

## **Visualizing Crisis Management: Crisis Experience, Concern, and Training in China**

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*China's increasing international prominence has prompted additional research on how Chinese firms manage organizational crises. The purpose of this paper is to identify patterns of concerns and experiences with crises in China. We report on a survey of 105 managers and non-managers in China about their experience and concern with crises in their firms. Our analysis underscores three key findings. First, one's concern about a crisis is strongly associated with one's experience involving that crisis. Second, views about crisis experience and concern differ between employees in state-owned enterprises (SOEs) and non-SOEs. Finally, despite these differences, perspectives on crisis training among SOE and non-SOE firms are similar. This paper augments the literature by identifying relationships among crisis experience, crisis concern, and training in Chinese organizations.*

*Keywords: Crisis management, crisis training, China, SOE, behavioral economics.*

### **Introduction**

Firms with managers that anticipate and manage crises effectively tend to outperform their peers (Bhaduri, 2019; Bowers et al., 2017; Gallagher, 2017). Effective crisis planning, preparation, and training can help organizations circumvent some crises and mitigate the impacts of others (Bundy et al., 2017; Coombs & Holladay, 2006). However, crisis management is more challenging for some organizations. Crisis experience, training, and concern can vary widely because of firm, industry, and national differences (Crandall et al., 2020; Topaloglu et al., 2013). Understanding these factors can help explain why gaps in crisis preparation exist across firms and how they can be addressed.

Scholars have conducted considerable research on crisis management, but additional work is required in emerging nations like China, especially among state-owned enterprises (SOEs) (Ma & Christensen, 2019). We are interested in how SOEs and non-SOEs operating in China differ in their experiences and perceptions concerning specific crises and how their views and experiences differ from their Western counterparts. One reason for our interest is the buffering effect that may exist for SOEs vs. their non-SOE counterparts. This exploratory investigation informs our understanding of how state ownership influences crisis management in China.

With the continuous development of China's market economy and Internet technology, information has become more symmetrical (Li, 2020). Crisis management has become common in both SOEs and non-SOEs. Chinese firms are more accustomed to monitoring online information, modifying strategic plans, and preparing emergency plans in line with recent management developments (Kong & Zhao, 2018; Wang & Tang, 2019).

We selected China for this study for three reasons. First, the Chinese economy relies heavily on state-owned enterprises. The number of Chinese SOEs on the Fortune Global 500 increased from 27 to 102 between 2000 and 2017 (Lin et al., 2020; Tian & Zhang, 2019). China's increased prominence in global business has attracted more scholarly attention to issues ranging from disaster management to resilience (Hillmann & Guenther, 2021; Sawalha et al., 2013). Indeed, organizations encounter more problems when they operate in emerging and unstable markets (Gu & Chen, 2007; Passaris, 2011; Ye & Pang, 2011).

Second, Chinese SOEs have suffered notable crises recently, including those triggered by the Covid-19 pandemic. In addition to using government and media relations to conceal information, SOEs often achieve protection by working with local governments. Moreover, some organizations have sought to manage crises internally before revealing them to the public (Fan, 2008). With the continuous development of China's market economy and Internet technology, information has become more symmetrical. China's political system is unique and complex, but crisis management has become common in both SOEs and non-SOEs (Lin et al., 2020; Parnell & Zhang, 2017).

Finally, the economic contribution of non-SOEs has been increasing in recent years. The private sector contributes approximately 70% of output, suggesting that informal business practices such as *guanxi* appear less influential (Atherton & Smallbone, 2013). It is imperative to shift the focus from a reactive mode to a prevention framework and develop a robust crisis management system.

Small Chinese firms may suffer from inadequate crisis management strategies in complex and dynamic markets (Yang & Jiang, 2015). Organizations are less able to manage and cope with crises without effective alternatives. Such a vulnerable system may result in disasters, disturbances, and critical contingencies (Zhong 2007). Chinese non-SOE managers have limited access to adequate management methods and practices (Atherton & Smallbone, 2013). The response of private firms hinges on idiosyncratic characteristics such as corporate structure, business orientation, and communication mechanisms (Joseph, 2013; Pang et al., 2018).

## **Research Question**

This aims to identify patterns about concerns and experiences with organizational crises in China. Our investigation addresses three research questions: (1) Does one's crisis experience affect the level of concern for future crisis events? (2) How do individuals in SOEs and non-SOEs in China

differ in their levels of crisis experience, training, and concern? (3) Do individual crisis experience and crisis concern influence perceptions towards crisis training in China? Our work contributes to the literature by examining levels of experience, concern, and training among managers and non-managers in China.

### **Defining Crisis Management**

An organizational crisis is a low-probability, high-impact event that threatens an organization and its stakeholders. It is usually perceived as unexpected, can damage the organization considerably, and requires a decisive, effective response (Crandall et al., 2020; Mitroff et al., 1987; Pearson & Clair, 1998). A poor response can seriously jeopardize an organization's performance and reputation (Coombs, 2007; Coombs & Holladay, 2006; Coombs & Laufer, 2018). Managing a crisis requires an approach to decision-making that extends beyond routine processes. Indeed, crisis management has been conceptualized as the management of exceptions (Pearson & Mitroff, 1993; Roux-Dufort, 2007).

Crisis management is an interdisciplinary field and includes research from disciplines such as strategic management, organizational behavior, business finance, public relations, risk management, and disaster management. Organizational crises embody direct and indirect financial risks, including lost revenue, production stoppages and slowdowns, reputational threats, employee departures, and substantial costs. The range of outcomes depends on the crisis (e.g., a natural disaster, a widespread boycott, ethical lapses, or product defects), but they threaten the organization's long-term viability (Institute for Crisis Management, 2020; Parnell, 2021; Shen et al., 2020).

The crisis management field includes how an organization anticipates a crisis, addresses the event, and follows through afterward. Scholars have investigated ways organizations can enhance crisis readiness and preparation (Elsabbagh et al., 2004; Herbane, 2013; Parnell & Crandall, 2020; Parnell et al., 2010; Rousaki & Alcott, 2007). High reliability organizations avoid and navigate crises more effectively than others due to hypercomplexity, tight coupling, high managerial accountability, robust feedback mechanisms, and other structural facets (Weick & Sutcliffe, 2006).

Effective crisis management requires action before, during, and after a crisis event. When avoiding a crisis is not feasible, firms should mitigate the adverse effects and learn from the experience after the crisis recedes. Astute firms appoint crisis management teams (CMTs) to develop plans and assess worst-case scenarios before a crisis (Cirka & Corrigan, 2010; Jacques, 2010; Weick & Sutcliffe, 2006). Organizational members should understand their responsibilities and be empowered to manage a crisis when it strikes (Bhaduri, 2019; Crandall et al., 2020; Staupé-Delgado & Kruke, 2018). Effective crisis management also requires managers to make rapid decisions under stress, uncertainty, and complexity (de Waard et al., 2012; Kantur & Iseri-Say, 2012).

Scholars have classified crisis events in several ways. Quarantelli (1988) categorized crisis events as *intentional* (e.g., wars, product sabotage, and riots) or *accidental* (e.g., gas leaks and natural disasters). Crises in both categories can inflict substantial damage to organizations in the short and long terms. Pearson and Mitroff (1993) identified seven clusters of crisis families. *Economic attacks* are external and include extortion, bribery, and boycotts. *Information attacks* are also external and include copyright infringement and counterfeiting. *Mega damage* events are severe

and include environmental accidents and health pandemics. *Breaks* include recalls, product defects, plant defects, computer breakdowns, employee errors, and poor security measures. *Psycho* crisis events include terrorism, product sabotage, executive kidnappings, sexual harassment, and rumors about the organization. *Perceptual* crisis events, such as negative media coverage of an industrial accident, challenge the organization's reputation. Mitroff's updated framework (2005) includes seven crisis families—economic-related, informational, physical, human resources, reputation-related, psychopathic acts, and natural disasters—and is a commonly referenced approach.

The Covid-19 pandemic illustrates how an unusually severe and widespread crisis can have broad performance implications. Many well-known companies worldwide filed for bankruptcy during the aftermath of the pandemic. The list includes such notables as Hertz, Stein Mart, Virgin Atlantic, and Chesapeake Energy. These firms struggled for many reasons, including abrupt changes in buyer behavior, government health mandates, and supply chain interruptions (Clifford & Wahba, 2020; Parnell, 2021; Shen et al., 2020). Some of the positive and negative outcomes can be attributed to industry membership. In general, firms in high-tech industries fared better than those in the hospitality sectors (Fasth et al., 2021; Shen et al., 2020). However, some firms prospered during this time because they were better prepared and could take advantage of new market opportunities created by the pandemic (Bundy et al., 2017; Coombs & Holladay, 2006; Crandall et al., 2020; Glynn, 2021; Parnell & Crandall, 2021).

China's experience with SARS has influenced governmental and organizational responses to Covid-19. Initially, the Chinese government restricted information to reduce societal panic. However, many citizens learned of the epidemic's progress through informal channels, resulting in social panic (Zhong, 2003). After learning from the SARS crisis, China adjusted its outreach approach by increasing information dissemination during the swine flu and Covid-19 incidents, updating data in real-time, and providing additional information as needed. Hence, with all crises, minimizing information does not necessarily reduce stakeholder concern (Gao, 2021). Many Chinese companies have become more skilled in crisis management due to the lessons they have learned from other crisis cases. They are less likely to reject customer complaints instinctively and more likely to face problems calmly, accept responsibility when necessary, and even apologize to constituencies when appropriate. These changes reflect a more mature approach to crisis prevention and management.

### **Chinese Perspectives on Crisis Management**

Firms in China and the West face similar crises but often perceive and respond to them differently (Wang & Laufer, 2020; Zhu et al., 2017). Western crisis management practices do not always work well in China because they are embedded in cultural differences (Yang & Jiang, 2015). In China, one must support others in their social and professional network. China is a collective society with high uncertainty avoidance (Hofstede, 2010; Shen, 2020). Individuals who do not abide by the social norm are often criticized (Huang, 1987; Yang & Jiang, 2015).

Establishing a credible relationship with the government is essential when managing specific crises in China (Wang & Laufer, 2020). Another factor that governs the Chinese attitude toward crisis management is face-saving, a cultural norm that refers to hiding an ugly or shameful event so that it does not go public. Hence, one should remain silent or cover up the facts to prevent embarrassment to the affected person or group (Chan, 2011; Yu & Wen, 2003). Historically, many

Western firms viewed crises from the perspectives of attribution theory and image restoration theory, whereas Chinese firms have emphasized harmony and *guanxi* (e.g., relationships and networks) (Lee, 2004; Ngai & Falkheimer, 2017; Shen, 2020; Yan & Kim, 2015). In the past, practices such as public apologies for missteps were more common in the West than in China (Zhu et al., 2017), but recently, it has been more common in China due to long-term crisis management learning.

Understanding the socio-culture factors in China is essential. Zhu et al. (2017) analyzed how McDonald's and KFC employed social media during their crises in China in 2012. They suggested that crisis management strategies should emanate from context and culture. One of the critical contextual factors is power distance, which measures the degree that individuals in a country accept hierarchies of authority and power (Hofstede, 2003). Chinese culture is characterized by high-power distance, collectivism, and authoritarianism, while Western culture values low-power distance, open dialogue, individualism, and democracy (Hofstede, 2003; Wong et al., 2017). Individuals in high power-distance cultures like China are more likely to distrust organizations because they feel more helpless and powerless during a crisis (Cheng, 2016).

The information available about organizational crises also varies markedly. Most Western media outlets are eager to publish accounts of company wrongdoing. However, state-controlled media in China may limit the information available about crises in SOEs to stakeholders (Fuchs, 2017; Hu & Pang, 2016). To divert the public's attention from criticizing SOEs, the government often directs the media not to sensationalize the crisis. Moreover, private firms and SOEs seek goodwill from the government to buffer media exposure. Still, when necessary, SOEs are better situated to seek shelter from the government to control the media (Pang et al., 2018).

It is worth considering how multinational corporations (MNCs) in China work with the Chinese government during a crisis. Since China opened its economy and began to accept foreign direct investment in the late 1970s, China's attitude toward MNCs has changed considerably. MNCs tend to emphasize government relations because they operate in numerous markets across international borders and are subject to multifaceted government regulations (Chen, 2007). MNCs in China are more likely to succeed over the long term if they are cognizant of and sensitive to complex political system and cultural expectations (Lin et al., 2020; Park & Vanhonacker, 2007).

Amidst the varying degrees of success in crisis recovery among industries and firms in China, two research areas are feasible. First, a greater understanding of the relationships among those who have experienced organizational crises and their subsequent levels of concern is desirable. These could influence perceptions of crisis training. Second, little is known about the differences in crisis perceptions between SOEs and non-SOEs in China. The SOE influence on crisis management is intriguing because the Chinese government may play a buffering role in mitigation.

Our analysis is grounded in two theoretical perspectives, public choice theory, and behavioral economics. Public choice theory explains why mutually beneficial transactions with government entities can be financially attractive (Bonardi et al., 2006; Wood & Frynas, 2006). SOEs are in a unique position because they can leverage their direct connections with political actors because they are majority or wholly owned by the government. Behavioral economics theory notes that decision-makers can be risk-averse under certain conditions. Extending this logic into the realm of crisis management, those with some experience with a crisis may exhibit higher levels of concern

for a future, similar crisis. Organizations whose managers possess greater (collective) experience and awareness of crises are also likely to invest in crisis management training.

### **Hypotheses Development**

This study seeks to understand individual perceptions of crisis experience, crisis concern, and crisis training in Chinese organizations. We posit that those organizational members who have experienced a crisis at their companies may display elevated concerns and hence, a heightened awareness of the need for crisis training. Of course, some crises are unique yet still invoke great concern in organizational members. Understanding these relationships can add to crisis theory. Further, identifying differences between individuals in SOEs versus non-SOEs can help scholars and managers understand how government ownership influences crisis preparation and response. China offers a unique setting for examining perceptual differences in crises because of the existence of SOEs and non-SOEs (private organizations).

### **Crisis Experience and Crisis Concern**

We posit that experience with a crisis raises concern for a similar future crisis. This notion might appear tautological, but concepts in behavioral economics provide insight into the theoretical link between crisis experience and crisis concern. In general, decision-makers tend to be risk-averse. Indeed, "losing hurts worse than winning feels good" (Moses, 2013, p. 10). Hence, managers are often more concerned about the potential for loss than for gain. In a crisis, the potential for a loss is significant, so experience with a crisis can elevate concern for a similar event in the future.

From a crisis management perspective, behavioral economics evaluates the cognitions of decision-makers and helps explain why their decisions are sometimes less-than-rational (Parnell & Crandall, 2020). Behavioral economics suggests this may be a function of the universal human condition, perhaps even unaffected by cultural norms. Insight into this tendency is gleaned through two behavioral economics concepts, visualization, and probability weighting.

*Visualization* links experience with concern. Crisis scenarios that can be visualized are more likely to be perceived as organizational threats. Airplane crashes are easy to visualize because photos and videos are readily available. However, an information technology (IT) crisis may be difficult to visualize or "see," yet this type of crisis is more common. Previous experience with a crisis makes it easy to visualize a similar one in the future, even if one is unlikely (Parnell & Crandall, 2020). Hence, one's concern for a crisis can be driven by one's experience with the crisis. Consequently, experience drives concern (Ali & Al-Aali, 2016; Nizamidou et al., 2019). When individuals gain firsthand experience with crises and their destructive potential, they become more concerned about similar events in the future (Kahneman & Tversky, 1979).

*Probability weighting* maintains that decision-makers seek to minimize perceived losses instead of maximizing perceived gains (Kahneman & Tversky, 1979). From a crisis perspective, probability weighting can be beneficial if it raises concern for future negative events. Hence, the elevation of concern for a future crisis is part of crisis preparation. In other words, experience with a crisis elevates concern for the event. Probability weighting augments the theoretical underpinnings that drive this concern.

Top management's perceptions of crises significantly impact crisis management activities. For example, Liu et al. (2009) interviewed 22 Chinese executives regarding their perceptions of causes, consequences, and managing crises. Their findings suggested that Chinese and Western CEOs do not approach crises similarly.

Researchers are cognizant that experience with a crisis, followed by concern does not always translate into preparation (Parnell et al., 2010; Rousaki & Alcott, 2007). On the other hand, experience with a crisis can facilitate conversations that often promote action (Wong, 2019). Although both scenarios are possible, most prior research suggests a link between crisis experience and crisis concern (Bundy et al., 2017; Jakubanecs et al., 2018; Liu et al., 2017). Consistent with insight from behavioral economics, we posit that experience with a crisis should elevate subsequent concern for that specific crisis.

*H1: There will be a positive association between a respondent's levels of crisis experience and crisis concern.*

### **Crisis Management and State-Owned Enterprises (SOEs)**

Crisis management is essential in public and private organizations (Hunter et al., 2016). Government control of resources in China is common, exacerbating potential differences between SOEs and non-SOEs (Bilgin et al., 2017; Peng & Luo, 2000; Wu, Wu, & Rui, 2012; Wu, Wu, Zhou, et al., 2012; Yeh et al., 2013). Indeed, SOEs and non-SOEs function in different environments in China and often pursue different strategies. For example, SOEs often follow cost leadership and defender strategies, whereas private firms are often more innovative and assertive (Chen et al., 2011; Jiang et al., 2011; Oliver & Holzinger, 2008). Chinese SOEs and non-SOEs face different challenges, so their evaluation of crises and risk is also likely to differ (Hassard et al., 2010; Jing & McDermott, 2013; Ralston et al., 2006). SOEs can readily employ social and political capital, while private enterprises rely on flexibility (Jiang et al., 2011).

Public choice theory suggests that managers in SOEs and non-SOEs engage with crises differently (Congleton, 2018; Gilli et al., 2018). SOEs have a relationship with the government since it is their most important stakeholder. SOEs can typically employ social and political capital more effectively, while private enterprises are more flexible and possess environment scanning and market analysis capabilities (Jiang et al., 2011). Government entities are often poorly equipped to manage a crisis (Piatrowski et al., 2010), but government ownership can shield SOEs from the potentially devastating effects of a crisis. Indeed, SOEs often seek shelter from the government when dealing with crises (Pang et al., 2018).

SOEs are likely to procure bank loans because of government influence, but financial requirements remain. When the number of loans reaches a certain level, the government will become concerned about the financial health of SOEs. A vicious cycle can occur when an SOE is bankrupted because the government must assume the bad debts and subsequent unemployment issues. When large firms disappear from a region, the subsequent problems, such as employment and non-performing loans, affect the development of the whole locale. Therefore, the government tries to revitalize state-owned assets and invigorate SOEs to achieve a win-win situation.

Given their strategic differences, we expect to identify differences in perceptions about crises (Hassard et al., 2010; Jing & McDermott, 2013; Ralston et al., 2006; Zheng & Zhang, 2016; Zheng

et al., 2017). Because non-SOEs lack direct government support, they are more likely to be affected by crises. Put differently, non-SOEs do not possess the potential buffering effects that government may be able to offer. Hence, we anticipate non-SOEs will report greater experience with and concern for crisis events.

*H2a: The level of concern with crises will be higher in non-SOEs than in SOEs.*

*H2b: The level of experience with crises will be higher in non-SOEs than in SOEs.*

### **Crisis Training**

Crisis management scholars recommend various steps to mitigate exposure to crises, including modifying strategy, structure, leadership, and culture (Ouedraogo, 2007; Parnell, 2015; Parnell & Crandall, 2021; Somers, 2009). The pre-crisis phase includes crisis prevention and preparation (Coombs & Holladay, 2011). Crisis-related training is also a common recommendation (Ali & Al-Aali, 2016; Bhaduri, 2019; De Waele et al., 2020).

Consistent with behavioral economics, increasing crisis awareness, and crisis concern can prompt an organization to emphasize training. Indeed, additional training can promote awareness (Bruce & Nowlin, 2011; Tanifuji, 2000). Hence, we anticipate a positive association between crisis concern and the perceived level of crisis training in China. Because we expect higher crisis concern among non-SOEs, we posit they will also display higher training activities than their SOE counterparts.

Historically, many SOEs and government agencies had emergency plans developed around disaster and accident response. With the frequent crisis management problems and the birth of the Ministry of Emergency Management of the People's Republic of China, the government requires all organizations, units, enterprises, and institutions to formulate corresponding emergency management plans. When the emergency plan is activated, the corresponding emergency management plan is also invoked. However, many plans are formalities, so training is not always effective, especially for certain types of crises with non-SOEs. Moreover, most companies do not have established crisis centers and coordinated crisis training (Alas et al., 2010). Training helps, but many firms are reluctant to invest in training because of its costs, adversely affecting short-term performance (Liu & Liu, 2012; Yang & Chen, 2014).

*H3: The level of training for crises will be higher in non-SOEs than in SOEs.*

### **Methods**

A survey was developed to measure respondents' experience with, and concern for, 20 contemporary crises. We also assessed each respondent's exposure to crisis training. The survey was translated from standard English into Mandarin and translated back into English to ensure accuracy. The participants in this study were recruited based on convenience sampling, an approach comparable to other studies that explore crisis management and strategy management in China (e.g., Chew et al., 2008). We utilized a sample of managers and non-managers with diverse backgrounds and experience in their respective organizations' crisis management activities. They held a college degree or higher, giving them ample exposure to the conceptual underpinnings of their organizations' crisis management practices. Respondents were managers operating in Beijing, Shanghai, Guangzhou, and Shenzhen. In these cities, markets are somewhat open, and the



economies are relatively developed (Li & Zhou, 2010). Hence, there is some expectation of crisis management. Participation by managers was voluntary.

The most common crises experienced by managers can vary markedly from one year to the next. The Institute for Crisis Management's (ICM) 2021 annual report noted an increase in the percentage of crises categorized as catastrophes (including Covid-19) from 2.3% in 2020 to 37.2% in 2021. The 2021 report also chronicled a percentage increase for whistleblowers from 8.1% in 2020 to 22.0% in 2021. We addressed this concern by asking respondents to identify their level of *experience with* and *concern for* 20 different crisis events, 16 assessed annually by the Institute for Crisis Management and four (i.e., health pandemics, political unrest, social media, and technology) commonly mentioned by other scholars (Mainiero & Jones, 2013; Parnell, 2015; Parnell et al., 2010; Rababah et al., 2020; Ritchie & Melnyk, 2012; Shen et al., 2020). We also asked respondents to indicate their overall level of experience managing crises in their current and previous organizations, their overall level of concern about the potential damage future crises could inflict, and the amount of crisis training they have received.

We examined each response for evidence of straightlining and excessive missing data; these were subsequently eliminated from the dataset. This approach resulted in 105 usable responses. Multiple management levels, backgrounds, industry affiliations, and firm sizes were represented in the sample, providing a cross-sectional gauge of management perceptions from individuals who have been exposed to a wide variety of strategic challenges (Balogun & Johnson, 2004; Raes et al., 2011).

The respondents selected categories for management and organizational experience. The maximum management experience and organizational experience were 20 years and 15 years, respectively. Table 1 summarizes the variables examined in this study, all of which were collected through the survey. Table 2 overviews the initial results.

**Table 1. Summary of Variables**

<b><u>Variable</u></b>	<b><u>Item Wording</u></b>
Management Level	How many years of managerial experience do you have?
Functional Background	How many years of experience do you have with your current organization?
Gender	What is your gender?
Industry	What is your industry?
Firm Size	How large is your organization? (i.e., number of employees)
Ownership	What is your firm's ownership structure? (i.e., SOE)
Crisis Concern for each of 20 events (scale 1-5)	Please identify your level of concern about dealing with the following crises in the future.
Crisis Experience for each of 20 events (scale 1-5)	Please identify the amount of experience you have dealing with the following crises. This includes experience in your current organization and previous organizations.
Overall Crisis Training (scale 1-5)	I have received a lot of training to deal with crises.

**Table 2. Sample Demographics**

<b>Study Variable</b>	<b>n = 105</b>	<b>%</b>
<b>Management Level</b>		
Non-manager	40	38.1
Lower	44	41.9
Middle	19	18.1
Upper	2	1.9
<b>Functional Background</b>		
Accounting/Finance	18	17.1
General Management/HR	25	23.8
Law	3	2.9
Marketing/Sales	10	9.5
Production/Engineering	20	19.0
Information Technology	19	18.1
Other	10	9.6
<b>Gender</b>		
Male	49	46.7
Female	56	53.3
<b>Industry</b>		
Manufacturing	21	20.0
Hospitality	26	24.8
Healthcare	10	9.5
Services	33	31.4
Other	15	14.3
<b>Firm Size</b>		
Micro (fewer than 9 employees)	10	9.5
Small (10 to 50 employees)	26	24.8
Medium (51 to 250 employees)	24	22.9
Large (more than 250 employees)	45	42.9
<b>Ownership</b>		
SOE (100% government ownership)	24	22.9
SOE (51 to 100% government ownership)	19	18.1
Less than 50% government ownership)	2	1.9
Private (Chinese ownership)	43	41.0
Private (Foreign ownership)	17	16.2

## Findings

Table 3 lists the 20 crises in rank order by mean concern, ranging from highest—health concerns and pandemics (4.29) to lowest—hostile takeover (1.83). The mean responses for *experience with* each crisis are listed in the middle column. The right column shows the correlations between *concern for* and *experience with* each crisis. Correlations ranged from 0.822 (executive dismissals:

$p < .05$ ) to 0.270 (catastrophes - natural disasters:  $p < .05$ ). The overall correlation between the mean scores for crisis experience and crisis concern was 0.625 ( $p < .05$ ). These results support H1.

**Table 3. Crisis Concern and Crisis Experience**

<u>Crisis</u>	<u>Concern</u> <u>Mean</u>	<u>Experience</u> <u>Mean</u>	<u>Correlation: Concern</u> <u>and Experience</u>
Health Concerns and Pandemics	4.29	3.51	.500*
Mismanagement	3.45	2.89	.693*
Casualty Accidents	3.32	2.80	.544*
Political Unrest and Terrorism	3.26	2.24	.578*
Defects and Recalls	3.16	2.40	.597*
Cyber (Hacking and Piracy)	3.10	2.31	.426*
Catastrophes (Natural Disaster)	3.05	2.08	.270*
Environmental Damage	2.95	1.86	.499*
Technology Upheaval	2.94	2.36	.743*
Executive Dismissals	2.93	2.52	.822*
Social Media (Damaging Posts)	2.87	2.07	.699*
Labor Disputes	2.81	2.41	.708*
Employment Discrimination	2.73	2.06	.511*
Whistleblowers	2.71	1.72	.526*
Consumer Activism	2.67	1.79	.414*
White Collar Crime	2.33	1.72	.717*
Class Action Litigation	2.28	1.84	.606*
Workplace Violence	2.27	1.52	.408*
Sexual Harassment	2.24	1.58	.594*
Hostile Takeover	1.83	1.30	.463*

\* Significant ( $p < .05$ )

Table 4 provides the mean *concern* reported for each crisis for SOEs and non-SOEs in order of t-values ranging from a high of 5.250 (executive dismissals:  $p < .001$ ) to a low of -0.866 (sexual harassment: not significant). Thirteen of the 20 crises revealed significant differences in means between Chinese SOEs and non-SOEs. However, the results indicated only partial support for H2a. Of the thirteen crises with significant differences, only ten were higher for non-SOEs than for SOEs.

Table 5 lists the mean *experience* scores for each crisis by SOEs and non-SOEs. The crises scores ranged from a high t-value of 8.605 (political unrest and terrorism:  $p < .001$ ) to a low of -0.056 (casualty accidents: not significant). Eleven of the 20 crises revealed significant differences in means. However, only eight showed means higher for non-SOEs, indicating only partial support for hypothesis 2b.

**Table 4. Crisis Concern Among SOE and Non-SOE Firms**

<b><u>Crisis</u></b>	<b><u>Concern Mean SOE (n=43)</u></b>	<b><u>Concern Mean Non-SOE (n=60)</u></b>	<b><u>T-Value- Statistic</u></b>	<b><u>Significance</u></b>
Executive Dismissals	3.77	2.38	5.250	< .001
Whistleblowers	2.12	3.14	-4.128	< .001
Workplace Violence	1.70	2.68	-3.994	< .001
Mismanagement	3.98	3.08	3.777	< .001
Political Unrest and Terrorism	3.84	2.90	3.521	< .001
Cyber (Hacking and Piracy)	2.70	3.43	-2.946	.004
White Collar Crime	1.91	2.63	-2.874	.005
Social Media (Damaging Posts)	2.47	3.18	-2.725	.008
Environmental Damage	2.60	3.23	-2.676	.011
Health Concerns and Pandemics	4.02	4.52	-2.466	.009
Class Action Litigation	1.98	2.52	-2.296	.024
Hostile Takeover	1.53	2.02	-2.095	.039
Labor Disputes	2.49	3.02	-2.052	.043
Technology Upheaval	2.70	3.17	-1.638	ns
Defects and Recalls	2.93	3.36	-1.590	ns
Consumer Activism	2.51	2.80	-1.368	ns
Employment Discrimination	2.57	2.88	-1.281	ns
Casualty Accidents	3.47	3.20	1.142	ns
Catastrophes (Natural Disaster)	2.93	3.17	-1.081	ns
Sexual Harassment	2.07	2.32	-0.866	ns

ns = not significant

The mean score for training was calculated for SOEs and non-SOEs. The overall mean score was 2.75 (n=103), 2.93 for SOEs, and 2.63 for non-SOEs. The resulting t-value of 1.124 was not significant, suggesting that state ownership did not include training emphasis in sample firms. Hence, hypothesis 3 was not supported.

**Table 5. Crisis Experience Among SOE and Non-SOE Firms**

<b>Crisis</b>	<b>Experience</b>	<b>Experience</b>	<b>T-Value-Statistic</b>	<b>Significance</b>
	<b>Mean SOE (n=43)</b>	<b>Mean Non-SOE (n=60)</b>		
Political Unrest and Terrorism	3.44	1.38	8.605	< .001
Mismanagement	3.79	2.25	6.362	< .001
Executive Dismissals	3.35	1.97	5.644	< .001
Class Action Litigation	1.33	2.22	-4.585	< .001
Cyber (Hacking and Piracy)	1.81	2.68	-4.000	< .001
Sexual Harassment	1.23	1.83	-3.150	.002
Whistleblowers	1.49	1.86	2.775	.007
Labor Disputes	2.12	2.62	-2.461	.016
Health Concerns and Pandemics	3.23	3.77	-2.409	.018
Environmental Damage	1.63	2.02	-2.257	.026
Consumer Activism	1.63	1.88	-2.045	.044
Workplace Violence	1.36	1.62	-1.906	ns
Social Media (Damaging Posts)	1.84	2.22	-1.687	ns
Hostile Takeovers	1.19	1.35	-1.502	ns
Employment Discrimination	1.95	2.15	-1.069	ns
Defects and Recalls	2.26	2.50	0.923	ns
Catastrophes (Natural Disasters)	1.98	2.15	-0.819	ns
White Collar Crime	1.63	1.77	-0.709	ns
Technology Upheaval	2.26	2.45	-0.696	ns
Casualty Accidents	2.81	2.83	-0.056	ns

ns = not significant

### **Discussion – Visualizing the Results**

This study revealed full support for hypothesis 1, partial support for hypotheses 2a and 2b, and no support for hypothesis 3. In our discussion below, we examine each hypothesis and offer a visual replication of the data.

#### **Hypothesis 1 - Crisis concern and experience are linked.**

Hypothesis 1 sought evidence for a positive association between a respondent’s levels of crisis experience and crisis concern. The correlations between experience and concern for specific crises presented in table 3 are strong. Not surprisingly, health concerns and pandemics (e.g., Covid-19) were at the top of the list. Other crises (e.g., social media) have become more pervasive in China during the past decade (Wang, 2016; Zhu et al., 2017). Still, others (e.g., hostile takeovers) are relatively minor concerns for Chinese enterprises.

Figure 1 depicts the data from table 3 graphically, offering a visual dimension to the study. Notably, concern for a crisis exceeds experience with a crisis for all twenty crises in the study.

However, health concerns and pandemics topped the list in both concern and experience. While not all-encompassing, figure 1 accentuates the variance in concern about and experience with different types of crises, a theme underscored by annual assessments of crises (Institute for Crisis Management, 2020).

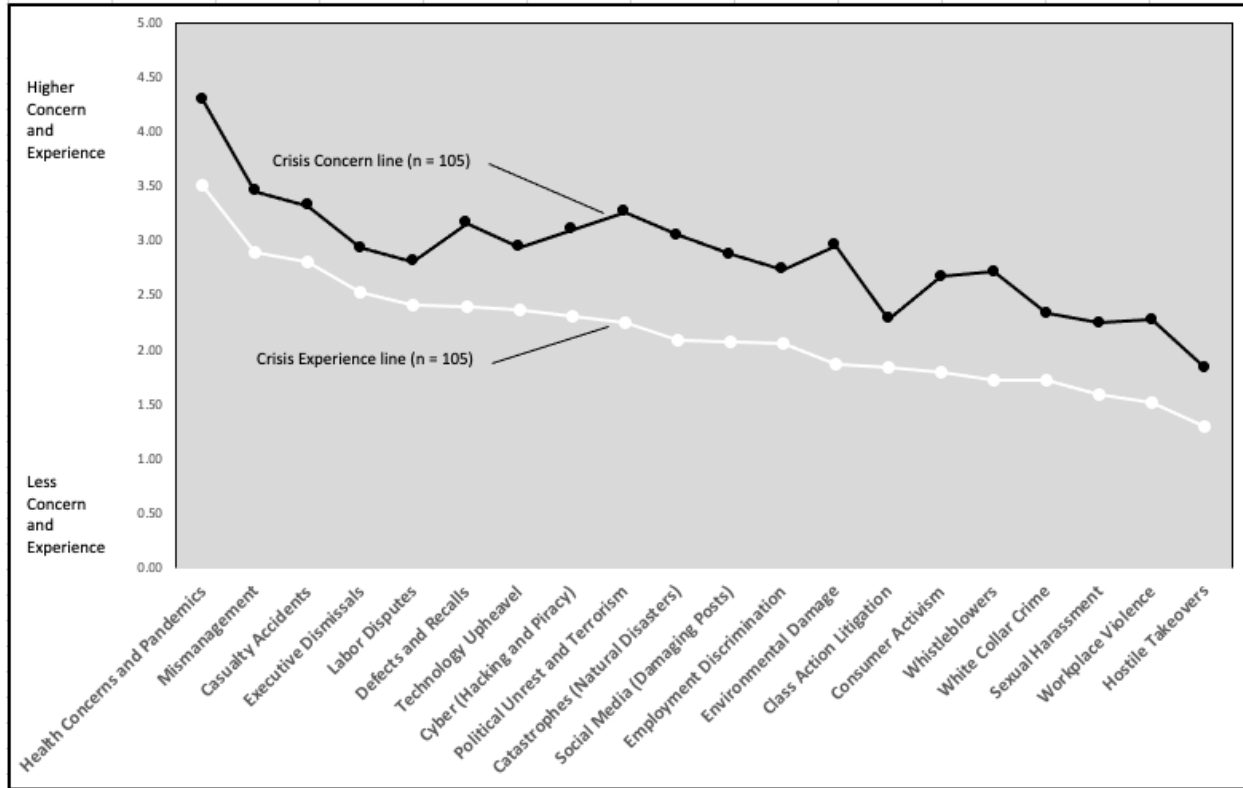
A nexus between experience with and concern for organizational crises was expected and can be explained partly with tenets of behavioral economics. However, it can be interpreted positively or negatively regarding subsequent crisis preparation. As individuals gain more experience dealing with crises, they are more likely to anticipate them in the future. Hence, elevated levels of concern are expected. The concept of *visualization* maintains that events easily visible in one's mind merit additional concern. Most crises can be traced back to one or a series of events in the decision-maker's mind. This nexus makes the crisis easily visualized and hence, worthy of elevated concern.

Behavioral economics theory also maintains that potential losses merit more concern than potential gains. The context of this thinking comes from prospect theory, which addresses economic options where a gain or loss could occur (Kahneman & Tversky, 1979; Parnell & Crandall, 2020). However, we use the term *gist cognition* to refer to a potential loss scenario that is foremost in the mind of the decision-maker. In crisis management, the *gist cognition* explains the importance of future crisis events after one has experienced a crisis.

Experiencing a crisis makes managers more aware of the impact on enterprises, society, and life, raising the level of attention to possible crises in the future. In the Mianzhu earthquake in 2011 after the Wenchuan Earthquake in 2008, many volunteers knew that disordered on-site assistance would increase the difficulty of rescue and add unnecessary burden to the site. During the earthquake, social media users reminded each other on the Internet not to rush to the site for support without sufficient preparation (Bai & Jia, 2019).

However, if crisis concern emanates primarily from experience, then questions arise about the efficacy of crisis training. Inherent in the notion of training is the idea that individuals can recognize the seriousness of an issue before they experience it firsthand. The strong link between experience and concern suggests that the value of training is difficult to assess.

**Figure 1. Crisis Concern and Crisis Experience Among All Firms**



Sometimes crisis concern does not translate into preparation and readiness (Parnell et al., 2010; Rousaki & Alcott, 2007). Firms can respond by developing capabilities to navigate crises more effectively, but there is no guarantee they will (Weick & Sutcliffe, 2006). Preparation can increase awareness, prompting a manager in a crisis-ready firm to report a greater level of crisis awareness. Although scholars have identified a strong association between crisis concern and preparation (Bundy et al., 2017; Liu et al., 2017), organizations should emphasize the latter. While crisis experience tends to drive awareness, overexposure to events in other organizations can promote an “it can’t happen to us” mentality (Caponecchia, 2010; Parnell & Dent, 2009). This cognition can also be traced to a behavioral economics tenant, the optimism bias. Also known as the positivity illusion, this concept maintains that people judge their chances of experiencing a good outcome as higher than average (Ariely, 2009).

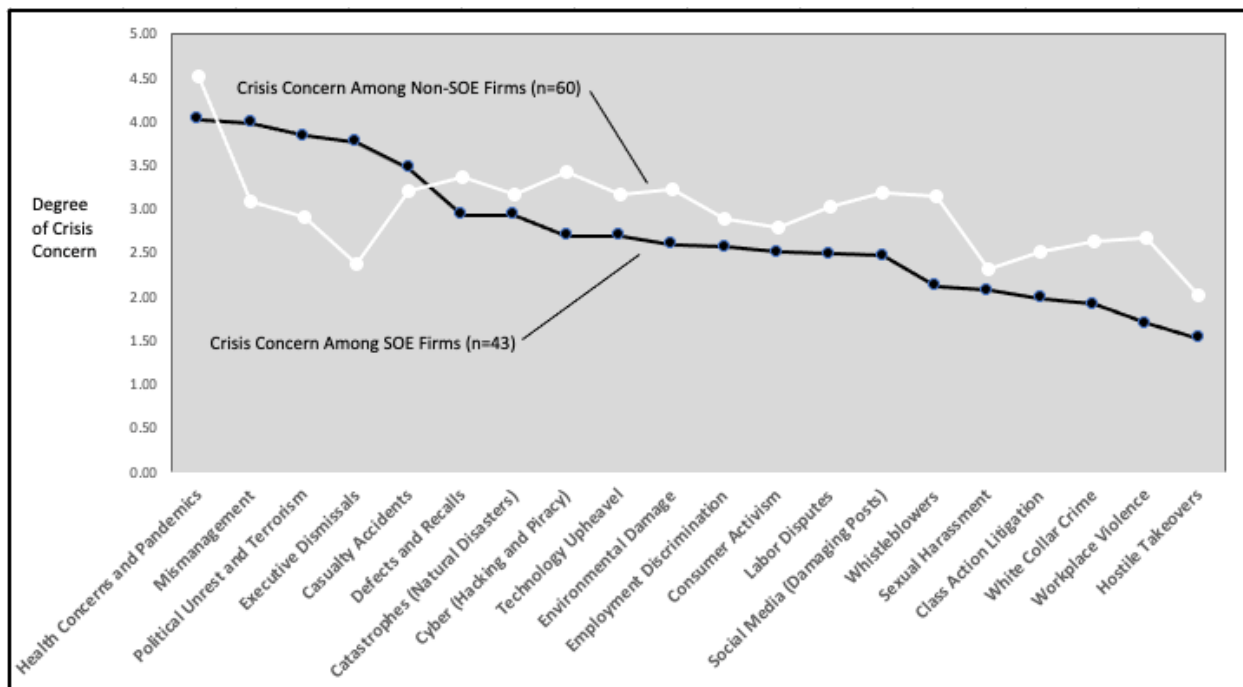
**Hypothesis 2 - SOEs and non-SOEs differ dramatically in crisis orientation.**

Figure 2 provides a visual representation of table 4. The left side of the graph shows an inversion of concern and experience compared to the right. Non-SOEs reported less concern for mismanagement, political unrest/terrorism, and executive dismissals than SOE firms. Survival and business revenue are the top issues with non-SOE managers. Hence, many non-SOEs focus on financial more than ethical or legal issues, especially as a firm grows and develops. They *may* be

more willing to occupy a *gray area* to obtain greater profits and value, which can create risks for the firm.

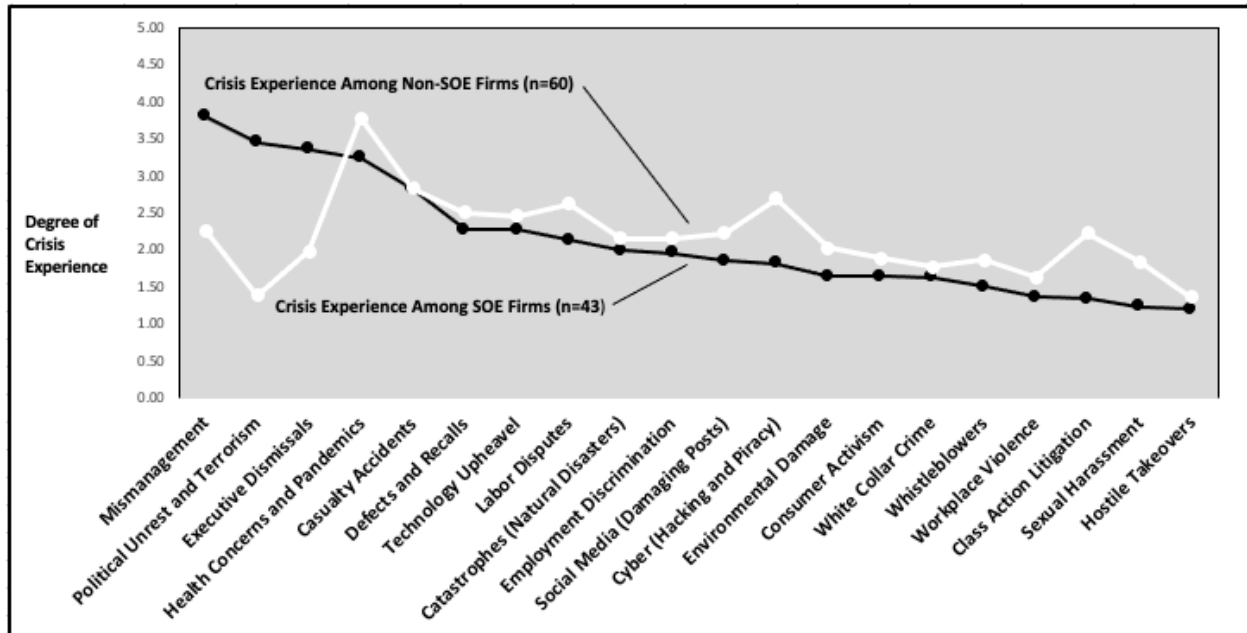
Perhaps this diminished concern reveals the additional management control that private ownership may have on these crises. It is conceivable that private firms may influence mismanagement and executive dismissals more. However, it is unclear why private firms would show less concern for political unrest and terrorism. On the contrary, SOEs are more concerned with mismanagement, political unrest/terrorism, and executive dismissals. SOEs have other objectives beyond economic concerns, including the responsibility to maintain political and social goals. Under differing levels of government intervention, the assessment system for SOEs is implemented variably (Liu & Zhang, 2018). Unlike CEO turnover in private enterprises, the appointment and dismissal of SOE executives is unpredictable (Wang, 2001). Hence, organizations can experience a crisis because of executives' mismanagement or personal misconduct.

**Figure 2. Crisis Concern Among SOE and Non-SOE Firms**





**Figure 3. Crisis Experience Among SOE and Non-SOE Firms**



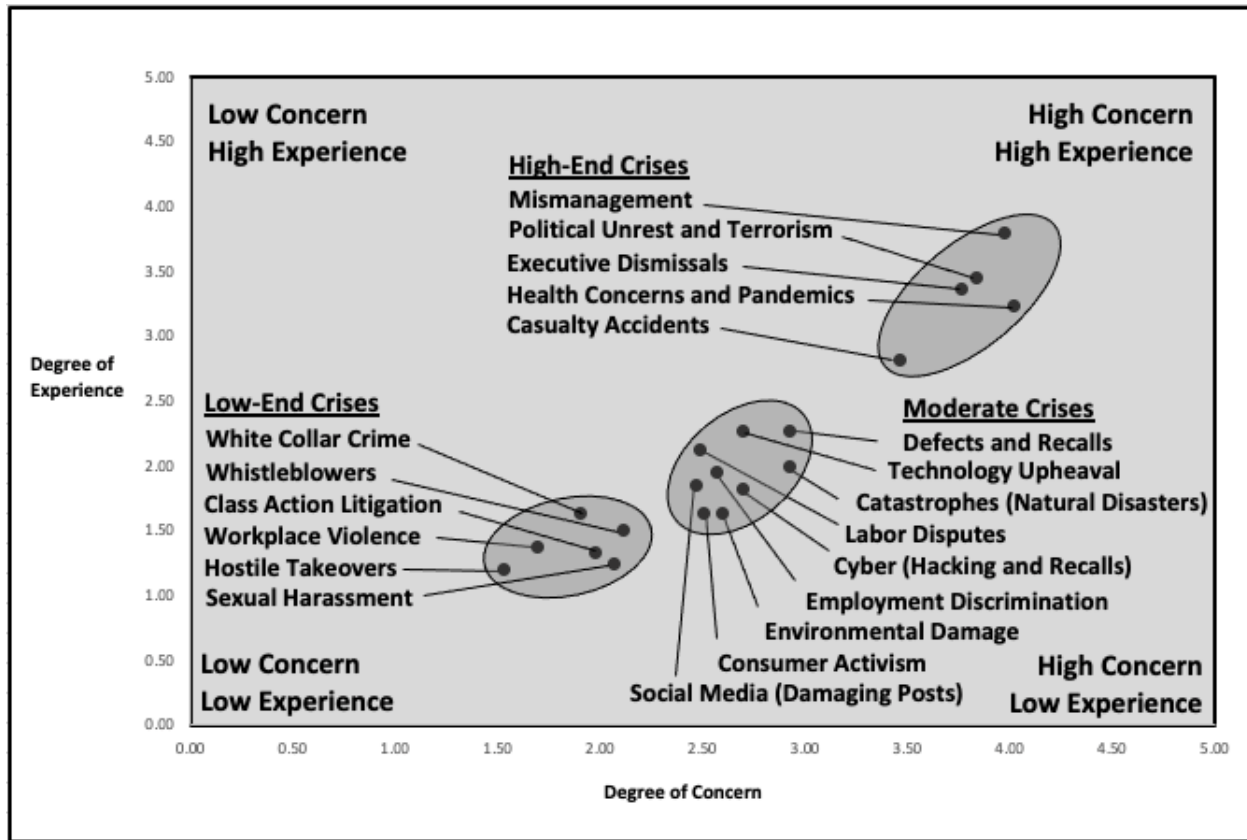
The remainder of the graph visually indicates that crisis concern is higher for non-SOE firms than SOE firms, although not all these differences were significant. Table 4 shows the concern for eight crises did not differ significantly. However, the general trend line indicates a more profound concern among non-SOEs, with the previously noted exceptions.

Concerning crisis experience, figure 3 visually replicates the data from table 5. Like figure 2, an inversion exists on the left side of the graph involving mismanagement, political unrest and terrorism, and executive dismissals. The differences are most significant in this region, with non-SOEs indicating less experience with these three crises than their SOE counterparts. As the trend lines move to the left, the pattern settles down, with non-SOE firms displaying a somewhat elevated experience with crises. Still, nine differences were not significant (see table 5).

While SOEs and non-SOEs differ regarding crisis concern and experience, the relationship between the two groups is unclear. Figure 4 depicts crisis experience and concern simultaneously with the 20 crises to elucidate patterns in the data.

Figure 4 maps the mean concern and experience points for SOEs based on tables 4 and 5. The resulting display reveals three crises clusters which we label: *high-end*, *moderate*, and *low-end*. The high-end cluster is identifiable by high concern and high occurrence. For example, mismanagement emerges as the most high-end crisis for SOEs. The moderate cluster includes important but less concerning crises that are less likely to occur. The low-end cluster includes crises that are less concerning and less likely to occur.

**Figure 4. Crisis Experience and Concern Among SOE Firms (n=43)**



**High-End Crises for SOE Firms.** High-end crises are important to SOEs and can significantly damage the firm and its stakeholders. Given these organizations are state-owned, the Chinese government has a vested interest in managing the crises. Two crises—mismanagement and executive dismissals—are internal to the organization. A third, casualty accidents, could be internal or external, depending on the source of the crisis. Saving face and achieving harmony are essential in Chinese crisis resolution. These crises are of prime importance because they *have occurred* before and, thus, raise the level of concern among managers. Again, the propensity to focus on more negative events finds its roots in behavioral economics. In addition, the elevated concern suggests that past crisis resolution may not have always been successful for this group of crises. This observation implies that efforts to enhance organizational learning after a crisis may be warranted (Crandall et al., 2020).

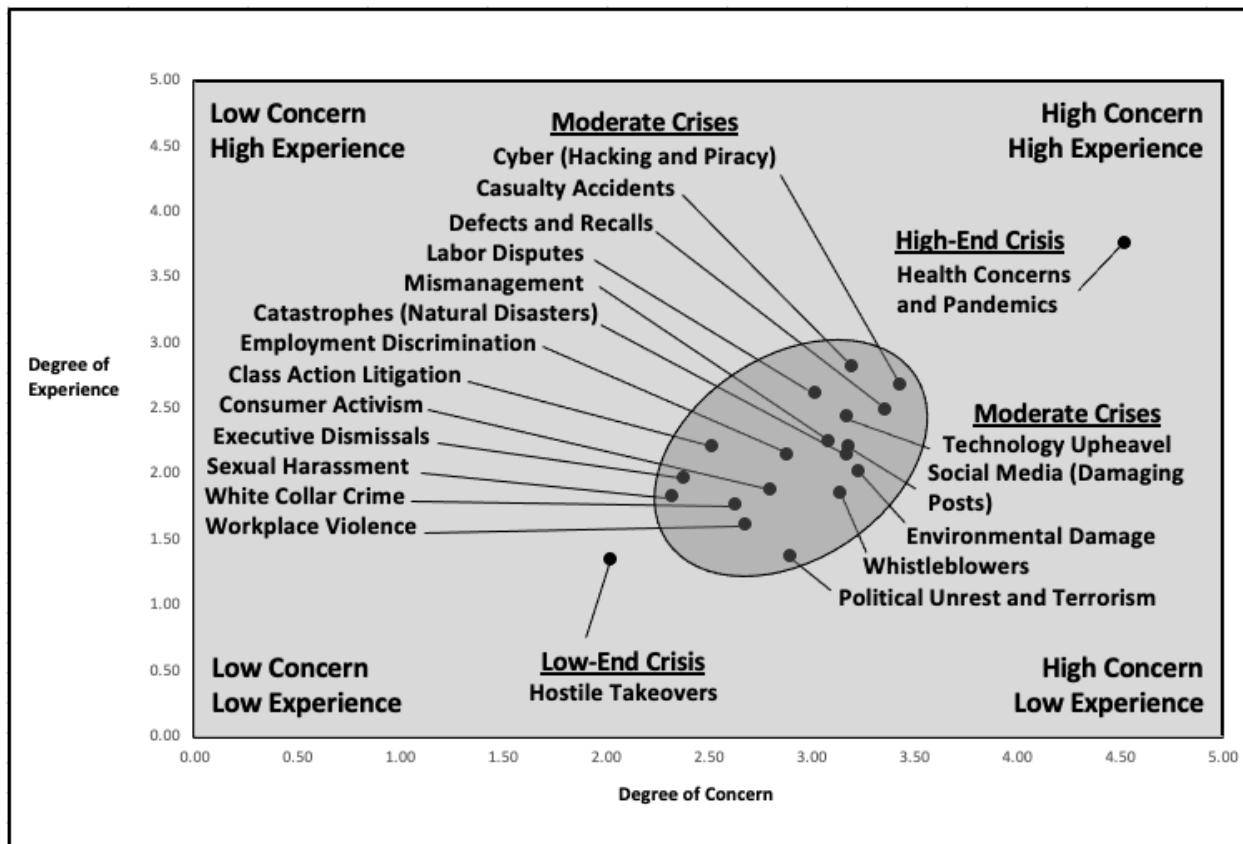
**Moderate Crises for SOE Firms.** This crisis cluster is of less concern and frequency, but they remain a threat and can instill considerable damage. The external orientation of these crises is notable, except for defects/recalls, labor disputes, and employment discrimination. The cluster is tightly compact and focused in the lower area of crisis experience axis (i.e., below the midpoint of 2.5). However, the concern is somewhat elevated, with most crises above the 2.5 threshold. The nature of this cluster is eclectic, indicating that organizations may need to invoke a wide array of preparation to avert or mitigate a crisis.

**Low-End Crises for SOE Firms.** This cluster of crises falls in the low concern, low experience quadrant. The orientation appears to be internal and includes crises associated with ethical lapses such as white-collar crime, whistleblowers, and sexual harassment. The low frequency of these crises could reflect positively on Chinese business ethics, but this explanation is uncertain.

Figure 5 is based on tables 4 and 5. It maps the mean concern and experience points for non-SOEs and reveals a single cluster with two adjacent crises on either side. The sole cluster, labeled moderate crises, consists of 18 crises of moderate concern, but somewhat low in the range of experience. The single high-end crisis, health concerns, and pandemics, is well outside the main cluster. Its noticeably high concern and frequency characterize this crisis. To the bottom left of the main cluster is the single low-end crisis, hostile takeovers, labeled because of its reduced concern and frequency.

The differences and similarities between SOEs and non-SOEs become visually apparent when comparing the cluster maps. Both groups depict health concerns and pandemics that warrant close attention. However, non-SOEs ranked it higher in concern and experience, suggesting a possible insulating effect for SOEs. Both groups are also similar in their position on hostile takeovers, which they view as a crisis of low concern and frequency.

**Figure 5. Crisis Experience and Concern Among Non-SOE Firms (n=60)**



The larger category of moderate crises among non-SOE firms distinguished the two groups the most. The differences between SOEs and non-SOEs are striking in this regard and reinforce

research on other strategic factors (Bilgin et al., 2017; Peng & Luo, 2000; Wu, Wu, & Rui, 2012; Wu, Wu, Zhou, et al., 2012; Yeh et al., 2013). Because SOEs are structurally linked to governments through ownership, they may not be as concerned as their non-SOE counterparts with crisis events. Because private enterprises often have limited financial resources, their strategy is also limited. They often focus on survival and profitability, not long-term strategic positioning. Many will never commit the resources to crisis planning that SOEs can allocate.

### **Hypothesis 3 - Training differences between SOEs and non-SOEs are not distinguishable.**

This study did not identify differences in training perspectives between SOEs and non-SOEs. Perhaps some managers may feel that a crisis is unlikely and will not occur in their organizations. Behavioral economists refer to this tendency as the *optimism bias*, a cognition that implies negative events occur at *other* organizations (Ariely, 2009). Hence, some crisis management training and plans may be viewed as a formality, a document that must be created to satisfy superiors. The study findings on crisis training are based on respondent perceptions. For example, an individual with low crisis awareness might report a high level of crisis training because she is unaware of how a crisis can impact her organization. She might *perceive* a low level of crisis training to be sufficient when it is not. We cannot confirm this phenomenon explains the findings, but we believe the conundrum of “unknown unknowns” is a contributing factor (Kim, 2017; Mills, 2019). People may overestimate their ability to control uncertain problems and are hence, overly optimistic.

In many crises, managers have realized the importance of crisis management and have higher crisis concerns (Ma & Christensen, 2019; Parnell, 2015). However, they may attribute crisis control and oversight to their leaders and organizations instead of accepting personal responsibility for preparation. They may perceive the probability of the same crisis recurring to be extremely low. Because some crises are non-repetitive, there could be an illusion that preparation will not help the firm deal with the next crisis. With this backdrop, leaders must promote a more crisis-ready culture instead of simply focusing on basic crisis training (Mitroff & Pearson, 1993; Wang & Tang, 2019; Wu & Zhao, 2006). Indeed, training is costly but improves awareness and can change how employees perceive organizational problems.

### **Limitations**

We note three limitations in this study. First, the survey was grounded in western views of organizational crises. Indeed, the language and cultural differences across borders can be substantial. Using western terms and concepts facilitates comparisons between surveys of managers in different nations but does not account for cultural influences that influence how crises are interpreted (Ma & Christensen, 2019). Due to cultural and economic distinctions, perceptions of crises in China and the West can vary. For example, Chinese managers tend to be more concerned about the effects of technology and less concerned about corporate takeovers than their Western counterparts (Chan, 2011; Fasth et al., 2021; Staupe-Delgado & Kruke, 2018)

Second, the sample was limited in size and scope and included managers and non-managers with various functional backgrounds and industries (see table 1). Perceptions of non-managers and managers at different levels can vary. Moreover, industry membership can influence perceptions, as managers in production facilities are more concerned about physical damage to facilities than managers in information-based industries (Hu & Pang, 2016; Yang & Chen, 2014). Due to sample

size constraints, we could not control or identify those influences resulting from functional backgrounds or industry membership. Moreover, answers to questions about background and experience suggest that some respondents may not have accurately identified their level in the organization. Specifically, some self-identified as non-lower-level managers but appeared to function as middle managers. As a result, we could not assess (with confidence) how one's position in an organization might influence experience with and perceptions about crises.

Finally, we used self-typing scales to assess the constructs (Blackmore & Nesbitt, 2013; Ramanujam & Venkatraman, 1987; Shortell & Zajac, 1990). Objective, quantitative measures provide a more traditional lens for evaluating the constructs while reducing the influence of common method variance (Chang et al., 2010; Podsakoff et al., 2003).

## **Conclusion and Future Directions**

We surveyed 105 members of organizations in China regarding their experience with, and concerns for, specific crisis events. Our analysis underscores three key findings. First, experience with a specific crisis appears to drive concern about the event. Second, managers in SOEs and non-SOEs have different perspectives on crises concern and experience, as depicted in the crisis clusters that appear to emerge in each group. Finally, despite these disparities, there were no significant differences in the emphasis on crisis training between SOEs and non-SOEs.

We juxtapose SOEs and non-SOEs in this study, but government influence over business activity in China extends far beyond state ownership. HNA Group is a private Chinese firm with 1.5 trillion RMB (\$200 billion) in assets in various hospitality sectors. The company encountered financial distress in 2017 after accruing about \$100 billion in foreign debt. In 2018, government officials strongly encouraged SOE banks to continue lending to HNA while directing the company to sell assets unrelated to Beijing's policy agenda. Several days later, SOE China Citic Bank extended a new \$3.2 billion line of credit while HNA began selling many of its foreign real estate holdings. HNA officials acknowledged that Chinese regulators had discouraged firms from investing in foreign real estate but insisted that the government did not coordinate a response to the crisis (Trivedi & Steinberg, 2018; Zhang et al., 2020).

We identify several promising research directions. First, our findings are based on a Chinese sample and include a limited number of constructs, but other factors could also be considered. Enterprises in different developing stages could show varying concerns towards crisis management. The backgrounds of different CEOs also place different levels of priority on crisis management. Still, factors like sector differences in products or services may also lead to different attention on crisis issues. Moreover, differences are common across borders (Coombs & Laufer, 2018). For example, Sahin et al. (2008) focused on the crisis management systems in Germany, UK, and Spain. They demonstrated that organizations in each country tend to prioritize different concerns when preparing for crises. Ang (2001) examined how a crisis can impact business strategy and identified differences across borders. Measuring firm size with both revenues and employees could provide complementary results. Future work could also consider the role of crisis self-efficacy (Park & Avery, 2019).

Second, additional crisis research that considers the direct and indirect influences of organizational size is needed. Small and medium-sized enterprises (SMEs) are especially vulnerable to crises.

Employees in SMEs often perform a broader range of activities, so they often lack the time and resources necessary to promote crisis planning. Many managers in SMEs understand the importance of crisis management, but resource and scale limitations can make crisis planning more challenging. SMEs perceive their environments as less controllable, so crisis awareness is more critical (Crandall et al., 2020; Topaloglu et al., 2013). In contrast, managers in large firms are often better informed about crises, while their counterparts in SMEs are often more concerned (Herbane, 2013; Vargo & Seville, 2011). The rapid growth of SMEs, particularly non-SOEs, has become the Chinese economy's most dynamic element since the period of reform (Chen, 2006). SME owners face greater barriers to funding than larger or more mature companies—especially special purpose entities (SPEs)—limiting their development (Hassan & Mohamed, 2015). Many Chinese SMEs are relatively young but proliferating. As a result, their management philosophy, style, industrial structure, and product mix are still developing (Chen, 2006).

Limited scale economies place most SMEs at a relative cost disadvantage when considering crisis planning (Doern, 2016; Kurschus et al., 2017; Vargo & Seville, 2011; Vouzas & Nizamidou, 2018). Smaller organizations have limited resources and often struggle to survive during a crisis. There is less published work on crisis planning in SMEs, except in select crisis-prone industries such as tourism and hospitality (Herbane, 2013; Kurschus et al., 2017; Sawalha et al., 2013; Vouzas & Nizamidou, 2018).

Future studies should consider the crisis orientation of multinational companies (MNCs) based in other countries but with a substantial presence in China. MNCs in China are more likely to employ managers who are not Chinese nationals and possess a broader array of crisis concerns. Scholars can also consider upper managers' leadership behavior regarding China's SOEs and non-SOEs'. After several decades of reform, SOEs in China have achieved greater decision-making flexibility, but some resist change (Goodall & Warner, 1997; Lin et al., 2020; Zhang et al., 2020). Tsui et al. (2006) stressed the discretion of CEOs in SOEs can be limited. Non-SOEs must continuously adapt to environmental changes due to institutional regulations and uncertainty. Because of the strong institutional norms, SOE leaders' discretion in reforming their organizations remains constrained. Given the vital role played by executives in crisis management, understanding differences linked to state ownership is essential.

Third, additional theory development is needed to identify the processes influencing the crisis planning process. We help examine *how* executives view crisis events and training, but further work is required to connect these perceptions with action. Organizations must plan to manage and coordinate their actions and ensure that future crises are considered (Mintzberg, 2000). Dynamic capabilities can help explain the incentive to invest in training and enhance crisis responsiveness (Eisenhardt & Martin, 2000; Teece et al., 2016; Teece et al., 1997). Firms can develop capabilities to navigate crises more effectively (Weick & Sutcliffe, 2006).

Finally, the business influence of developing countries continues to increase. Additional research is required in emerging nations like China, particularly within the context of SOEs (Bilgin et al., 2017; Caiazza, 2018; Deng et al., 2010; Eaton & Kostka, 2017; Parnell & Zhang, 2017). Only a few of the publications regarding Chinese business development have focused on crisis management (Laufer, 2014). China's Ministry of Emergency Management is a constituent Department of the State Council. It was established in March 2018 following the institutional reform plan of the State Council approved at the first meeting of the 13th National People's

Congress. The emergence of the emergency management department elevated crisis management and emergency management as a future consideration. It should go beyond the scope of systems, laws, and regulations and systematize and institutionalize emergency and crisis management. It will become a watershed in China's crisis management. Perhaps both SOEs and non-SOEs will move towards a more standardized and effective approach under the relevant laws and regulations of the department.

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