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## ARTICLE

# THE IMPACT OF USERS' PERCEPTION OF PERSONALIZED ADVERTISING ON USER ATTITUDES IN SHORT VIDEO PLATFORMS

Junyao Xu\*, Sihui Wang

School of Culture and Communication, Capital University of Economics and Business, Fengtai District, Beijing, 100071, China

\*Corresponding Author Email: [xujunyao0227@163.com](mailto:xujunyao0227@163.com)

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## ARTICLE DETAILS

## ABSTRACT

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Based on the Stimulus-Organism-Response (SOR) theory, this study explores the mechanism of how users' perception of personalized advertising affects their attitudes in the context of short video platforms. Taking the short video platform Douyin as an example, the study employs SPSS and Amos to test the model. The results show that users' perception of personalized advertising influences psychological resistance through perceived usefulness, perceived target obstacle, and privacy concerns, which further affects users' attitudes towards brands and short video platforms. Users' perception of personalized advertising positively affects perceived usefulness, perceived target obstacle, and privacy concerns. Perceived usefulness negatively affects psychological resistance, while perceived target obstacle and privacy concerns positively affect psychological resistance. Psychological resistance, in turn, negatively affects brand attitude and short video platform attitude.

## KEYWORDS

Personalized Advertising; Short Video Platform; Psychological Resistance; User Attitude

## 1. RESEARCH BACKGROUND AND SIGNIFICANCE

### 1.1 Research Background

In today's environment of information explosion and advertising overkill, consumer data has become the key to competition. With the infiltration of the digital intelligence era and artificial intelligence big data technology, enterprises are utilizing big data analysis and computation to accurately predict user preferences and push targeted advertising information to them in order to improve advertising effectiveness. To enhance decision-making quality, businesses are gradually improving the creation and storage of various forms of data to facilitate the analysis of more accurate consumer information, thus personalized advertising has gradually come into the spotlight. However, despite being an effective marketing tool, personalized advertising is not always favored by users. The popularity of the internet has enabled companies to quickly and accurately describe consumer profiles, but the increase in information and precision targeting of advertisements has also increased negative attitudes such as consumer confusion over choices and privacy concerns.[1-3]

According to the "2022 China Network Audio-visual Development Research Report," the number of domestic short video users has reached 934 million. Taking the short video platform Douyin as an example, it has been popular with users since its launch and has become an important

channel for users to obtain information and daily entertainment, with over 600 million daily active users. Supported by big data technology, short video platforms combine commercial value with brand concepts, giving birth to a diversified personalized advertising production mechanism.[4-6]

### 1.2 Research Significance

This study enriches the research content of personalized advertising and broadens and improves the scope of traditional advertising theory research. With the widespread adoption of big data technology and mobile smart devices, short video platforms are developing rapidly, and the popularity of short video platforms such as Douyin has attracted the attention of many scholars. Existing research has focused on the transmission paths and placement strategies of personalized advertising, while there is a lack of research on users' own reactions to personalized advertising and their responses to advertising media platforms. This paper focuses on users' perception of personalized advertising on short video platforms and examines the influence of variables such as "perceived personalized advertising," "perceived usefulness" "perceived target obstacle" "privacy concerns," and "psychological resistance" on users' attitudes towards brands and platforms. It particularly explores the negative factors brought by the platform, delves deeply into users' psychological needs and behavioral patterns, and aims to provide new

materials and perspectives for the advertising research field. [7-10]

This study explores users' perception and attitude towards personalized advertising on the platform, assisting platform managers in further understanding users' consumption psychology. For advertisers, personalized advertising largely optimizes cost expenditure and enables more efficient and precise targeting of target audiences through personalized advertising, thus improving brand product profitability. Therefore, this paper empirically analyzes the impact of different users' perception of personalized advertising on their attitudes, pays particular attention to users' negative attitudes, and proposes reasonable suggestions from the perspectives of advertisers and short video platforms. [11-14]

## 2. RESEARCH CONTENT AND METHODOLOGY

### 2.1 Research Content

Personalized advertising refers to the delivery of customized promotional information to individual consumers through media based on their behavior, interests, and personal information. The operational mechanism of personalized advertising is collaborative filtering, which utilizes user data and data from individuals with similar tastes to recommend potentially interesting products or information to users, emphasizing targeted recommendations and individualization. [15-16]

Taking the Douyin platform as an example, this research investigates the impact of "perception of personalized advertising" on "user attitude" among short video platform users. The study generally discusses the relevant content and measurement methods of perceived personalized advertising. It reviews representative advertising effectiveness theories and selects the independent variable "perceived personalized advertising," the mediating variables "perceived target obstacle," "privacy concerns," "perceived usefulness," and "psychological resistance," and the dependent variables "attitude towards the brand" and "attitude towards the short video platform" based on the characteristics of personalized advertising and the SOR theory. [17-18]

Furthermore, the study proposes research hypotheses and establishes an initial research model examining the impact of users' "perception of personalized advertising" on their "user attitude." Questionnaires are designed and distributed, and stratified sampling is conducted based on the Douyin user profile released by Mob Research Institute. Users are categorized into regions such as East China, North China, South China, Northwest China, Southwest China, and others, and a certain number of samples are drawn from each region in proportion to ensure representativeness. [19]

To ensure the questionnaire's reasonableness, a pretest sample is distributed for preliminary testing. Based on the analysis results of the pretest data, partial modifications and deletions are made to the questionnaire to form the final version. After obtaining the survey data, statistical analysis software such as SPSS and Amos are utilized for descriptive statistical analysis, reliability and validity analysis, hypothesis testing, factor analysis, correlation analysis, regression analysis, and mediation effect testing. [20]

Finally, the research results are analyzed, and conclusions are drawn regarding the impact of users' perception of personalized advertising on their attitude. Based on these conclusions, practical suggestions for personalized advertising dissemination are provided, focusing on advertisers and short video personalized advertising platforms. Future prospects for research on the impact of perceived personalized advertising on user attitude are also discussed.

### 2.2 Research Methodology

The study primarily employs the questionnaire survey method. Through the analysis of basic concepts and research themes, relevant hypotheses are established, and a research model is constructed. Drawing on mature scales from previous studies, a questionnaire is formed after modifications based on the characteristics of the Douyin platform. To validate the questionnaire, a pretest is conducted, which involves distributing the questionnaire to a small group and refining it based on the statistical analysis results of the collected data. Items that fail to meet significance criteria or do not align with the preset dimensions are

revised or removed, ultimately leading to the formal questionnaire. [21]

The questions primarily utilize the Likert five-point scale for measurement. The questionnaire is distributed using the Wenjuanxing APP, and a stratified sampling survey is conducted. A total of 306 valid responses are collected. Statistical software such as SPSS is employed to perform descriptive statistical analysis, reliability and validity testing, factor analysis, hypothesis testing, correlation analysis, regression analysis, mediation effect testing, and hypothesis verification.

## 3. THEORETICAL BASIS AND RESEARCH HYPOTHESIS

### 3.1 SOR Theory

Stimulus—Organism—Response (SOR) theory, proposed by Mehrabian and Russel in 1974, is utilized to explain the organism's consciousness and behavior resulting from external environmental stimuli. In this framework, Stimulus (S) refers to external environmental factors that can influence an individual, encompassing characteristics, events, or objects. Organism (O) represents the individual's emotions and cognitions, reflecting the psychological processing triggered by the stimulus. Response (R) signifies the ultimate reaction made by an individual after synthesizing the stimulus factors and internal perception processes, encompassing both psychological and behavioral responses. In the context of this study, we intend to consider the stimulus of users receiving personalized advertisements within the short-video environment. This stimulus (S) undergoes psychological processing, leading to the formation of a stable psychological state (O). Ultimately, different responses emerge, shaping the users' attitudes (R).

### 3.2 Research Hypothesis

#### 3.2.1 *Perceived Personalized Advertising, Perceived Usefulness, Perceived target obstacle, and Privacy Concerns*

Perceived usefulness refers to an individual's cognitive level of the usefulness of using a particular technology or product, serving as a crucial factor in assessing the acceptability of that technology or product. Chen et al. (2019) discovered from a negative perspective based on rational choice theory that personalized advertising can trigger individuals' recognition of non-personalized costs, thereby enhancing their perception of the usefulness of personalized advertising. In other words, when individuals use short-video platforms not primarily for searching product information and receive personalized advertisements related to personal consumption, searches, and other content, they will assess the costs (such as money and time) required to obtain relevant information in the absence of personalized advertising. This study argues that a high level of perceived personalized advertising among users indicates that the advertisements have more effectively met the needs of the users. At this point, users will develop a recognition of non-personalized costs, leading to a high level of perceived usefulness.

**H1a:** Perceived personalized advertising positively affects perceived usefulness.

Perceived target obstacle refers to the obstacles or hindrances individuals perceive during the pursuit of their target. According to George A. Miller's information processing theory, when individuals receive information that does not belong to a specific context, they need to process and integrate this information, which may lead to psychological discomfort if it conflicts with their original behavioral goals in that context. Furthermore, information unrelated to an individual's purpose can create goal obstruction by occupying cognitive resources that are meant for primary tasks. This study speculates that the higher the level of perceived personalized advertising, the longer the user's stay time, and the more cognitive resources consumed, leading to a higher degree of perceived target obstacle.

**H1b:** Perceived personalized advertising positively affects perceived target obstacle.

Privacy concerns refer to individuals' worries about the potential leakage, misuse, or violation of their personal information. With the widespread use of artificial intelligence and mobile intelligent devices, users have gradually realized that their ability to protect and control personal information has weakened. As personal information is authorized for

use by increasing numbers of software applications, users are becoming increasingly concerned about the security of their personal information and the reasonableness of how businesses use it. Personalized advertising highly integrates and utilizes personal information, making users aware of the collection and utilization of their personal data, which increases their sense of loss of control over personal information and concerns about its unreasonable use. Therefore, it is speculated that a high level of perceived personalized advertising among users will trigger a perception of privacy infringement, leading to concerns and anxieties about the security of personal information, and subsequently resulting in a higher degree of privacy concerns.

**H1c:** Perceived personalized advertising positively affects privacy concerns.

### 3.2.2 Perceived Usefulness, Perceived target obstacle, Privacy Concerns, and Privacy concerns

Privacy concerns is a concept proposed by Jack Brehm in 1966, referring to a psychological response of consumers resisting advertisements when they perceive them as threatening or limiting their freedom and choices. According to the Technology Acceptance Model (TAM), perceived usefulness is a crucial motivating factor for user satisfaction and willingness to continue using an information system. Therefore, perceived usefulness can influence users' psychological and behavioral responses. This study speculates that personalized advertising efficiently provides accurate and appropriate information, allowing users to recognize that non-personalization would consume more time and money. Consequently, users recognize the usefulness of personalized advertising, develop a positive view of it, and reduce privacy concerns.

**H2a:** Perceived usefulness negatively affects privacy concerns.

Research has indicated that target obstacle caused by advertising can lead to negative user reactions, including negative attitudes and avoidance of advertisements. Personalized advertising can interrupt users' normal experience when using short-video platforms, occupying their cognitive resources and leading to perceived goal obstruction. Psychological resistance is the aversion and avoidance of something. Therefore, this study speculates that a high level of perceived target obstacle caused by perceived personalized advertising will lead to negative reactions among users, resulting in psychological resistance.

**H2b:** Perceived target obstacle positively affects psychological resistance.

According to information boundary theory, people experience negative psychological reactions when they feel their privacy is threatened or violated. When individuals believe their personal information is being collected and used, they may feel a loss of control over their personal information, leading to psychological discomfort and negative emotions such as resistance and aversion. Research has pointed out that privacy concerns are a crucial factor influencing user acceptability and the degree of resistance. This study speculates that users' perception of personalized advertising leads to privacy concerns, which in turn makes users feel their privacy is threatened and violated, resulting in negative psychological reactions and psychological resistance.

**H2c:** Privacy concerns positively affect psychological resistance.

### 3.2.3 Psychological resistance and user attitude

According to the psychological resistance principle, when people feel that their freedom is threatened or restricted, they will try to restore their freedom or protect their rights by resisting external pressure. Previous studies rarely involve what actions users will take after psychological resistance. Therefore, this study aims to explore the actions users take to protect their rights and restore their freedom after psychological resistance, mainly the self-attitude expressed by individuals. In the context of short video, the external pressure of users' psychological resistance is mainly advertisers and media, and user attitudes are reflected in the attitude towards brands and the attitude towards short video platforms. This study speculated that after psychological resistance, users would correspondingly have a negative attitude towards advertising brands and advertising media (short video platforms).

**H3a:** Psychological resistance negatively affects the attitude towards brand.

**H3b:** Psychological resistance negatively affects attitudes towards short video platforms.

### 3.2.4 Mediating effect between user perception and psychological resistance

Based on SOR theory, this study proposes a research model to study the impact of personalized advertisement perception on user attitude in the context of short video platform. SOR theory emphasizes the connection between an organism's external stimulus and its individual response. In this research model, the perceived personalized advertisement acts on the organism as an external stimulus, and the perceived usefulness, Perceived target obstacle and privacy concerns further lead to psychological resistance, thus forming a stable psychological cognitive state. After the user has psychological resistance, the attitude towards the brand and the short video platform is formed, that is, the user attitude is formed. This study analyzes the relationship between perceptual factors and psychological states in organisms, and takes perceived usefulness, perceived target obstacle, privacy concerns and psychological resistance as the chain mediators of the relationship between perceived personalized advertising and user attitude. Therefore, the following hypothesis is proposed:

**H4a:** Perceived usefulness and psychological resistance mediate the relationship between perceived personalized advertising and attitudes towards short video platforms.

**H4b:** Perceived usefulness and psychological resistance mediate the relationship between perceived personalized advertising and brand attitude.

**H5a:** Perceived target obstruction and psychological resistance mediate the relationship between perceived personalized advertising and attitudes towards short video platforms.

**H5b:** Perceived target obstruction and psychological resistance mediate the relationship between perceived personalized advertising and brand attitude.

**H6a:** Privacy concerns and psychological resistance mediate the relationship between perceived personalized advertising and attitudes toward short video platforms.

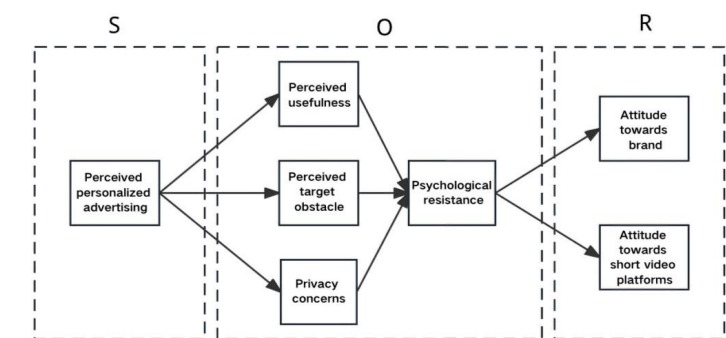


Figure 3-1: Research model diagram

**H6b:** Privacy concerns and psychological resistance mediate the relationship between perceived personalized advertising and attitudes toward brands.

Based on the results of the above literature review, the research model is proposed (Figure 3-1).

#### 4. QUESTIONNAIRE DESIGN AND DISTRIBUTION

##### 4.1 Pretesting and item analysis of a questionnaire

Before distributing the formal questionnaire, we conducted a pretest on it. Through the Credamo platform, we randomly collected 140 questionnaires, with a 100% return rate. Of these, 2 were invalid, leaving a 98.6% effective rate.

According to the inspection results, it was found that two items in the initial questionnaire did not meet the significance requirement and should be deleted from the questionnaire, while the remaining 33 factors all met the significance requirement. Based on the items corresponding to the remaining 33 factors, a system table was finally established. (Table 4-1)

##### 4.2 Questionnaire Sampling Method

In this study, a stratified sampling method was employed. Given the vast domestic user base of the Douyin short video platform, stratified

sampling can significantly enhance the representativeness of the sample, thereby improving the accuracy of inferring the overall population from the sample.

According to the latest data report from Mob Research Institute, among the domestic users of Douyin, 56.3% are male and 43.7% are female, with the majority of users being over 25 years old. In terms of regional distribution, Douyin users are primarily concentrated in the eastern region, with 38.2% in the East China region, 28.2% in the North China region, 13.7% in the South China region, and relatively fewer users in the western region. Specifically, users in the Northwest region account for 7.6%, and those in the Southwest region account for 6.1%.

Therefore, based on the distribution of users by region, we categorized the samples into six groups: "East China," "North China," "South China," "Northwest China," "Southwest China," and "Other Regions." The ratio of user distribution across these regions is approximately 38:28:14:8:6:6 (East China: North China: South China: Northwest China: Southwest China: Other Regions). The ratio of the number of valid questionnaires collected from each region is 117:86:42:23:19:19, totaling 306 questionnaires.

##### 4.3 Descriptive Statistical Analysis

###### 4.3.1 Descriptive Statistical Analysis of the Sample

**Table 4-1:** Research Dimension

Variable	Item	Reference Source
Perceived personalized advertising	I believe that personalized advertisements take into account my personal information within the APP.	Kramer T (2007)
	I think the content of personalized advertisements is tailored to individuals.	
	I consider personalized advertisements on short-video platforms to be highly suitable for me.	
	I believe that personalized advertisements are customized for my usage.	
Perceived usefulness	I believe that the delivery of personalized advertisements is timely.	Davis F (1989)
	Personalized advertisements have saved me time in searching for products.	
	Personalized advertisements have been helpful in my purchase decisions.	
	I believe that personalized advertisements are valuable.	
Perceived target obstacle	I consider personalized advertisements on short-video platforms to be useful.	Bian Wenjie (2022)
	Personalized advertisements can cater to my personal preferences.	
	Browsing personalized advertisements makes me feel uncertain.	
	Personalized advertisements hinder my ability to browse video content.	
Privacy concerns	Personalized advertisements make it difficult to browse videos.	Bian Wenjie (2022) He Qin (2012)
	Personalized advertisements interrupt my browsing experience.	
	Personalized advertisements obstruct my access to desired content.	
	I am concerned that the platform may collect my privacy without authorization for personalized advertisement recommendations.	
Psychological resistance	Personalized advertisements make me feel like I have no control over how the platform uses my personal privacy, causing anxiety.	He Qin (2012)
	Personalized advertisements worry me that my information may not be securely stored.	
	I believe that the platform's push of personalized advertisements to me indicates that my privacy has already been compromised.	
	Personalized advertisements make me feel like my privacy has been violated.	
Attitude towards brand	When I browse personalized advertisements, I feel aversion.	Hensel (1992)
	When I browse personalized advertisements, I feel angry.	
	I find personalized advertisements confusing.	
	I believe that personalized advertisements are disadvantageous to me.	
Attitude towards short video platforms	After watching an advertisement, I am likely to purchase the advertised brand's product.	Lin Youlan (2009)
	After watching the advertisement, the brand leaves me feeling pleased.	
	After watching the advertisement, I have a negative impression of the brand.	
	After watching the advertisement, the brand leaves me feeling comfortable.	
	Most people around me use Douyin.	
	Douyin is a well-known short video APP.	
	I use Douyin very frequently.	
	I like the functions and content of Douyin.	
	I have a good impression of Douyin.	

**Table 4-2:** Descriptive Statistical Analysis of the Sample

Variable Name	Element Name	Proportion(%)
Gender	male	56.19
	female	42.81
Age	Under 18	5.23
	19-25	28.76
	23-30	40.52
	30-40	13.73
	Over 40	11.76
Regional distribution	Tier 1 and 2 cities	46.71
	Tier 3 and 4 cities	38.9
	Cities at tier 5 and above	14.39
Time spent on short video platforms/day	Within 1h	18.3
	1-3h	29.41
	3-5h	39.22
	Over 5h	13.07

**Table 5-1:** Reliability statistics table

Alpha	Items
0.898	33

The questionnaire survey was conducted using the Questionnaire Star platform (see the appendix for the questionnaire outline). A total of 310 questionnaires were distributed, and all 310 were recovered, resulting in a recovery rate of 100%. Among these, 306 were valid, yielding a valid questionnaire rate of 98.7%. A descriptive analysis table was formed based on the collected data. (Table 4-2)

#### 4.3.2 Descriptive Statistical Analysis of Variables

To understand the distribution of various variables, this paper employs descriptive statistical analysis using SPSS to analyze each variable. The mean values of all variables fall within the range of 3.5 to 4, with standard deviations less than 1.5, indicating a favorable distribution and concentration trend of the sample population. Combined with the p-p plot analysis, each variable basically follows a normal distribution, allowing for further statistical analysis.

### 5. EMPIRICAL ANALYSIS

#### 5.1 Reliability Analysis

Using Spss26.0, the Cronbach's Alpha coefficient was tested for the questionnaire scale. The Cronbach's Alpha coefficients for each variable (Table 5-1) were greater than 0.8, indicating that the scales possess high reliability and that the individual measurement items exhibit good internal consistency.

#### 5.2 Validity Analysis

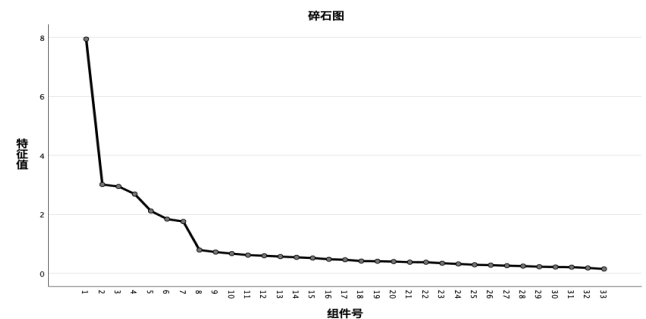
Using Spss26.0, the questionnaire data was examined (Table 5-2). The KMO value of the scale was 0.837, and the significance of the Bartlett's test of sphericity was 0.000 ( $p < 0.05$ ). Therefore, it can be concluded that the questionnaire data is suitable for factor analysis.

#### 5.3 Factor Analysis

We imported 33 items into SPSS for exploratory factor analysis. By combining the scree plot, we obtained seven influencing factors (Figure 5-1), which closely align with the anticipated dimensions of this study,

**Table 5-2:** KMO and Bartlett test table

KMO		0.837
Bartlett's Test of Sphericity	Approximate chi square	
	df	561
	sig	.000

**Figure 5-1:** Scree plot

indicating a high degree of validity in the data. We named the seven factors as "Attitude towards Short Video Platforms" (A), "Perceived Target Obstacle" (B), "Perceived Usefulness" (C), "Privacy Concerns" (D), "Perceived Personalized Advertising" (E), "Attitude towards Brands" (F), and "Psychological Resistance" (G) (Table 5-3).

#### 5.4 Correlation analysis

In the model, the perception of personalized advertising is taken as the independent variable, the perception of usefulness, perceived goal obstruction, privacy concerns and psychological resistance is taken as the intermediary variable, and the attitude towards brand and platform is taken as the dependent variable. The analysis results are as follows (Table 5-4).

The results show that perceived personalized advertising is positively correlated with perceived usefulness, perceived goal obstruction, and privacy concerns, with the absolute value ranging from 0.2 to 0.4. There is a positive correlation between perceived goal obstruction, privacy concerns and psychological resistance, while there is a negative correlation between perceived usefulness and psychological resistance. Psychological resistance is negatively correlated with users' attitudes towards brands and short video platforms, with the absolute value ranging from 0.1 to 0.4, and the relationship between variables is general or weak. Preliminary judgment research hypothesis H1-H3 is valid.

#### 5.5 Structural model checking

In this study, Amos software was used for model fitting and hypothesis testing, and the correlation between variables was verified by path coefficient and significance. Based on the above correlation analysis, the structural model of this study was further analyzed. In this paper, Amos is used to test the structural model and modify the model.

It can be seen from the table that the model gets a relatively good fitting effect after modification. The path coefficients obtained by importing

**Table 5-3:** Component matrix table after rotation of principal component analysis

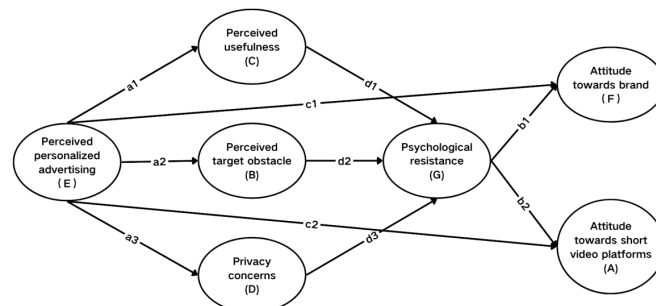
	component						
	1	2	3	4	5	6	7
A1	.843						
A2	.806						
A3	.787						
A4	.782						
A5	.752						
B1		.824					
B2		.795					
B3		.790					
B4		.772					
B5		.752					
C1			.810				
C2			.773				
C3			.772				
C4			.757				
C5			.739				
D1				.763			
D1				.756			
D2				.751			
D3				.731			
D4				.697			
E1					.802		
E2					.797		
E3					.755		
E4					.748		
E5					.714		
F1						.810	
F2						.802	
F3						.770	
F4						.741	
G1							.850
G2							.823
G3							.774
G4							.688

Extraction method: principal component analysis; Rotation method: the maximum variance method of Kaiser normalisation. a. The rotation has converged after 6 iterations.

data into the modified model are shown in the table below.

As can be seen from the table, perceived personalized advertising is positively correlated with perceived usefulness, perceived goal obstruction, and privacy concerns. Assume H1A-H1C is supported.

Perceived usefulness is negatively correlated with psychological resistance, and H2a is assumed to be supported. Perceived goal obstruction, privacy concerns and psychological resistance are



**Figure 5-2:** Test diagram of the mediation effect of structural equation

**Table 5-4:** Results of correlation analysis

		Perceived personalized advertising	Perceived usefulness	Perceived target obstacle	Privacy concerns	Attitude towards short video platforms	Attitude towards brand	Psychological resistance
Perceived personalized advertising	Pearson	1	.369**	.207**	.352**	.250**	.266**	.198**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
Perceived usefulness	Pearson	.369**	1	.227**	.379**	.139*	.249**	-.207**
	Sig. (2-tailed)	.000		.000	.000	.015	.000	.000
Perceived target obstacle	Pearson	.207**	.227**	1	.294**	.153**	.152**	.149**
	Sig. (2-tailed)	.000	.000		.000	.007	.008	0.009
Privacy concerns	Pearson	.352**	.379**	.294**	1	.260**	.364**	.374**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
Attitude towards short video platforms	Pearson	.250**	.139*	.153**	.260**	1	.185**	-.147**
	Sig. (2-tailed)	.000	.015	.007	.000		.001	0.01
Attitude towards brand	Pearson	.266**	.249**	.152**	.364**	.185**	1	-.389**
	Sig. (2-tailed)	.000	.000	.008	.000	.001		.000
Psychological resistance	Pearson	.198**	-.207**	.149**	.374**	-.147**	-.389**	1
	Sig. (2-tailed)	.000	.000	.009	.000	.010	.000	

**Table 5-5:** Fitting results of structural model

Fitting optimization index	X2/df	GFI	AGFI	RMSEA
Approval standard	1-3	0.7-0.9	0.7-0.9	<0.08
ideal standard		>0.9	>0.9	
initial model	2.449	.819	.792	.069
Modified model	2.311	.832	.805	.066

**Table 5-6:** Verification results of path coefficients

Hypothesis	Estimate	S.E.	C.R.	P	Result
H1a	.496	.079	6.254	***	support
H1b	.302	.077	3.907	***	support
H1c	.408	.068	5.996	***	support
H2a	-.252	.083	-3.401	***	support
H2b	.213	.077	4.630	***	support
H2c	.640	.110	5.811	***	support
H3a	-.452	.057	-7.963	***	support
H3b	-.255	.065	-3.934	***	support

**Table 5-7:** Functions built

hypothesis	path	ind	total	r	diff
H4a	E-C-G-F	$ind1=p.a1*p.d1*p.b1$	$total1=ind1+p.c1$	$r1=ind1/total1$	$diff1=ind1-ind2$
H5a	E-B-G-F	$ind2=p.a2*p.d2*p.b1$	$total2=ind2+p.c1$	$r2=ind2/total2$	$diff2=ind1-ind3$
H6a	E-D-G-F	$ind3=p.a3*p.d3*p.b1$	$total3=ind3+p.c1$	$r3=ind3/total3$	$diff3=ind2-ind3$
H4b	E-C-G-A	$ind4=p.a1*p.d1*p.b2$	$total4=ind4+p.c2$	$r4=ind4/total4$	$diff4=ind4-ind6$
H5b	E-B-G-A	$ind5=p.a2*p.d2*p.b2$	$total5=ind5+p.c2$	$r5=ind5/total5$	$diff5=ind4-ind5$
H6b	E-D-G-A	$ind6=p.a3*p.d3*p.b2$	$total6=ind6+p.c2$	$r6=ind6/total6$	$diff6=ind5-ind6$

**Table 5-8:** Results of mediation effect test

Parameter	Estimate	Lower	Upper	P
<b>ind1</b>	.013	.017	.055	.397
<b>ind2</b>	-.005	.015	.030	.586
<b>ind3</b>	-.103	.053	.190	.000
<b>total1</b>	.212			
<b>total2</b>	.194			
<b>total3</b>	.097			
<b>r1</b>	.061			
<b>r2</b>	.024			
<b>r3</b>	.342			
<b>diff1</b>	.008	1>2		
<b>diff2</b>	-.090	1<3		
<b>diff3</b>	-.098	3>2		
<b>ind4</b>	.006	.007	.029	.280
<b>ind5</b>	-.002	.006	.019	.507
<b>ind6</b>	-.047	.013	.105	.006
<b>total4</b>	.314			
<b>total5</b>	.306			
<b>total6</b>	.261			
<b>r4</b>	.019			
<b>r5</b>	.007			
<b>r6</b>	.132			
<b>diff4</b>	-.041	4<6		
<b>diff5</b>	.004	4>5		
<b>diff6</b>	-.045	5<6		

**Table 5-9:** Hypothesis testing

	hypothesis	result
	H1a: Perceived personalized advertising positively influences perceived usefulness	true
H1	H1b: Perceived personalized advertising positively affects perceived target obstruction	true
	H1c: Perceived personalized advertising positively impacts privacy concerns	true
	H2a: Perceived usefulness negatively affects psychological resistance	true
H2	H2b: Perceived target obstruction positively affects psychological resistance	true
	H2c: Privacy concerns positively affect psychological resistance	true
	H3a: Psychological resistance negatively affects the attitude towards brand	true
H3	H3b: Psychological resistance to negative effects on short video platforms	true
	H4a: Perceived usefulness and psychological resistance mediate the relationship between perceived personalized advertising and short video platform	true
H4	H4b: Perceived usefulness and psychological resistance mediate the relationship between perceived personalized advertising and brand	true
	H5a: Perceived target obstruction and psychological resistance mediate the relationship between perceived personalized advertising and attitudes towards short video platforms	true
H5	H5b: Perceived target obstruction and psychological resistance mediate the relationship between perceived personalized advertising and brand attitude	true
	H6a: Privacy concerns and psychological resistance mediate the relationship between perceived personalized advertising and attitudes towards short video platforms	true
H6	H6b: Privacy concerns and psychological resistance mediate the relationship between perceived personalized advertising and brand attitudes	true

positively correlated. Hypothesis H2b and hypothesis H2c are supported. Psychological resistance is negatively correlated with attitudes towards short video platforms and advertisers. Hypothesis H3a and H3b are supported.

In this study, Amos was also used to test the mediating effect, and the mediating effect of each variable was calculated and verified through the construction function (Table 5-7). Besides, the exploration of E-F and E-A was added to the original structure, so as to better test the mediating effect proposed by hypothesis H4, H5 and H6.

In summary, the following hypotheses are verified (Table 5-9)

## 6. RESEARCH CONCLUSION AND PROSPECT

### 6.1 Research Conclusions

This study shows that perceived personalized advertising affects consumers' psychological resistance through perceived usefulness, perceived goal obstruction, and privacy concerns, thus reflecting consumers' attitudes toward brands and short video platforms. The high level of consumer perception of personalized advertising verifies that the personalized advertising mechanism can reach and meet the needs of consumers. In addition, consumers' perception of non-personalized costs also means their awareness and recognition of the usefulness of personalized advertising. To sum up, this study has the following contributions.

1. By proving that personalized ads can affect users' attitudes toward brands and short video platforms, this study enriches relevant research on the impact of personalized ads and short video platform marketing.

2. This study reveals the positive and negative effects of perceived personalized advertising on users, which helps to discuss users' cognition

and understanding of personalized advertising more objectively. Because "perceived usefulness", "perceived goal obstruction" and "privacy concerns" play a mediating role in the psychological resistance of perceived personalized advertising; "Perceived usefulness", "perceived goal obstruction", "privacy concerns" and "psychological resistance" play mediating roles between perceived personalized advertising and user attitude. It can be seen that consumers' behavioral response to personalized advertising is the result of the competition between benefits and risks brought by personalized advertising.

### 6.2 Research Prospect

In order to maximize the positive impact of "personalized advertising perception" on "user attitude", for the personalized advertising push mechanism of short video platforms, emphasis should be placed on in-depth research of advertising content and matching with consumers' preferences and consumption habits, so as to accurately touch users' pain points in a short time and deliver ads with higher perceived usefulness to consumers. To achieve better advertising effect; At the same time, the previous research shows that "perceived goal obstruction", "privacy concerns" and "psychological resistance" have a negative impact on users' brand attitude and short video platform attitude. Therefore, the short video platform should also design and launch a more reasonable advertising push mechanism, as well as the advertising push frequency that meets the user acceptance threshold. In this way, the negative impact of personalized ads on users' sense of platform use can be reduced, the risk of behavioral responses to personalized ads can be reduced, and the psychological resistance caused by users' perceived goal obstruction can be reduced.

Brands should, together with short video platforms, pay attention to the loss of advertising effect caused by users' negative response to personalized ads, build a friendly and trusting tripartite relationship with

users, and jointly solve the negative impact of personalized perception on advertising effect from multiple dimensions and multiple links. Produce and introduce diversified advertising content to ensure user experience, and enrich advertising connotation on this basis. Through personalized advertising perception of positive impact, the interests of the three parties will be maximized, a harmonious advertising market environment will be built, and sustainable development of advertising ecology will be maintained.

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