

Article

Crisis-induced public demand for regulatory intervention in the social media era: Examining the moderating roles of perceived government controllability and consumer collective efficacy

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Abstract

Through an online survey of Beijing consumer publics, this study examines a moderated mediation model of public demand for regulatory intervention ensuing from a corporate crisis that entirely unfolded on social media platforms. The study finds that highly involved publics tend to attribute crisis responsibility more to the in-crisis company, and such attribution leads to stronger demand for regulatory intervention. However, the effects of issue involvement on public demands decrease when publics think they have collective efficacy to control crisis outcomes and that government has controllability over crisis outcomes. The study further finds that, in determining the degree of public demand, how publics attribute crisis responsibility is not as important as how they perceive government controllability. By delineating the relationships among issue involvement, responsibility attribution, perceived government controllability, and collective efficacy, this study outlines a comprehensive psychological mechanism of public demand for regulatory intervention during corporate crisis.

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Keywords

Crisis communication, government controllability, collective efficacy, locus of outcome control, responsibility attribution

When a company is derailed from its normal business operations and falls into an unexpectedly adverse situation, it is experiencing a corporate crisis (Coombs, 2007). Before the social media era, most crises were debated and dealt with in an organizational context where the core players were the organization involved in crisis and its publics (Heath and Palenchar, 2009). Only a few extremely severe crises, such as the Exxon Valdez oil spill, have attracted national or international attention and led to nation-state-level regulatory intervention such as government regulations, legislation, and policy adoption (Hillier-Brown et al., 2014). Previous studies have suggested that nation-state-level regulatory intervention is deemed necessary either because the in-crisis company is clearly unable to cope with the negative impacts or because the crisis transcends the organizational context and becomes a public concern (Rosenthal and Kouzmin, 1997).

In today's social media era, however, corporate crises often attract extensive attention, are debated among a great number of people, and more easily translate into public concerns (Coombs and Holladay, 2012; Jaques, 2012). A breeding ground for corporate crises escalating into high-profile social issues is certainly social media (Cheng, 2018). Social media largely changes the way that consumers make sense of a crisis and their crisis responses (Hong and Cameron, 2018). Previous studies have found that crises featured on social media platforms induce users to formulate a biased statistical sense of the crises' negativity (Lim, 2017; Sung and Hwang, 2014). This bias causes publics to overestimate the adverse impacts relating to a corporate crisis if crisis-related information is spread by means of consensus heuristics such as trending words and popular hashtags (Kim and Sundar, 2014). Publics may thus perceive a crisis to be more severe than it truly is (Lim, 2017). They may even infer that the crisis results in greater threats to themselves and the society than the crisis truly does. Publics may thus expect the crisis to be resolved in a radical manner at the societal level and are more likely to call for nation-state-level regulatory intervention such as public policy remediation (Heath and Palenchar, 2009).

Most of the large-scale public outrage on social media are triggered by publics' indignation against companies, and public demand for regulatory intervention is on the rise in corporate crises (Coombs and Holladay, 2012; Einwiller et al., 2017). It is political activities, however, with which a good deal of previous research on public outrage has been concerned, focusing on public demand or collective actions with regard to the public domain of political movements rather than the private domain of corporate crises (e.g. Bennett and Segerberg, 2012). Existing communication literature appears to be lacking when it comes to addressing when and how corporate crises in private sectors mature into societal-level issues on social media platforms—precipitating public demand for nation-state-level regulatory intervention (hereafter public demand for regulatory intervention). The present study, therefore, attempts to fill this void through exploring a set of cognitive and psychological factors leading to such public demands in times of corporate

crises. To do so, this study employs a real corporate crisis, which unfolded entirely on social media platforms, elicited an extensive online outcry, and eventually escalated into a high-profile social issue in the public domain.

Dominant crisis communication theories such as situational crisis communication theory (SCCT; Coombs, 2007) consider that crisis responsibility attribution is essential to understanding publics' psychological dynamics in crisis (Choi and Lin, 2009; Claeys and Cauberghe, 2014). In delineating the psychological dynamics of crisis responsibility attribution, SCCT studies have primarily focused on the assessments of *crisis causes* (e.g. who caused a crisis) rather than on the assessments of *crisis outcomes* (e.g. who has control over crisis outcome). However, this study, based on Bandura's (1986) social cognitive theory, argues that judgment of crisis outcome also tends to predict responsibility attribution (Alicke and Davis, 1989). By theorizing the assessments of crisis outcomes as perceived locus of crisis outcome control with two dimensions and highlighting their moderating roles, this study extends the current understanding of the crisis responsibility attribution process (Coombs, 2007; Weiner, 1985).

This study also makes contributions to the overlapping area of crisis management and issue management, an emerging area of study that remains relatively undertheorized (Jaques, 2012). Issue management aims to cultivate a supportive and harmonious environment in the public policy arena between an organization and its stakeholders through environment scanning, maintaining high standards in corporate responsibility practices and dialogic communication (Heath and Palenchar, 2009; Jaques, 2012). Crisis management proactively blends pre-crisis prevention, crisis responses, and post-crisis recovery (Coombs and Holladay, 2012). This study bridges the two fields by addressing the process of public demand for regulatory intervention on social media in responding to a corporate crisis. The effectiveness of crisis and issue management can be enhanced through a better understanding of public demands that arise during a crisis.

It is worth noting that public demand for regulatory intervention does not necessarily lead to actual implementations of nation-state-level regulations in the business domain. The implementation of such regulations may depend on regulatory environments such as political economic systems and market competition (Egorov and Harstad, 2017). For instance, European regulators tend to be more responsive and engaging in the business domain than their US counterparts (Matten and Moon, 2008). Despite the varying regulatory environments, public demand for regulatory intervention is a way for publics to engage in governance of social and economic issues and may be a strategy for publics to seek for radical remedies or changes in the market (Stoker, 1998). Public demand for market changes can be met either through corporate self-regulation or through government regulation (Egorov and Harstad, 2017). Neoliberalism considers that "self-regulation is always the first best" (Egorov and Harstad, 2017: 1654). However, companies tend to delay or are unwilling to engage in self-regulation when they believe that they are secure against consumers switching to market competitors (King and McDonnell, 2012) or that "government regulation will not be forthcoming" (Doh and Guay, 2007: 130). Thus when publics lose faith in voluntary corporate self-regulation, they may consider lobbying the government for regulatory intervention. They call

for nation-state-level regulatory intervention with the hope that regulators redress problematic social issues or that their call might prompt companies to better regulate themselves so as to avoid having the government do so (Egorov and Harstad, 2017). Recent governance and regulation literature have begun to underscore the interplays among public demand, corporate self-regulation, and state regulations (Egorov and Harstad, 2017). The current study could offer psychological insights into governance and regulation fields by delineating the process through which publics call for regulatory intervention focusing on Chinese publics; the study also provides culturally and contextually relevant insights into the socio-psychological mechanism driving public responses during a crisis.

Responsibility attribution and locus of crisis outcome control

Crisis communication scholars have long been interested in investigating publics' attribution of crisis responsibility. Indeed, these attributions represent a quintessential determinant of subsequent attitudinal and behavioral responses (Weiner, 1985). SCCT defines crisis responsibility as the degree to which publics believe an organization should be blamed for a crisis (Coombs, 2007). Rooted in Weiner's (1985) attribution theory, SCCT considers responsibility attribution to be a function of the three causal attribution dimensions: *locus* (whether internal factors intentionally caused a crisis), *stability* (whether the causes of a crisis were long-lasting), and *controllability* (whether the organization could have controlled the causes of the crisis; Coombs, 2007).

However, social psychologists have argued that when people make crisis responsibility attributions in hindsight, the attribution not only depends on their causal attribution but is also subject to judgments of outcomes such as whether an outcome is controllable (Alicke and Davis, 1989). When publics are faced with uncertain situations, in their effort to produce desirable outcomes they naturally assess whether they have control over these outcomes and, if so, how to exercise it (Bandura, 1986, 2001; Skinner et al., 1988). This study labels such an assessment as perceived locus of crisis outcome control. If publics perceive that crisis outcomes are out of their control, they may evaluate the crisis as being of increased severity and feel negative emotions (Bandura, 1986). Such a subjective investigation tends to make publics attribute more responsibility to an in-crisis company and then affect their subsequent crisis responses (Alicke and Davis, 1989). This study, therefore, incorporates perceived locus of crisis outcome control into the examination of the psychological mechanisms of public demand for regulatory intervention.

Bandura's (1986) social cognitive theory has identified three types of control over outcomes an individual may perform: primary control, proxy control, and collective control. If people believe their own actions can yield satisfactory outcomes, they tend to wield direct personal control over an event, exercising what is termed *primary control* (Burger, 1989). Bandura (2001) labeled the perceptions of having primary control as *self-efficacy*. Individuals usually feel a lack of self-efficacy in crises that entail high levels of uncertainty (Edwards and Weary, 1998). Given this, the current study considers two salient means by which people can exert influence on crisis outcomes; these are

proxy control and collective control (Bandura, 2001; Skinner, 1996). Proxy control implies that an individual exerts control via an external agent who has the legitimacy or power to affect outcomes. The external agent is usually considered to be responsive and benevolent as well as to be acting on the individual's behalf (Antonovsky, 1979; Bandura, 1986). In contrast, collective control refers to a group of people or a collective actor as the controlling agent (Skinner, 1996). This usually occurs when individuals—perceiving high collective efficacy—believe they can accomplish a desired result through socially interdependent efforts. Some scholars thus use the terms *collective efficacy* and collective control interchangeably (Bandura, 2001).

Perceived consumer collective efficacy in the social media era

This study labels collective control as perceived consumer collective efficacy. Here publics believe they can achieve desired crisis outcomes through collective efforts (Bandura, 2001). According to economic sociology, if publics perceive levels of collective efficacy high enough to achieve desired crisis outcomes from the company, they may bypass regulatory intervention and take direct actions against the company (Bartley, 2003). The levels of collective efficacy in directly influencing companies' responses are usually evaluated based on the information that publics possess or on their past experiences with the company (Kim, 2014; Ojasalo, 2001). If publics believe that a company is responsive to their demands, they may feel high levels of collective efficacy (King and Pearce, 2010).

Today's social media has much improved the collective efficacy of publics in influencing corporate responses (Li, 2016). On one hand, social media facilitates timely and dialogical communication between in-crisis companies and their publics (Cheng, 2018). Existing studies have found that, during crises, an increasing number of organizations have actively responded to their publics through social media (Vignal Lambret and Barki, 2018). In this sense, publics tend to perceive higher levels of corporate responsiveness and collective efficacy than before (Cheng, 2018). Such collective efficacy may vary depending on the degree to which companies are concerned with their online reputations. For instance, Luo et al. (2016) found that companies that highly value reputation and public images tend to respond more urgently to demands from Internet activists than other companies in China.

On the other hand, social media has greatly increased collective efficacy in influencing crisis outcomes (Halpern et al., 2017). Social media with its feature of ubiquitous connectivity facilitates the formation of crisis-induced online communities and temporary activist groups (Sommerfeldt, 2011). The online communities and groups no longer need formal organizers and long-term memberships (Bennett and Segerberg, 2012). An individual can engage with a community or online activism through particular behaviors—such as through posting, reposting, and using hashtags (e.g. Halpern et al., 2017). Such behaviors greatly reduce the costs for an individual to engage in online activism (Bennett and Segerberg, 2012). Social media also increases the probability that the online community—with a large involved population—will achieve its collective goals (Hampton, 2010). An organization may disregard demands from a

minority of people, but when they come from the populace at large, the organization inevitably gives in (King et al., 2017).

Perceived government controllability of crisis outcomes as proxy control

In times of corporate crisis, publics have access to a variety of proxy agents to exercise control or counterbalance unethical behaviors of corporations. Such proxy agents include government agencies, activist groups, non-governmental organizations (NGOs), and media organizations (Campbell, 2007). In democratic societies, NGOs, activist groups, and media are often considered powerful in their capacity to constrain corporate behaviors, but in authoritarian societies like China they are relatively powerless (Yang, 2013). In fact, in China these proxy agents are often either formally affiliated with or controlled by government through a registration system (Cheng, 2016). Hence, in China, the most powerful proxy agent for constraining both private and public sectors is the government (Wu, 2007).

In countries with a *laissez-faire* capitalism system, government intervention is supposed to be minimal in the realm of business (Egorov and Harstad, 2017). However, even in these countries, government tends to be considered an available proxy control agent in times of corporate crisis. Recent national survey reports have found that an increasing number of Americans call on government agencies to interfere with corporate crises in the social media era (Public Affairs Pulse, 2018). That is because publics tend to perceive that threats posed by corporate crises to social well-being are greater than before and that vouchsafing the well-being of a society is widely considered a government responsibility (Velasquez and LaRose, 2015). In this sense, government tends to be a universally available proxy agent. Thus, this study operationalizes perceived proxy control in times of corporate crisis as perceived government controllability of crisis outcomes. Perceived government controllability of crisis outcomes is defined as the extent to which publics believe government has control over crisis outcomes as a proxy agent acting on their behalf (Skinner et al., 1988).

Issue involvement and the proposed moderated mediation model

Psychology studies consider issue involvement as a vital antecedent of cognitive processing and subsequent behaviors (Petty and Cacioppo, 1986). When people perceive an issue's relevance, they are motivated to devote cognitive efforts and generate behavioral reactions (Chaiken et al., 1989). Perceived issue involvement is widely defined as the degree to which an individual perceives an issue to be personally relevant, important, or of concern (Sherif and Hovland, 1961).

Prior literature has considered one robust positive predictor of public demands and online communicative actions to be issue involvement (Jiang et al., 2019; Kim and Grunig, 2011). Jiang et al. (2019) have found that publics interested in environmental issues tend to become activists and further call for public policy making to protect the

environment. Recent studies have also highlighted the role that issue involvement plays in predicting publics' crisis responsibility attribution, crisis information processing, and subsequent crisis responses (Choi and Lin, 2009; Claeys and Cauberghe, 2014). Through an experimental study, Zhang and Borden (2017) found that publics highly concerned with crisis-relevant obesity issues blamed the involved organization to a greater degree than did publics with little concern. McDonald and Härtel (2000) argued that issue involvement serves as a motivational variable to activate publics' needs for responsibility attribution, which, in turn, affects their expectations of crisis outcomes. This supports the idea of a mediating role of crisis responsibility attribution in the process of public reactions during crisis. Previous crisis communication literature has widely confirmed the mediation role that crisis responsibility attribution plays in the relationships between various public-, crisis-, and company-related antecedents—such as publics' pre-crisis evaluations, crisis history, and crisis severity—and ultimate attitudinal and behavioral responses of publics (Coombs, 2007; Kim, 2014). Therefore, this study proposes both direct and indirect effects (mediated by crisis responsibility attribution) of issue involvement on public demand for regulatory intervention.

H1. Issue involvement is positively related to crisis responsibility attribution.

H2. Crisis responsibility attribution is a positive mediator in the relationship between issue involvement and public demand for regulatory intervention.

As noted above, publics may consistently demand that governments intervene in severe crises (Heath and Palenchar, 2009). For most moderate-severity corporate crises, however, this study argues that the perceived locus of outcome control—assessments of collective control and proxy control—predicts publics' demands for regulatory intervention. This study substantiates collective control as consumers' collective efficacy and proxy control as government controllability of crisis outcomes. In times of corporate crisis, if publics perceive a high collective efficacy in constraining corporate behaviors and achieving desirable crisis outcomes, they may feel it unnecessary to call for government intervention. In contrast, if publics feel constrained in countervailing corporate power through their own collective efforts, they are more likely to rely on proxy control (i.e. government controllability), making demands for regulatory intervention to change the disadvantageous situation. Therefore, the study posits the following hypotheses:

H3. (a) Perceived consumer collective efficacy is negatively and (b) perceived government controllability over crisis outcomes is positively associated with public demand for regulatory intervention.

Previous research has examined the moderating roles of perceived controllability of crisis causes in the process of crisis responsibility attribution (Brewin and Shapiro, 1984). Recent research has also found that personal preference for internal or external control moderates the impacts of crisis response strategies on public evaluations (Claeys et al., 2010). Publics who favor an external locus of control tended to accept a denial

strategy better and evaluate the company more positively (Claeys et al., 2010). Literature on motivation has also suggested that when an event occurs, the impacts of people's intrinsic psychological state, such as perceived issue involvement, on their subsequent actions tend to be reduced by perceived external control (Eccles and Wigfield, 2002). This indicates that perceived locus of outcome control produces a negative moderation effect. The current study therefore hypothesizes that collective efficacy and government controllability may function as negative moderators in the relationships issue involvement has with responsibility attribution and public demand for regulatory intervention.

Specifically, when publics perceive a high level of government controllability over crisis outcomes, they may consistently call for government intervention regardless of the varying levels of perceived issue involvement. In contrast, when publics feel that the government is neither willing nor able to intervene in a crisis (i.e. perceiving a low level of government controllability), the degree of public demand for regulatory intervention may be more directly affected by individuals' perceived issue-involvement levels. This happens because the impact of issue involvement on public demand will not be offset by the impact of perceived government controllability. Thus, the tendency that highly involved publics will devote more efforts to mobilizing regulatory intervention (i.e. the positive impact of issue involvement) will be stronger when perceived government controllability is low (Petty and Cacioppo, 1986). In addition, when consumer collective efficacy is high, the impacts of issue involvement on public demands may become weaker. This is because when people believe that consumers, as collective actors, can obtain the desired crisis outcomes without regulatory intervention, they rely more on collective efficacy, offsetting the supposed positive impact of issue involvement on public demands (Bandura, 2001; Petty and Cacioppo, 1986). This study thus postulates that perceived consumer collective efficacy and government controllability (i.e. the locus of outcome control) would negatively moderate the direct effect of issue involvement on demands for regulatory intervention.

Similarly, collective efficacy and government controllability of crisis outcomes negatively moderate the impact of issue involvement on responsibility attribution (Eccles and Wigfield, 2002). The negative impacts of the two moderators on responsibility attribution will offset the impact of issue involvement on crisis responsibility attribution and, in turn, public demand (Alicke and Davis, 1989; Bandura, 1986). Thus, the study proposes the negative moderating roles of perceived consumer collective efficacy and government controllability of crisis outcomes in the indirect effects of issue involvement on public demands mediated by responsibility attribution. The conceptual framework proposed is presented in Figure 1.

H4. (a) Perceived consumer collective efficacy and (b) perceived government controllability over crisis outcomes negatively moderate the direct effect of issue involvement on public demand for regulatory intervention.

H5. (a) Perceived consumer collective efficacy and (b) perceived government controllability over crisis outcomes negatively moderate the indirect effect of issue involvement on public demand for regulatory intervention through responsibility attribution (negative moderated mediation effect).

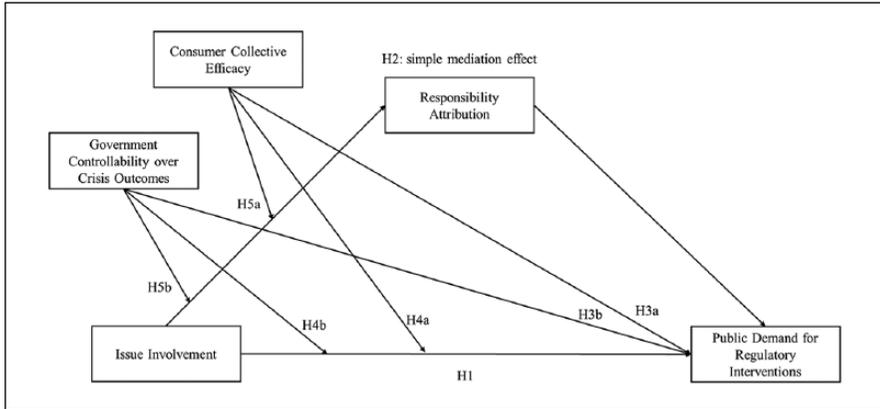


Figure 1. The proposed conceptual model.

Method

Data collection

Data were collected through an online survey from 6 December 2017—two weeks after the trigger event of RYB¹ Kindergarten children abuse crisis²—to 13 December 2017. The RYB crisis was selected, as it was deemed to represent the general context where, in this social media age, (1) a corporate crisis unfolds on social media; (2) despite the fact that it was considered a moderate-severity crisis without a severe casualty, the crisis raised a wide range of public concerns and elicited an online outcry, eventually evolving into a high-profile social issue in the public domain; (3) publics actively mobilized regulatory intervention through social media (Reuters, 2017).

As the crisis occurred in the city of Beijing, Beijing consumers, especially parents with kids and prospective parents, would be more concerned with the crisis. Thus, Beijing consumer panels were invited from pregnancy and early childhood parenting community sites where a majority of the members were parents or prospective parents. Using screening questions, those who did not reside in Beijing and did not have any social media engagement related to the crisis (i.e. information seeking or expressing opinions) were excluded.

Sample

The sample for data analysis consisted of responses from 508 respondents (US\$2.33 for each in exchange for their participation). Among them, 66.3% ($n=337$) were female, and the ages ranged from 18 to 57 ($M=28.89$, $SD=7.38$). Approximately 81% ($n=410$) fell in the 25–45 age group, which matched to the age range of typical parents with infants, toddlers, and preschoolers in China (CHYXX, 2017). Most of the respondents held at least a bachelor’s degree or higher (92.2%, $n=464$). More than half the respondents (57%, $n=290$) had a monthly income of more than US\$1,148—higher than the average

monthly income of Beijing residents (US\$683; Beijing Municipal Bureau of Statistics, 2017). RYB targets urban consumers whose kids are in the range from birth to six years old and whose family can afford the relatively high tuition of RYB for early childhood education (RYB, n.d.). Since the participants of the study generally matched with the traits of RYB target consumers in terms of age and income, the sample was deemed appropriate for the study.

Survey instruments

The survey was administered in Chinese. All items adopted from previous research were translated into Chinese and modified, using a back-translation method, to ensure the Chinese participants' comprehension of the measurements.

For the measurement items, existing scales were adopted to measure *issue involvement* ($M=5.90$, $SD=1.05$, Cronbach's $\alpha=.91$; McQuarrie and Munson, 1992) and *responsibility attribution* ($M=5.79$, $SD=1.04$, Cronbach's $\alpha=.88$; Kim, 2014). The items for *government controllability* ($M=5.41$, $SD=1.09$, Cronbach's $\alpha=.82$) were modified based on previous studies on proxy control and outcome control in psychology (Antonovsky, 1979; Skinner et al., 1988). The items for *consumer collective efficacy* ($M=4.70$, $SD=1.11$, Cronbach's $\alpha=.88$) were adapted based on previous social psychology and consumer research (Halpern et al., 2017; Lee, 2010). The scale of *public demand for regulatory intervention* ($M=6.49$, $SD=0.80$, Cronbach's $\alpha=.91$) was developed based on the previous literature on issue/crisis management and public health research (Heath and Palenchar, 2009; Hillier-Brown et al., 2014). See Appendix 1 for all measurements.

Construct validity tests

Before hypotheses testing, a confirmatory factor analysis (CFA) was performed to investigate construct validities of all variables. The results demonstrated a good model fit for the measurement model (Hair et al., 2009), that is, $\chi^2=217.79$ with 149 *df*, $\chi^2/df=1.46$, root mean square error of approximation (RMSEA)=.03, comparative fit index (CFI)=.99, Tucker–Lewis index (TLI)=.99, incremental fit index (IFI)=.99. All constructs obtained satisfactory convergent and discriminant validities (Hair et al., 2009, see Appendix 2).

Results

To test the proposed hypotheses, the study employed Hayes' (2018) PROCESS. To investigate H1 and H2, a mediation model (model 4) was performed. H1 postulated that issue involvement positively predicted public demand. Supporting H1, results revealed the positive relationship was significant, $b=.33$, $SE=.04$, $p<.001$, confidence intervals (CIs)=[0.247, 0.410]. This suggests that higher issue involvement resulted in higher public demand. H2 proposed a simple mediation effect of crisis responsibility attribution. Results showed that responsibility attribution positively mediated the effects of issue involvement on public demands as CI levels were

entirely above zero ($b = .07$, $SE = .02$, $CI_s = [0.037, 0.104]$). Therefore, H2 was supported, indicating that higher issue involvement resulted in higher responsibility attribution to the company in crisis, which in turn increased public demand for regulatory intervention.

To examine H3s, H4s, and H5s, conditional process analyses were conducted using PROCESS model 10. H3s examined the effects of consumer collective efficacy (H3a, negative effects) and government controllability (H3b, positive effects) on public demand. Results demonstrated that consumer collective efficacy was a positive but insignificant direct predictor of public demand ($b = .18$, $SE = .01$, $p > .05$, $CI_s = [-0.035, 0.071]$), whereas government controllability was a positive and significant direct predictor ($b = .16$, $SE = .03$, $p < .001$, $CI_s = [0.105, 0.216]$). Therefore, H3a was not supported while H3b was supported. These results suggest that consumer collective efficacy does not directly affect the degree of public demands. In contrast, as the levels of perceived government controllability increased, publics were more likely to call on regulatory intervention.

H4s postulated collective efficacy (H4a) and government controllability (H4b) moderated the direct effects of issue involvement on public demands. Both consumer collective efficacy and government controllability negatively moderated the direct effects, as CI_s fell into a range below zero (H4a: $b = -.06$, $SE = .03$, $p < .05$, $CI_s = [-0.105, -0.265]$; H4b: $b = -.14$, $SE = .02$, $p < .001$, $CI_s = [-0.189, -0.093]$). Therefore, both H4a and H4b were supported. To decompose the interaction effects, visual representations were created and are shown in Figure 2. When the levels of perceived government controllability were lower, the impacts of issue involvement on public demand were stronger. Similarly, the direct effects of issue involvement on public demand were larger when consumer collective efficacy was lower. As seen in Table 1, among publics who perceived a high level of government controllability and varying degrees of consumer collective efficacy, issue involvement did not have direct effects on public demand as CI_s included zero. When participants perceived government controllability to be at a high level, the levels of demands were relatively and consistently high regardless of issue-involvement levels (see Figure 2). In contrast, among publics who perceived average to low levels of government controllability, there were positive direct effects of issue involvement on public demand (See Table 1). Public demand increased as perceived issue involvement increased (see Figure 2).

H5a concerned whether the indirect effects of issue involvement on public demand through responsibility attribution would be negatively moderated by consumer collective efficacy. The negative index and CI_s levels suggested a significant negative moderated mediation effect ($Index = -.013$, $SE = .01$, $CI_s = [-0.025, -0.003]$). Thus, H5a was supported. H5b tested whether perceived government controllability negatively moderated the indirect effects of issue involvement—via responsibility attribution—on public demand. CI levels for the index of partial moderated mediation were also below zero ($Index = -.012$, $SE = .01$, $CI_s = [-0.024, -0.002]$), revealing a negative moderated mediation effect. Therefore, H5b was also supported. Shown in Figure 3 is a visual depiction of indirect effects as a function of consumer collective efficacy and government controllability. As can be seen, as the levels of consumer collective efficacy improved, there was a decrease in the indirect effects of issue involvement on public demand through

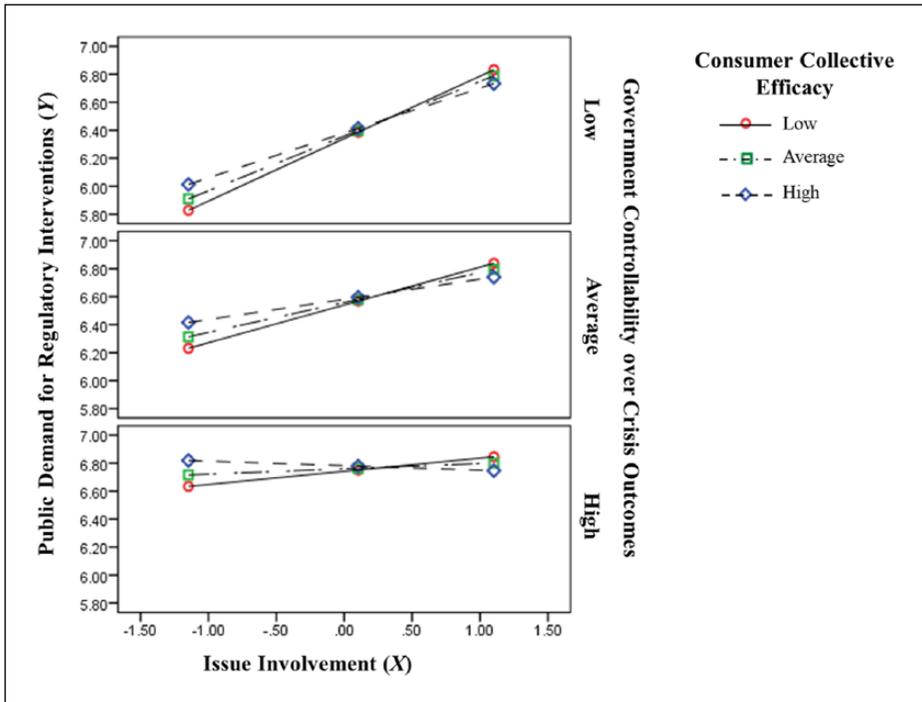


Figure 2. The impacts of issue involvement on public demand for regulatory intervention by the levels of collective efficacy and perceived government controllability.

responsibility attribution. Similarly, as the levels of government controllability increased, such indirect effects reduced.

Regarding the conditional indirect effects for various combinations of levels of consumer collective efficacy and government controllability, results showed that the indirect effects of issue involvement through responsibility attribution did not occur among publics with a high level of consumer collective efficacy, as CIs levels—for publics with all levels of perceived government controllability—included zero (See Table 1). However, among publics who perceived average to low levels of consumer collective efficacy, such indirect effects improved as their issue involvement increased. This occurred regardless of perceived government controllability levels, as CIs were entirely above zero (see Table 1; one exceptional case existed [an average level of consumer collective efficacy and a high level of government controllability]). The first stage moderated mediation model is also concerned with interaction effects of independent variable and moderators on the mediator (Hayes, 2018). To obtain more underlying knowledge related to the conceptual model, this study further probes such interactions. Results revealed that both consumer collective efficacy and government controllability were significant and negative moderators in the relationship between issue involvement and responsibility attribution, as CIs were entirely below zero (see Table 1).

Table 1. Unstandardized ordinary least squares regression coefficients with confidence intervals estimating responsibility attribution and public demand for regulatory interventions.

	Mediators		Outcome variable	
	Coefficient	95% CI	Coefficient	95% CI
Issue involvement (X)	0.22*** (0.4)	0.137	0.302	0.173
Responsibility attribution (M)	-	-	-	0.061
Collective efficacy (W)	0.01 (.04)	-0.069	0.087	-0.035
X × W	-0.11** (.04)	-0.181	-0.035	-0.105
Government controllability (Z)	0.22*** (0.4)	0.141	0.302	0.105
X × Z	-0.10** (.04)	-0.172	-0.030	-0.189
Constant	5.84*** (.04)	5.755	5.922	5.500
	R ² = .20			R ² = .39
	F(5, 503) = 25.54			F(6, 502) = 53.42
Indices of partial moderated mediation				
Moderator: collective efficacy		Index	BootSE	BootLLCI
Moderator: government controllability		-0.013	.01	-0.025
		-0.012	.01	-0.024
Conditional direct effects of X on Y				
Collective efficacy		Effect	BootSE	BootLLCI
Low		0.446	0.038	0.372
Average		0.270	0.037	0.198
High		0.094	0.056	-0.017
Average		0.390	0.038	0.315
				BootULCI
				0.521
				0.343
				0.204
				0.466

(Continued)

Table 1. (Continued)

Mediators		Outcome variable	
Responsibility attribution (M)		Public demand for regulatory intervention (Y)	
Coefficient	95% CI	Coefficient	95% CI
Average	0.214	0.156	0.272
Average	0.038	-0.053	0.129
High	0.321	0.208	0.433
High	0.144	0.056	0.233
High	-0.032	-0.133	0.069
Conditional indirect effects of X on Y			
Collective efficacy	Effect	BootLLCI	BootULCI
Low	0.053	0.025	0.086
Low	0.038	0.017	0.063
Low	0.022	0.004	0.049
Average	0.040	0.017	0.069
Average	0.025	0.010	0.045
Average	0.009	-0.005	0.030
High	0.023	-0.001	0.054
High	0.008	-0.009	0.029
High	-0.007	-0.026	0.012

CI: confidence interval; BootSE: bootstrap standard error; BootLLCI: bootstrap lower limit confidence interval; BootULCI: bootstrap upper limit confidence interval. Standard errors in parentheses; X, W, and Z are mean centered. * $p < .05$, ** $p < .01$, *** $p < .001$.

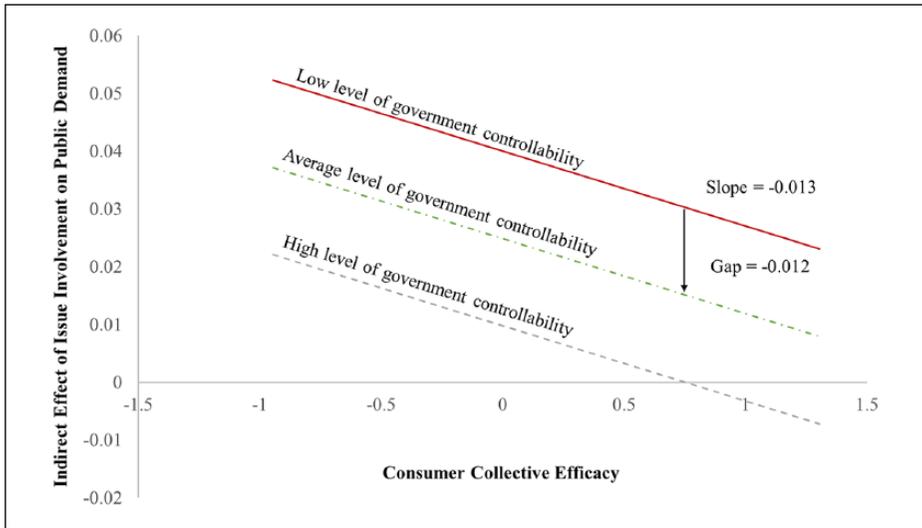


Figure 3. The indirect effect of issue involvement on public demand for regulatory intervention through responsibility attribution as a function of collective efficacy and government controllability. The slope was the index of partial moderated mediation by consumer collective efficacy while the gap was the index of partial moderated mediation by government controllability (Hayes, 2018).

Discussion

The findings suggest that when publics are more involved in an issue, they attribute more crisis responsibility to the in-crisis company. This leads them to make stronger demands for regulatory intervention. Previous studies have argued that public involvement is a determinant of crisis outcomes through influencing attribution and should thus be incorporated into crisis communication theories (Choi and Lin, 2009; McDonald and Härtel, 2000). In support of this argument, this study provides empirical evidence. Crisis communication scholars have long considered crisis responsibility attribution as a powerful mediator in various psychological dynamics of publics (e.g. Coombs, 2007; Kim, 2014). The findings of this study are the latest addition to the mediating role that responsibility attribution plays especially in motivating publics to call for regulatory intervention.

Among the two proposed moderators of crisis outcome control, perceived government controllability was identified as a crucial direct determinant of public demand for regulatory intervention. It was also a significant moderator in the process of issue involvement affecting responsibility attribution and public demand for regulatory intervention. However, collective efficacy did not have any direct relationships with public demand but had a significant moderating role in the process. This indicates that collective efficacy functions only as a pure moderator in the psychological mechanism of public demand for regulatory intervention, while functioning as a quasi-moderator (antecedent as well as moderator) in the mechanism is perceived government controllability. This implies that in

China the mechanism leading to increased public demand is affected much more by perceived government controllability than by collective efficacy (King and Pearce, 2010). Chinese publics demand regulatory intervention not only because they believe that company in crisis bears great responsibility but also because they perceive the government is a powerful agent to regulate the company (King et al., 2014; Lee, 2005). These findings are consistent with both popular beliefs and academic conclusions regarding the Chinese government's tendency to intervene in a crisis event (Huang and Kim, 2018). Such popular beliefs among Chinese publics may further direct publics' reactions to crisis such as demands for regulatory intervention. An ordinary corporate crisis, therefore, may easily spill over into the public domain and become a social issue in China.

Also worthy of closer attention is the fact that collective efficacy has no negative direct relationship with public demand for regulatory intervention. The study originally proposed a negative relationship between the two, assuming that when people sense they have high collective efficacy in achieving desirable crisis outcomes, they will feel it unnecessary to call for regulatory intervention. However, the study found a positive relationship, albeit statistically insignificant, between the two, indicating a higher collective efficacy leads to higher public demand for regulatory intervention. This may imply that in an authoritarian society like China, collective efficacy may not function as it would in democratic societies. In reality, online activism against corporate sectors in China has increased over the years (Luo et al., 2016). Notwithstanding such an increase, the Chinese are still more likely to rely on regulatory intervention from the government rather than collectively fixing corporate behaviors (Ji and Kim, 2019). The authoritarian structure of China and people's past experience in dealing with an all-powerful government may have undermined the impact of collective efficacy (Bandura, 1986; King and Pearce, 2010). This speculation warrants further investigation by comparing the role of collective efficacy in diverse countries.

Nonetheless, both of the perceived locus-of-crisis-outcome control variables revealed significantly negative moderation effects in this study. The findings provide solid and fascinating evidence that illuminates various underlying psychological processes of public demand for regulatory intervention. The positive impacts of issue involvement on public demands were stronger among publics with comparatively lower levels of collective efficacy or government controllability than they were on those who perceived a high level of control. Psychologists have suggested that issue involvement affects people's cognition and behaviors through enhancing their motivation to do so (Petty and Cacioppo, 1986; Sherif and Hovland, 1961). Publics—with a high level of consumer collective efficacy—usually have great confidence in affecting crisis outcomes. Publics have less need of motivation derived from other factors such as issue involvement. Among these publics, the direct effects of issue involvement are thus mitigated. Publics who perceived relatively lower levels of collective efficacy tend to lack confidence in its effectiveness and therefore are more likely to be motivated by issue involvement.

Among publics who perceived a high level of government controllability, the conditional direct effects of issue involvement on public demands were not significant. These publics consistently demand regulatory intervention no matter how much they were concerned with children safety issue. This may be because they believe the Chinese government is a powerful proxy agent, and thus they may unconditionally expect governmental

intervention in a corporate crisis (Ji and Kim, 2019). For publics who perceived relatively lower levels of government controllability, the direct effects of issue involvement were still significantly positive. This might be explained by the publics' lack of confidence in government controllability and proactive government regulations, opening them up to be more motivated by their own issue-involvement levels.

Regarding the indirect effects of issue involvement on public demand for regulatory intervention through responsibility attribution, this study also finds significantly and negatively moderating roles of perceived locus of outcome control. As the levels of consumer collective efficacy and government controllability decreased, the positive impacts of issue involvement on responsibility attribution increased. This, in turn, escalated public demand for regulatory intervention. Previous literature has suggested that, in times of crisis, publics with a high level of issue involvement tend to experience more negative emotions such as fear and anger (Claeys and Cauberghe, 2014). These negative emotions lead to a larger degree of responsibility attribution (Jin et al., 2012). Bandura (1986) argued that when people have limited outcome controls, they feel vulnerable and are thus subject to negative emotions. The cumulative negative emotions may, by enlarging responsibility attribution, have magnified the indirect effects of issue involvement on public demands. When publics feel they have control over outcomes of an adverse event, they might become confident and reduce initial negative emotions (Bandura, 1986). These attenuated negative emotions may have further lessened the indirect effects of issue involvement.

The indirect effects did not materialize among publics who perceived a high level of consumer collective efficacy and varying levels of government controllability in this study. Prior literature has noted that publics who are greatly involved in a crisis tend to scrutinize crisis information (Choi and Lin, 2009; Claeys and Cauberghe, 2014). The crisis case used in this study suggests that the company was the culprit. Therefore, the more attention publics paid to crisis information, the more responsibility they attributed to the company, enhancing their demand for regulatory intervention. However, when publics believed that they themselves, as a collective actor, had a high level of control over crisis outcomes, an individual public might choose to become a free rider. Free riders expect to share achievements of collective action but do not intend to devote efforts and resources because they believe that contributions from other people are adequate to produce the desired outcome (Olson, 1965). Due to the decreased cognitive resources dedicated to understanding crisis information, the responsibility attribution to the company may have been reduced. Such a free-rider tendency may thus nullify the positive impacts of issue involvement, as a motivation variable, on responsibility attribution and consequent demands for societal intervention.

Implications

The current study offers timely and valuable insights into the mechanism of crisis-induced public demand for regulatory intervention in corporate crises in the social media era (Bennett and Segerberg, 2012; Einwiller et al., 2017). This study, by uncovering the underlying mechanism of how a corporate crisis can escalate into a societal-level issue through the mobilization of public demands on social media, certainly adds another layer

to the area of growing convergence and overlap between crisis and issue management (Coombs and Holladay, 2012; Jaques, 2009).

This study advances current crisis communication theory by incorporating publics' judgment of crisis outcome control (Bandura, 1986)—whether they perceive they have control over crisis outcomes either collectively or through a proxy agent of the government—into our understanding of the process of responsibility attribution and public demand (Robbennolt, 2000). By proposing perceived government controllability as a function of proxy control and collective efficacy as collective control, this study proposes a cognitive model wherein the moderating roles of these constructs are highlighted. Existing crisis theories (e.g. SCCT and attribution theory) have predominantly underscored the locus and controllability of crisis causes rather than emphasizing perceived control of crisis outcomes (Coombs, 2007; Weiner, 1985). Given this, the current study extends the crisis literature by adding the viewpoint that public judgment (made in hindsight) also matters with regard to crisis outcome control.

The findings of this study also shed lights on various conditional effects of issue involvement on public demand for regulatory intervention through responsibility attribution. In particular, interactions among issue involvement, collective efficacy, and perceived government controllability delineate how people utilize collective or proxy control to exert influence on crisis outcomes. Successfully demonstrating the usefulness of perceived government controllability and collective efficacy, this study contributes to further theoretical framework development and refinement regarding the integration of these constructs into crisis communication theories (Bandura, 1986; Coombs, 2007).

The regulatory intervention that the public demanded and that this study investigated is concerned with child safety-relevant regulations or with policies in the education industry. Nonetheless, insights gained from this work can be applied to other types of corporate crisis-induced regulations or policies. Following other corporate crises, publics may call for different types of regulations or policies that correspond to related social issues. These could include publics demanding regulations concerning environment protection, food safety, Internet data privacy protection, and workplace sexual harassment. For instance, in the 2017 Uber workplace sexual harassment crisis, American consumers called for new California legislation to combat the use of forced arbitration clauses in the workplace, a common practice requiring employees to waive their right to sue the company (Levin, 2018).

In addition, the proposed model utilizes universally applicable cognitive and social psychology knowledge as a theoretical base (Bandura, 1986). Thus, the model may be applicable to varied societal contexts in testing the aspect of publics' psychological dynamics leading to public demand in corporate crises. The magnitude of perceived government controllability and collective efficacy, however, should or would vary by culture. In this study of Chinese contexts, government controllability seems to play a greater role than collective efficacy in the process of public demand due to China's authoritarian characteristics (King et al., 2014; Lee, 2005). What might play a larger role than government controllability in other democratic societies, however, could be collective efficacy. And possessing greater explanatory power than perceived government controllability may be other potential proxy controls, such as perceived media controllability of crisis outcomes (or NGOs). Thus, for the applicability and extension of the proposed model, future

researchers need to investigate other potential proxy controls and varying impacts of collective efficacy and government controllability. As such, our findings offer ample room to grow for theory development and refinement in communication theories, facilitating further empirical work in this area.

Limitations and future research

The findings need to be cautiously interpreted due to the following limitations. The study adopted an online survey. However, the survey method is limited in its detection of causal relationships among constructs. Moreover, the sample of parents and prospective parents in Beijing was deemed to be appropriate for the current study. Indeed, the RYB crisis occurred in Beijing and mainly concerned these chosen target consumers. Yet as the sample was neither representative nor national, a sampling bias is possible, thus limiting the generalizability of our findings. In addition, the findings of this study could be subject to Chinese regulatory environments and corporate crisis-induced public demand phenomena. Thus, they should be interpreted with caution when applied to other societies where regulatory environments are largely different and to other non-corporate-crisis-induced public demands such as political movements (e.g. Umbrella movement of Hong Kong, Candlelight revolution of Korea). This study focused on an attribution-mediated psychological mechanism leading, in a corporate crisis, to public demand on social media. Because of this focus, the study did not examine what role is played in the mechanism by actual crisis-related social media engagement behaviors (e.g. information seeking and expressing opinion). Future research is thus recommended to investigate how psychological factors lead to specific social media communicative behaviors or how people employ social media to mobilize public demand specifically in comparison to traditional media. We also call for future studies to investigate under which conditions public demand for regulatory intervention will successfully mobilize actual regulatory intervention.

Self-efficacy was not considered in this study under the assumption that in times like a crisis people may feel lack of self-efficacy. In future research, however, as low levels of self-efficacy may undermine collective efficacy (Velasquez and LaRose, 2015), it is recommended that researchers integrate self-efficacy into the picture. Finally, based on social cognitive theory (Bandura, 1986), which focuses on behaviors, it is recommended that future research consider further investigations into specific public demand-induced actions as well as the factors leading to such actions.

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Notes

1. RYB Education is a private company listed on the New York Stock Exchange. The largest preschool education provider in China, RYB Education has established kindergartens (nearly 500) and play-and-learn centers (over 1,300) across approximately 300 Chinese cities (Reuters, 2017).
2. On 22 November 2017, more than 10 parents accused that children at a RYB kindergarten in Beijing had been pierced with needles and fed unidentified pills. The parents provided several photos of children that showed evidence of needle piercings. On 26 November 2017, Beijing Police released the results of their investigation. The teacher, Liu, has been detained on a charge of child abuse. On 29 November 2017, RYB Education apologized for the incident (BaiduPedia, n.d.).

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Appendix I.

Measurement items for all constructs.

Variable	Measures	M (SD)
Issue involvement	To what degree you agreed with the following statements: 1. To me, the children's safety issue is of interest. 2. To me, the children's safety issue is significant. 3. I am very concerned about the children's safety issue. 4. I am very sensitive to the children-safety-related issue.	5.73 (1.22) 5.92 (1.18) 5.96 (1.18) 5.98 (1.16)
Responsibility attribution	1. The company is highly responsible for the crisis. 2. The company should be accountable for the crisis. 3. The crisis is the fault of the company. 4. The company should be blamed for the crisis.	6.04 (1.08) 6.05 (1.11) 5.34 (1.36) 5.75 (1.29)
Government controllability	1. Chinese government can ensure the crisis to be addressed properly. 2. Chinese government can affect the company's crisis responses. 3. Chinese government can correct the wrongdoings of the company. 4. Chinese government could make sure the crisis is solved in ways that publics expected.	5.41 (1.30) 5.72 (1.19) 5.38 (1.35) 5.13 (1.26)
Collective efficacy	1. Consumers, as a collective actor, can influence the company's crisis responses. 2. Consumers, as a collective actor, can discipline the company's unethical behaviors. 3. Consumers, as a collective actor, can ensure desired crisis outcomes. 4. Consumers, as a collective actor, can reduce the company's disregard of consumer interests during the crisis.	4.66 (1.27) 4.90 (1.24) 4.51 (1.40) 4.71 (1.23)
Public demand for regulatory interventions	1. I demand the government to regulate the kindergarten education industry. 2. I appeal for related legislation. 3. I call for the adoption of related public policies. 4. I demand regulatory intervention for the crisis.	6.49 (0.90) 6.57 (0.83) 6.49 (0.91) 6.42 (0.98)

All measurements were anchored on a 7-point agreement Likert-type scale (1 = strongly disagree to 7 = strongly agree).

Appendix 2.

Construct validities and correlations matrix

Discriminant and convergent validities of all constructs, and correlations matrix.

Constructs	CR	AVE	MSV	MaxR(H)	X	M	Y	W	Z
Issue involvement (X)	.916	.733	.255	.954	–				
Responsibility attribution (M)	.870	.633	.143	.969	.350***	–			
Public demand (Y)	.910	.631	.255	.977	.505***	.378***	–		
Collective efficacy (W)	.865	.620	.047	.981	.110*	.079	.123*	–	
Government controllability (Z)	.836	.562	.145	.845	.275***	.320***	.381***	.217***	–

CR: composite reliability; AVE: average variance extracted; MSV: maximum shared variance; MaxR(H) = maximal reliability. Satisfactory convergent validities indicate that the following criteria were met: for each construct (a) the composite reliability was greater than .70; (b) the square root of average variance extracted (AVE) was larger than .50; (c) the composite reliability was larger than AVE; an acceptable discriminant validity for each construct means that the AVE was greater than the square of the correlation, maximum shared variances (MSVs).
* $p < .05$, *** $p < .001$.