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Intentional news avoidance on short-form video platforms: a moderated mediation model of psychological reactance and relative entertainment motivation

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Previous studies have identified a correlation between individuals' perception of news quality and their intention to avoid political news. However, limited research exists that examines the mechanisms that mediate or moderate this relationship, particularly in the context of shortform video platforms. This study, using a sample of 523 active users of Douyin, a Chinese short-form video platform, addresses this gap by examining the mediating influence of psychological reactance and the moderating impact of relative entertainment motivation on the connection between perceived news quality and intentional news avoidance. The study finds that the negative association between perceived news quality and intentional news avoidance is mediated by psychological reactance, while both the direct effect of perceived news quality on intentional news avoidance, and the indirect effect through psychological reactance, are moderated by relative entertainment motivation. Specifically, these effects are stronger for individuals with high relative entertainment motivation. These findings suggest that if users possess high relative entertainment motivation, their psychological reactance and intentional news avoidance can be reduced if the quality of news improves. This study contributes to current understanding of users' deliberate avoidance of news and offers insights for owners and developers of short-form video platforms and algorithms.

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Introduction

ews avoidance is on the rise due to diminishing trust in news providers, political influence, and a surge in paywalls and subscription models (Newman et al., 2022). Existing studies have identified that intentional news avoidance, which refers to an individual's conscious decision to avoid news due to a dislike towards it, is driven by perceived news quality (Aharoni et al., 2021; Edgerly, 2021; Goyanes et al., (2023); Palmer and Toff, 2020; Skovsgaard and Andersen, 2020; Toff and Nielsen, 2018; Zhang et al., 2022).

As individuals form perceptions toward the quality of news, they undergo a psychological decision-making process which enables them to determine whether to engage or disengage with it (Knoll et al., 2020; Matthes et al., 2020). During this process, a complex psychological mechanism can exist between perceived news quality and intentional news avoidance. Previous studies have shown that users might experience anger towards political news they did not choose to see (Ahmadi and Wood, 2018). In such cases, users may react by counterarguing or displaying resistance towards news providers (Nisbet et al., 2015; Woodstock, 2014). Their emotions, such as anger and sadness, are often seen as manifestations of psychological reactance (Dillard and Shen, 2005) whereby there is likely to be a psychological mechanism linking perceived news quality to intentional news avoidance. However, the mediating role of psychological reactance between perceived news quality and intentional news avoidance has yet to be explored.

Previous research has found that information-seeking motivation and entertainment motivation are the main motivations that affect users' consumption of political news (Knoll et al., 2020; Prior, 2005; Shim et al., 2015). Individuals' information-seeking motivation may have a negative impact on their intentional news avoidance, while entertainment motivation may have a positive impact (Diddi and LaRose, 2006; Prior, 2005; Shim et al., 2015; Wieland and Kleinen-von Königslöw, 2020). Nonetheless, while individuals use media sources for both information-seeking and entertainment purposes (Matthes et al., 2020), current studies suggest that the negative effects of perceived news quality on individuals' intentional news avoidance may be buffered for those with high information-seeking motivation and increased for those with high entertainment motivation. Consequently, further research is vital to examine the moderating effect of the relationship between perceived news quality and intentional news avoidance when two motivations possess similar effects. This study aims to examine the mediating role of psychological reactance and the moderating role of relative entertainment motivation on the relationship between perceived news quality and intentional news avoidance using a sample of 523 active users of Douyin, a Chinese short-form video platform.

Literature review and hypotheses

Perceived news quality and intentional news avoidance. Perceived news quality refers to an individual's subjective evaluation of the quality of news they receive. Extant research suggests that individuals' perception of news quality is negatively associated with their intention to avoid news. When people find political news to be irrelevant to their daily lives and challenging to understand, they may disengage due to the high cognitive effort required (Palmer and off, 2020), leading to a disconnection (Edgerly, 2021; Toff and Nielsen, 2018). Additionally, if users doubt the credibility of the news content and believe it includes political bias (Skovsgaard and Anderson, 2020), they will intentionally avoid it (Aharoni et al., 2021; Chan et al., 2021). Shortform video platforms use sophisticated algorithms that intelligently curate content based on users' preferences, influencing

their media consumption habits and behavioral choices (Xie et al., 2022). Although some studies have noted that algorithms are instructed to push only relevant content to users (Thorson and Wells, 2016), which may limit users from intentionally avoiding content, this study argues that it can still lead to intentional avoidance. Algorithms often create 'information cocoons' for users (Sunstein, 2006) with the aim of catering to users' preferences or political views. However, when algorithms push content beyond users' interests, it can result in disfavor and a diminished perception (Lu and Lee, 2019). Additionally, algorithms often prioritize repetitive news related to specific topics (Dylko, 2016), which can result in users perceiving a decreased quality in the news. Therefore, exposure to news on short-form video platforms, especially when users consider it to be lowquality, causes them to move from hedonic information processing to epistemic information processing, which may induce fatigue or psychological aversion, leading to intentional avoidance of news (Gurr, 2022). As a result, this study proposes the following hypothesis:

H1: Perceived news quality is negatively associated with users' intentional news avoidance.

The mediating role of psychological reactance. Psychological reactance is a negative psychological response triggered by an individual's perception of a threat to their freedom (Brehm and Brehm, 1981). Individuals who perceive that their freedom is threatened will often experience negative cognitive and emotional reactions, such as counterarguing or anger, which are manifestations of psychological reactance (Dillard and Shen, 2005). In the context of short-form videos, users expect the freedom to select which videos they view. Anything that hinders their access may be perceived as a threat to their autonomy, leading to the emergence of psychological reactance.

Previous studies on information avoidance find that individuals often become angry when they are forced to watch low-quality information because they believe that they should have the freedom to choose the content served to them (Shin and Lin, 2016). However, since short-form video platform algorithms operate beyond users' control, individuals not only struggle to influence the information presented to them but also find it challenging to avoid wasting time on low-quality content. When users are unable to control the choice of information served to them, they may perceive this as a threat and resist it, which leads to psychological reactance (Baek and Morimoto, 2012; Youn and Kim, 2019).

Moreover, users of short-form video platforms often suspect that news content carries political or commercial motives. Consequently, this perception can prompt feelings of manipulation, triggering psychological reactance (Amazeen and Wojdynski, 2019; Toff and Nielsen, 2018; Nelson and Park, 2015). Additionally, counter-attitudinal news challenges individuals' beliefs and, therefore, when they are served such content, they regard it as low-quality and a threat (Nisbet et al., 2015). Therefore, this study proposes the following hypothesis:

H2: Perceived news quality is negatively associated with users' psychological reactance.

Similarly, when individuals perceive a threat to their freedom, they exert cognitive or behavioral effort to resist the threat and restore freedom (Brehm and Brehm, 1981; Dillard and Shen, 2005; Steindl et al., 2015). Avoidance has been identified as one of the consequences of psychological reactance (Marcinkowski and Došenović, 2021; Youn and Kim, 2019) with the findings of existing research demonstrating that users resist inaccurate and persuasive advertisements, which results in them intentionally

avoiding adverts and wishing that no adverts be shown to them (Baek and Morimoto, 2012). For instance, on YouTube, over 80 million users subscribe to their premium product with no advertisements. When users are served content that they deem irrelevant, they may experience feelings of anger or distrust towards news sources (Ahmadi and Wohn, 2018; Baek and Morimoto, 2012). Additionally, when individuals with no political interest are forced to view political campaigns, their psychological reactance positively predicts their intentional news avoidance (Marcinkowski and Došenović, 2021). Therefore, this study proposes the following hypothesis:

H3: Psychological reactance is positively associated with users' intentional news avoidance.

On short-form video platforms, when users are served content that they consider low-quality, it can arouse their psychological reactance and intentional news avoidance in the following ways. First, although news sources on short-form video platforms are diverse, they often produce misleading or inaccurate content that is disliked by users (Palmer and Toff, 2022). When users perceive the news presented to them as lacking credibility, they resist the cognitive burden and fatigue it induces, intentionally opting to avoid such content (Chan et al., 2021). Second, to enable diverse political views to be shown to users, algorithm developers often push counter-attitudinal news (Lu and Lee, 2019; Thorson and Wells, 2016). Such actions may arouse the psychological reactance of users and, therefore, cause avoidance (Nisbet et al., 2015). Third, when users are disinterested in the news served to them, they may believe that the news prevents them from viewing other content. This phenomenon is known as 'perceived goal impediment' which not only arouses psychological reactance, but also increases users' intentional news avoidance (Cho and Cheon, 2004; Shin and Lin, 2016; Speck and Elliott, 1997). Therefore, this study proposes the following hypothesis:

H4: Psychological reactance mediates the relationship between perceived news quality and users' intentional news avoidance.

The moderating role of relative entertainment motivation. People primarily watch short-form videos for information-seeking and entertainment purposes (Knoll et al., 2020; Oeldorf-Hirsch, 2018; Shim et al., 2015). Users with information-seeking motivation are likely to access and share news on short-form video platforms (Oeldorf-Hirsch, 2018; Wang et al., 2019; Shim et al., 2015), while users with entertainment motivation are more likely to view videos for entertainment purposes only (Lee and Ma, 2012). However, users may sometimes view videos to satisfy both their information-seeking and entertainment motivations (Matthes et al., 2020), although it is more likely to be for entertainment purposes.

In this study, the concept of relative entertainment motivation is introduced to describe this phenomenon. Relative entertainment motivation is considered the extent to which users view short-form videos for entertainment versus information-seeking purposes and reflects the differences and preferences of individuals which may affect their content consumption. When a user's entertainment motivation is higher than their information-seeking motivation, they possess high relative entertainment motivation. In such cases, the users' search for information is overshadowed by their preference for entertainment; in other words, when users watch short-form videos, hedonic motivation plays the dominant role in their psychological processing, while cognitive motivation occupies a secondary position (Cancela et al., (2021); Tamilmani et al., 2019; Xu, 2007), leading them to gravitate towards short-form entertainment videos, thus creating a tendency to intentionally avoid news sources.

Although users' perception of news quality may affect their psychological reactance, it does not affect all individuals equally. The Limited Capacity Model of Motivated Mediated Message Processing (LC4MP) posits that individuals' ability to process information is limited and, therefore, they will use their limited capacity to process only information that is related to their goals (Lang, 2000). Therefore, users with high relative entertainment motivation are more likely to use their information processing ability to watch short-form videos for entertainment. When users with high relative entertainment motivation perceive news content as being low-quality, they regard it as irrelevant to their motivation, whether it is entertainment motivation or information-seeking motivation. As users are driven by motivation, they actively seek content that aligns with their likes and needs (Rubin and Perse, 1987); consequently, low-quality news does not satisfy their needs and can prevent them from browsing other content. Prior research demonstrates that users can feel anger towards news that they consider irrelevant (Ahmadi and Wohn, 2018), which causes a higher psychological reactance. When users with high relative entertainment motivation consider news to be of high quality, they will assess whether the news is more important than entertainment motivation-related information and consequently switch their information processing goals (Nanz and Matthes, 2020). If their evaluation is positive, then the news will satisfy their needs which, in turn, lowers the likelihood of psychological reactance.

Additionally, when users have high relative entertainment motivation, their entertainment motivation will restrain their information-seeking motivation, resulting in users filtering the news to focus their time and attention on non-news consumption (Kim et al., 2013; Knoll et al., 2020). When users with high relative entertainment motivation view news content that they consider low-quality, they will perceive that the news reduces their opportunity to view entertainment, resulting in intentional news avoidance. When users with high relative entertainment motivation perceive news to be of high quality, their information-seeking motivation which is restrained by entertainment motivation increases, reducing their intentional news avoidance (Matthes et al., 2020; Wieland and Kleinen-von Königslöw, 2020). Therefore, this study proposes the following hypothesis:

H5: The direct effect of perceived news quality on users' intentional news avoidance, and the mediating effect of psychological reactance, will be moderated by users' relative entertainment motivation, with these effects being stronger for those with high relative entertainment motivation.

The moderated mediation model proposed in this study is shown in Fig. 1.

Method

Data and sample. This study collected data from college students in Mainland China who are active users of the short-form video platform, Douyin, which also has an international version named TikTok. Douyin was the most popular social media application worldwide in 2023 and currently has over 1 billion monthly active

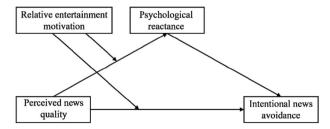


Fig. 1 Research model. The hypothesized moderated mediation model.

users. The platform uses a recommendation system that intelligently determines which videos to serve users. Based on this system, Douyin has created an online environment where users can incidentally be exposed to unwanted news. College students are at an important stage in their lives whereby they are developing lifelong news consumption habits (Diddi and LaRose, 2006). Given the emergence of social media, the news consumption habits of youth today are distinct from previous generations with many preferring short-form video platforms to traditional media types, such as newspaper or radio (Antunovic et al., 2018). Therefore, this study aims to investigate the intentions of Chinese college students to avoid news when using Douyin.

In this study, college students from a large comprehensive university in western China were approached. Participants were recruited using a random selection procedure. Specifically, we randomly selected one day of the working week and obtained data on the distribution of classes and classrooms across the university on that day. The university has 12 periods per day, and we randomly selected three periods. Five classrooms, that were in session, were then randomly selected for those three periods, producing a total of 15 classrooms. Questionnaires were then distributed during classroom breaks after explaining the purpose of the study to students and ensuring that all were well-informed. All participants completed the questionnaire voluntarily and anonymously. In total, 613 questionnaires were distributed, and 576 were returned, resulting in a return rate of 93.96%. Questionnaires that failed the trap question were considered invalid and, therefore, eliminated from the study's sample. After elimination, the number of valid questionnaires was 523, with an effective rate of 90.80% and an overall effective rate of 85.32%. Table 1 shows the sample composition.

Measurements. All variables included in the testing of hypotheses were measured using multi-item scales obtained from previous studies widely accepted by the scholarly community. The items are listed in full in. All items were measured using a 5-point Likert scale.

Demographic variable	N (%)
Gender	
Male	226 (43.21%)
Female	297 (56.79%)
Education Level	
Undergraduate Student	325 (62.14%)
Graduate Student	198 (37.86%)
Hours spent on Douyin each day	
<1 h	256 (48.95%)
1–2 h	203 (38.81%)
3-4 h	51 (9.75%)
5-6 h	10 (1.91%)
>6 h	3 (0.57%)
Political interest	
No interest	9 (1.72%)
Less interested	43 (8.22%)
Generally interested	229 (43.79%)
Interested	200 (38.24%)
Very interested	42 (8.03%)
Age	
M = 21.5 (SD = 2.71)	
REM	
REM = "0"	198 (37.86%)
REM = "1"	325 (62.14%)

Perceived news quality. Adapted from the work of Herrera-Viedma et al. (2006), perceived news quality was divided into three dimensions, namely: perceived news credibility, perceived news expression suitability, and perceived news fit. Perceived news credibility refers to the degree of accuracy and reliability of news; perceived news expression suitability emphasizes the degree of conciseness and understandability of news; and perceived news fit refers to the degree of conformance between news content and users' needs and interests. The scale used in this study was modified from prior studies (Lee et al., 2002; Meyer, 1988; Sundar, 1999; Zaichkowsky, 1985) with eleven items being used. Cronbach's a was 0.915. Using a principal component analysis technique with a Varimax rotation method, exploratory factor analysis extracts three latent factors (KMO = 0.906, p < 0.001, eigenvalue > 1, factor loading > 0.759), explaining 77.169 percent of the total variance.

Intentional news avoidance. To measure users' intentional news avoidance, the scales reported in previous studies (Van den Broeck et al., (2018); Cho and Cheon, 2004; Park, 2019; Speck and Elliott, 1997) were modified, resulting in four items. Cronbach's α for this scale was 0.928.

Psychological reactance. Users' psychological reactance was assessed using four items modified from Hong's Psychological Reactance scale (Hong and Page, 1989). Cronbach's α for this scale was 0.818.

Relative entertainment motivation. Users' entertainment motivation and information-seeking motivation were assessed using six items modified from previous research (Heiss et al., 2020; Lee and Ma, 2012). Cronbach's α for the entertainment motivation scale was 0.887, while Cronbach's α for the information-seeking motivation scale was 0.936. Exploratory factor analysis extracts two latent factors (KMO = 0.796, p < 0.001, eigenvalue > 1, factor loading > 0.810), explaining 85.308 percent of the total variance.

As individuals' entertainment motivation increases, they may experience a decline in their information-seeking motivation (Kim et al., 2013). Therefore, in this study, participants' relative entertainment motivation was calculated by dividing participants' entertainment motivation scores by the sum of entertainment motivation scores and information-seeking motivation scores i.e., Relative Entertainment Motivation = (Entertainment Motivation)/(Entertainment Motivation) + Information-seeking Motivation). We assigned "1" if participants' relative entertainment motivation was greater than 0.5 and "0" if their relative entertainment motivation was less than or equal to 0.5.

Control variables. This study controlled four variables: participants' gender, education level, hours spent on Douyin each day, and political interest. Among them, political interest is an important predictor of individuals' news consumption habits (Strömbäck et al., 2013), and, therefore, it was measured using the item: "How interested are you in politics?"

Statistical analysis. Pearson's correlation coefficient was adopted to analyze the potential relationships among major variables. The mediation model and moderated mediation model were tested using the SPSS PROCESS Macro (Hayes, 2022).

Results

Preliminary analyses. This study's descriptive statistics and correlation matrix are shown in Table 2. Our results reveal that perceived news quality is negatively associated with users' psychological reactance, intentional news avoidance, and relative

entertainment motivation. We also found that users' psychological reactance is positively associated with their intentional news avoidance and relative entertainment motivation, while users' intentional news avoidance is positively associated with their relative entertainment motivation.

Testing the mediation model. As seen in Table 3, after controlling for the four variables, perceived news quality was negatively associated with users' intentional news avoidance in the absence of the mediator (b = -0.65, p < 0.001); thus, H1 is supported. Further, perceived news quality was negatively associated with users' psychological reactance (b = -0.40, p < 0.001), which provides support for H2. When perceived news quality was controlled for, users' psychological reactance was positively associated with users' intentional news avoidance. (b = 0.64, p < 0.001); thus, H3 is supported. Moreover, when psychological reactance was considered, the association between perceived news quality and users' intentional news avoidance. was still significant (b = -0.40, p < 0.001). Finally, the bias-corrected percentile bootstrap method was used to test the mediation model. In total, 5000 bootstrapping samples were generated from the original data set (N = 523) using random sampling. As shown in Table 4, the indirect effect of users' psychological reactance is -0.26, while its 95% confidence interval was [-0.35, -0.17]. The mediation

effect accounted for 39.14% of the total effect of the association between perceived news quality and users' intentional news avoidance. Specifically, psychological reactance partially mediated the association between perceived news quality and users' intentional news avoidance. Thus, H4 was fully supported.

Testing the moderated mediation model. The results of the moderated mediation analysis are presented in Table 5. After controlling for the study's variables, a significant direct effect of perceived news quality on intentional news avoidance was observed (b = -0.41, p < 0.001), and this effect was moderated by users' relative entertainment motivation (b = -0.28, p < 0.01).

To improve understanding of the moderating effect of users' relative entertainment motivation, the plot of the relation between perceived news quality and intentional news avoidance, at two levels of relative entertainment motivation, was described in Fig. 2. As shown in Fig. 2 and Table 6, for individuals with high relative entertainment motivation (REM = "1"), their perceived news quality was strongly associated with intentional news avoidance (b = -0.51, p < 0.001), while the association (b = -0.23, p < 0.01) was weaker for individuals with lower relative entertainment motivation (REM = "0").

Furthermore, the direct effect of perceived news quality on psychological reactance was significant (b = -0.40, p < 0.001) and

Table 2 Descriptive statistics and intercorrelations between variables.								
Variable	М	SD	1	2	3	4	5	6
1. Perceived news quality	3.29	0.62	_					
2. Psychological reactance	2.93	0.81	-0.34**	_				
3. Intentional news avoidance	2.56	0.94	-0.47^{**}	0.67**	_			
4. Entertainment motivation	3.72	0.97	0.32**	-0.01	-0.11*	_		
5. Information-seeking motivation	3.12	1.03	0.56**	-0.22**	-0.38**	0.45**	_	
6. Relative entertainment motivation	_	_	-0.19**	0.14**	0.16**	0.37**	−0.41**	_
N = 523. *p < 0.05. **p < 0.01.								

Predictor	INA		PR		INA	
	ь	t	b	t	ь	t
PNQ	-0.65***	-11.38	-0.40***	-7.72	-0.40***	-8.02
PR	_	_	_	_	0.64***	16.04
Gender	0.05	0.64	0.11	1.72	-0.02	-0.43
Education level	0.09	1.51	0.11	1.94	0.02	0.48
Hours spent on Douyin each day	0.02	0.39	0.06	1.50	-0.02	-0.58
Political interest	-0.31***	-7.32	-0.28***	-7.08	-0.14***	-3.78
R^2	0.29		0.20		0.53	
F	43.20		26.33		96.74	

Table 4 Bootstrapping in				
Indirect path	Estimated	95% CI		Ratio to total
	effect	Lower	Upper	effect on INA
$PNQ \rightarrow PR \rightarrow INA$	-0.26 ^a	-0.35	-0.17	39.14%

PNQ perceived news quality, PR psychological reactance, INA intentional news avoidance, CI confidence interval. Empirical 95% confidence interval does not overlap with zero.

this effect was also moderated by users' relative entertainment motivation (b = -0.35, p < 0.001). To better understand the moderating effect of users' relative entertainment motivation, the plot of the relation between perceived news quality and users' psychological reactance, at two levels of relative entertainment motivation, was described in Fig. 3. Specifically, as shown in Table 7, for those with high relative entertainment motivation (REM = "1"), their perceived news quality is strongly associated with their psychological reactance (b = -0.53, p < 0.001), while the association (b = -0.18, p < 0.05) was weaker for those with low relative entertainment motivation (REM = "0"). Thus, H5 was fully supported.

Discussion

This study aimed to examine the mediating role of psychological reactance and the moderating role of relative entertainment motivation on the association between perceived news quality and intentional news avoidance using a sample of 523 active users of Douyin, a Chinese short-form video platform. A moderated mediation model was created to examine how perceived news quality relates to intentional news avoidance among platform

The study's findings reveal that perceived news quality influences intentional news avoidance, both directly and indirectly

Table 5 The moderated mediation effect of perceived news quality and intentional news avoidance.

Predictor	PR		INA			
	Ь	t	ь	t		
PNQ	-0.40***	-7.55	-0.41***	-8.08		
PR	_	_	0.62***	15.51		
REM	0.08	1.27	0.04	0.72		
PNQ × REM	-0.35***	-3.35	-0.28**	-2.97		
Gender	0.11	1.76	-0.02	-0.40		
Education level	0.11	1.85	0.02	0.50		
Hours spent on	0.05	1.19	-0.03	-0.81		
Douyin each day						
Political interest R ² F	-0.27*** 0.22 20.93	-7.13	-0.14*** 0.54 74.68	-3.96		

Note. N = 523, Bootstrap sample size = 5000

INA intentional news avoidance, PNQ perceived news quality, PR psychological reactance, REM relative entertainment motivation.

*p < 0.01. ***p < 0.001.

through the mediation of psychological reactance. Further, these effects, whether direct or indirect, were found to be contingent upon users' relative entertainment motivation. Specifically, individuals with higher relative entertainment motivation showed stronger direct and indirect effects in their intentional news avoidance behavior. Three key conclusions were drawn:

First, perceived news quality was identified as an important determinant that influences users' intentional news avoidance in the context of incidental news exposure on short-form video platforms. This finding aligns with earlier studies on social media which conclude that users evaluate encountered news based on its credibility, interest, and relevance, which shapes their decisions on how to process the information (Edgerly, 2021; Skovsgaard and Andersen, 2020; Toff and Nielsen, 2018). If the quality of news is perceived to be low, users often reduce their efforts to understand the news (Park and Kaye, 2020). Furthermore, in online settings, where news exposure can happen incidentally, as on the Douyin platform, users seek personalized content tailored to their specific needs and preferences (Thorson and Wells, 2016). To improve users' perception of news quality, algorithm developers should ensure that the news has high quality before delivery, so as to enhance the users' perception of the quality of news and thus reduce subsequent news avoidance.

Second, this study revealed the mediating mechanism of psychological reactance between perceived news quality and users' intentional news avoidance. Previous studies have suggested that news derived from recommendation systems offers the potential to alleviate users' intentional news avoidance (Skovsgaard and Andersen, 2020) as they are more likely to react positively (Oeldorf-Hirsch, 2018; Valeriani and Vaccari, 2016). The current study's findings provide a different perspective whereby users do not always respond positively to news, but do perceive lowquality news as threatening and, therefore, try to resist it

Table 6 Conditional indirect effects of perceived news quality on intentional news avoidance through psychological reactance at values of relative entertainment motivation.

Relative Entertainment Motivation	b	SE	LLCI	ULCI
"0"	-0.23**	0.07	-0.38	-0.09
"1"	-0.51***	0.06	-0.63	-0.39

Note. N = 523, Bootstrap sample size = 5000.

LL low limit, CI confidence interval, UL upper limit. $^{**}p < 0.01$. $^{***}p < 0.001$.

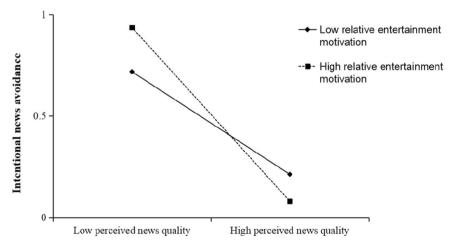


Fig. 2 Moderated relationship. Plot of the relationship between perceived news quality and intentional news avoidance at two levels of relative entertainment motivation.

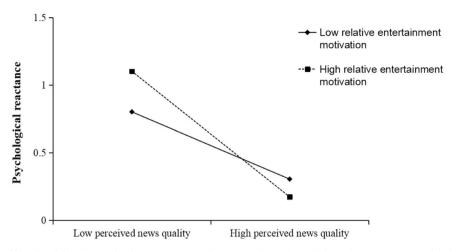


Fig. 3 Moderated relationship. Plot of the relationship between perceived news quality and psychological reactance at two levels of relative entertainment motivation.

Table 7 Conditional direct effects of perceived news quality on psychological reactance at values of relative entertainment motivation.						
Relative Entertainment Motivation	Ь	SE	LLCI	ULCI		
"O" "1"	-0.18* -0.53***		-0.34 -0.66			
Note. $N = 523$, Bootstrap sample size = 5000 LL low limit, CI confidence interval, UL upper li * $p < 0.05$. *** $p < 0.001$.						

(Marcinkowski and Došenović, 2021; Woodstock, 2014). As an incentive, psychological reactance can guide users to make cognitive efforts to deal with threats (Steindl et al., 2015), and the derogation of information sources is one of them (Brehm and Brehm, 1981). Users' psychological reactance to news may guide them to resist information from specific sources (Brehm and Brehm, 1981). In this study, we found that users' psychological reactance triggered intentional news avoidance on short-form video platforms, which is a mediating mechanism between perceived news quality and intentional news avoidance.

Third, this study proposed the concept of relative entertainment motivation, acknowledging that users' viewing of shortform videos for entertainment versus information-seeking purposes varies, and found that this motivation can moderate the relationship between perceived news quality, psychological reactance, and intentional news avoidance. For users with high relative entertainment motivation, the negative effects of perceived news quality on their psychological reactance and intentional news avoidance are strong. The study also found that for those with high relative entertainment motivation, when news quality is perceived to be high, psychological reactance and intentional news avoidance may be lower than for those with low relative entertainment motivation. This means that, although relative entertainment motivation objectively exists, the gap between users with high relative entertainment motivation and those with low relative entertainment motivation (in terms of psychological reactance and intentional news avoidance) will be reduced if the quality of news improves. One possible explanation for this is that users view video content to achieve a specific goal and relative entertainment motivation represents an initial goal. Therefore, even when this initial goal is not political, they will inevitably encounter political news and evaluate news quality accordingly

(Knoll et al., 2020). If the news is not relevant, they will stick to their original goal. However, if the news encountered is of high quality, they will switch to a politically related information processing goal and search further and share politically related content (Matthes et al., 2020; Wieland and Kleinen-von Konigslow, 2020). Users' information processing goals are not fixed and, therefore, may switch when influenced by the quality of news content (Nanz and Matthes, 2020). Relative entertainment motivation only presupposes individuals' information processing goals and cannot control their switching behavior. Therefore, even if users possess high relative entertainment motivation, they are likely to be attracted by higher quality news and ultimately their psychological reactance and intentional news avoidance will decrease. As a result, improving users' perception of news quality may reduce the intention of users with high relative entertainment motivation to avoid news.

This study offers three key contributions that advance our understanding of users' intentional news avoidance. First, the theoretical model proposed in this study throws light on the mechanism underlying users' intentional news avoidance within the context of incidental news exposure. Previous studies have predominantly focused on users' participation when encountering news, but little is known about their avoidance of news. Although the conclusions of previous research explain individuals' news avoidance to a certain extent, its explanatory power may be limited. Users' positive attitude towards news promotes their engagement (Oeldorf-Hirsch, 2018; Valeriani and Vaccari, 2016), while their negative attitude may be the driving force that causes them to avoid news; however, to date, this has been scarcely discussed. Second, this study reveals the predictive role of the negative attitude of psychological reactance on users' intentional news avoidance, providing a theoretical explanation and empirical support for users' news reactance behavior in previous studies (Ahmadi and Wohn, 2018; Woodstock, 2014). Finally, this study proposes the concept of relative entertainment motivation and defines the boundary conditions of perceived news quality which affects users' intentional news avoidance. Since most prior studies have focused on a single motivation but neglected the simultaneous effect of two or more motivations, this proposed concept alleviates the limitation of a single motivation in explaining users' behavior and provides a new means for understanding individual motivation differences. More specifically, variations in individuals' relative entertainment motivation were found to account for discrepancies in psychological reactance and intentional news avoidance in response to perceived differences in news quality.

Implications and limitations

The findings of this study provide several important practical implications. First, high-quality short-form videos may help improve users' perception of news quality. If short-form video platforms want to reduce users' intentional news avoidance, they must focus on developing quality news content. In addition, platform owners can optimize their recommendation systems when creating short-form video content, to accurately push news that is more in line with users' needs and interests. Second, although users with high relative entertainment motivation tend to focus on amusing themselves through entertainment and possess high intentional news avoidance and psychological reactance, platform owners can reduce their psychological reactance and intentional news avoidance by improving the quality of news served. Therefore, platform owners and algorithm developers must pay greater attention to the saying "Content is King".

This study has several limitations. First, the sample used comprises Chinese college students from a single university. News consumption habits differ significantly across global contexts, limiting the generalizability of the study's findings. Addressing this limitation is crucial to ensure broader applicability of the findings. Second, while psychological reactance encompasses negative cognition and emotions (Steindl et al., 2015), this study did not examine how each substructure relates to the antecedents and outcomes of psychological reactance. Future studies should, therefore, explore these connections, enriching understanding of perceived news quality, psychological reactance, and intentional news avoidance. Third, this study did not examine news avoidance behavior, a more resolute avoidance strategy compared to intentional avoidance (Youn and Kim, 2019). Investigating the link between psychological reactance and both intentional news avoidance and avoidance behavior would be beneficial. Additionally, while relative entertainment motivation was introduced in this study as a new concept, further examination is needed to understand its full explanatory potential. Last, relative entertainment motivation may differ based on contextual circumstances, potentially influencing users' interactions differently from what platform-level metrics might suggest; this suggests a more comprehensive assessment of users' diverse motivations and interactions would be beneficial.

Data availability

The datasets analyzed during the current study are available from the corresponding author upon reasonable request.

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References

- Aharoni T, Kligler-Vilenchik N, Tenenboim-Weinblatt K (2021) Be less of a slave to the news": a texto-material perspective on news avoidance among young adults. Journal Stud 22(1):42–59. https://doi.org/10.1080/1461670X.2020.1852885
- Ahmadi M, Wohn DY (2018) The antecedents of incidental news exposure on social media. Social Media + Society 4(2):1-8. https://doi.org/10.1177/2056305118772827
- Amazeen MA, Wojdynski BW (2019) Reducing native advertising deception: revisiting the antecedents and consequences of persuasion knowledge in digital news contexts. Mass Commun Soc 22(2):222–247. https://doi.org/10.1080/15205436.2018.1530792
- Antunovic D, Parsons P, Cooke TR (2018) Checking' and googling: stages of news consumption among young adults. Journalism 19(5):632–648. https://doi.org/10.1177/1464884916663625
- Baek TH, Morimoto M (2012) Stay away from me. J Adv 41(1):59–76. https://doi.org/10.2753/JOA0091-3367410105
- Brehm SS, Brehm JW (1981) Psychological reactance: a theory of freedom and control. Academic Press

- Cancela A, Briñol P, Petty RE (2021) Hedonic vs. epistemic goals in processing persuasive communications: revisiting the role of personal involvement. Motivation Emot 45:280–298
- Cho CH, Cheon HJ (2004) Why do people avoid advertising on the internet. J Adv 33(4):89–97. https://doi.org/10.1080/00913367.2004.10639175
- Chan M, Lee FL, Chen HT (2021) Avoid or authenticate? A multilevel crosscountry analysis of the roles of fake news concern and news fatigue on news avoidance and authentication. Digit Journal, 1–20. https://doi.org/10.1080/ 21670811.2021.2016060
- Diddi A, LaRose R (2006) Getting hooked on news: uses and gratifications and the formation of news habits among college students in an Internet environment.
 J Broadcast Electr Media 50(2):193–210. https://doi.org/10.1207/s15506878jobem5002 2
- Dillard JP, Shen L (2005) On the nature of reactance and its role in persuasive health communication. Commun Monogr 72(2):144–168. https://doi.org/10. 1080/03637750500111815
- Dylko IB (2016) How technology encourages political selective exposure. Commun Theory 26(4):389–409. https://doi.org/10.1111/comt.12089
- Edgerly S (2021) The head and heart of news avoidance: how attitudes about the news media relate to levels of news consumption. Journalism 23(9):1828–1845. https://doi.org/10.1177/14648849211012922
- Goyanes M, Ardèvol-Abreu A, Gil de Zúñiga H (2023) Antecedents of news avoidance: competing effects of political interest, news overload, trust in news media, and "news finds me" perception. Digit Journal 11(1):1–18. https://doi.org/10.1080/21670811.2021.1990097
- Gurr G (2022) Does fatigue from ongoing news issues harm news media? Assessing reciprocal relationships between audience issue fatigue and news media evaluations. Journal Stud 23(7):858–875. https://doi.org/10.1080/1461670X. 2022.2049453
- Hayes, AF (2022) Introduction to mediation, moderation, and conditional process analysis: a regression-based approach. Guilford Press
- Herrera-Viedma E, Pasi G, Lopez-Herrera AG, Porcel C (2006) Evaluating the information quality of web sites: a methodology based on fuzzy computing with words. J Am Soc Inf Sci Technol 57(4):538–549. https://doi.org/10.1002/asi.20308
- Heiss R, Knoll J, Matthes J (2020) Pathways to political (dis-)engagement: motivations behind social media use and the role of incidental and intentional exposure modes in adolescents' political engagement. Communications 45(s1):671–693. https://doi.org/10.1515/commun-2019-2054
- Hong SM, Page S (1989) A psychological reactance scale: development, factor structure and reliability. Psychol Rep 64(3):1323–1326. https://doi.org/10. 2466/pr0.1989.64.3c.1323
- Kim Y, Chen HT, De Zúñiga HG (2013) Stumbling upon news on the Internet: effects of incidental news exposure and relative entertainment use on political engagement. Comput Hum Behav 29(6):2607–2614. https://doi.org/10.1016/j. chb.2013.06.005
- Knoll J, Matthes J, Heiss R (2020) The social media political participation model: a goal systems theory perspective. Convergence 26(1):135–156. https://doi.org/ 10.1177/1354856517750366
- Lang A (2000) The limited capacity model of mediated message processing. J Commun 50(1):46–70. https://doi.org/10.1111/j.1460-2466.2000.tb02833.x
- Lee CS, Ma L (2012) News sharing in social media: the effect of gratifications and prior experience. Comput Hum Behav 28(2):331–339. https://doi.org/10. 1016/j.chb.2011.10.002
- Lee YW, Strong DM, Kahn BK, Wang RY (2002) AIMQ: a methodology for information quality assessment. Inf Manag 40(2):133–146. https://doi.org/10.1016/S0378-7206(02)00043-5
- Lu Y, Lee JK (2019) Stumbling upon the other side: incidental learning of counterattitudinal political information on Facebook. New Media Soc 21(1):248–265. https://doi.org/10.1177/1461444818793421
- Marcinkowski F, Došenović P (2021) From incidental exposure to intentional avoidance: Psychological reactance to political communication during the 2017 German national election campaign. New Media Soc 23(3):457–478. https://doi.org/10.1177/1461444820902104
- Matthes J, Nanz A, Stubenvoll M, Heiss R (2020) Processing news on social media: the political incidental news exposure model (PINE). Journalism 21(8):1031–1048. https://doi.org/10.1177/1464884920915371
- Meyer P (1988) Defining and measuring credibility of newspapers: developing an index. Journal Mass Commun Q 65(3):567–574. https://doi.org/10.1177/ 107769908806500301
- Nanz A, Matthes J (2020) Learning from incidental exposure to political information in online environments. J Commun 70(6):769–793. https://doi.org/10.1093/joc/jqaa031
- Nelson MR, Park J (2015) Publicity as covert marketing? The role of persuasion knowledge and ethical perceptions on beliefs and credibility in a video news release story. J Bus Eth 130:327–341. https://doi.org/10.1007/s10551-014-2227-3
- Newman N, Fletcher R, Robertson CT, Eddy K, Nielsen RK (2022) Reuters institute digital news report 2022. Retrieved from https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2022-06/Digital_News-Report_2022.pdf. Accessed 7 Jan 2024

- Nisbet EC, Cooper KE, Garrett RK (2015) The partisan brain: how dissonant science messages lead conservatives and liberals to (dis) trust science. Ann Am Acad Polit Soc Sci 658(1):36–66. https://doi.org/10.1177/0002716214555474
- Oeldorf-Hirsch A (2018) The role of engagement in learning from active and incidental news exposure on social media. Mass Commun Soc 21(2):225–247. https://doi.org/10.1080/15205436.2017.1384022
- Palmer R, Toff B (2020) What does it take to sustain a news habit? The role of civic duty norms and a connection to a "news community" among news avoiders in the UK and Spain. Int J Commun 14:1634–1653. https://ijoc.org/index.php/ijoc/article/view/12252
- Palmer R, Toff B (2022). Neither absent nor ambient: Incidental news exposure from the perspective of news avoiders in the UK, United States, and Spain. Int J Press/Polit, 1–19. https://doi.org/10.1177/19401612221103144
- Park CS (2019) Does too much news on social media discourage news seeking? Mediating role of news efficacy between perceived news overload and news avoidance on social media. Social Media + Society 5(3):1-12. https://doi.org/ 10.1177/2056305119872956
- Park CS, Kaye BK (2020) What's this? Incidental exposure to news on social media, news-finds-me perception, news efficacy, and news consumption. Mass Commun Soc 23(2):157–180. https://doi.org/10.1080/15205436.2019.1702216
- Prior M (2005) News vs. entertainment: How increasing media choice widens gaps in political knowledge and turnout. Am J Polit Sci 49(3):577–592. https://doi.org/10.1111/j.1540-5907.2005.00143.x
- Rubin AM, Perse EM (1987) Audience activity and television news gratifications. Commun Res 14(1):58–84. https://doi.org/10.1177/009365087014001004
- Shim H, You KH, Lee JK, Go E (2015) Why do people access news with mobile devices? Exploring the role of suitability perception and motives on mobile news use. Telemat Inform 32(1):108–117. https://doi.org/10.1016/j.tele.2014. 05.002
- Shin W, Lin TTC (2016) Who avoids location-based advertising and why? Investigating the relationship between user perceptions and advertising avoidance. Compu Hum Behav 63:444–452. https://doi.org/10.1016/j.chb. 2016.05.036
- Skovsgaard M, Andersen K (2020) Conceptualizing news avoidance: towards a shared understanding of different causes and potential solutions. Journal Stud 21(4):459–476. https://doi.org/10.1080/1461670X.2019.1686410
- Speck PS, Elliott MT (1997) Predictors of advertising avoidance in print and broadcast media. J Adv 26(3):61–76. https://doi.org/10.1080/00913367.1997. 10673529
- Steindl C, Jonas E, Sittenthaler S, Traut-Mattausch E, Greenberg J (2015) Understanding psychological reactance. Z für Psychol 223(4):205–214. https://doi.org/10.1027/2151-2604/a000222
- Strömbäck J, Djerf-Pierre M, Shehata A (2013) The dynamics of political interest and news media consumption: a longitudinal perspective. Int J Public Opin Res 25(4):414–435. https://doi.org/10.1093/ijpor/eds018
- Sundar SS (1999) Exploring receivers' criteria for perception of print and online news. Journal Mass Commun Q 76(2):373–386. https://doi.org/10.1177/107769909907600213
- Sunstein, CR (2006). Infotopia: How many minds produce knowledge. Oxford University Press
- Tamilmani K, Rana NP, Prakasam N, Dwivedi YK (2019) The battle of Brain vs. Heart: a literature review and meta-analysis of "hedonic motivation" use in UTAUT2. Int J Inform Manag 46:222-235. https://doi.org/10.1016/j. ijinfomgt.2019.01.008
- Thorson K, Wells C (2016) Curated flows: a framework for mapping media exposure in the digital age. Commun Theory 26(3):309–328. https://doi.org/10.1111/comt.12087
- Toff B, Nielsen RK (2018) I just Google it": Folk theories of distributed discovery. J Commun 68(3):636–657. https://doi.org/10.1093/joc/jqy009
- Valeriani A, Vaccari C (2016) Accidental exposure to politics on social media as online participation equalizer in Germany, Italy, and the United Kingdom. New Media Soc 18(9):1857–1874. https://doi.org/10.1177/1461444815616223
- Van den Broeck E, Poels K, Walrave M (2018) An experimental study on the effect of ad placement, product involvement and motives on Facebook ad avoidance. Telemat Informat 35(2):470–479. https://doi.org/10.1016/j.tele.2018.01.006
- Wang G, Zhang W, Zeng R (2019) WeChat use intensity and social support: the moderating effect of motivators for WeChat use. Comput Hum Behav 91:244–251. https://doi.org/10.1016/j.chb.2018.10.010

- Wieland M, Kleinen-von Königslöw K (2020) Conceptualizing different forms of news processing following incidental news contact: a triple-path model. Journalism 21(8):1049–1066. https://doi.org/10.1177/1464884920915353
- Woodstock L (2014) The news-democracy narrative and the unexpected benefits of limited news consumption: the case of news resisters. Journalism 15(7):834–849. https://doi.org/10.1177/1464884913504260
- Xie X, Du Y, Bai Q (2022) Why do people resist algorithms? From the perspective of short video usage motivations. Front Psychol 13:1–12. https://doi.org/10. 3389/fpsyg.2022.941640
- Xu Y (2007) Relevance judgment in epistemic and hedonic information searches. J Am Soc Inform Sci Technol 58(2):179–189. https://doi.org/10.1002/asi.20461
- Youn S, Kim S (2019) Understanding ad avoidance on Facebook: antecedents and outcomes of psychological reactance. Comput Hum Behav 98:232–244. https://doi.org/10.1016/j.chb.2019.04.025
- Zaichkowsky JL (1985) Measuring the involvement construct. J Consum Res 12(3):341–352. https://doi.org/10.1086/208520
- Zhang X, Akhter S, Nassani AA, Haffar M (2022) Impact of news overload on social media news curation: mediating role of news avoidance. Frontiers in Psychology 13:1–12. https://doi.org/10.3389/fpsyg.2022.865246

Author contributions

RXZ: conceptualization, formal analysis, methodology, and writing and revisions. STG: data collection, methodology, and writing and revisions. RE: writing, reviewing, and editing. All authors substantially contributed to the article and approved the submitted version.

Competing interests

The authors declare no competing interests.

Ethical approval

Approval was obtained from the academic committee (act as ethics committee) of School of Journalism and Communication at Chongqing University.

Informed consent

All participants were explicitly informed before completing the questionnaire that they were participating voluntarily and that the contents of the questionnaire were for academic research purposes only, and that the participants were anonymous and confidential

Additional information

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