# Exploring the Impact of the Presentation of Negative Information in the News on Public Sentiment

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Abstract:     The rapid development of social media plays an important role in shaping public sentiment. At the same time, there is a phenomenon of "negative bias" in psychology, which indicates that even when the stimulus intensity is the same, negative things have a greater impact on a person's psychological state and psychological process compared with neutral or positive things, which also indicates that negative information is more likely to influence public mood from another perspective. The theme of this study is to investigate the influence of the presentation form of negative information on public sentiment. The data for the study were obtained from microblogs and some public social platforms. In the process of the study, the data were screened with the help of analytical tools, and the intensity of emotions in public comments was analyzed through text analysis methods, to compare and analyze the impact of different forms of presentation of negative information on public emotions. The results of this study show that compared with the information presented in plain text, the reaction of netizens is more intense and the public's emotional intensity is higher when the information is presented in the form of video text. Therefore, the study concluded that presenting information in the form of video text has a greater impact on public sentiment than presenting information in the form of plain text. Therefore, it is recommended to use a text-only format when publishing social news to reduce negative public emotions to a certain extent.

## 1 INTRODUCTION

The rapid development of social media plays an important role in shaping public sentiment. The improvement of intelligent and personalized service levels of online social platforms provides a broad platform for the public to communicate and discuss public policies (Hu 2023). The main body of communication on online social platforms tends to be socialized, which also indicates that every citizen from official authority, and self-media to every citizen can be the publisher and receiver of information (Wang 2023). The cross-propagation of information in different circles results in the stacking of the information itself as well as the recipients of the information, and the information network becomes more complex, which continues to build up the power for the influence of public policy communication (Long 2023). In psychology, there is the phenomenon of "negative bias", which indicates that when the stimulus intensity is the same, compared with neutral or positive things, negative things have a greater impact on a person's

psychological state of mind, which also indicates that negative information is more likely to affect public sentiment, causing anxiety and panic among the masses.

The research value and significance of this paper are to analyze the impact of different forms of presentation of negative information on social media on public sentiment, to provide ideas for improving and perfecting the mechanism of presenting and pushing information, to alleviate the group anxiety brought by negative information, to better channel public sentiment, and to maintain social stability. This study focuses on exploring the effects of different presentation forms of negative information on public emotions. In terms of research methodology, the specific research method of this study is to screen the comments of the most representative emotions with the help of analytical tools under different forms of presentation of an event, and then further analyze the emotional intensity of the emotions using relevant text analysis methods, to compare the different forms of presenting information, such as video and text combined with the presentation of information or

pure text presentation, to explore the extent of influence of the different forms of presenting information on public emotions. emotion. The ultimate goal of this study is to explore the impact of different forms of information presentation on public sentiment, and to provide ideas for improving the information presentation and pushing mechanism.

## 2 THEORETICAL FOUNDATION

Many news reports in the new media era are presented to the public in diversified ways, and no matter what form they take, they need the support of a news frame. News frame refers to the organizational structure and overall design of news works. Network media use news frames to present the causes and consequences of events, highlight the specific connotations of the report, and use them to express their positions and attitudes. The choice of news frames is based on the editor's insights after perceiving things, and news frames are not only designed to highlight a certain aspect of a news story, but also to maximize the effect of news dissemination, and the emotional impact on the audience in the process of dissemination is the main aspect of this paper's inquiry. Given this theory, this paper compiles the existing related literature and explores the current research status.

In terms of the impact of the dissemination of negative information, some scholars have studied the development of the new media era, as well as the impact of negative information reports on society and the dissemination channels in the new media era. They put forward measures to promote the new media to make the negative information play a positive role in the social life (Zhang and Liu 2024). However, the impact of negative information on public sentiment and the impact caused by the presentation form of negative information is not involved in these aspects, this paper will explore the impact of the presentation form of negative information on public sentiment to supplement the existing research gaps. There is also some existing research that examines what favorable and unfavorable effects the social information environment shaped by network media has on public social cognition (Li 2013). However, not much has been done on the impact of negative information on public sentiment and the impact of the presentation of negative information, and this paper will explore the impact of the presentation of negative information on public sentiment.

In terms of news reporting, an article analyzes the narrative characteristics, language organization strategies, and frameworks of domestic violence online news. It summarizes the narrative presentation and gender bias in this type of news (Liu 2020). However, not much has been covered about the presentation form of this type of case, and this paper will start with the different presentation forms of negative information to supplement this part of the content. A scholar studied the impact of negative information and the benefits and countermeasures of guiding students to objectively recognize negative social information (Shang 2023). However, not much has been said about the form of negative information and its impact on public sentiment, and this paper will explore the impact of the form of negative information on public sentiment to supplement the existing research gaps.

Many scholars have studied the hot topics on social media platforms and the public's emotions towards the information presented, for example, some scholars studied the emotional state and evolution trend characteristics of users on the microblogging platform during the implementation of the "Double Reduction" policy using a machine learning model (Zhang 2024). "Double Reduction" policy through machine learning modeling to study the emotional state and evolutionary trend of users on the microblogging platform during the implementation of the policy, but not much has been covered in terms of the impact of different forms of information presentation on public sentiment (Zhang 2024). Another scholar explored the emotional characteristics and evolutionary laws of public opinion reversal events with the help of the LSTM training model, CLIWC thesaurus, and other tools in his article (Fang 2023). A scholar used QCA analysis techniques to study the influencing factors, mechanisms, and channeling of online social emotions in hotspot public events her article (Zhu 2023). Other scholars compared the impact of two events of a similar nature but with different modes of releasing government information on online public sentiment based on the OCC Affective Cognition Model (Zhang and Zhou 2013). However, the research on the impact of different forms of social information presentation on public sentiment is not comprehensive. A scholar studied the impact of the post-truth era on the dissemination of public opinion and public emotional expression and innovated the methodology and strategy of guiding public emotional expression by mass media. However, not much has been said about the influence of different forms of information presentation on public emotional expression (Huang 2016).

As seen from the above existing literature, some scholars have explored the impact of the narrative

features, language organization strategies, and specific era characteristics of negative information on public sentiment, as well as the impact of negative information on the social life of the public's social cognition, etc. Still, not much has been said about the impact of different forms of presentation of negative information on public sentiment, so this paper will start with the different forms of presentation of information to study its impact on public sentiment. This paper will start from the different forms of information presentation to study its impact on public sentiment, supplementing the existing research gaps. In addition, the current research status, most of which is based on machine learning, and regression algorithms for research, for the text of the emotional aspects of the research is less, this paper is based on the status of this research, the combination of artificial intelligence and text analysis, in the different forms of presentation of the two types of information, respectively, on the social media comment area of the user's comments on the random capture, the use of artificial intelligence software to analyze the comments of the initial screening, and get the most representative emotions of the event. The comments of the most representative emotions of the event are obtained, and then these comments are analyzed emotionally, starting from the frequency of extreme words, strong emotional words, and other words related to emotional expression, as well as the correlation between the use of punctuation and the expression of emotions, to analyze the emotional intensity of the emotion, to effectively compare and analyze the degree of influence of the different forms of presentation of the negative information on the public mood.

## 3 RESEARCH METHODOLOGY

### 3.1 Case Background

In the past few years, wife-killing cases have appeared in the public's view, such as the case of a pregnant woman falling off a cliff in Thailand, the case of wife-killing in Hangzhou, the case of wife-killing and hiding a corpse in Shanghai, etc. To a certain extent, these bad crimes have caused many netizens to be angry and panicked, and so on. Internet news research on "wife murder" cases generally adopts the methods of case analysis, word frequency analysis, questionnaire survey, narrative research, frame analysis, and so on. Framing theory, narrative research, and discourse analysis are the most common methods. By analyzing the frames of the reported text

and mining the discursive information therein, it can understand how the public perceives the case. According to Berg, discourse analysis has the advantage of presenting a complete picture of social phenomena over a long period, and it is the most effective research method when intending to portray the image of women in the media over some time, or even across centuries. In addition, with the help of discourse analysis, the implicit and explicit contents of news reports can be explored at the same time, which reduces the cost of research. Therefore, for a study on the news coverage of the "wife-killing" case, if the sample size is large, the period is long, and the degree of diversity of the reported text is high, then the combination of news discourse analysis based on framing theory and narrative research is a reliable research method.

For the case of Hangzhou wife murder, many official media have reported on it, and the form of the report is mostly presented in a combination of pictures and text and a combination of video and text. According to reports, in the early morning of July 5, 2020, the suspect Xu Guoli due to emotional, economic, trivial, and other family life conflicts, in Hangzhou City, Jianggan District, Sanbao Beiyuan home, while his wife Moumou was asleep when he killed her, and in the bathroom will be dismembered after the body dispersed and abandoned, and part of the body tissues through the toilet flushed into the septic tank. July 30, Hangzhou Municipal Public Security Bureau suspected intentional homicide to submit to the approval of the arrest of suspects the suspect Xu Guoli, meanwhile, after reviewing that the suspect Xu Guoli's crime is cruel and of a bad nature, has been suspected of intentional homicide, decided to approve his arrest on August 6th. The report came out, caused extensive discussion in the comments section, and to a certain extent provoked public anger, and even some netizens in the comments section to use more intense language to express their emotions.

### 3.2 Research Process

Based on the representative news cases covered in the above text, the extent of the impact of different forms of information presentation on public sentiment is explored. By analyzing the comment section of the wife-killing case, this paper randomly selected 200 comments, which were all from People's Daily and China News Network. Using the analysis tool to screen these comments, mainly screening the news comments of video-text combined presentation of information and the comments of pure textual news presentation and screening the 10 most representative

emotional comments among the comments presented in each of the two situations.

To analyze the intensity of the sentiment text analysis method was used. First, a sentiment analysis tool was used to determine the sentiment category of each comment, such as positive, negative, or neutral. Then, a sentiment intensity analysis method was used to assess each sentiment category's intensity level. In this way, the sentiment intensity of each comment was obtained and the most representative sentiment comments were selected from them.

By comparing different forms of information presentation it is possible to assess the extent to which they affect public sentiment. First, consider a form of presenting information using a combination of video and text. This approach allows for a more vivid message to be conveyed through a combination of audio, video, and text. The comments in this presentation format were analyzed and 10 of the most representative sentiment comments were selected. In this case, the most representative emotion was "anger" in both video-text and text-only formats. In the video-text posts, the comments expressing anger were more aggressive, with more extreme words, words expressing strong emotions, and more frequent use of punctuation marks such as exclamation points to reflect emotions.

After that explore the way of presenting news with information in text-only form. This approach relies solely on text to convey information and may be plainer and direct compared to the video-text combination. Again the comments under this form of presentation were analyzed and 10 of the comments expressing emotions were selected. The comments expressing anger are more conservative under the posts presented in plain text form. Therefore, it can be tentatively concluded that compared to presenting information in plain text form, under the form of presenting information in video text, netizens reacted more intensely to their anger, and the emotional intensity of anger as an emotion was greater, with a greater degree of influence on public sentiment.

## 3.3 Limitations Analysis

Most of the current research status is based on machine learning, regression algorithms for research, and less research on the emotional aspects of the text, this paper is based on this research status, combining artificial intelligence and text analysis, randomly capturing the user comments in the social media comment area, analyzing them using artificial intelligence software, and initially filtering the comments, and the data obtained. Then the representative comments are sentiment analyzed, starting from the emotional vocabulary to analyze the degree of emotion. This research method has some limitations. First, the selection of samples is limited to the comment section of this particular case and cannot represent the emotional response of the whole society. Second, there may be some subjective factors in the sentiment analysis and emotion intensity assessment method itself. Therefore, it is recommended that future research be conducted in a broader context, considering more cases and different forms of presentation. In addition, qualitative research methods can be combined to gain a deeper understanding of the public's reactions and psychological mechanisms to different forms of information presentation.

## 4 DISCUSSION

The results of this study are that in the form of presenting information in video text, compared to presenting information in text-only form, netizens reacted more intensely to anger, the emotional intensity of the emotion of anger was greater, and the degree of influence on public sentiment was greater. The reason for this result may be the different characteristics of text and video. First of all, text is an abstract symbol, that needs to be read and understood, and has a certain degree of abstraction, while video is more figurative than text, which is a concrete and graphic medium that can directly present events, scenes, and characters; secondly, video is more vivid than text and has a stronger impact on the audiovisual experience, which conveys the information through images and moving images, and at the same time is accompanied by commentary, sound effects and other auditory rendering, which makes it more effective to convey the information. Video conveys information through images and moving images, accompanied by narration, sound effects, and other auditory rendering, bringing visual and auditory double stimulation, these vivid audio-visual effects with impact can attract the attention of the audience, and can directly stimulate the audience's senses, resulting in a stronger emotional response. In contrast, the text needs readers to understand through the imagination, the emotional experience is relatively weak; in addition, the video situation reproduction is more realistic, can realistically reproduce the events, scenes, and characters, stimulate the audience's visual, auditory, tactile and other sensory experiences, so that the audience has a stronger perception and experience, so that they feel as if they were in the realm of the real

emotional experience, and further drive the audience's emotions. Although text can create a situation through description, it cannot achieve the realism and immersion of video; at the same time, video is richer in emotional expression, and the emotional expression in video is more diversified, and it can be conveyed through filming techniques, editing skills, soundtracks, and other ways. These elements work together to create a richer emotional effect. Finally, the video is more interactive, the video can be shared and disseminated through various social media platforms, and the audience can watch while commenting, interacting, and sharing, thus triggering a wider range of emotional resonance. Although text can also be interactive, video is more interactive and can drive public sentiment more broadly. By analyzing the sentiment of these comments and assessing their emotional intensity, it will be able to compare the impact of different forms of information presentation on public sentiment. The results of this study may reveal how public emotional responses to particular events or topics are affected by different forms of information presentation. Further understanding of this will help better understand the impact of information dissemination on social emotions and provide relevant references and guidance for media, platforms, and policymakers.

## 5 CONCLUSION

The result of this study is that in this case, the most representative emotion is "anger" in both the video-text and text-only formats. In the post with video text, the comments expressing anger were more aggressive, with more extreme words, words expressing strong emotions, and more frequent use of punctuation marks such as exclamation points to reflect the intensity of the emotion; however, in the post with text-only information, the comments expressing anger were more conservative, which further leads to the conclusion that compared to the post with text-only information, in the post with text-only information, in the post with video text, the most representative emotion was "anger". The study concludes that in the form of presenting information in video text, netizens reacted more intensely to anger, and the emotional intensity of the emotion of anger was greater, i.e., in the form of presenting information in video text the extent of the impact on public sentiment was greater. This study provides a lot of valuable references for future research in this direction, which can provide certain ideas for further exploring the connection between information and

public emotions and how to better channel public emotions using this connection, for example, future research can further explore the influence of information pushing and information presentation mechanisms on public emotions based on this study.

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