
EFFECTS OF EMERGENCY INFORMATION RELEASE ON NEGATIVE EMOTIONS OF NETIZENS

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Abstract

In emergencies, the generation and spread of negative emotions pose a serious challenge to social governance. However, the existing information release strategies mostly underestimate the infection and propagation abilities of negative emotions. To solve the problem, this paper analyzes the statistics of Weibo posts on the RYB kindergarten child abuse incident. Based on the theory of three rhetorical appeals and the visual rhetoric theory, the textual features were examined in terms of credibility, emotion, logic, images, videos and links. On this basis, the authors discussed the impacts of information release on the negative emotions of netizens in emergencies. The results show that the appeal based on emotion helps to weaken the negative emotions, especially anger and sadness; the visual rhetorical strategy of texts and videos cannot effectively suppress the negative emotions, especially anger and sadness. The research results provide reference for the government and media on emergency information release.

Key words: Emergency Information Release, Negative Emotions, Emotion Analysis, Content Analysis.

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INTRODUCTION

China is currently in a period of comprehensive transformation, and more contradictions and conflicts are emerging in the society. At the same time, due to the vast size of the country, meteorological and geological disasters distribute widely around the country, which leads to the frequent occurrences of various emergencies and brings certain threats to social stability and economic development.

In the new media era, when emergencies broke out, government departments could no longer rely on blocking news, controlling public

opinion, concealing truth and other methods to cope with the crises. They must quickly implement crisis management strategies to prevent secondary crises and intensification of negative public emotions. Whether the public can identify and receive the correct information from various complicated information, and whether they will generate negative emotions such as anger and panic when facing the sudden events firstly depends on the education level of the public and their abilities to identify the information; secondly, it also depends on whether the government information release can alleviate the negative emotions of the public and guide the public opinion correctly (Lu & Xue, 2016). If the public can obtain authoritative, authentic, and effective information in a timely manner, they can make corresponding and more rational feedbacks; if the government speaks belatedly or changes or ducks the topic when speaking, and fails to satisfy the public's desire to know the truth, it might breed rumors, generate

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negative emotions, and thus causing panic in society. Therefore, in the event of an emergency, the information release of the government and the media is very important.

LITERATURE REVIEW

Information release strategies of government and media during emergencies

Discourse analysis. Most studies adopt the case study method which chooses a certain emergency event and analyzes the utterance of the information release from the government or media, then concludes the success and failure in the information release, and thereby proposing some effective suggestions. At present, there are cases of discourse anomie in the government information release (Zhang, Yu, Cui et al., 2016; Pedersen, 2014), which are mainly reflected as the "venting-style" response with insincere attitude, or the "official jargon-style" response which avoids the important and dwell on the trivial, or the "rumor contradiction-style" response which tries to cover up the truth, and all these methods of information release will trigger the public outrage (Wang & Shu, 2017). In the case of an emergency, it will form a field of opinions among the official media, the general media, and the public, where the various parties of public opinions would compete for the right to speak (Ji, 2018; Zhu & Qin, 2019). Government departments should reasonably make use of the interpretive policy discourse system, and build a bridge for the communication between the government and the public, as well as gather the positive energy of the public opinion, make good use of the new media platforms, skillfully deal with hot topics and channel public sentiments, thereby effectively dealing with emergent public events (Youngblood & Youngblood, 2018).

Rhetoric analysis. From the perspective of rhetoric, scholars generally applied case analysis and rhetorical analysis methods to analyze the emergency information release strategies of government and media. At present, during the emergencies in China, the information release of government and media has the following dilemmas in terms of rhetoric: improper setting of agenda topics, unclear positioning of rhetoric identity, improper adjustment of emotional tendencies, and prominent conflicts in multi-party public opinions (Zhang & Wang, 2015). When the governments at all levels are releasing the information, it's necessary to reduce invalid and useless utterance redundancy, and eliminate the interference of non-verbal noises

as much as possible, thereby avoiding misleading the public and the media, and reaching a consensus among the government, the media, and the public (Hassid, 2015).

Based on the rhetorical theory of "three appeals", in the new media environment, the news release of crisis should make use of the rhetorical strategies of pathos, ethos and logos appropriately (Yuan, & Gasco, 2017; Potrafke, Riem, & Schinke, 2016) to improve the quality of rhetorical literacy of the government spokesman and satisfy the emotional appeals of the audiences by analyzing the specific manifestations of local government when dealing with emergencies such as the lack of pathos, ethos and logos.

Classification of negative emotions of netizens

Scholars now began to pay attention to various negative emotions in the online texts: for example, Niu, Pan, Wei et al. (2014) believes that in the texts on Weibo, there are four kind of emotions: joy, sadness, anger, and fear; Zhang, Wang, Zhu et al. (2019); Zhang, Zhu, & Wang (2019) believe that negative emotions include five kinds: anxiety, sadness, anger, disgust, and fear. In addition, scholars have divided the emotions based on the categorization corpus of emotions, for example, based on the DUTIR dictionary (Xu, Lin, & Zhao, 2008), the emotions are divided into positive emotion, negative emotion, anger, sadness, and anxiety; while based on the How Net (<http://www.keenage.com>) dictionary, the emotions are divided into seven categories of joy, fondness, anger, sadness, fear, happiness, surprise, and sub-divided into 21 subcategories.

By reviewing the existing studies, it is found that: (1) When researching the emergency information release strategies, most studies applied the qualitative analysis method which cannot measure the true effects of these strategies; (2) Few literatures applied the emotional analysis method to the information release strategies of emergencies, or used the quantitative analysis method to study which specific strategy can weaken or promote the negative emotions of netizens.

THEORETICAL REVIEW AND HYPOTHESIS PROPOSAL

When an emergent public event has triggered the anger of the public, they are prone to irrational behaviors, so we should pay attention to easing the emotions of the people, effectively prevent the occurrence of the emotional accumulation effect,

and enhance the effects of the public opinion guidance (Zheng, 2017). However, most of the current information release strategies only adopt the authoritative language style, emphasizing on the official authority, while failing to satisfy the emotional appeals of the public for wanting to know the real progress of the event, as a result, it would trigger the anger of the people, which fully demonstrates the importance of pathos (the rhetorical strategy of emotional appeal). Based on this, hypothesis H1 is proposed as follows:

H1: Applying pathos in media information release is conducive to alleviating the negative emotions of netizens.

In order to study which negative emotions will be affected by different information release strategies specifically, this paper divides negative emotions into anger, sadness, dislike, fear and surprise. Then based on H1, the following derivative assumptions are proposed:

H1.1 Applying pathos in media information release can significantly reduce the “anger” emotion of netizens.

H1.2 Applying pathos in media information release can significantly reduce the “sadness” emotion of netizens.

H1.3 Applying pathos in media information release can significantly reduce the “dislike” emotion of netizens.

H1.4 Applying pathos in media information release can significantly reduce the “fear” emotion of netizens.

H1.5 Applying pathos in media information release can significantly reduce the “surprise” emotion of netizens.

Visual rhetoric refers to the skill and method that cleverly selects and configures various visual components to maximize the effect of visual communication. The Weibo (The Chinese version of twitter) posted by the government and media information release are mostly plain texts, some may add pictures, videos, or links. In the case of the RYB kindergarten child abuse incident selected as an example in this paper, the pictures were mostly the cut wounds of the abused children; and the videos were mostly the interviews of the parents and the children, and the responses from relevant people or the media; and the contents of the links were mostly the summary of the progress of the event and expert analysis, etc., there were a lot of repeated contents. By comparing the three post forms we can see that, the videos are more dynamic and authentic, especially the anger and sadness of the parents could

be seen by the majority of the netizens, which can trigger their negative emotions more easily. Therefore, hypothesis H2 is proposed as follows:

H2: Applying visual rhetorical strategy and adding videos in the media information release can trigger the negative emotions of netizens.

In order to study which negative emotions will be affected by different information release strategies specifically, this paper divides negative emotions into anger, sadness, dislike, fear and surprise. Then based on H1, the following derivative assumptions are proposed:

H2.1 Applying visual rhetorical strategy and adding videos in media information release can significantly promote the “anger” emotion of netizens.

H2.2 Applying visual rhetorical strategy and adding videos in media information release can significantly promote the “sadness” emotion of netizens.

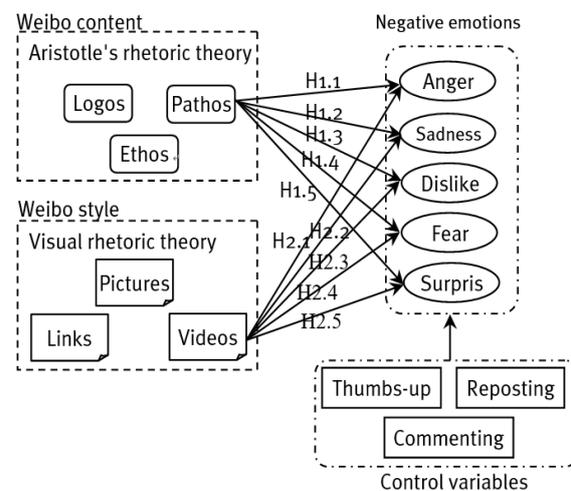
H2.3 Applying visual rhetorical strategy and adding videos in media information release can significantly promote the “dislike” emotion of netizens.

H2.4 Applying visual rhetorical strategy and adding videos in media information release can significantly promote the “fear” emotion of netizens.

H2.5 Applying visual rhetorical strategy and adding videos in media information release can significantly promote the “surprise” emotion of netizens.

The research model is shown in Figure 1.

Figure 1. Research model



RESEARCH DESIGN

Data acquisition

With "RYB kindergarten child abuse incident" as the key words, the data from 2017.11.23 to 2018.4.23 on the Weibo platform were obtained and the text data were subject to de-noising processing and data cleansing, finally, a total of 97,040 Weibo posts and comments within 151 days were obtained. Based on the theory of visual rhetoric, the forms of the Weibo posts were divided into cross-combinations of texts + pictures, videos, and links; to facilitate subsequent calculation, classified variables were adopted, for yes it's marked as 1, for no it's marked as 0.

Data processing

First, select the emotional classification criteria. By referring to the emotion classification method in literature, the emotions of the netizens are divided into anger, sadness, dislike, fear and surprise. To verify the hypotheses sidewise, the non-negative

emotions are marked as "Non-negative". In addition, the contents of the Weibo posts were subject to key word statistics, and the emotion classification criteria were concluded as shown in Table 1.

Second, perform pretests. The data analysis team consisted of six people. 100 pieces of data were randomly selected and manually labeled according to the above classification criteria under the condition that there was no mutual interference. Then the data were subject to reliability test and the reliability test coefficient was 0.936, indicating that the manually-labeled emotional results were credible.

Multiple regression model

A multiple regression model was used to study the impact of different rhetorical strategies of media information release on the negative emotions of netizens during emergencies. The basic regression model is:

$$Y_i = \beta_0 + \beta_1 \text{emo} + \beta_2 \text{per} + \beta_3 \text{logic} + \beta_4 \text{pic} + \beta_5 \text{vid} + \beta_6 \text{link} + \beta_7 \text{trans} + \beta_8 \text{com} + \beta_9 \text{like} + \varepsilon$$

The variable description of the model is shown in Table 2.

Table 1. Emotion classification criteria

	Emotions	Key words in this study
Anger	Angry	Heartless, go to hell, death sentence, animal, "!!!"
Sadness	Sad, disappointed, guilty, sorrow	The Party, the Chinese dream, powerful backing, plead innocence, government sarcasm, sad
Dislike	Ashamed, bored, disgraced, hateful, jealous, suspicious	Online water army, sick, bury the lede, duck the topic
Fear	Panic, fearful	Horrible, dreadful, scared
Surprise	Surprised	
Non-negative	Emotionless, joyful (happy, reassuring), good (praiseful, believable, respectful, lovable, sensational, hopeful)	Forward the Weibo posts, trust the government, sit and wait, up, emotionless posts including rumor challenging, believing in the government, waiting for the truth, the laws should be perfected, the qualification of kindergarten teachers should be tightened, emotionless replies to others, irrelevant

Table 2. Description of multiple regression model variables

Variables	Variable names	Variable description
Dependent variables	Yi	Number of emotions
		For each Weibo post, the number of emotions in corresponding comments was taken as the dependent variable, Y1-Y7 respectively represents anger, sadness, dislike, fear, surprise, negative emotion, and non-negative emotion.
Independent variables	emo	Emotional appeal (pathos)
	per	Ethical appeal (ethos)
	logic	Rational appeal (logos)
	pic	Pictures
	vid	Videos
Control variables	link	Links
	trans	Number of Forwards
	com	Number of Comments
	like	Number of Likes
		Label the Weibo posts for whether they contained pictures, videos or links, if yes then marked as 1; otherwise marked as 0.
		Get the data from Weibo using the web crawler program

ANALYSIS OF EMPIRICAL RESULTS

Impact of different rhetorical strategies on negative emotions

The number of negative emotions and the number of non-negative emotions were taken as dependent variables. The results of the regression analysis are shown in Table 3, wherein Model 1 and Model only contain control variables, and Model 2 and Model 4 contain all kinds of variables.

When negative emotions were taken as dependent variables, according to the results of regression analysis, the explanatory ability of the model was 97.34%. After adding the variables of pathos, ethos, logos, pictures, videos, and links, the explanatory ability was 97.54%, indicating that, as a whole, pathos, ethos, logos, pictures, videos, and links have a significant impact on the spread of negative emotions. The symbols of pathos, ethos and logos are positive, indicating that the more the media adopts the rhetorical strategies of pathos, ethos and logos in emergencies, the more the negative emotions of netizens could be alleviated, which has proved sidewise that hypothesis H1 is valid; the symbols of pictures, videos, and links are negative, indicating that the more the media adopts the visual rhetorical strategy of adding pictures, videos, and links in the released information during emergencies, the more the negative emotions of netizens could be promoted, which has proved sidewise that hypothesis H2 is valid. In order to separately explore the impact of these factors on the stock price response of the clarification announcements, t-test was performed as shown in Table 3. The effect of pathos (emotional appeal) was significant at the confidence level of 0.1, and the effect of videos was significant at the confidence level of 0.05, indicating

that the rhetorical strategies of pathos and adding videos can significantly affect the negative emotions of netizens. The above analysis has verified H1 and H2 in this paper.

Impact of different rhetorical strategies on different negative emotions

In order to further study the impact of different rhetorical strategies on different negative emotions, the numbers of emotions of anger, sadness, dislike, fear and surprise were taken as dependent variable respectively for the analysis. The results of the regression analysis are shown in Tables 4 and 5.

When the "anger" emotion was taken as the dependent variable, the explanatory ability of the model was 91.50%. After adding the variables of pathos, ethos, logos, pictures, videos, and links, the explanatory ability was 92.18%, indicating that, as a whole, pathos, ethos, logos, pictures, videos, and links have a significant impact on the spread of the anger emotion. The symbols of pathos, ethos and logos are positive, indicating that the more the media adopts the rhetorical strategies of pathos, ethos and logos in emergencies, the more the anger emotion of netizens could be alleviated, which has proved sidewise that hypothesis H1.1 is valid; the symbols of pictures, videos, and links are negative, indicating that the more the media adopts the visual rhetorical strategy of adding pictures, videos, and links in the released information during emergencies, the more the anger emotion of netizens could be promoted, which has proved sidewise that hypothesis H2.1 is valid. The t-test of the variables shows (in Table 4) that the rhetorical strategies of pathos and adding videos can significantly affect the anger emotion of netizens. The above analysis has verified H1.1 and H2.1 in this paper.

Table 3. Results of regression analysis

Variables	Negative emotions		Non-negative emotions	
	Model 1	Model 2	Model 3	Model 4
<i>trans</i>	-0.005	-0.015	0.141**	0.160***
<i>com</i>	0.914***	0.900***	0.515***	0.523***
<i>like</i>	0.0922***	0.109***	0.302***	0.276***
<i>emo</i>		-0.061*		0.172*
<i>per</i>		-0.013		0.237**
<i>logic</i>		-0.054		0.210*
<i>pic</i>		0.026		-0.077
<i>vid</i>		0.112**		-0.203
<i>link</i>		0.018		-0.043
<i>N</i>	137	137	137	137
<i>R</i> ²	0.973	0.975	0.768	0.788

Note: *** represents $p < 0.01$; ** represents $p < 0.05$; * represents $p < 0.1$

Table 4. Regression analysis results of influencing factors of different negative emotions(a)

Variables	Anger		Sadness	
	Model 1	Model 2	Model 3	Model 4
<i>trans</i>	-0.013	-0.028	-0.032	-0.047
<i>com</i>	0.835***	0.816***	0.879***	0.860***
<i>like</i>	0.154***	0.183***	0.139***	0.162***
<i>emo</i>		-0.124**		-0.105*
<i>per</i>		-0.069		-0.026
<i>logic</i>		-0.130*		-0.064
<i>pic</i>		0.026		0.042
<i>vid</i>		0.149*		0.186***
<i>link</i>		0.030		0.043
<i>N</i>	137	137	137	137
<i>R</i> ²	0.915	0.922	0.953	0.959

Note: *** represents $p < 0.01$; ** represents $p < 0.05$; * represents $p < 0.1$

Table 5. Regression analysis results of influencing factors of different negative emotions(b)

Variables	Dislike		Fear		Surprise	
	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
<i>trans</i>	0.021	0.022	-0.032	-0.053	0.027	0.010
<i>com</i>	1.081***	1.080***	0.877***	0.863***	-0.377***	-0.399***
<i>like</i>	-0.138***	-0.142***	0.025	0.057	1.087***	1.113***
<i>emo</i>		0.047		-0.122		-0.107
<i>per</i>		0.059		-0.191*		-0.033
<i>logic</i>		0.038		-0.235**		-0.052
<i>pic</i>		-0.008		0.105		0.151
<i>vid</i>		-0.020		0.212		0.285*
<i>link</i>		-0.020		0.009		0.060
<i>N</i>	137	137	137	137	137	137
<i>R</i> ²	0.968	0.969	0.773	0.791	0.693	0.703

Note: *** represents $p < 0.01$; ** represents $p < 0.05$; * represents $p < 0.1$

When "sadness" emotion was taken as the dependent variable, according to the t-test results, the rhetorical strategies of pathos and adding videos can significantly affect the sadness emotion of netizens, which has verified hypotheses H1.2 and H2.2. Similarly, as shown in Table 5, when the "surprise" emotion was taken as the dependent variable, the t-test results showed that the rhetorical strategy of adding videos can significantly affect the surprise emotion of netizens, so hypothesis H2.5 is valid.

When the emotions of "dislike" and "fear" were taken as dependent variables, the t-test results of pathos and videos were both not significant, indicating that the hypotheses H1.3, H1.4, H2.3, and H2.4 are not valid.

CONCLUSIONS

Based on the theory of three appeals, this paper quantified the contents of media information release from the perspectives of pathos, ethos and logos, and constructed regression models for the relationship

between media information release and various negative emotions of netizens to study the impact of the contents of media information release on the negative emotions of netizens. The study found that: (1) Applying pathos in media information release can significantly reduce the "anger" and "sadness" emotions of netizens; (2) Applying the visual rhetorical strategy of adding videos can significantly promote the "anger", "sadness" and "fear" emotions of netizens; (3) In terms of pathos, when the media is releasing information, using metaphors, emotional vocabulary, and rhetorical strategy considering the viewpoint of audiences is conducive to weakening the negative emotions of netizens; (4) In terms of ethos, positioning the rhetorical identity as "we" helps to weaken the negative emotions of netizens; (5) In terms of logos, when the media is releasing information, changing or ducking the topics will promote the negative emotions of netizens, while the strategy of first answering the question upfront and then analyzing the reasons is conducive to alleviating the negative emotions of netizens.

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