
THE OUTBREAK, DIRECTION AND GUIDANCE OF SENTIMENT: AN ANALYSIS OF COVID-19 PUBLIC SENTIMENT IN CHINA

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ABSTRACT

Since the end of 2019, the COVID-19 epidemic broke out suddenly and spread rapidly around the world. This sudden disease has seriously affected the conventional social system, especially after the media have been controlled, people cannot get sufficient and correct information, at the same time, rumors have spread widely and rapidly on the Internet, these factors led to public panic. Based on the Situational Crisis Communication Theory (SCCT), we analyze 554 comments of users in the two WeChat official accounts of *Caixin* and *the Beijing News* during the period of COVID-19, exploring the relationship between public sentiment and crisis type. The findings reveal the characteristics of crisis events causing public sentiment under different attribution types and form a preliminary model of crisis emotion guidance.

Keywords: *Situational Crisis Communication Theory, crisis strategy, public crisis, public sentiment, COVID-19*

INTRODUCTION

In recent years, public health emergencies have occurred from time to time. Since 2003, high-risk diseases such as SARS, Avian Influenza, Ebola, and COVID-19 have spread across regions and borders. The crisis of public emergencies has seriously affected the normal operation of the social system. At the same time, because the news media is strictly regulated, when a crisis occurs, the information flow is easier to be blocked, and the public in panic is often accompanied by various emotions, such as irritability and anxiety. These emotions not only affect people's rational expression, but also easily lead to social crisis, and then affect the stability of social order. Liu Liqun and Xu Qingqing (2018) found that in China, people usually rely on the government for emotional counseling during crisis events, because the government, as the power representative of the country, is usually responsible for public crisis management, and once the public sentiment is not promptly and effectively managed,

the government will fall into a passive situation, resulting in worse events. Therefore, in the context of China, the significant work of crisis management is not only to deal with crisis events but also to guide public sentiment.

At present, crisis research in China is mainly started from the crisis events in a kind of specific period and started from crisis communication mechanism, crisis perception and crisis response. For example, Ma Chao (2020) investigated the moderating effect of emotional response on the perception of the uncertainty of epidemic by media contact. Wang Ning (2020) investigated the governance differences in three stages of crisis prevention, crisis handling in the first time and crisis handling in the period of large-scale outbreak from the time dimension. In fact, the study of crisis communication in China started late. As Hu Baijing said, SARS in 2003 opened the prelude to the study of crisis communication in China. Correspondingly, researchers in western countries are concentrating on crisis communication strategies, crisis response forms and public sentiment based on different situations. Coombs (1999) held the view that crisis response strategies can be broadly divided into eight categories: an attack on the accuser, denial, excuse, victimization, justification, ingratiation, corrective action, and full apology. In crisis communication, the organization provides timely, consistent and proactive responses to the public, and the damage to itself will be greatly reduced (Liu, Jin & Austin, 2013). With the high frequency of social crisis events, the influence of crisis emotion on organizations has been noticed gradually, and more and more scholars have begun to pay attention to it and study crisis emotion.

With the rapid development of Chinese society, various kinds of crises have emerged, and how to avoid and resolve the crises has gradually become internalized into people's thinking-frame. In this context, effective crisis communication is no longer limited to the crisis itself but must take situational factors into consideration. In the spring of 2020, human society experienced a widespread public health crisis. COVID-19 epidemic disrupted the order and stability of society, and the public was once highly emotional. This paper aims to discuss these questions: (1) What is the situation of public sentiment during COVID-19 in China? (2) What is the logic between crisis characteristics and public sentiment categories? (3) What strategies should be adopted to guide these emotions? Then some constructive suggestions are given based on the research findings.

Emotion, Crisis Situation and Crisis Types

Emotion is defined by the field of psychology as a complex change mode of body and spirit. It is a process including physiological awakening, feeling, cognition and behavior, which is reflected in people's psychological experience and emotional response to a specific thing. It is an active reflection of individual's subjective cognition and judgment of external things and behaviors, including attitude needs, values and interest demands (Tang, 2012). It is human's perception and emotion of things and an important basis for people's judgment, reasoning, and behavioral decision-making (Pescosolido, 2002). Therefore, the public emotional response is the convergence of the public's collective emotions and the embodiment of their demands.

Generally, crises trigger public sentiment. Because the occurrence of a crisis usually affects or even interrupts people's daily work arrangements, and makes people change from the conventional agenda to the crisis agenda. The change is the premise of response, in order to solve the crisis as soon as possible, this change cannot be delayed, which will cause

people's psychological resistance to different degrees (Wang, 2020). Social psychologists emphasize that emotions will affect human behaviors and opinions, but most studies on crisis communication focus on the impact of crisis response strategies on organizational reputation, and less studies pay attention to the emotions experienced by stakeholders in crisis events. To demonstrate the effect of emotion on behavior, Coombs and Holladay (2007) used experimentation to detect people's behavior tendencies in anger situation and found that angry people are easily dominated by emotions and spread negative information, and sympathy is more likely to trigger people's rescue behavior for earthquake victims (Jeong, 2010). Yi Chenhe and Li Bin's research on the generation of netizens' emotions in public opinion crisis events found that: in crisis events, the public's expression of demands and emotions for crisis events will drive the evolution, dissemination and diffusion of events, the way and intensity of such emotional expression have a significant positive correlation with the trust of government image and government behavior. If the government does not guide the sentiment in time, with the generation and spread of such sentiment, the public is likely to gather and fight, which will turn into mass disturbance (Yi & Li, 2021).

Different types of crises have different emotional expressions. Weiner (1985) classified emotions into two categories according to the process of people's interpretation of events: through deep thinking, the emotion produced by formal logic is attribution emotion, and resulting emotion is intuitive, rapid automated, and produced without logic. Generally, most of the public have not felt a deep involvement with those crises, and the emotions generated after getting access to the crisis information are mostly named resulting emotions. As time goes by, based on negative, important and unexpected factors, the emotions generated after the public actively gets access to the whole story and the cause of the incident, are considered as attribution emotions (Choi & Lin, 2009). Taking the spread of major epidemic as an example, the fear generated after hearing about the infectivity and harmfulness of the epidemic is the emotion caused by the event result, which belongs to the resulting emotion. When the public seeks for more relevant information based on some cognitive needs, and finally finds that the spread of the epidemic is due to the hidden information by the government, hence anger arises spontaneously, and the emotion of anger at this time belongs to attribution emotion. When Choi and Lin (2009) did the research on the recall of toxic toys, they made a regression analysis of crisis responsibility and emotion, and found that when attribution is related to responsibility, people will show attribution emotions such as anger, surprise, worry, fear and relaxation. When attribution is not related to responsibility, people will have the resulting emotions such as confusion, vigilance, disgust, shame and sympathy.

Crisis situation is an important cause of different emotions. Kim and Niederdeppe's research on the emotions of college students during avian influenza found that fear and anxiety were the dominant emotions (Kim & Niederdeppe, 2013). Ngai and Jin (2016) analyzed the emotions of Sina Weibo netizens toward Asiana Airlines plane crash, and found that anger was the dominant emotion. Lazarus (1991) studied several different types of crisis events and found that anger, fear, anxiety, guilt, shame and sadness are six common emotions in crisis situations. To understand the organization-public crisis communication, Jin, Pang and Cameron (2012) found that four of the six negative emotions (anger, fear, anxiety and sadness) are the most common dominant emotions of the public in the case of organizational crisis. In a crisis situation, these four main negative emotions are also considered as important factors of crisis responsibility and relationship trust. Based on the characteristics of China's crisis events, Zhang Jiehai and Wu Ying (2014) concluded that the most common public emotions

in China's crisis events are anger, fear, anxiety, dissatisfaction, resentment and distrust. Based on the above, the following research question is proposed: When COVID-19 spreads, how does public sentiment appear? (RQ 1)

Emotion, Attribution and Crisis Communication Theory

After a crisis, it is common logic for people to do attribution analysis. In the field of social psychology, people conduct attribution based on the controllability, stability, and responsibility of events. When incidents are considered to be intentional, the public will be angry. Conversely, when incidents are caused by uncontrollable factors and happen occasionally, people are likely to respond with sympathy (Wang & Chu, 2012).

Based on the public's perception of crisis responsibility, Coombs regarded crisis responsibility as crucial to crisis situation and crisis strategy links. By summarizing the types of crisis involved in existing research, he obtained a list of crisis classifications with 13 categories. Through experiments, he extracted three types of crisis based on responsibility, controllability and predictability: victim crisis, accidental crisis and preventable crisis, and put forward the Situational Crisis Communication Theory (SCCT) (Coombs & Holladay, 2002). SCCT holds that because organizations and stakeholders are unfortunate to be damaged, the responsibility of Victim Crisis is less. Accidental Crisis, which is not intentional by the organization, is moderately responsible; Preventable Crisis is considered to be intentional, so the responsibility is the heaviest, it mainly includes behaviors that harm the health, life or property of stakeholders.

Generally, the responsibility of crisis positively affects the negative crisis sentiment. A crisis with heavy responsibility can easily arouse some emotions like anger, dissatisfaction and accusation (Ran & Wei, 2017). From the public's point of view, the crisis of responsibility attribution can be divided into three levels: low responsibility, medium responsibility and high responsibility. Low responsibility crisis is caused by external and non-human intention, natural disasters and accidents are the most typical examples. The public believes that the organization's control over such crises is limited and not subjective, which with less public criticism and neutral or positive evaluation (Maddux et al., 2011). Medium responsibility crisis is deliberately triggered by outside. This kind of crisis usually includes malicious destruction, data tampering, malicious attacks and so on. Such behaviors will directly or indirectly harm the public interest or life safety. This kind of crisis usually causes public anger, accusation, ridicule and other negative emotions. If the organization can prove with strong evidence that it is indeed unable to do anything about the occurrence of the crisis or that it is not related to the crisis, the public will think that the organization's responsibility should be reduced (Coombs, 1998). High responsibility crisis usually occurs within an organization or is triggered by internal personnel. It may be distorted values, fraud, ineffective supervision, improper management, corruption and other behaviors that will put the public in danger or seriously affect the public interests (Jin, Fraustino & Liu, 2016). For example, "Cousin" Xu Caihou incident, salt grabbing incident caused by SARS in 2010 and etc., will arouse public disappointment, resentment, anger, panic and other negative emotions.

Controllability, as another factor of crisis attribution, is usually measured by the duration and severity of crisis. The longer the duration and the higher the severity, the lower the controllability. On the contrary, the controllability is high (Jin, 2010). Smith and Ellsworth (1985) found that: high control crisis situations, public sentiment dominated by fear and

sadness; low control crisis situation, and public sentiment dominated by anger and happiness.

Similarly, stability is based on people's knowledge of the crisis, also known as "predictability". The more information about the crisis is disclosed, the more likely it is to be predicted. Concealing and delaying the release of information by the government is considered to be the main reason for the low predictability of the crisis. The public sentiment of low predictive crisis is dominated by sadness, and the public sentiment in a highly predictive crisis is mostly anger (Kim & Cameron, 2011). Jin (2010) found that there is interaction between controllability and certainty of crisis. When crisis events are with high certainty and high controllability, the public sentiment is mainly anger. When the crisis events with high certainty but low controllability, the public sentiment is mainly sad. When the crisis is with low certainty and low controllability, the public sentiment is mainly fear and fright. Based on the above, the following research question is proposed: During the COVID-19 period, what are the dominant emotions corresponding to different crisis types? (RQ2)

In the theory of crisis situation communication, Coombs (2004) believes that instructing and adjusting information, diminishing strategies, and reinforcing strategies can be adopted based on different situations. It should be noted that the main body of crisis communication in the West is enterprise. In China, due to the national system, the government usually appears as the main body of crisis. Even if the crisis is triggered by the enterprise, the public will still believe that it is caused by inadequate government supervision. Therefore, the main purpose of western crisis strategy is to quell contradictions and protect enterprises, while China's crisis strategy is to maintain social stability and order. After the outbreak of crisis, people will exert pressure on the responsible subjects by public opinion and venting their emotions, so as to realize the supervision and protest of government behavior. Coombs (2007) pointed out: extremely angry groups may cut off ties with organizations and spread negative information of organizations to others. Therefore, emotional management has become an indispensable part of China's crisis management. Based on the above, the following research question is proposed: During the COVID-19 period, how can we effectively guide different emotional types? (RQ3)

Crisis Sentiment and Impact

Crisis situation is an important factor affecting crisis sentiment, and its essence and influence are also significantly different among different crisis sentiments. The essence of anger is that the public perceives the event as demeaning and offensive to themselves, that is, a threat to their own interests and identity. If the violation is intentional, the public is prone to anger; if the event brings irreparable loss, and this loss threatens the individual's survival goal, and the loss cannot find the object of condemnation, the public will easily become sad because of the helplessness caused by the inevitable loss; if the event brings uncertain threats, such as unmanageable losses and uncontrollable situations, the public is prone to panic/fear; when a threat suddenly appears, the public does not have enough time to respond and deal with it, and the crisis is uncertain but does exist, which will lead to anxiety (Zhang & Wu, 2014).

Different emotions affect different aspects of people's response to the crisis. Zhao Yunze and Xue Tingyu (2021) studied the spread of panic in crisis events and found that panic leads to somatic cognitive impairment. When making attributional judgments about crisis, sad people were more likely to attribute situational factors than angry people. Similarly, Han, Lerner and Keltner (2007) found that sadness is more likely to stimulate the evaluation

trend of situational factors, while anger is more likely to stimulate the evaluation trend of personal control. As a result, sad people are more likely to attribute the cause to situational factors, and angry people are more likely to attribute the cause to individual or organization. Bodenhausen, Sheppard and Kramer (1994) found that anger (high certainty emotion) can trigger simple processing, while sadness (low certainty emotion) can trigger systematic processing. Similarly, Tiedens and Linton (2001) found that high certainty emotions (such as anger and happiness) can make individuals have higher predictability of subsequent events and lead to simple processing, while low certainty emotions (such as sadness, fear and hope) can lead to systematic processing.

RESEARCH METHODOLOGY

On December 31, 2019, the information of “unsuspected pneumonia cases and suspected SARS in Wuhan, China” continues to spread on Internet. *Caixin* newspaper first confirmed the authenticity of the news with Wuhan Municipal Health Commission, and reported it from the aspects of epidemic follow-up, expert interpretation, hospital story, epidemic area, causal investigation and so on. *The Beijing News* newspaper went deep into Wuhan Huanan Seafood Market and hospital wards, focused on the impact of the epidemic on all aspects of public life, and tracked the changes of the epidemic in China in real time. The two media organizations’ reports are relatively neutral and objective, and they are the main force of media reporting on COVID-19. Their reports received wide attention, and the readers left their own feelings and opinions in the comment areas of WeChat official accounts. Since January 19, 2020, the WeChat official accounts of these two media have published reports focusing on the pneumonia, and a large number of articles have received more than 100,000 pageviews. In this paper, the first article (2-4 articles per day) published from *Caixin* and *the Beijing News* in WeChat official accounts from January 19th, 2020 to February 8th, 2020 is taken as the research sample. The reasons why we chose this period are that (1) it more clearly reflects the relationship among media, government response and public sentiment in the early stage of the outbreak of COVID-19; (2) sample availability is guaranteed in which 554 emotional words are taken as the research object.

Data Collection Procedure

We relied on manual data collection to analyze all readers’ comments on the first article about COVID-19 on the WeChat official accounts of *Caixin* and *the Beijing News* from January 19th, 2020 to February 8th, 2020 one by one (if the first article without comments, it will be postponed to the next one), and excluded the content unrelated to the reason and emotion, finally coded comments that involve emotions and obvious emotional reasons.

Based on the public’s perception of government responsibility attribution and referring to Coombs’s classification types, the crisis types were divided into victim crisis, accidental crisis and preventable crisis (Coombs & Holladay, 2002). According to the emotional trigger factors, the specific classification is shown in Table 1:

Table 1. Crisis types and description

Crisis type	Crisis name	Description
Victim Crisis	Rumor	Spreading false information (Shuanghuanglian incident, the Red Cross Society's withholding of medical materials, and the discussion on hidden relationship between the boss of seafood market and the government officials)
	Epidemic situation	Pneumonia growth data, harmful effect, etc. (epidemic development and harm)
	Workplace violence	Patients' attacks on doctors and managers (medical troubles)
	Factors undermining prevention and control	Behaviors and natural factors that are not conducive to prevention and control (people's weak awareness of protection, accelerated flow of people during Spring Festival travel rush, inferior mask, supply shortage, unreasonable allocation of materials of the Red Cross Society, identity information leakage of Hubei people, discrimination to Wuhan people)
Accidental Crisis	Damage to the prevention and control effect caused by the methods	Crisis response ability, epidemic prevention and control, wildlife trade control
	Rescue effect caused by methods	Information release, information lag
Preventable Crisis	The effect of epidemic prevention and control is damaged due to intentional behavior or incorrect values	Many people at the Baibuting have fever, a banquet for 10,000 people, and relevant officials know nothing about the epidemic situation
	Acts that cause harm to the public or innocent individuals	Li Wenliang incident, information concealment

As to crisis emotions, we used the five most common emotions based on the characteristics of China's crisis events, which are classified as anger, sadness, panic/fear, anxiety, and dissatisfaction (Zhang & Wu, 2014), then classified and summarized the sample emotions according to the sentiment vocabulary library of DUTIR.

Reliability

To establish coding reliability, we recruited and trained two coders before formal coding until the two coders had almost the same understanding of the coding instructions. Two coders analyzed 40 reader comments except the research sample. The inter-coder reliability of all coding categories was 0.85 under the Cohen's kappa algorithm, and the coding consistency

of single variable was between 0.95 (crisis type) and 0.80 (emotion type). After resolving the differences, we adjusted the unclear instructions in the coding rules and discussed the unidentified content. After reaching a consensus, we divided the remaining samples in half and encoded them by two coders.

FINDINGS

On January 18th, 2020, COVID-19 incident entered the public eye through media, and then continued to spread. Until February 8th, in these 22 days, among the samples collected by the official accounts of *Caixin* and *the Beijing News*, 554 comments involved emotional expression, accounting for about half of the total. On average, there were 25 comments related to emotional expression in first article per day. Overall, anger is the main public sentiment, followed by dissatisfaction, distrust and anxiety are in the middle, and resentment and other emotions are less (Table 2). This is consistent with the findings of Choi and Lin (2009). Such incidents that threaten public interests usually lead to attribution emotions such as anger and dissatisfaction based on deep thinking and logical reasoning. In the early stage of the epidemic, such attribution emotions also included distrust and resentment. At the same time, it is accompanied by resulting emotions based on direct reaction, mainly reflected in anxiety.

Table2. Proportion of emotions in the sample

Emotional types	Quantity	Proportion (%)
Anger	212	38.27%
Dissatisfaction	188	33.94%
Distrust	72	12.99%
Anxiety	138	24.91%
Resentment	51	9.21%
Other	46	8.30%

Public Sentiment When COVID-19 Spreads

At different stages of the epidemic development, there are significant fluctuations in public sentiment, and the emotion is related to the activation of the crisis situation. According to Chart 1 (Time-Sentiment), the development of the epidemic can be divided into early germination and mid-term development. At the initial stage of the epidemic (January 19-January 28), the public just knew the epidemic, and their anxiety was obvious. At the same time, the dissatisfaction and distrust during this period reflected the backlog of emotions caused by the existing social structure that has not solved similar logical problems for a long time. This kind of emotion mainly points to the preventable crisis, and the long-term accumulated problems are mostly caused by the failure of organizational managers to solve problems in timely and thoroughly. With the passage of time and the intervention of mass media, the public gradually got access to the epidemic information, the emotions of anger, anxiety and distrust increased significantly.

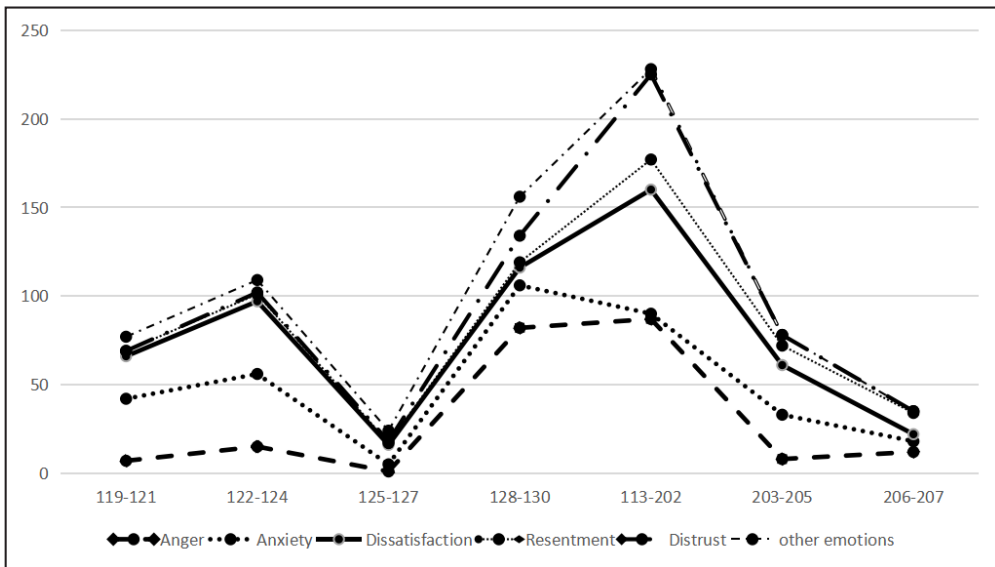


Chart 1. Time-Sentiment

According to Chart 2 (Incident-Sentiment), the study found that after the epidemic situation was known, the public shifted their attention to rescue and protection. From January 29th to February 1st, many incidents like Dr. Li Wenliang passed away, the Red Cross Society organized donations, Huanggang officials were ignorant of the epidemic situation as well as medical trouble led to anger, dissatisfaction and distrust among the public, then the incident of inferior mask triggered a small climax of dissatisfaction and anxiety. Compared with several peaks of high emotions, the study found that the anger caused by the dereliction of duty of public power in the early stage (officials' ignorance and information lag) was much lower than the behaviors that affected the rescue caused by others (medical trouble and inferior mask). From the perspective of responsibility direction, people pay attention to the maintenance of their own interests and the performance of government responsibilities, and the crisis sentiment shows an attribution trend from "induced by external factors" to "induced by internal factors". To some extent, the dereliction of public power reflects the attribution of the high degree of the government's responsibility. Such crisis is considered to be the behavior of the responsible person who knowingly puts the public in danger or seriously affects public interests, such as distorted values, fraud, lack of supervision, mismanagement, corruption and so on (Jin, Fraustino & Liu, 2016). Such emotions of dissatisfaction, anger and distrust are in response to controlled or uncontrolled situations caused by the organizers.

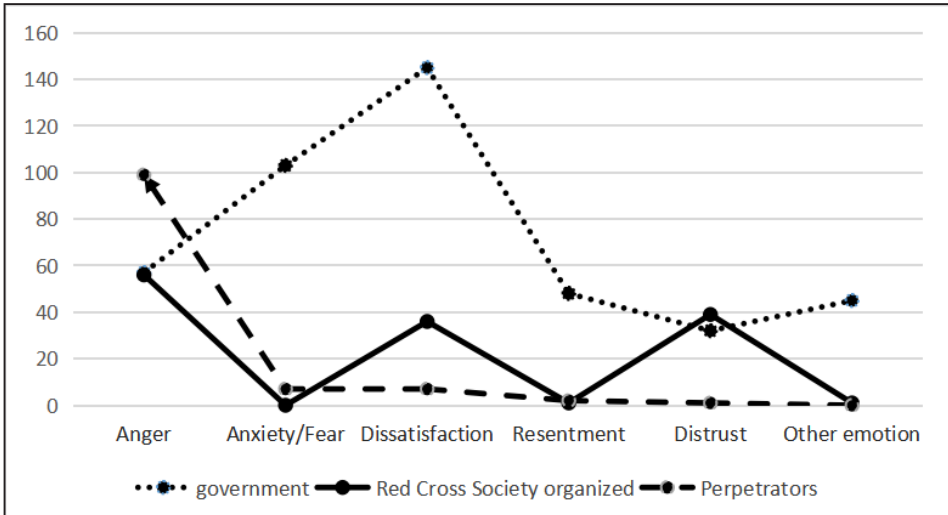


Chart 2 Incident-Sentiment

Similarly, in terms of emotional object (Chart 3: Sentiment-Object), the government is the most powerful influencer of the public’s emotions, followed by the Red Cross Society, which affects the promotion of relief materials, and finally it is the public (people do not wear mask and sell inferior mask, etc.). According to specific incidents, emotions reflect the gradual change from incident crisis to structural crisis. On the surface, these are just some incidents (the Red Cross Society failed to organize rescue, the government did not respond in time, and the news was concealed, etc.). However, the fundamental problem caused by these emotions is why there are such “structural” social problems, policy loopholes and even institutional defects (Tu & Chen, 2013). To some extent, the cognitive logic of the public is related to the controllability degree of the crisis and the leading subject of the incident, specifically: controllability of government-led incidents > controllability of Red Cross Society-led incidents > controllability of other perpetrators-led incidents.

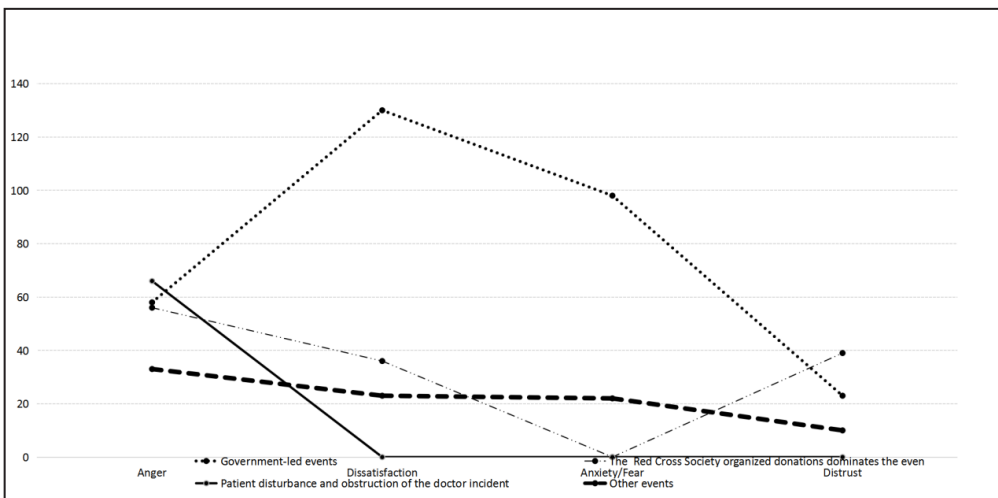


Chart 3 Sentiment-Object

During the development of the epidemic, crisis situations and crisis management strategies determine people’s perception of crisis responsibility (Coombs & Holladay, 2002). In the Chart 4 (Crisis Type-Sentiment), it is found that the government’s performance becomes a barometer of public sentiment, and this change reflects the effect of the government’s strategy in coping with the crisis. Those situations that the government is believed to be innocent and unfortunately victimized, as the type of victim crisis, the public emotion is mainly anxiety; the accidental crisis that is considered to be the responsibility of the government to a certain extent, but it is not deliberately caused by the government, the public sentiment is dominated by dissatisfaction; the kind of preventable crisis that has seriously damaged public life, health and safety, which is considered to be knowingly committed by the government, arouses the public emotion mainly anger.

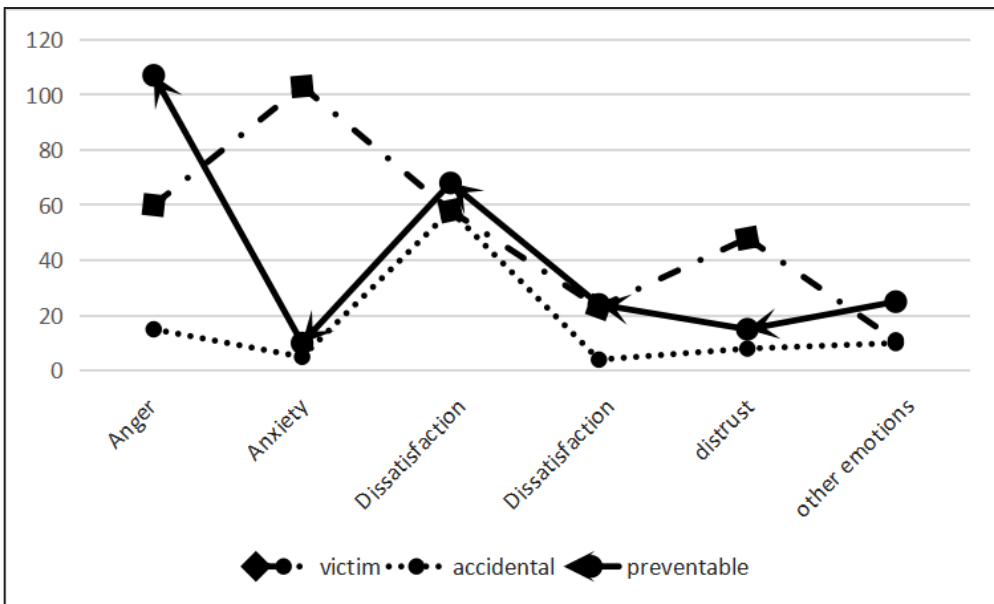


Chart 4 Crisis Type-Sentiment

Dominant Emotions During COVID-19 Period

Anger and dissatisfaction: lack of ability to resolve crisis affairs VS protest caused by illegal interference factors.

Anger is usually caused by others’ negligence or even deliberateness, which leads to the individual’s perception of being violated or belittled, reflecting a characteristic of intentional mistakes (Coombs & Holladay, 2002). In the situation of epidemic crisis, public anger usually points to the announcement of epidemic news, the rescue of disaster victims, and the prevention of epidemic situation. According to object sources, they can be classified into three categories: the first one is the inaction or slow action of the government after the epidemic outbreak; second, medical trouble and innocent people being hurt in the process of rescue; third, businessmen’s speculation and price gouging. In fact, the sources of public anger are complex and diverse, which cannot be fully covered. In the coding of this study, if the comment is emotional expression, it is necessary to clarify who it is angry to, and if the

expression without specific object, it will be regarded as the direction towards the incident reported by the article. This also warns the commonly used emotion analysis: emotion research often digs a large number of samples from the network through machines for analysis, but rarely discuss the specific objects that emotions point to. Although we admit that emotional expression is based on the same trigger point, we cannot ignore that there are differences in its direction of anger. For example, in the face of the growth of epidemic data, some people are angry at the irresponsibility of officials, and some people are angry at others who like to eat wild animals.

In this study, taking government organizations as the main body, we distinguish the crisis types according to the specific objects that cause public sentiment. As shown in Table 3, public anger mainly points to the crisis that can be prevented by the organization, followed by the crisis caused by values or operation methods, and the anger towards the victim crisis is the least. Specifically, the public's anger and dissatisfaction mainly point to the failure of Wuhan government to fight against the epidemic (trying to cover up, the city is on lockdown suddenly; the lockdown of the city late, ineffective control of population flow; delayed information leads to a sharp increase in the number of patients and various banquets, etc.), and the public opinion control as well as stability awareness first (Li Wenliang incident, information concealment, information lag). Public dissatisfaction is mainly caused by preventable crisis, followed by accidental crisis, and finally by victim crisis. However, it is worth noting that the victim crisis index in anger is higher than the accidental crisis index, because the angry objects include the government and other people who affect the rescue of the epidemic (the rumor of Shuanghuanglian's treatment).

From the comments, we can see that anger/dissatisfaction will be accompanied by a preference for organizational and personal attribution. It is easy to attribute the spread of the epidemic and the inconvenience of life to the factors of the government's incompetence and the inaction of officials, at the same time, the public also accused them and hoped to punish them severely. For example, Li Yang: "This must be held accountable, it hurts people too much."; Beijing Jingtie Hengtong Logistics Co., Ltd.: "Wuhan is covering up the truth! Relevant personnel should be held accountable."

Anxiety and fear: helplessness caused by the unknown epidemic situation and poor information.

Compared with personal emotion, public sentiment is often regional and contemporary and is more easily triggered by the social environment, social system and specific social events (Zhang & Wu, 2014). In a crisis situation, when the public cannot control and predict the development of the crisis and cannot deal with the losses quickly, anxiety and fear will arise.

This study found that after the occurrence of the Covid-19 epidemic, the information lag far behind the spread of the virus. The official information remained silent, which gave the public the illusion of "not serious and not harmful" in the early stage. With the lack of prevention and control in Chinese Spring Festival travel rush and the untimely disclosure of information, the tragic extent of the disaster was exacerbated. From table 4, the development and harm of the epidemic situation are the fundamental factors of public fear and anxiety, information concealment and lag are the main factors that cause fear/anxiety, and the objective environment (Spring Festival travel rush) that affects the spread of the epidemic is the secondary factor.

Table 3. Dissatisfaction and anger caused by different crisis types

Crisis type	Dissatisfaction content	Dissatisfaction quantity	Total	Anger content	Anger quantity	Total	Quantity of dissatisfaction and anger	Proportion
Preventable Crisis	The banquet at the Baibuting caused many people to have fever	16	72	Information lag	2	27	101	47.42%
	Information concealment	19		Information concealment	10			
	Information lag	20		The officials know nothing about the epidemic	11			
	Reprimand Li Wenliang	13		Have a party	1			
Accidental Crisis	Wildlife trade control	4		Banquet for 10,000 people	3			
	Epidemic development and harm	6	64	Epidemic prevention and control	9	15	79	37.09%
	Epidemic prevention and control	22		Ability to resolve crisis affairs	6			
	Ability to resolve crisis affairs	36						
Victim Crisis	Leakage of Hubei people's information	3	15	The banquet at the Baibuting caused many people to have fever	1	18	33	15.45%
	Shuanghuanglian rumor	3		Information concealment	2			
	Wuhan people are discriminated against	1		Li Wenliang died	13			
	Supply shortage	8		Shuanghuanglian rumor	2			
Total		151		60		213	100.00%	

Table 4. Fear/anxiety caused by different crisis types

Crisis type	Crisis Content	Number of fears/anxieties	Summation	Percentage
Victim crisis	Epidemic development and harm	86	105	88%
	People’s awareness of protection is weak	3		
	The Spring Festival travel accelerates the flow of people	12		
	Poor quality mask	2		
	Supplies are tight	2		
Preventable crisis	Information concealment	6	10	8%
	Information lag	1		
	The banquet at the Baibutng caused many people to have fever	1		
	Reprimand Li Wenliang	2		
Accidental crisis	Epidemic prevention and control	4	5	4%
	The ability to respond the crisis	1		
Total		120		100%

From the perspective of crisis types, when the government appears as a victim, fear/anxiety is most easily triggered. From the perspective of comment content, the public’s attribution to the incident comprehensively considers the subjective and objective factors. The public believes that the spread of the epidemic is caused by natural disasters and man-made disasters, and this situation cannot be reversed by one’s own power, which is accompanied by blindness and irrationality, with obvious behavior tendency, such as “afraid to go out”, “snapping up”, “believing rumors”, etc. Therefore, this emotion is easily accompanied by collective behavior. For example, Cui Wenqian: “Hurry to buy Shuanghuanglian”; Sophie: “It’s really terrible that the virus spread during the Spring Festival travel rush”; and Zhenglanqi Yuan Jing: “Wuhan Municipal Government should be responsible for this, because the epidemic situation is not announced in time and the epidemic control is not effective, which makes the virus spread all over the world”.

Distrust: protest caused by high authority and violation of convention.

In crisis situations, distrust is mainly caused by the government or organizations. This study found that during Covid-19 epidemic, the Red Cross Society’s ability to distribute and mobilize relief materials, the government’s ability to prevent and control epidemic, and information disclosure finally led to public distrust. It is found from table 5 that the degree of distrust caused by preventable crisis is much higher than that caused by accidental crisis and victim crisis.

From the comment content, distrust emotion is accompanied by negative incident preference. When the public distrusts the organization, detailed attribution in any mistakes will be ignored by the public. Based on stereotypes, it is simply and rudely considered that

the organization is the initiator of the crisis. In terms of behavior tendency, they tend to spread the negative image of the organization. For example Qin Li: “Defend, prevaricate and find excuses”; Zhang Di: “Investigate carefully to see if there is any doubt”; Leng Shan: “selfishness leads to the disaster” and so on.

Table 5: Distrust caused by different crisis types

Crisis type	Crisis Content	Number of distrust	Crisis Content	Percentage
Preventable crises	Information disclosure lag	2	13	22.41%
	Information concealment	1		
	The banquet at the Baibuting caused many people to have fever	3		
	Reprimand Li Wenliang	7		
Accidental crisis	The ability to respond the crisis	1	1	1.73%
Victim crisis	The Red Cross Society donated masks to non-standard hospital	23	44	75.86%
	The Red Cross Society withheld medical supplies	11		
	The boss of South China Seafood has hidden relationship with the government officials	4		
	People in Wuhan were discriminated against	6		
Total			58	100%

Guidance for Different Emotional Types

In the crisis situation, in addition to the harmful factors caused by the crisis itself, the secondary crisis caused by the original crisis or the governance process is also an important aspect of the government’s attention to maintaining order. Emotion is full of evaluation of incidents, and public sentiment is highly mobilized (Guo, 2019), which is an important factor affecting public judgment and behavior tendency. Through the study, we found that there are differences in emotional categories caused by different crisis types.

Victim type crisis, because of its low sense of responsibility, controllability and prevention, rarely affects the reputation of the organization, but this kind of incident poses a great threat to the property safety of the public. As the main body of governance responsibility, the government needs to take action quickly. Otherwise, in addition to the fear and anxiety of the incident itself, the public may also have other negative emotions. For collective behavior caused by helplessness and panic, the government should make information transparent, and strengthen the authoritative information guidance (Sui & Li, 2012).

Accidental crisis has medium responsibility, low controllability and low prevention. First of all, the organization needs to respond to the crisis as soon as possible, but due to the

public’s simple attribution preference, the government should release the result as well as the reason quickly and carefully. It should be noted that careful release does not mean slow release. Otherwise, on the one hand, it will arouse the public’s suspicion and distrust, on the other hand, the slow release of information is easy to awaken the memory again after the public forgets, and further strengthen the fixed thinking and stereotype, so as to deepen the misunderstanding between the public and the government, and even destroy the credibility of the government. Finally, it is necessary to make up for mistakes and summarize experience to avoid repeating the same or similar problems and causing public distrust of the government (Coombs & Holladay, 2002).

Table 6: Crisis sentiment guidance model

Crisis type	Sentiment category	Characteristics of public behavior	Sentiment guidance strategy
Victim crisis	Fear, anxiety	Helpless, rumor, collective behavior	Release transparent information and authoritative guidance
Accidental Crisis	Dissatisfaction	Simple attribution, tend to blame, punishment	Solve problems as soon as possible, hold those responsible accountable, and give reasonable explanations
	Distrust	Simple attribution, spread of negative comments	Issue a statement in time, making up for mistakes, solve problems, make plans to avoid making the same mistake again
Preventable crises	Anger, dissatisfaction	Tend to blame, punishment	Solve problems in time, hold those responsible accountable, and give reasonable explanations
	Distrust	Simple attribution, spread of negative comments	Issue a statement in time, making up for mistakes, solve problems, make plans to avoid making the same mistake again

Preventable crisis is highly controllable and responsible. The most important emotions of the public are anger and dissatisfaction. From the perspective of attribution, such crisis is triggered by organization. It is a catalyst to gain negative reputation and trigger negative public behavior. Hence in terms of liability, in addition to making an apology, it is also necessary to quickly complete the accountability of the responsible person and the responsible organization in order to reply to the public’s imputation mentality. Therefore, based on the common negative crisis emotions, we can initially establish a crisis emotion guidance model (Table 6).

DISCUSSION AND CONCLUSION

In crisis incidents, the government response is the main influencing factor of public sentiment. Under this logic, the government is the main role in channeling public sentiments. These sentiments mainly point to the disclosure of epidemic information as well as crisis response and governance, which actually point to the controllability, predictability and responsibility of the crisis (Smith & Ellsworth, 1985). Specifically, in terms of crisis types, the fear/anxiety caused by the victim crisis with low controllability, low predictability and

low responsibility is mainly due to the lack of disclosure of information. People perceive that the crisis is highly uncontrollable, which is prone to collective behaviors such as “snapping up” and “rumor spreading”; accidental crisis with low controllability, low predictability and high responsibility causes the highest degree of dissatisfaction; preventable crisis with low controllability, high predictability and high responsibility causes the highest degree of anger. Anger and dissatisfaction mainly point to the government’s ability to cope with the crisis and other factors that interfere with the epidemic management. Driven by anger and dissatisfaction, the public tends to show a preference for blame and punishment. Besides, the distrust caused by preventable crisis is much higher than that caused by accidental crisis and victim crisis. When the main body of crisis loses credibility, it is easy for the public to simply attribute the crisis responsibility, and even spread the comments that are detrimental to the image of the organization.

Negative emotion is actually the derivative of pain. The suffering of the public seems to be the tension and conflict at the subjective level, but it is often the structural contradiction at the deep level of society (Yuan, 2017). During the spread of the epidemic, anger, dissatisfaction, anxiety, fear and distrust also reflected the existing social structure problems to a certain extent. The public’s evaluation and cognition of incident stems from the attribution of the incident. The expression of different emotions shows people’s different understandings of incident. For example, in the same face of COVID-19, people who feel concealed think it is a result of natural and man-made disasters, but fatalism people believe that this is an arrangement of fate and all people are innocent. China is a centralized country and the Communist Party of China (CPC) is in power. Since the founding of the Party, CPC has given people numerous positive “solemn promises”, such as “democracy”, “fairness” as well as “well-off society”. Therefore, compared with other countries, in the process of crisis management, the government, non-profit organizations and the media are the main bodies of crisis guidance and crisis handling, and they are the expectations of the public. The public’s “pain” will be a challenge to the commitment made by CPC before. As the main body of crisis management, the government’s behavior has naturally become the focus of public attention and the fuse of public sentiment.

The emotion caused by crisis incident is closely related to the type of crisis, and different types of crisis regularly dominate the crisis emotion. Therefore, in similar crisis incidents, the model obtained in this study has strong adaptability, which is able to provide constructive suggestions for the organization’s public crisis management, and also provide a possible way to improve the government’s ability to deal with public crisis incidents. However, in order to effectively distinguish the emotional direction, the study relied on manual coding, which failed to conduct large sample size research. Our research on user comments of the WeChat official account of these two media is just the tip of the iceberg. The 554 emotional samples are just a sketch to outline the public sentiment regular pattern in the early and developing stages of the epidemic. If future research can increase the number of research samples or adopt the experimental method, more intuitive results can be obtained on the relationship between emotion and crisis type.

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