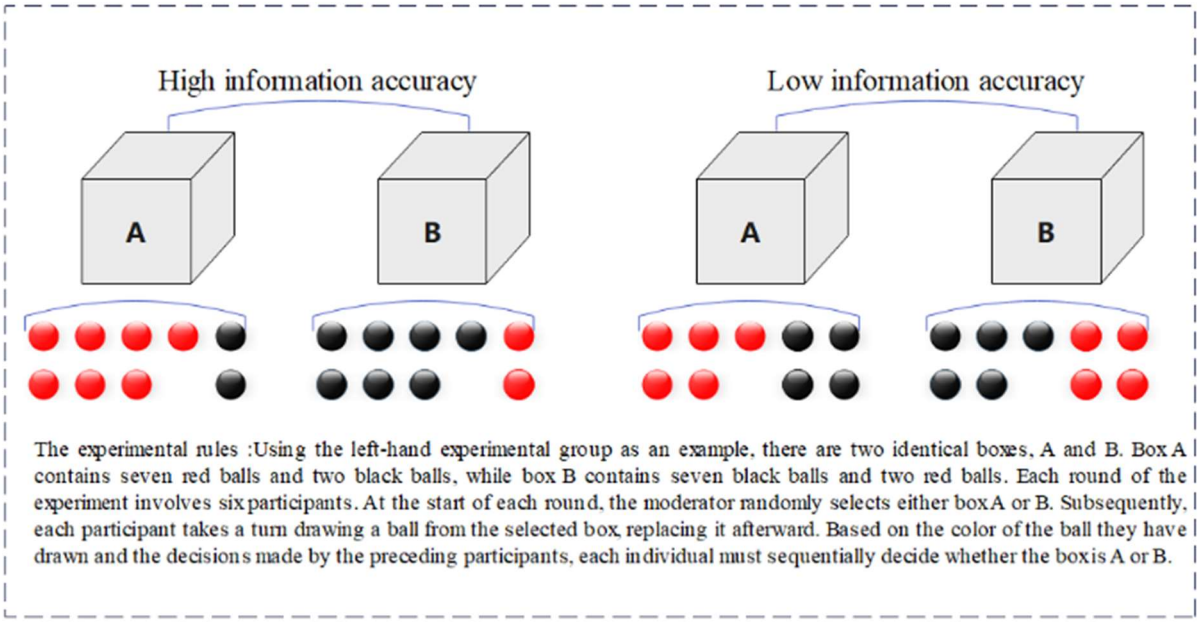

Fig. 2 Rules of the first parts of experiments

The second part of the study is to explore whether individuals' decisions will undergo a reversal in behavior when faced with a reversal of the information cascade. For this purpose, we randomly assign the 120 students who participated in the first round of the experiment (the information cascade occurred) to one of eight versions of the experimental questionnaire. The experiment will continue to be conducted using an online simulation format, with participants in the new round consistently placed in the 12th position. The experiment maintains the prior

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

sequence of choices made by the participants, that is, the decision-making process from the first six rounds. To control the reversal of the information cascade, we set most of the ball colors at positions 7 through 11 to the opposite color selected in decision 6 to simulate the reversal of the information cascade. By controlling the number of balls of different colors, we can adjust the level of decision consistency. Specifically, under high decision consistency conditions, positions 7-11 will have 5 balls of the same color, whereas under low decision consistency conditions, there will be 3 balls of the same color. Subsequently, the participants will be asked to complete the box judgment task and fill out a specified scale.

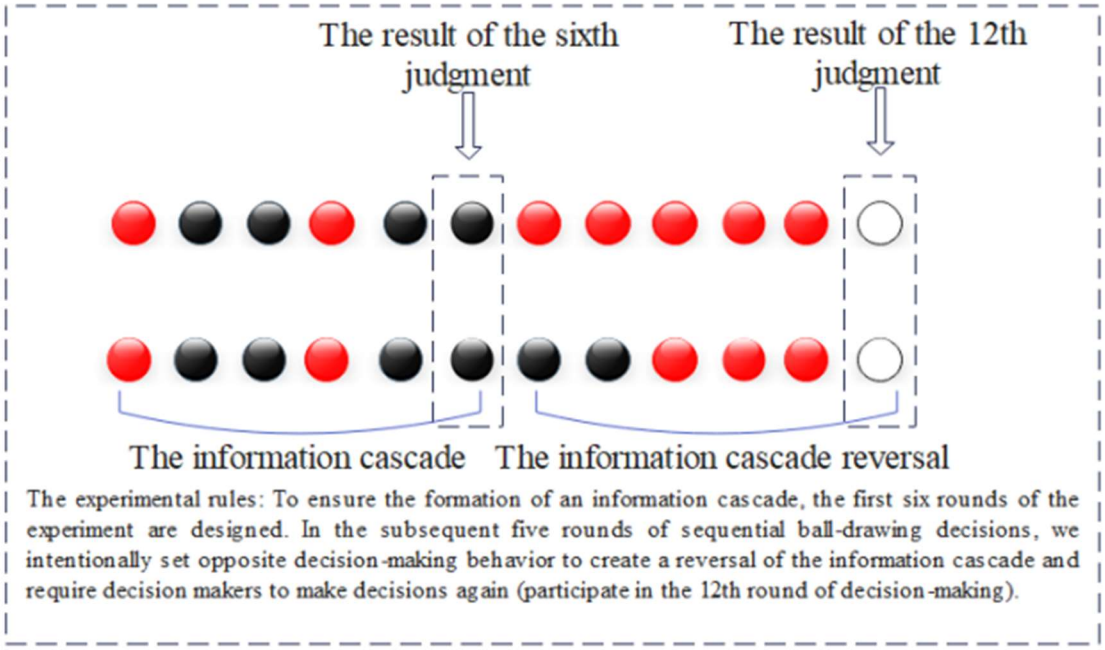

Fig. 3 Rules of the second part of experiments

4.2. Questionnaire Measurement.

The first part involves measuring the subjects' regulatory focus, using the Regulatory Focus Questionnaire (RFQ) developed by Scholer et al. [36]. The specific scale items are shown in Table 3. The method for categorizing regulatory focus is as follows: calculating the difference between the mean scores on the promotion focus items and the prevention focus items, subtracting the median of this difference, and transforming the result into a Z-score. When the Z-score is greater than 0, it indicates a promotion-oriented orientation; when the Z-score is less than 0, it indicates a prevention-oriented orientation. The specific calculation formula is as follows:

$$Z=(\Sigma x_{pi}/n-\Sigma x_{qj}/m-\Delta x_{median}-\mu)/\sigma \quad (1)$$

The other part is the measurement of the weakening of prior beliefs variable, which primarily draws on the scale developed by Zhu et al. [28] and includes three measurement items. The specific scale items are shown in Table 1, and their reliability coefficient is 0.831. All measurement items are scored by a Likert seven-level scale, and the reliability coefficient is greater than 0.7, which indicates that the scale has high credibility.

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

Table 1. Items and References of the Measurement Scale

Variable	Item	References
Promotion focus and Prevention focus	In life, compared to most people, I often get what I want.	Scholer et al. [36]
	Some of my past successes have made me more motivated to work harder.	
	I feel that my life is gradually moving towards success.	
	I usually excel at the things I want to do.	
	When I'm about to complete an important task, I often find that the outcome doesn't meet my expectations.	
	In my daily life, I rarely find activities that interest me and inspire me to invest my energy.	
	During my growth, I often did things that my family and friends couldn't tolerate.	
	During my growth, I often caused my family and friends to worry and be anxious.	
	During my growth, I often did things that my family and friends thought were wrong.	
	In my past life, I often followed established rules when doing things.	
Weakening prior belief	When encountering evidence that contradicts my original beliefs, I adjust my beliefs.	Zhu et al. [28]
	After reading new information or evidence, I might adjust my opinion.	
	Although I might think that my original views were correct, I still choose to believe the new opinion.	

5. Data Analysis

5.1. Analysis of Variance for the Moderating Effect of Information Accuracy.

To examine the influence of information accuracy on the relationship between decision consistency and weakening prior belief, we conduct an analysis of variance. The results demonstrate that information accuracy has a significant moderating effect on the relationship between decision consistency and weakening prior belief ($F=4.509$, $P<0.05$). The specific analysis results are shown in Table 2.

Table 2. The regulating effect of environmental information accuracy

Variable relation	Dependent variable	III type of sum of squares	df	Mean square	F	Sig
Decision consistency * Information accuracy	Weakening prior belief	2.610	1	2.610	4.231	.042

Subsequently, we further divide information accuracy into two groups, the high information accuracy group and the low information accuracy group, and conduct an analysis of variance to investigate the impact of different levels of information accuracy on the extent to which decision consistency affects weakening prior belief. The specific analysis results are depicted in Figure 4. Under high information accuracy, the high level of decision consistency ($M=6.171$) leads to a greater weakening of prior belief compared to low decision consistency ($M=5.940$) ($F=12.760$, $P<0.01$); under low information accuracy, the high level of decision consistency ($M=5.250$) leads to a greater weakening of prior belief compared to low decision consistency ($M=4.250$) ($F=38.989$, $P<0.01$), validating Hypothesis H2. Moreover, this result indicates that

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

information accuracy significantly moderates the relationship between decision consistency and weakening prior belief, with the moderating effect being more pronounced at low information accuracy. This suggests that while decision-makers are more prone to forming information cascade under lower information accuracy, this uncertainty also makes individuals' prior decision belief more susceptible to doubt or shake in the event of the information cascade reversal.

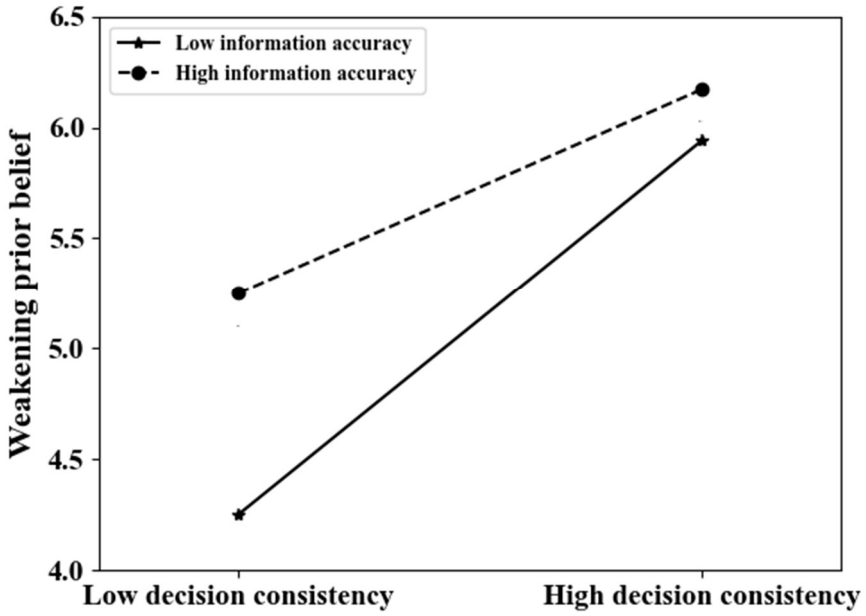

Fig. 4 The moderating effect of information accuracy on weakening prior belief

5.2. Analysis of Variance for the Moderating Effect of Regulatory Focus.

Similarly, we conduct an analysis of variance to examine the influence of regulatory focus on the relationship between decision consistency and weakening prior belief. The results demonstrate that the regulatory focus has a significant moderating effect on the relationship between decision consistency and weakening prior belief ($F=12.940, P<0.01$). The specific analysis results are shown in Table 3.

Table 3. The regulating effect of regulatory focus

Variable relation	Dependent variable	III type of sum of squares	df	Mean square	F	Sig
Decision consistency * regulatory focus	Weakening prior belief	4.475	1	4.475	12.940	.001

Subsequently, we further divide regulatory focus into two groups: the promotion focus group and the prevention focus group, and conduct an analysis of variance to investigate the impact of different groups of regulatory focus on the extent to which decision consistency affects weakening prior belief. The specific analysis results are depicted in Figure 5. Under the promotion focus group, the high level of decision consistency ($M=6.150$) leads to a greater weakening of prior belief compared to low decision consistency ($M=5.667$) ($F=75.471, P<0.01$); under the prevention focus group, the high level of decision consistency ($M=5.020$) leads to a greater weakening of prior belief compared to low decision consistency ($M=3.103$) ($F=46.343, P<0.01$), validating Hypothesis H3. Moreover, this result indicates that different regulatory

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

focus traits significantly moderate the relationship between decision consistency and weakening prior belief, with the moderating effect being more pronounced at the prevention focus. This suggests that prevention focus individuals are more sensitive to changes in group opinions and are more likely to adjust their beliefs according to group decisions.

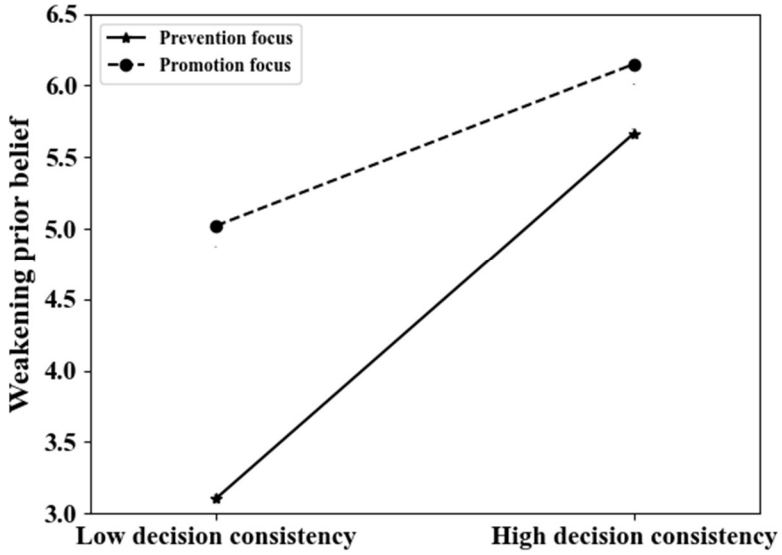

Fig. 5 The moderating effect of regulatory focus on weakening prior belief

Similarly, we conduct a mutual interaction effect of decision consistency, information accuracy and regulatory focus on weakening prior belief. The three variables have a significant interaction effect on weakening prior belief ($F=5.079$, $P<0.05$). The specific analysis results are shown in Table 4.

Table 4. The mutual moderating effects of information accuracy and regulatory focus

Variable relation	Dependent variable	III type of sum of squares	df	Mean square	F	Sig
Decision consistency * Information accuracy * regulatory focus	Weakening prior belief	1.352	1	1.352	5.079	.027

We analyze the average outcomes of how decision consistency, information accuracy and regulatory focus affect individuals' weakening prior belief, as detailed in Table 5. The result indicates that when decision consistency is high, the conditions most likely to lead to a reversal in decision-making are when the information is highly accurate, and individuals have a promotion focus orientation, with the mean outcome being particularly pronounced ($M=6.183$). On the other hand, when decision consistency is low, decision reversal is more prone to occur in situations where information is accurate, and individuals have a promotion focus orientation ($M=5.116$). It is crucial to highlight that while the data point to this trend, the discrepancy warrants further, more stringent examination, and future research could delve deeper into this issue.

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

Table 5. The mean value of decision consistency, information accuracy and regulatory focus to weakening prior belief

Dependent variable	Decision consistency	Information accuracy	Regulatory focus	Mean value	Standard deviation	95% confidence interval	
						Lower limit	Upper limit
weakening prior belief	Low decision consistency	Low information accuracy	Prevention focus	2.788	.156	2.479	3.097
			Promotion focus	4.893	.103	4.688	5.098
		High information accuracy	Prevention focus	4.833	.365	4.109	5.558
			Promotion focus	5.333	.163	5.009	5.657
	High decision consistency	Low information accuracy	Prevention focus	5.667	.365	4.942	6.391
			Promotion focus	6.000	.172	5.658	6.342
		High information accuracy	Prevention focus	5.667	.516	4.642	6.691
			Promotion focus	6.183	.082	6.021	6.345

5.3. Path Analysis of Decision Consistency to Decision Reversal.

To further analyze the mediating role of weakening prior belief between decision consistency and decision reversal behavior, we conduct the following path analysis: Firstly, we take the variable of "decision consistency" as a dummy variable, where "0" presents low decision consistency and "1" presents high decision consistency. Then, we take decision consistency as the independent variable, weakening prior belief as a dependent variable for regression analysis. The results of regression analysis are shown in Table 6. These results show that the information accuracy has a significant positive effect on the weakening prior belief, thus confirming the establishment of hypothesis H1.

Table 6. The effect of decision consistency on weakening prior belief

Model		Unstandardized coefficients		Standardized coefficients	t	Sig
		Estimated value	Standard deviation	Beta value		
1	(Constant)	4.500	.121		37.244	.000
	Decision consistency	1.622	.168	.699	9.679	.000

Note: R2=0.484, F=93.686, P<0.01. Dependent variable: weakening prior belief.

Subsequently, we further explore the impact of weakening prior belief on decision reversal behavior, taking weakening prior belief as the independent variable and decision reversal as the dependent variable for regression analysis. Model 1 in Table 7 indicates decision consistency has a significant positive impact on decision reversal behavior. To further verify the mediating role of weakening prior belief, we take decision consistency and weakening prior belief as independent variables and decision reversal behavior as the dependent variable to conduct a regression analysis. As shown by Model 2 in Table 7. Weakening prior belief also has

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

a positive impact on decision reversal behavior, thus supporting our hypothesis H4. It is noteworthy that when we incorporated the factor of weakening prior belief into the model, there was a marked enhancement in the model's goodness of fit (ΔR2=0.341, F=25.046, P<0.01). This suggests that weakening prior belief plays a role as a mediating variable between decision consistency and decision reversal behavior.

Table 7. Path analysis of the relationship between decision reversal behavior, decision consistency and weakening prior belief

Model		Unstandardized coefficients		Standardized coefficients	t	Sig
		Estimated value	Standard deviation	Beta value		
1	(Constant)	1.516	.113		13.359	.000
	Decision consistency	.213	.071	.290	3.005	.003
2	(Constant)	.879	.143		6.128	.000
	Decision consistency	-.146	.085	-.199	-1.715	.089
	weakening prior belief	.221	.037	.700	6.041	.000

Note: (1) Model 1:=R2=0.084, F=9.030, P<0.01. (2) Model 2: R2=0.335, F=24.394, P<0.01. Dependent variable: decision reversal.

6. Discussions and Conclusion

Our study empirically investigates the effects of high decision consistency versus low decision consistency on individual decision reversal in the context of information cascade reversal, examining two boundary conditions: information accuracy and regulatory focus. The results indicate that information accuracy moderates the degree to which decision consistency affects individuals' weakening of their prior beliefs. Whether the information accuracy is high or low, decision consistency influences weakening prior belief. Moreover, high decision consistency is more effective in weakening prior belief than low decision consistency, particularly in situations with low information accuracy, where this difference is even more pronounced. Additionally, regulatory focus also moderates the effect of decision consistency on weakening prior belief. For individuals with a promotion focus, high decision consistency leads to a more significant weakening of prior beliefs than low decision consistency. This pattern holds true for individuals with a prevention focus as well, although the difference in impact between the two levels of decision consistency is more pronounced for individuals with prevention focus. This suggests that, although individuals with prevention focus approach information with caution and conservatism, their careful nature prompts them to more diligently seek additional evidence, investigate the sources of information, and assess reliability, thereby increasing their likelihood of adjusting their prior perspectives or beliefs. Furthermore, our study confirms that weakening prior belief positively and significantly influences decision reversal, and weakening prior belief acts as a mediating variable in the effect of information accuracy on decision reversal.

6.1. Implications for Research.

The conclusions of our study enrich the current research on information cascade. Many scholars have explored the formation mechanisms of information cascade and their impact on decision-making processes. They have also recognized the fragility of information cascade,

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

which can lead to reversals. However, research on this reversal is still relatively scarce. Therefore, this study's exploration of the reversal scenario of information cascade is of significant importance. It not only fills a gap in existing research and lays a theoretical foundation for future studies in related fields but also offers a more comprehensive understanding of the complexity and uncertainty of decision-making, providing deeper theoretical insights and guidance for practical applications. Furthermore, we validate the role of individual regulatory focus in decision reversal behavior during reversals of information cascade. Through empirical research, we broaden the application of regulatory focus theory and deepen the understanding of individual decision behaviors in the face of rapid changes in group beliefs.

6.2. Implications for Practice.

The findings of our study have a few implications for information dissemination platforms, enabling them to manage, intervene, prevent, and correct the spread of negative public sentiment more effectively in the context of free public discourse. When negative public sentiment is widely disseminated and recognized by the majority, it forms a sentiment climate with substantial social impact. To reverse this adverse sentiment climate, platforms can utilize tools such as social bots to create and amplify positive sentiment trends, thereby reversing the decision perspectives of original commenters and reshaping the opinion climate. Moreover, internet users with different attitudes are exposed to the same online information in the context of free public discourse. Consequently, platforms can guide public opinions and attitudes by optimizing the presentation of initial sentiment information, in conjunction with the intervention above measures. Additionally, individuals with a prevention focus are more prone to decision reversal. Targeting this characteristic, platforms can strategically adjust the presentation and expression of information to enhance the perception of prevention-focused individuals, thereby steering their decision-making behavior toward more cautious and optimistic sentiment directions. Through these measures, platforms can more effectively address individual decision reversal in situations of information cascade reversal, promoting healthier information dissemination and group decision-making.

6.3. Limitation and Future Directions.

Our study has a few limitations that indicate possible directions for future research. First, the factors influencing decision reversal in information cascade reversal are highly complex. The study is an extension of the classic information cascade experiment and thus focuses on essential influencing and moderating factors within the experimental setting. Subsequent research should supplement these factors with additional relevant ones to further enrich the study, accounting for the complexity of different scenarios. Second, our study is based on a survey of Chinese college students. Thus, the results may have limited generalization. Future research could expand to general populations from more countries.

References

[1] Moradi M, Zandipak R. Employees' information exchanges in virtual groups and their belief in rumors and their dissemination in cyberspace: Information cascade approach and group polarization[J]. Management and Development Process, 2021, 34(2): 63-94.

[2] McCormick J S, White T E, Middleton E J T, et al. Information cascade spread adaptive and maladaptive behaviours in group-living animals[J]. Animal Behaviour, 2024, 209: 53-62.

[3] Patterson D M, Sharma V. The incidence of informational cascade and the behavior of trade interarrival times during the stock market bubble[J]. Macroeconomic Dynamics, 2010, 14(S1): 111-136.

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

[4] Goeree J K, Palfrey T R, Rogers B W, et al. Self-correcting information cascade[J]. The Review of Economic Studies, 2007, 74(3): 733-762.

[5] Kim J, Kwon O, Lee D H.Social influence of hubs in information cascade processes[J].Management Decision, 2017, 55(4):730-744.

[6] Reina A, Bose T, Srivastava V, et al. Asynchrony rescues statistically optimal group decisions from information cascade through emergent leaders[J]. Royal Society Open Science, 2023, 10(3): 230175.

[7] Seiler M J. Forward and falsely induced reverse information cascade[J]. Journal of Behavioral Finance, 2012, 13(3): 226-240.

[8] Bikhchandani S, Hirshleifer D, Tamuz O, et al. Information cascade and social learning[R]. National Bureau of Economic Research, 2021.

[9] Xiao Q. Equilibrating ripple effect, disturbing information cascade effect and regional disparity–A perspective from China's tiered housing markets[J]. International Journal of Finance & Economics, 2023, 28(1): 858-875.

[10] Benhammada S, Amblard F, Chikhi S. An Agent-Based Model to Study Informational Cascade in Financial Markets[J]. New Generation Computing, 2021, 39: 409-436.

[11] Anderson L R, Holt C A. Information cascade in the laboratory[J]. The American economic review, 1997: 847-862.

[12] Ziegelmeyer A, Koessler F, Bracht J, et al. Fragility of information cascade: an experimental study using elicited beliefs[J]. Experimental Economics, 2010, 13: 121-145.

[13] Peres Y, Rácz M Z, Sly A, et al. How fragile are information cascade?[J]. The Annals of Applied Probability, 2020, 30(6): 2796-2814.

[14] Rapoport A, Wallsten T S. Individual decision behavior[J]. Annual review of psychology, 1972, 23(1): 131-176.

[15] Gigerenzer G. What is bounded rationality?[M]//Routledge handbook of bounded rationality. Routledge, 2020: 55-69.

[16] Acemoglu D, Ozdaglar A. Opinion dynamics and learning in social networks[J]. Dynamic Games and Applications, 2011, 1: 3-49.

[17] Shulman J D, Cunha Jr M, Saint Clair J K. Consumer uncertainty and purchase decision reversal: Theory and evidence[J]. Marketing Science, 2015, 34(4): 590-605.

[18] Huber, R. E., Klucharev, V., Rieskamp, J. (2015). Neural correlates of informational cascade: brain mechanisms of social influence on belief updating[J]. Social Cognitive &Affective Neuroscience, 10(4): 589-597.

[19] Higgins, Tory E. Beyond pleasure and pain.[J]. American Psychologist, 1997, 52(12):1280-300.

[20] Gutermuth D, Hamstra M R W. Are there gender differences in promotion–prevention self-regulatory focus?[J]. British Journal of Psychology, 2024, 115(2): 306-323.

[21] Higgins E T, Nakkawita E, Cornwell J F M. Beyond outcomes: How regulatory focus motivates consumer goal pursuit processes[J]. Consumer Psychology Review, 2020, 3(1): 76-90.

[22] Vriend T, Hamstra M R W, Said R, et al. Regulatory focus theory: Disentangling goals and strategies[J]. Applied Psychology, 2023, 72(1): 231-267.

[23] Higgins E T, Pinelli F. Regulatory focus and fit effects in organizations[J]. Annual Review of Organizational Psychology and Organizational Behavior, 2020, 7: 25-48.

[24] LaFond L J. Decision consistency and accuracy indices for the bifactor and testlet response theory models[M]. The University of Iowa, 2014.

[25] Chang S T, Lin T, Luarn P. The effects of word-of-mouth consistency on persuasiveness[J]. Canadian Journal of Administrative Sciences, 2014, 31(2):128–141.

[26] Wang Q, X Yang, Xi W. Effects of group arguments on rumor belief and transmission in online communities: An information cascade and group polarization perspective[J]. Information & Management, 2018, 55(4):441-449.

[27] Liu Q, Zhang X, Li Y. The influence of information cascade on online reading behaviors of free and paid e-books[J]. Library & Information Science Research, 2020, 42(1): 101001.

ISSN: 2692-7608 DOI: 10.6981/FEM.202601_7(1).0015

[28] Zhu P, Miao C, Wang Z, et al. Informational Cascade, Regulatory Focus and Purchase Intention in Online Flash Shop**[J]. Electronic Commerce Research and Applications, 2023: 101343.

[29] Jordão A R, Costa R, Dias Á L, et al. Bounded rationality in decision making: an analysis of the decision-making biases[J]. Business: Theory and Practice, 2020, 21(2): 654-665.

[30] Çelen, Bogaçhan, Kariv, et al. Distinguishing Informational Cascade from Herd Behavior in the Laboratory[J]. American Economic Review, 2004, 94(3):484-498.

[31] Shen X L, Zhang K Z K, Zhao S J. Herd behavior in consumers' adoption of online reviews[J]. Journal of the Association for Information Science and Technology, 2016, 67(11): 2754-2765.

[32] Frydman C, Krajbich I. Using response times to infer others' private information: An application to information cascade[J]. Management Science, 2022, 68(4): 2970-2986.

[33] Pham T, Mathmann F, ** H S, et al. How regulatory focus–mode fit impacts variety-seeking[J]. Journal of Consumer Psychology, 2023, 33(1): 77-96.

[34] Hüttermann S, Nerb J, Memmert D. The role of regulatory focus and expectation on creative decision making[J]. Human Movement Science, 2018, 62: 169-175.

[35] Cowden B J, Bendickson J S. Impacts of regulatory focus and institutions on innovation[J]. Management Decision, 2018, 56(5): 939-954.

[36] Scholer A A, Cornwell J F, Higgins E T. Regulatory focus theory and research[M]//The Oxford handbook of human motivation. New York: Oxford University Press, 2019: 47-66.

[37] Zou H, Sun H , Fang Y . Understanding Post-Adoption Regret from the Perspectives of Herding and Mindfulness[J]. ICIS 2015 Proceedings, 2015:12-23.

[38] Zhang K Z K, Zhao S J, Cheung C M K, et al. Examining the influence of online reviews on consumers' decision-making: A heuristic–systematic model[J]. Decision Support Systems, 2014, 67: 78-89.