



The Influence of Perceived Algorithmic Recommendation on Entertainment Short Video Users' Perceived Information Cocoon and Diversified Information Seeking Behavior: The Moderating Effect of Trust in Algorithms

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Abstract. With the popularization of algorithmic recommendations, the information exposure and selection patterns of short-video users have changed. However, there has been insufficient discussion on how algorithmic recommendations influence users' perceived information cocoon and Diverse Information Seeking Behavior and what role Trust in Algorithms plays. In this study, entertainment short-video users are taken as the research subjects to explore the mechanism of Algorithmic Recommendation Perception. A total of 334 valid samples is collected through an online questionnaire survey. Subsequently, SPSS is used to conduct reliability and validity analysis, correlation analysis, regression analysis and mediating and moderating effects. The results indicate that the Algorithmic Recommendation Perception has a positive influence on the Perceived Information Cocoon and the Perceived Information Cocoon has a positive influence on the Diverse Information Seeking Behavior; furthermore, Trust in Algorithms acts as a negative moderator in both the 'Algorithmic Recommendation Perception → Perceived Information Cocoon' and 'Perceived Information Cocoon → Perceived Information Cocoon' pathways; Based on these findings, the authors argue that the Algorithmic Recommendation Perception by short-video entertainment users will first affect their Perception Information Cocoon and then indirectly change their information seeking behavior. The degree of trust users have in algorithms will also influence the strength of this process.

Keywords: Perceived Algorithmic Recommendation, Perceived Information Cocoon Diversified Information Seeking Behavior, Trust in Algorithms, Entertainment Short Video

1 Introduction

With the widespread adoption of entertainment-focused short-video platforms such as Redbook and Douyin deeply embedded in the public's daily lives. Algorithmic recommendation technology has emerged as the cornerstone of content distribution on these platforms, attracting significant attention from both the academic community and society at large. This has not only reshaped users' information consumption patterns but has also brought the relationship between Algorithmic Recommendation

Perception, Perceived Information Cocoon and Diverse Information Seeking Behavior into the spotlight.

Existing research has confirmed that Algorithmic Recommendation Perception significantly affects users' perceived information cocoon [1,2] and Perceived Information Cocoon will further drive users' behavior of seeking diverse information [3]. Trust in algorithms can also help regulate the relationship between algorithmic perception and user behavior [4]. In terms of scale development and dimension construction, Some studies indicate refined the measurement dimensions of algorithmic recommendation perception specifically for short-form video scenarios [2,5], while some scholars combine subjective and objective indicators to construct a multidimensional measurement framework for the information echo chamber [6]. Cognitive rigidification may result from perceived information cocoon and human-computer collaboration perspectives can provide new interpretations of this phenomenon [7,8]. Individual factors such as information need diversity and algorithmic literacy are key drivers of diverse information seeking behavior and algorithm transparency also plays a moderating role in behavioral outcomes [3,9]. Additionally, some scholars proposed a two-dimensional framework of algorithm trust and other scholars suggested that algorithmic interpretability can amplify trust's moderating power [10,11]. However, there are still significant gaps in the existing research. For example: most studies focus on general media or information platforms, which have insufficient adaptability to the unique scenario of entertainment short videos characterized by low cognitive cost and high entertainment value; existing research primarily focuses on the relationships between individual variables, without elucidating the chain mechanism linking "Algorithmic Recommendation Perception → Perceived Information Cocoon → Diverse Information Seeking Behavior"; the dual-path mediation effect of trust in algorithms within this chain-based model has also not been subject to rigorous empirical testing or in-depth analysis.

In addition to identifying the moderating role of trust in algorithms, this study also helps gain a deeper understanding of the psychological interactions between users and algorithmic systems

This study focuses on users of short-form video entertainment platforms. It constructs a chained mediation model to investigate the impact of Algorithmic Recommendation Perception on Diverse Information Seeking Behavior and to test the full mediating effect of Perceived Information Cocoon and the dual-path negative moderating effect of Trust in Algorithms. The study collected 334 valid responses via an online questionnaire. Using SPSS software conducted descriptive statistics, correlation analysis, linear regression analysis and tests for mediating and moderating effects to verify the full mediating effect of Perceived Information Cocoon on the relationship between Algorithmic Recommendation Perception and Diverse Information Seeking Behavior and to clarify the negative moderating effect of Trust in Algorithms on the two paths of the chain model. This study aims to make up for the deficiencies in existing research, enrich the empirical research results on entertainment short video users' information behavior, then provide a more refined theoretical perspective for the interaction research between users and algorithm recommendation systems in the intelligent media era.

2 Literature Review

The deep entanglement of algorithmic recommendation technology with short-video platforms is quietly reshaping how users encounter information. In the research related to variable networks, the moderating role of Trust in Algorithms has gradually drawn the attention of the academic community. More importantly, up to now, no one has established a relatively systematic research framework to clearly explain the complete relationship among these core concepts.

The core of the concept of "Algorithmic Recommendation Perception" lies in capturing users' subjective understanding and evaluation of the recommendation systems they encounter. The related research initially mainly took place in general digital environments and later gradually focused on the specific scenario of short videos. Early scholars made significant contributions by specifically developing a scale to distinguish between "algorithm presence" and "perceived algorithm influence" [5].

As short-video platforms have gradually become a key field for algorithm research, many researchers have turned their attention to Douyin and through empirical analysis, have identified five algorithm perception dimensions of users towards entertainment content [5].

Furthermore, some studies have proposed corresponding mediation models, indicating that algorithmic over-recommendation can exacerbate users' psychological imbalance through four pathways, with privacy concerns being the most prominent mediating factor [2]. The majority of existing measurement tools are not specifically designed for the context of entertainment short videos and the scarcity of relevant longitudinal studies has led to the issue of "how algorithmic perception evolves with changes in user usage patterns" remaining insufficiently explored to date.

Perceived Information Cocoon, describes how algorithmic filtering and users' selective exposure jointly shape information environments [1,12]. Some researchers are drawing on large-scale tracking data from Kuaishou then found that perceived information cocoons among entertainment-oriented users are not static—they deepen over time, especially when consumption centers on a narrow range of content [13]. On the measurement front, researchers made a useful attempt to combine behavioral indicators with subjective perceptions, offering a multidimensional framework [6]. When it comes to consequences, studies have traced various effects: cognitive rigidification and even reinterpretations from a human-computer collaboration perspective [7,8]. Measurement tools adapted to this context remain scarce and empirical work tracing the dynamic evolution of Perceived Information Cocoon in short-video settings is still in its early stages.

Diverse Information Seeking Behavior represents users' proactive efforts to step outside the filter bubble. Researchers offered an early conceptualization and subsequent work has fleshed out its manifestations [3]. Research points to individual factors such as information need diversity and algorithmic literacy as key drivers [9]. Researchers also highlighted algorithm transparency as a moderator of behavioral outcomes—a point that deserves more attention than it has received. What remains underexplored, however, is how these behaviors evolve over time [3].

Trust in Algorithms functions as a key moderator in the user-algorithm relationship and its role has gained empirical traction. Researchers provided a foundational two-dimensional framework distinguishing cognitive trust from affective trust [10]. Subsequent studies have traced how trust intervenes at different points. Some researchers showed that trust could buffer the positive link between algorithm perception and information cocoon risk [4]. Another suggested that algorithmic interpretability might amplify trust's moderating power [11]. Some researchers added that factors like age and usage frequency can shape how trust operates [2]. Yet a closer look reveals gaps. The measurement frameworks currently in use were not developed with entertainment short videos in mind—a context where trust may be more emotional than calculated, more fleeting than stable. Moreover, the hypothesis that trust moderates multiple pathways in a chain model has yet to be systematically tested.

Looking across these strands of research, it is clear that the field has made substantial progress in conceptualizing and empirically examining perceived algorithm recommendation, perceived information cocoon, diverse information seeking behavior and trust in algorithms. The entertainment short-video context demands its own tailored measures and models. The relationships among variables are likely more interconnected—more of a chain than a set of pairwise links—than current research acknowledges. The moderating role of trust, plausible in theory, awaits systematic testing across multiple pathways. Meanwhile, the existing scales used to measure these constructs also need to be re-examined to better adapt to the usage characteristics of short video scenarios.

This study is precisely carried out to address the shortcomings of existing research. It focuses on the entertainment short-video context, constructs and tests a chain model that links Algorithm Perception, Perception Information Cocoon and Diversified Information Seeking Behavior. At the same time, it examines the dual-path regulatory role of Trust in Algorithm in this model. The study also combines dimensions such as usage habits, emotional dependence and recommendation saturation to adjust the existing scales, making them more suitable for the actual usage context of entertainment short-videos.

3 METHODS

3.1 Sample and Procedure

This study focuses on the impact of algorithmic recommendation perception in entertainment short-video scenarios on the Perceived Information Cocoon and users' Diversified Information Seeking Behavior. The research subjects are users who have experience using entertainment short-video platforms. The research data was collected through online questionnaires. Finally, 334 valid samples were obtained. The gender distribution of the samples was relatively balanced. There were 166 males, accounting for 49.70%, and 168 females, accounting for 50.30%. The participants' ages ranged from 18 to 38 years old, with an average age of 25.886 years and a standard deviation of 4.012. The median age was 25 years. Overall, the group was mainly composed of young people. Most respondents had a bachelor's degree or above, and the overall

educational level was high. In terms of platform usage, more than half of the participants spent more than one hour daily on entertainment short-video platforms. Douyin and Redbook were the two most commonly used platforms. Participants had rich experience in platform usage.

3.2 Measurement Methods

This study adopts a quantitative research approach, constructing a research model based on relevant theories and analyzing the relationships among various variables through questionnaire data. In the model, Algorithm Recommendation Perception is the independent variable, Perceived Information Cocoon is the mediating variable, Diversified Information Seeking Behavior is the dependent variable and Trust in Algorithms is the moderating variable. In terms of research design, this paper measures the core variables through questionnaires and gradually conducts statistical analysis to verify the relationships among the variables. A 5-point Likert scale was employed for the questionnaire, with items rated from 1 to 5, where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The higher the score of each variable, the higher the corresponding conceptual level. Algorithmic Recommendation Perception refers to the subjective judgment made by users based on their own interests, preferences and usage habits regarding the personalized content pushed by the platform. Perceived Information cocoon measures the extent to which users feel that they have been constantly in a homogeneous and monotonous information environment. Diversified Information Seeking Behavior reflects the degree of users' active efforts to search for content among different types, themes or viewpoints. Trust in Algorithm indicates the degree to which users trust the reliability, rationality and appropriateness of the platform's recommendation system.

3.3 Analytical Methods

SPSS was used for data analysis. This study includes descriptive statistics, Pearson correlation analysis, linear regression, mediation analysis, and moderation analysis. Pearson correlation analysis was then performed to examine the bivariate correlations among Algorithmic Recommendation Perception, Perceived Information Cocoon, Diverse Information Seeking Behavior and Trust in Algorithms.

Linear regression analysis was conducted to test the predictive relationships between Algorithmic Recommendation Perception and Perceived Information Cocoon as well as between Perceived Information Cocoon and Diverse Information Seeking Behavior..

4 RESULT

4.1 Demographic Information

The sample consisted of 344 valid respondents. Here are 166 male respondents, accounting for 49.70% of the total sample, and 168 female respondents, accounting for 50.30%.; In terms of educational attainment, 15 respondents (4.49%) have completed junior secondary school or below; 42 (12.57%) have completed senior secondary school, technical secondary school or vocational secondary school; 65 (19.46%) hold a

college diploma; 155 (46.41%) hold a bachelor's degree; the 57 (17.07%) hold a master's degree or higher. There are 212 respondents with a bachelor's degree or higher, accounting for 63.48% of the total sample.

With regard to the basic indicators of the age variable, the minimum age in the study sample was 18, the maximum was 38, the mean was 25.886, the standard deviation was 4.012, and the median was 25. The sample is characterised by a predominantly young demographic.

4.2 Correlation Analysis

Table 1. Pearson correlation

	Mean	SD	Algorithmic Recommendation Perception	Perceived Information Cocoon	Diverse Information Seeking Behavior	Trust in Algorithms
Algorithmic Recommendation Perception	2.993	1.007	1			
Perceived Information Cocoon	2.885	0.994	0.541***	1		
Diverse Information Seeking Behavior	2.908	1.018	0.306***	0.576***	1	
Trust in Algorithms	2.928	0.959	0.085	-0.028	-0.027	1

***p<0.001

The results in Table 1 show that Algorithmic Recommendation Perception is importantly and moderately positively correlated with Perceived Information Cocoon, indicating that the more users perceive algorithms to be pushing content based on personal preferences, the more likely they are to feel that the information is repetitive, homogeneous and limited ; Algorithmic Recommendation Perception shows a significant low-to-moderate positive correlation with Diverse Information Seeking Behavior, indicating that the more users perceive the presence of algorithmic recommendations, the higher their level of Diverse Information Seeking Behavior; Perceived Information Cocoon showed a strong positive correlation with Diverse Information Seeking Behavior. This indicates that the more users are aware of the closed nature of their information environment, the more inclined they are to actively expand their sources of information and content types, suggesting a strong tendency towards self-correction. The correlation coefficients between Trust in Algorithms and the aforementioned three variables were none reached statistical significance.

4.3 Regression Analysis

Table 2. Results of linear regression analysis(n=334)

	Non-standardized coefficients		Standardized coefficients	t	p	Collinearity diagnostics	
	B	SE	Beta			VIF	Tolerance
Constant	1.287	0.144	-	8.946	0.000***	-	-
Algorithmic Recommendation Perception	0.534	0.046	0.541	11.719	0.000***	1.000	1.000
R ²				0.293			
AdjustR ²				0.290			
F			F(1,332)=137.343,p=0.000				
D-W				1.984			

Note: The dependent variable is = Perceived Information Cocoon

The study conducted a linear regression analysis with Perceived Information Cocoon as the dependent variable and Algorithmic Recommendation Perception as the independent variable. The results show that the Algorithmic Recommendation Perception indicating a significant positive predictive effect on Perceived Information Cocoon. (See Table 2)

Table 3. Results of linear regression analysis(n=334)

	Non-standardized coefficients		Standardized coefficients	t	p	Collinearity diagnostics	
	B	SE	Beta			VIF	Tolerance
Constant	1.206	0.140	-	8.612	0.000***	-	-
Perceived Information Cocoon	0.590	0.046	0.576	12.845	0.000***	1.000	1.000
R ²				0.332			
AdjustR ²				0.330			
F			F(1,332)=165.001,p=0.000				
D-W				1.955			

Note: The dependent variable is = Diverse Information Seeking Behavior

*p<0.05**p<0.01***p<0.001

Diverse Information Seeking Behavior as the dependent variable and Perceived Information Cocoon as the independent variable. Table 3 indicates that Perceived Information Cocoon has a significant positive predictive effect on Diverse Information Seeking Behavior.

4.4 Analysis of Mediation Effects

Table 4. Analysis of mediation role results (n=334)

	Diverse Information Seeking Behavior					Perceived Information Cocoon					Diverse Information Seeking Behavior				
	B	SE	t	p	β	B	SE	t	p	β	B	SE	t	p	β
Constant	1.982*	0.161	11.89	0.00	-	1.287*	0.144	8.946	0.00	-	1.217*	0.160	7.626	0.00	-
Algorithmic Recommendation	0.309*	0.053	5.861	0.000	0.30	0.534*	0.046	11.71	0.000	0.54	-0.008	0.054	-0.145	0.885	-0.008
Perception															
Perceived Information Cocoon											0.594*	0.055	10.86	0.000	0.58
R ²			0.094					0.293					0.332		
AdjustR ²			0.091					0.290					0.328		
F	F(1,332)=34.355,p=0.000					F(1,332)=137.343,p=0.000					F(2,331)=82.268,p=0.000				

*p<0.05 **p<0.01 ***p<0.001

This study tests the mediating effect using a three-step regression analysis. The Perceived Information Cocoon acts as a full mediator between Algorithmic Recommendation Perception and Diverse Information Seeking Behavior and the results of the overall model test are robust. (See Table 4)

The first step is to take Diverse Information Seeking Behavior as the dependent variable and Algorithmic Recommendation Perception as the independent variable. The results show that Algorithmic Recommendation Perception has a positive impact on Diverse Information Seeking Behavior

In the second step, the authors tested the significance of path a, with 'Perceived Information Cocoon' as the dependent variable and Algorithmic Recommendation Perception as the independent variable. The results show that Algorithmic recommendation perception has a significant positive predictive effect on the perceived information cocoon.

In the third step of the analysis, both Algorithmic Recommendation Perception and the perceived information cocoon were included as independent variables in the model, while the diversified information seeking behavior remained as the dependent variable. The results showed that the regression coefficient of algorithmic recommendation perception did not reach a significant level, while the regression coefficient of the Perceived Information Cocoon was $B = 0.594$. The overall model fit and a significant improvement in explanatory power compared to the first step.

Table 5. Summary of mediation effect test results

Item	c Ensemble	a	b	a*b Intermedia ry effect value	a*b (Boot t SE)	a*b (z)	a*b (p)	a*b (95% BootCI)	c' Dire ct effec t	Inspect the conclusion
Algorithmic Recommendati on Perception=> Perceived Information Cocoon=> Diverse Information Seeking Behavior	0.309** *	0.534** *	0.594** *	0.317	0.04 3	7.38 2	0.00 0	0.236~0.4 04	- 0.00 8	Full intermediati on

Note: *p<0.05 **p<0.01 ***p<0.001, Bootstrap Type = percentile bootstrap method

This paper employs the percentile method to conduct a bootstrap test of the mediating effect. The results in Table 5 show that the indirect effect of Algorithmic Recommendation Perception on Diverse Information Seeking Behavior via Perceived Information Cocoon can therefore be concluded that the mediating effect is significant. The results indicate that the direct effect of Algorithmic Recommendation Perception is not remarkable (see Table 5) suggesting that Perceived Information Cocoon acts as a full mediator.

4.5 Analysis of moderation effects

Table 6. Results of Moderation Effect Analysis (n=334)

	Model1					Model2					Model3				
	B	SE	t	p	β	B	SE	t	p	β	B	SE	t	p	β
Constant	2.88 5	0.04 6	2.96 1	0.000* **	-	2.88 5	0.04 6	3.11 2	0.000* **	-	2.90 2	0.04 5	5.03 0	0.000* **	-
Algorithmic Recommendat ion Perception	0.53 4	0.04 6	11.71 9	0.000* **	0.540 1	0.54 0	0.04 6	11.84 2	0.000* **	0.540 7	0.54 7	0.04 4	12.31 6	0.000* **	0.55 4
Trust in Algorithms					-	0.07 7	0.04 8	- 1.611	0.108	-	0.07 4	0.07 5	0.04 7	- 1.611	-
Algorithmic Recommendat ion Perception* Trust in Algorithms										-	-	0.04 6	- 4.456	0.000* **	- 0.20 0

	Model1					Model2					Model3				
	B	SE	t	p	β	B	SE	t	p	β	B	SE	t	p	β
R ²			0.293					0.298					0.338		
AdjustR ²			0.290					0.294					0.332		
F	F(1,332)=137.343,p=0.000					F(2,331)=70.299,p=0.000					F(3,330)=56.156,p=0.000				
ΔR^2			0.293					0.006					0.040		
ΔF	F(1,332)=137.343,p=0.000					F(1,331)=2.595,p=0.108					F(1,330)=19.859,p=0.000				

Note: The dependent variable is = Perceived Information Cocoon

*p<0.05 **p<0.01 ***p<0.001

Table 6 uses perception of the information bubble as the dependent variable and employs hierarchical regression to analyze the relationships between perception of algorithmic recommendations, trust in algorithms, and the interaction between the two.

Model 1 includes only one independent variable: Algorithmic Recommendation Perception. (See Table 6) This indicates that Algorithmic Recommendation Perception can positively predict Perceived Information Cocoon. This result is consistent with the previous regression analysis, confirming the validity of the basic main effect pathway.

Model 2 incorporates algorithmic trust in addition to Model 1. (See Table 6) In this study 'Trust in Algorithms' is not a direct predictor variable, but rather functions as a moderating or boundary variable, influencing the extent to which it affects Algorithmic Recommendation Perception and Perceived Information Cocoon.

Model 3 adds the interaction term 'Algorithmic Recommendation Perception $\times$ Trust in Algorithms' to Model 2. The results show Trust in algorithms plays a moderating role in the process by which Algorithmic Recommendation Perception influence the Perceived Information Cocoon.

Table 7. Results of Moderation Effect Analysis (n=334)

	Model1					Model2					Model3				
	B	SE	t	p	β	B	SE	t	p	β	B	SE	t	p	β
Constant	2.90	0.04	63.80	0.000*	-	2.90	0.04	63.70	0.000*	-	2.90	0.04	65.17	0.000*	-
	8	6	0	**	-	8	6	9	**	-	2	5	6	**	-
Perceived Information Cocoon	0.59	0.04	12.84	0.000*	0.57	0.58	0.04	12.81	0.000*	0.57	0.55	0.04	12.30	0.000*	0.54
	0	6	5	**	6	9	6	5	**	6	9	5	1	**	6
Trust in Algorithms					-	0.01	0.04	-	0.808	0.01	0.02	0.04	-	0.533	0.02
						2	8	0.243		1	9	7	0.624		7
Perceived Information Cocoon* Trust in Algorithms											0.21	0.04	-	0.000*	-
											0	9	4.247	**	9

	Model1					Model2					Model3				
	B	SE	t	p	β	B	SE	t	p	β	B	SE	t	p	β
R ²			0.332					0.332					0.367		
AdjustR ²			0.330					0.328					0.361		
F	F(1,332)=165.001,p=0.000					F(2,331)=82.296,p=0.000					F(3,330)=63.702,p=0.000				
ΔR^2			0.332					0.000					0.035		
ΔF	F(1,332)=165.001,p=0.000					F(1,331)=0.059,p=0.808					F(1,330)=18.040,p=0.000				

Note: The dependent variable is = Diverse Information Seeking Behavior

*p<0.05**p<0.01***p<0.001

In this paper 'Diverse Information Seeking Behavior' is taken as the dependent variable; using a hierarchical regression approach, the model sequentially incorporates Perceived Information Cocoon, Trust in Algorithms and the interaction term between the two for testing.

In Model 1 (see Table 7). This indicates that this variable has a significant and positive predictive effect on users' Diverse Information Seeking Behavior. In other words, the more users perceive themselves to be in a monotonous and repetitive information environment, the stronger their tendency to Diverse Information Seeking Behavior will be. This finding also provides a basis for the subsequent examination of the moderating effect.

In Model 2 which incorporates Trust in AlgorithmS, the influence of the Perceived Information Cocoon remains important, but algorithm trust does not show a clear direct impact and the explanatory power of the model does not obvious increase. This indicates that algorithm trust does not directly affect users' behavior of seeking diverse information (see Table 7).

In Model 3, after introducing the interaction term, indicating the existence of the moderating effect. Put simply, the lower a user's level of Trust in Algorithms, the stronger the driving effect of Perceived Information Cocoon on Diverse Information Seeking Behavior; conversely, when users have a high level of Trust in Algorithms, even if they perceive the existence of an information cocoon, they may not necessarily seek to break out of it, but are instead more inclined to trust the reliability of platform recommendations.

5 Discussion

5.1 Comparison and Analysis of Research Findings

This study used a sample of 334 users of entertainment short-video platforms . Algorithmic Recommendation Perception has a remarkable positive effect on Perceived Information Cocoon and Perceived Information Cocoon, "Algorithmic Recommendation Perception → Perceived Information Cocoon → Diverse Information Seeking Behavior" . Furthermore, Trust in Algorithms exerts a significant negative moderating effect on both the first half of the model (Algorithmic Recommendation Perception → Perceived Information Cocoon) and the second half (Perceived Information Cocoon → Diverse Information Seeking Behavior).

In terms of consistency, the positive impact of algorithm recommendation perception on perceived information cocoon further expands the empirical conclusions of [2]. The study pointed out that algorithm recommendation perception will strengthen individuals' perception of the closure of the information environment. This indicates that the algorithm filtering mechanism and users' selective exposure are the basic principles for the formation of information cocoons. The positive impact of perceived information cocoon on diverse information seeking behavior shows that when users feel trapped in a fixed information environment, they will take the initiative to look for content beyond the existing information scope. This behavioral tendency can be regarded as a way to alleviate cognitive dissonance: when users realize that they are in a closed information space, they will regain a broader cognitive perspective through complementary information seeking. Besides, our research results concerning the moderating role of Trust in Algorithms are in accordance with the theoretical hypothesis raised by [10]. Previous studies have indicated that Trust in Algorithms is a crucial moderating factor in users' information perception and behavioral decisions. This research further validates the applicability of this theoretical mechanism in the context of entertainment short videos, addressing the shortcomings of previous empirical studies.

In terms of differences, the scores of several core variables in this study are mostly around 2.9 (on a 5-point scale). There is no direct correlation between Trust in Algorithms and Algorithmic Recommendation Perception. Nevertheless, this study provided an accurate estimation of the negative regulatory coefficient of Trust in Algorithms in the two paths (the first half was -0.204 and the second half was -0.210), filling the research gap in previous studies which only pointed out the existence of regulatory effects but do not specify their direction.

In this study, the Diverse Information Seeking Behavior was mainly driven by the Perceived Information Cocoon. In contrast, the diversity of individual-level information needs was not prominent, indicating that the driving factors might be context-dependent. Users of entertainment short videos did not show a strong Perceived Information Cocoon which is different from the time-depth trend reported by some researchers [13]. The reason for this difference might be the different platform types and user motivations. Entertainment-oriented platforms place more emphasis on the novelty and diversity of content recommendations and users' goals are more focused on entertainment rather than information acquisition. This usage pattern might weaken the subjective feeling of being surrounded by information for users.

Entertainment short videos are characterised by 'low cognitive effort and high entertainment value'; users' primary motivation is entertainment rather than the acquisition of in-depth information. They are therefore far less sensitive to 'information isolation' than users of news or knowledge-based platforms. Even when users are aware of algorithmic recommendations, they tend to perceive these systems as personalised facilitators that cater to their preferences rather than as mechanisms that constrain their informational exposure. At the same time, the sample for this study consists primarily of young people with higher education qualifications. This group possesses a high level of media literacy and is able to view algorithmic recommendations rationally; their proactive pursuit of diverse information stems more from the breadth of their own

interests than from a desire to resist the information cocoon. This study employed a chain-link model and conducted scenario-specific measurements, thereby capturing more accurately the subtle relationship between users' cognition and behavior in entertainment settings, and revealing patterns that differ from those identified in previous research.

5.2 Limitations and Future Prospects

There are still several limitations that provide directions for future research. Firstly, the sample in this study mainly consists of young people aged 18 to 38 with high educational levels and does not cover middle-aged and elderly groups or those with low educational levels. Future research can expand the sample and conduct cross-group comparisons to test the generalizability of the conclusions. Secondly, the cross-sectional design used can only capture the users' perception status at a single time point and cannot reveal the dynamic evolution of variables. Future research can adopt a longitudinal tracking design to examine how the Perceived Information Cocoon and Diverse Information Seeking Behavior change with the usage stage. Thirdly, the variable measurement has not been deeply divided into dimensions. This study does not combine with the existing five-dimensional algorithmic recommendation perception framework [2]. Future research should focus on subdivided dimensions to better understand the interaction between variables. Fourthly, no cross-scenario comparisons or content type subdivisions have been included. Future research can compare entertainment short videos with comprehensive information platforms and make content type divisions within entertainment short videos to reveal the scene patterns and content patterns of algorithm influence on users' information behaviors.

6 Conclusion

In the context of short videos, this study focuses on examining how users' Algorithmic Recommendation Perception affects their Diverse Information Seeking Behavior. The study conducts an empirical analysis based on 334 valid samples. The results indicate that Algorithmic Recommendation Perception positively influences Perceived Information Cocoon which in turn positively drives Diverse Information Seeking Behavior, with the former acting as a full mediator between the two; Trust in Algorithm exerts a significant negative moderating effect on both pathways, with the effects of the pathways being stronger when trust levels are low.

Based on the findings of this study, three key implications are proposed: firstly, platforms should optimise their recommendation algorithms, introduce diverse evaluation metrics, incorporate diverse evaluation metrics, and implement strategies to mitigate content echo chamber effects; secondly, users need to enhance their media literacy, actively break out of their information cocoon and view algorithms with a critical eye; thirdly, regulatory authorities should promote algorithmic transparency, standardise industry ethics and safeguard users' rights to information and choice. Theoretically, this study contributes to the literature on algorithmic recommendation and information behavior by establishing empirical evidence for the mediating role of

Perceived Information Cocoon and the moderating role of algorithmic trust in short-video environments.

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