Crisis spillover of corporate environmental misconducts: The roles of perceived similarity, familiarity, and corporate environmental responsibility in determining the impact on oppositional behavioral intention

Abstract

Negative impact of a firm's environmental misconduct can spread to other firms under the same category due to stakeholders' categorization. Such problem implies a socio-cognitive process that has yet to be explored. Therefore, this study extends the current literature by exploring how interfirm similarity affects the spillover effects through stakeholders' engagement. We propose that interfirm similarity can be perceived by stakeholders as a categorization standard, which can lead to their opposition to other firms. Spillover of misconduct is caused by the decreasing stakeholders' trust, wherein the negative effect is contingent upon stakeholders' perceptions. A questionnaire study is conducted to investigate how people resist an innocent firm in China when a chemistry firm experienced an explosion accident. Our findings confirm that interfirm similarity increases stakeholders' opposition to the innocent firm by decreasing their trust. However, the negative effect is alleviated when the innocent firm is perceived as highly environmentally responsible. Our work contributes to the crisis spillover literature and carries important implications for the management of innocent firms that may lose from an industry peer's misconduct.

Keywords: interfirm similarity, corporate environmental responsibility, general familiarity, trust, oppositional behavioral intention

Introduction

Corporate environmental misconduct is widely recognized as wrongdoing that places the public at risk, violates the expectations of environmental standards of conduct, and generally threatens human health or environmental stability (Du, 2015; Greve, Palmer, and Pozner, 2010). These misconducts usually involve accidents related to corporate environmental issues, such as the release or potential release of oil, radioactive materials, or hazardous chemicals into air, land, or water. In the occurrence of environmental misconduct, innocent organizations within the same category (e.g., same industry or region) may suffer from unwarranted influences, which are the negative spillover of crises (Naumovska and Lavie, 2019; Yu et al., 2008). Existing research has

mainly investigated the relationship between interfirm characteristics and crisis spillover effects, such as the loss of social approval (e.g., Naumovska and Lavie, 2019; Zou et al., 2015; Diestre and Rajagopalan, 2014; Desai, 2011; Kahuni, Rowley, and Binsardi, 2009; Kang, 2008). Moreover, the importance of stakeholders' perceptions in the contamination process is suggested (Poroli and Huang, 2018; Paruchuri and Misangyi, 2015; Yu et al., 2008).

However, the influential mechanism, that is, how interfirm characteristics influence the innocent firm through shaping stakeholders' perceptions remains unexplored. Yu et al. (2008) has suggested that an organizational crisis may affect other organizations by shaping the perceptions of stakeholders, including losing their trust. Paruchuri and Misangyi (2015) have shown that interfirm similarities must be combined with investors' perception to explore the contamination process of financial misconduct. Scholars encourage additional research to explore the process by which the interfirm similarity affects stakeholders' behaviors, such as through social trust (e.g., Yu et al., 2008). As an important social perception, social trust has been viewed as an intermediary variable for interfirm crisis contamination (Jeffries and Reed, 2000). According to Yu et al. (2008: 463), changes to reduce interfirm linkages or perceived similarities may "regain evaluators' trust and prevent future crises and their spillovers." Lack of evidence supporting the influential mechanism of crisis spillover is of great concern, given that interfirm linkages may not lead to social oppositional behavior directly (e.g., expressing opinions against the operation of suspicious firms) but may exert impact through shaping social trust. For example, despite its own great financial loss, the battery explosion accident concerning a Samsung phone in 2016 does not seem to affect other phone manufacturers[1]. Huawei's mobile phone sales in China continue to rise even if the brand has featured a similar "supercharging" battery technology. China's customers who are familiar with and have positive views of Huawei still hold high trust and act rationally toward the brand. Thus, we aim to test an implicit assumption underlying prior spillover research, that is, stakeholders' trust acts as a mediator between interfirm similarity and stakeholders' behavior, leading to the contamination process (Yu et al., 2008).

Moreover, since innocent firms may gain different impressions from the public, the effect of interfirm similarity is subject to the influence of stakeholders' prior perception of an innocent firm. Prior research has found that actors' scandals and consequent effects may differ when they have different social status perceived by the public (Wei et al., 2017; Adut, 2005). We suggest that the influence of interfirm similarity on

---

[1] More details on the explosion accident can be accessed at https://www.wsj.com/articles/samsung-shares-unloaded-in-galaxy-note-7-fire-sale-1473428218.

stakeholders' trust (and then on their behavioral intention) is contingent upon their perceptions of an innocent firm's general familiarity and specific images (i.e., environmental responsibility image). In the current research, we focus on two important social perceptions: 1) perceived general familiarity, which refers to the extent to which an individual is acquainted with a given company (Brooks et al., 2003; Luce et al., 2001) and 2) perceived corporate environmental responsibility (CER), which refers to the perceptions of the character of a firm in terms of environmental issues (Lange et al., 2011).

Accordingly, this study aims to answer two related questions:

Q1: How does stakeholders' trust mediate the effects of interfirm similarity (i.e., the similarity between the culpable and innocent firm) on stakeholders' oppositional behavior toward the innocent firm?

Q2: How do stakeholders' perceived general familiarity and CER moderate the above influential process?

Yu et al. (2008) have argued that crisis spillover affects other firms through cognitive reactions of stakeholders. Drawing on their framework, we propose a socio-cognitive process wherein interfirm similarity is perceived as a categorization standard by undermining stakeholders' trust on innocent firms. As a result, an innocent firm indirectly loses social approval. We conceptualize the cognitive process to explain the spread of a focal firm's guilt by proposing stakeholders' trust as a mediator, wherein innocent firms may suffer from social oppositional behaviors following a crisis of a firm within the same category due to interfirm similarity (e.g., Jonsson, Greve, and Fujiwara-Greve, 2009; Paruchuri and Misangyi, 2015). Accordingly, we argue that the link between interfirm similarity and oppositional behavior is mediated by stakeholders' trust. Moreover, highly perceived familiarity and CER may provide stakeholders more information to evaluate the innocent firm rationally. Accordingly, we argue that the cognitive strength of the innocent firm being rated by the stakeholders into the same category of the culpable firm is declined when stakeholders perceive high familiarities with the innocent firm's general and CER characteristics. In this way, the negative spillover effect is expected to be alleviated.

Our model is tested by investigating how residents resisted Jiangsu Lianhua Chemical Company (innocent company, hereinafter COMPANY1) after the A-share listed company Jiangsu Tianjiayi Chemical Company (culpable company, hereinafter COMPANY2) experienced a chemical explosion on March 21, 2019. Both companies are chemical enterprises but have no shareholding relationships. According to Financial Times and Washington Post, the chemical explosion and subsequent issues, such as gas spills, have greatly influenced the local environment and people's lifestyles and aroused

social criticisms and public oppositional behaviors [2] . Although COMPANY2's explosion accident has not exhibited direct effects on COMPANY1's operation, negative spillover can occur given the similar major business and close geographical distance between the two companies. Such salient features and relationship between the two firms allow stakeholders to make individual mental associations between the two organizations regarding critical issues (Yu et al., 2008). We have conducted onsite interviews with residents nearby COMPANY1. Some have mentioned that their living environment has been threatened. Thus, they have planned to file a petition to the local government to check or stop the firm, in case of similar accidents in COMPANY1. Residents nearby COMPANY1 are regarded as the stakeholders. Therefore, we target them as the survey respondents.

Our study has three significant contributions to existing literature. First, this research contributes to crisis literature by testing a socio-cognitive contamination process. Prior research has empirically shown the impact of interfirm-shared characteristics on other firms. We extend the literature by proposing a mediation mechanism to clarify how such interfirm similarity affects other firms under the same category. By introducing social trust as a mediator, our model uncovers a socio-cognitive process of crisis spillover (Yu et al., 2008). Social trust acts as an important intermediary and spreads the guilt of the culpable firm to other innocent firms under the same category. Second, with regard to the moderating role of perceived general familiarity and CER, our findings add important perspectives on the contingencies of the crisis spillover effects. Our work is the first to empirically validate whether perceived general familiarity and CER have moderating effects in the defense of oppositional behavioral intention after the exposure of environmental misconduct. The social oppositional behaviors caused by interfirm similarities become less severe when perceived familiarity and CER are high. High familiarity and CER highlight a theoretical boundary on the relationship between interfirm similarity and social oppositional behaviors. Third, the recognition of the role of perceived familiarity and CER in crisis spillover is consistent with the finding on a firm's multidimensional reputation, that is, being known and being known for CER (e.g., Rindova et al., 2005). These extended implications can provide valuable practical insights into reputation management.

Research model and hypothesis development
Based on previous literature, this study proposes a model that examines the relationship between interfirm similarity and public's oppositional behavioral intention. Moreover,

---

[2] More details of the accident can be accessed at https://www.ft.com/content/456928de-4bc8-11e9-8b7f-d49067e0f50d and its negative effects at https://www.independent.co.uk/news/long_reads/china-factory-explosion-tianjiayi-impact-deaths-a8852331.html.

perceived familiarity and CER as moderators and social trust as a mediator are explored to understand the socio-cognitive contamination process after the occurrence of a corporate environmental misconduct. Figure 1 provides a schematic of our research model. We use this model to develop the hypotheses.

<Figure 1 Here>

Perceived interfirm similarity, trust, and oppositional behavioral intention

Interfirm similarity refers to people's perceived similarity of two organizational traits, such as industry membership and geographic overlaps (Jonsson, Greve, and Fujiwara-Greve, 2009; Yu et al., 2008). The public perceives organizational similarity as a motive with alarming connotations (Yu et al., 2008) and as one that activates a process of association between the initial stricken firm and other firms in the same industry. According to accessibility–diagnosticity theory (Menon, Raghubir, and Schwarz, 1995), individuals have limited ability to apply universalistic criteria to make sense of their environments when the uncertainty surrounding an event is high. As a result, these individuals tend to use mental representations of categories to provide default assumptions on target objects (Fiske, 1989). When the innocent and the culpable organizations have shared characteristics, people are likely to exhibit a sense of affective distrust on organizations they are connected with to minimize downside risks.

Social trust is a channel of event spillover given that it may influence people's situational interpretation and how they establish connections between the crisis-stricken organization and other firms (Lee and Rim, 2016; Hung-Baesecke et al., 2015). Existing research has suggested the importance of social trust in the contamination process of crisis spillover (e.g., Borah and Tellis, 2016). As a type of social perception, trust has affective, cognitive, and behavioral dimensions (Lewis and Weigert, 1985). Affective trust is the confidence one places in a trustee on the basis of feelings generated by the level of care and concern the trustee demonstrates (Johnson and Grayson, 2005; Mayer et al., 1995; Rempel et al., 1985). The essence of affective trust is a reliance on a firm based on emotions. As emotional connections deepen, trust in an organization may significantly increase. Such action is justified by experience or availability knowledge. Cognitive trust is the confidence or willingness to rely on another's ability and credibility (Johnson and Grayson, 2005; Rempel et al., 1985). Cognitive trust is formed on the basis of available knowledge and rational evaluation (Jeffries and Reed, 2000). Cognitive trust can be effectively fostered based on direct interactions with the trustee and knowledge on the trustee's reputation (McKnight, Cummings, and Chervany, 1998). Behavioral trust constitutes actions that flow from a state of cognitive and affective trust (Lewis and Weigert, 1985). Thus, behavioral trust is often treated implicitly as the consequences of cognitive and affective trust. Accordingly, we focus

on the first two dimensions and treat behavioral trust implicitly as the consequence of cognitive and affective trust (Johnson and Grayson, 2005).

Perceived interfirm similarity can threaten stakeholders' emotional connections with innocent firms, engendering low levels of affective trust. Such effect will enable stakeholders to perceive innocent firms as possible actors or subjects of similar occurrences. Stakeholders who perceive and subject innocent organizations as a problem will immediately feel alarmed regarding corporate production and worried about the damages associated with it, resulting in negative attitudes toward these firms (Midden and Huijts, 2009). Moreover, stakeholders may actively share messages with their networks when they establish links between incident-stricken and innocent organizations (Poroli and Huang, 2018) by writing negative comments or antagonistic postings on social media (Hung-Baesecke et al., 2015).

Perceived organizational similarity can also threaten people's confidence on firms' organizational credibility and increase their risk perceptions. Stakeholders with low-level cognitive trust toward innocent organizations are likely to judge these firms unfavorably and exhibit high levels of suspicion. Stakeholders will also exhibit low confidence on innocent firms' abilities. As a result, stakeholders will engage in negative word of mouth. Thus, we propose a mediating mechanism in the form of the following hypothesis:

Hypothesis 1: Perceived interfirm similarity between the culpable and innocent firm indirectly increases stakeholders' oppositional behaviors toward the latter by decreasing their trust.

Moderating effects of perceived familiarity and CER

General familiarity refers to the extent to which an individual is acquainted with a given organization (Brooks et al., 2003; Luce et al., 2001). General familiarity usually depends on stakeholders' experiences related to an organization (Liu, Chu, Huang, and Chen, 2016). Perceived CER is a belief toward environmental responsibility activities of a given organization. Perceived CER can be created and facilitated by symbolic or substantive environmental strategies containing relevant information that helps stakeholders to gain knowledge on a given firm. The latter involves stakeholders' judgments on a firm's environmental performance. The former involves generalized, global perceptions of a firm.

This research focuses on how perceived familiarity and CER influence stakeholders' trust and reaction toward an innocent firm. The characteristics of corporate environmental misconduct provide significance to the roles of perceived general familiarity and CER. Corporate environmental misconduct is characterized by high levels of uncertainty toward a firm among its stakeholders. Corporate environmental

misconduct often has "multiple explanations [and] ambiguity regarding responsibility and potential damages" (Bundy and Pfarrer, 2015: 351). When information is lacking, stakeholders mainly rely on past experiences and interactions to evaluate and interpret the situation of an environmental accident (Wei, Ouyang, and Chen, 2017). Thus, stakeholders' attitude and response are affected by their familiarity with a firm and evaluation of its environmental performance.

Moderating role of perceived innocent firm familiarity

Low-level familiarity means that people lack adequate information on a firm. People are forced to engage in a much effortless style of processing on the basis of simple cues or heuristics that allow them to assess an object or make a judgment with a minimum time and thought (Smith et al., 2006). For example, individuals with low familiarity are likely to use extrinsic cues in product quality assessment, given that they do not have enough intrinsic cues based on real experiences (Rao and Monroe, 1988). In the context of a crisis spillover, strong negative spillovers occur when stakeholders do not have specific information on the "innocent" company due to individual heuristic processing (i.e., individuals evaluate the company based on the general category to which the company belongs). By contrast, stakeholders who are familiar with a firm usually have vast information, which they can recall to leverage the uncertainties and ambiguities at the onset of a crisis (Wei, Wang, and Lindell, 2016a; Wei et al., 2016b; Brooks and Highhouse, 2006). Accumulated knowledge and information enables stakeholders who are familiar with a firm to combine the information appropriately and arrive at a reasoned judgment. In this way, the possibility that the innocent firm is classified into the category of the culpable firm is low. Accordingly, we predict that:

Hypothesis 2: *Perceived general familiarity with the innocent firm alleviates the negative impact of interfirm similarity on stakeholders' trust.*

Moderating role of innocent firm's perceived CER

CER reflects firm's environmental responsibility perceived by stakeholders and has been discussed as a major factor accounting for behavioral intention to an initially stricken organization (Reimsbach and Hahn, 2015; Lin et al., 2011). Perceived CER is also an effective tool to counter the negative effects of crisis spillover (Godfrey, 2005). For example, Phillips and Zuckerman (2001) have found that high-status law firms are less likely to be punished for nonconforming behaviors than low-status law firms. Stakeholders who perceive strong CER from a firm tend to reduce cognitive dissonance by rationalizing any information on such firm. This tendency is called "the reservoir of goodwill hypothesis." The goodwill generated by firms should reduce the overall severity of sanctions by encouraging stakeholders to give firms "the benefit of the doubt"

when the cause of the event is unclear (Uzzi, 1997). In this study, stakeholders' high evaluations of CER performance can let them rationally distinguish the culpable firm from the innocent firms. Stakeholders believe that firms have the ability to avoid or cope with possible crisis and subsequent issues when they have greatly performed environmental responsibilities, such as environmental protection or crisis prevention. In this way, a crisis is less likely to exert a negative impact (e.g., environmental issues) on stakeholders' lives. The perception that the innocent firm is rated into the category of crisis firm is weakened. Therefore, we assert that the negative effect of perceived interfirm similarity on trust is alleviated when stakeholders have a strong perceived CER. Thus, we propose the following hypothesis:

Hypothesis 3: Perceived CER alleviates the negative impact of interfirm similarity on stakeholders' trust.

Method
Study context
This study aims to examine how a firm's environmental misconduct can generate negative consequences to innocent firms within the same industry. Specifically, we explore how a company's (COMPANY2) critical and unexpected environmental accident influences stakeholders' evaluations and attitudes toward similar company (COMPANY1). An explosion has occurred at a Chinese chemical plant in Jiangsu on March 21, 2019, causing chemical and toxic spills that eventually lead to the death of 78 people[3]. People shared and posted their concerns on the social media for the people injured during the explosions. They expressed their worries about what exactly caused the explosion and what kind of chemicals people may have been exposed to. In theoretical and practical perspectives, this accident can provide us an appropriate context to test crisis spillover effects between the culpable and innocent firms for the following reasons. First, both companies possess huge chemistry plants and similar major businesses. In addition, both firms operate in a close geographical distance and are located nearby densely populated areas. Such salient similarities between COMPANY1 and COMPANY2 can ensure the occurrence of a crisis spillover. Yu et al. (2008: 458) have argued that "an organizational crisis is likely to spill over to other organizations with the same organizational form as the initially stricken organization." Accordingly, we choose COMPANY1 and COMPANY2 as the research subjects. Such choice increases the ease of categorization and the likelihood of crisis spillover. Second, the chemistry explosion accident fulfills the requirement of the "simplicity of the

---

[3] More details on the media coverage can be accessed at https://www.business-humanrights.org/en/china-explosion-at-chemical-plant-in-yancheng-causes-78-deaths-and-more-than-600-injured.

stricken organization" from a theoretical perspective (Yu et al., 2008: 460). In comparison with other organizations such as financial firms or service firms, chemistry firms have relatively recognized identification. For example, the huge chemistry plant, as the common feature, enables evaluators (particularly for residents who play as our respondents) to categorize those firms into the same form. Third, local firms have issued proclamations to avoid suspicion and geographical proximity, which are significant in the occurrence of crisis spillover.

In terms of practical influence, the explosion accident rapidly became a top trending topic on the social media platform "Weibo" (Chinese version of Twitter), wherein the hashtag "Jiangsu Yancheng Chemical Plant Explosion" attracted approximately 100 million views within the day of explosion (March 21, 2019). After the incident, some journalists found that in a letter issued in February of the previous year, the State Administration of Work Safety listed 13 safety problems found in the plant, including insufficient safety knowledge, lack of management expertise, unsound standard operating procedures for production facilities, and substandard operations. Moreover, the company received several administrative punishments in the past, mostly pertaining to issues of solid waste management and environmental protection. As a result, the local media began to surveil other chemical companies in the same area.

Data collection

A questionnaire survey was conducted in communities near Xiangshui Eco-chemical Industrial Zone in Jiangsu to investigate the public's evaluation and behaviors toward COMPANY1. The target respondents were local residents with ages ranging from 18 to 70. The questionnaire items were developed on the basis of prior research. We tested the comparability and appropriateness of prior questionnaire items in a new context as follows. First, we adopted a back-translation method to make sure that all items can be understood clearly in the Chinese context. Second, we randomly selected 20 residents in our target survey sites and conducted a pilot test using the earlier draft questionnaire (these responses were not included in the final survey). We refined the questionnaire according to their feedback. We also ensured that the final survey also complied with proper human research ethics. Our research members are trained with different interview techniques and dispatched to various sites to enhance the quality of data. Research team members thoroughly informed the respondents about the nature of the research and the academic purpose of the survey to encourage residents' participation. We randomly selected approximately 450 residents in Xiangshui County, covering all eight towns of Xiangshui (i.e., Xiangshui, Chenjiagang, Huangyu, Nanhe, Dayou, Yunhe, Shuanggang, and Xiaojian). A total of 408 questionnaires were collected. However, 21 questionnaires were confirmed to be invalid due to incomplete responses

or questionable values. Thus, 387 valid questionnaires were returned, accounting for a response rate of 86%. We compared the major characteristics (i.e., gender, age, and education level) of the invalid and valid respondents using a *t*-statistic sample test to examine potential nonresponse bias, which may distort our findings. All results are insignificant. Thus, nonresponse bias does not exist in our study.

Common method bias

We first adjusted the order of questionnaire items to reduce consistent artifacts and avoid the drawbacks of common method variance bias that may arise from the same data source. We also attempted to reduce respondents' suspicion or hesitation for factually filling out our questionnaire. In doing so, respondents were assured of complete anonymity in the questionnaires by confirming that neither their names nor the names of their organizations would be disclosed. Respondents were also rewarded with a small gift after finishing the questionnaires. We empirically adopted three methods to control potential common method bias in this research. First, Harman's single-factor test was conducted on the six conceptual variables (Podsakoff and Organ, 1986). The results showed the lack of a single factor accounting for the majority of variance among all measures. Thus, common method bias was less likely to be a problem. Then, we used a marker variable to adjust partial correlation to control for potential common method bias (Malhotra et al., 2006). We selected the age of the respondents as a marker variable, given that it is theoretically unrelated to at least one other construct in this research. All significant zero-order correlations remained significant after adjusting the partial correlation. In accordance with Pavlou et al. (2007), common method bias was improbable given that no correlation was greater than 0.9 in the current study. Finally, we checked the correlation matrix (Table 2) to discover any high correlation. The results suggested that the common method bias was unlikely to be a serious threat in this study.

Measures

The constructs in this study were measured using five-point scales adopted and modified from previous literature. Survey items and their literature are presented in Appendix A. The measures of perceived interfirm similarity were developed from Pappu and Cornwell (2014). The construct of perceived general familiarity captures the level of an individual's awareness of a given organization. Perceived general familiarity was measured by four items adopted from Luce et al. (2014) and Machleit, Allen, and Madde (1993). Perceived CER was measured with four items adopted from Rahman and Post (2012) and Perrini et al. (2010). The measures of affective and cognitive trust were adopted from Johnson and Grayson (2005) and Lee et al. (2015) and modified to

fit the context of this study. Oppositional behavioral intention was measured by four items adopted from Prati and Zani (2013) and Kim and Rhee (2011).

Data analysis and results
Construct validity

Confirmatory factor analysis (CFA) was conducted to measure the levels of the questionnaire items that reflect the intended constructs correctly. The overall goodness-of-fit indices of CFA indicated that all the fits of the measurement model were acceptable (χ^2/df = 2.118, NFI = 0.94, CFI = 0.96, AGFI = 0.88, IFI = 0.96, RMSEA = 0.054). Moreover, all indicators loaded significantly on the respective latent constructs (p < 0.001). The AVE scores for all the constructs exceeded the value of 0.50, which varied from 0.703 to 0.938. The values of Cronbach's alpha were all above 0.7, revealing support for constructs' reliability (Bagozzi and Yi, 1988).

Discriminant validity was assessed by examining the relationship between the square root of the AVEs and the correlations among constructs (Fornell and Larcker, 1981). As shown in Table 2, the relevant interconstruct correlations were less than the square root of each AVE value except for affective and cognitive trust, providing acceptable evidence of discriminant validity for the measures. In summary, the scales adopted from existing literature exhibited good construct validities and desirable psychometric properties.

<Table 1 Here>
<Table 2 Here>

Hypotheses testing

We adopted the traditional three-step method (Baron and Kenny, 1986) and the *Z*-statistic test Sobel (1982) to test mediation hypotheses. Following Baron and Kenny (1986), we first examined the relationship between the independent variable (perceived interfirm similarity) and mediator (affective and cognitive trust). Then, we regressed perceived interfirm similarity against the dependent variable (oppositional behavioral intention). Finally, we regressed perceived interfirm similarity and affective and cognitive trust against oppositional behavioral intention.

Hypothesis 1 states that stakeholders' trust mediates the relationship between interfirm similarity and oppositional behavioral intention. In Table 3, we first examine the main effects of perceived interfirm similarity on affective and cognitive trust. The results in Models 1 and 2 indicate that the perceived interfirm similarity is significantly and negatively related to affective ($b = -0.182, p < 0.01$) and cognitive trust ($b = -0.106, p < 0.01$). Model 4 introduces independent variables that are related to oppositional

behavioral intention. Perceived interfirm similarity is positively and considerably related to oppositional behavioral intention ($b = 0.124$, $p < 0.01$). Models 5 and 6 introduce the mediator, that is, social trust. If affective and cognitive trust partially mediates the relationship between perceived interfirm similarity and oppositional behavioral intention, as hypothesized, then their coefficients will be significant. Moreover, the inclusion of affective and cognitive trust in the model will reduce the significance of the relationship between the other independent variables and oppositional behavioral intention. Model 5 suggests that the affective trust coefficient ($b = -0.501$, $p < 0.01$) is significantly associated with oppositional behavioral intention. However, the relationship between perceived interfirm similarity and oppositional behavioral intention is decreased and becomes insignificant ($b = 0.033$, $p > 0.1$). The Sobel test confirms that affective trust mediates the relationship between perceived interfirm similarity and oppositional behavioral intention at the 0.01 level (two-tailed significance test, Sobel $z = 5.349$, $p < 0.01$). Model 6 suggests that the cognitive trust ($b = -0.411$, $p < 0.01$) coefficient is also significantly associated with oppositional behavioral intentions. However, the relationship between perceived interfirm similarity and oppositional behavioral intention is decreased ($b = 0.081$, $p < 0.01$). The Sobel test also confirms that affective trust mediates the relationship between perceived interfirm similarity and oppositional behavioral intention at the 0.05 level (two-tailed significance test, Sobel $z = 5.046$, $p < 0.05$). Overall, these results provide strong support for Hypothesis 1.

<Table 3 Here>

The moderating effects discussed in this study are tested using regression analyses. The results are presented in Table 4. Models 1 and 2 include the control variables and report the main effects of perceived interfirm similarity, general familiarity, and CER. Models 3 and 4 are full models that include all main and interaction effects. All values of variance inflation factor in Models 3 and 4 are below two. Thus, multicollinearity is not a major concern. In Models 1 and 2, all the three antecedents (perceived interfirm similarity, general familiarity, and CER) are remarkably related to affective and cognitive trust. Hypothesis 2 posits that perceived general familiarity weakens the impact of interfirm similarity on social trust. However, Models 3 and 4 in Table 2 suggest that the interaction term of perceived interfirm similarity and perceived general familiarity is insignificant, indicating a lack of support for Hypothesis 2.

Hypothesis 3 posits the negative moderating role of perceived CER between interfirm similarity and stakeholders' trust. A positive and significant interaction is observed between perceived interfirm similarity and CER on affective ($b = 0.085$, $p <$

0.05) and cognitive trust ($b = 0.082$, $p < 0.05$), supporting Hypothesis 3. We have followed the procedure of Spiller et al. (2013) and calculated the slopes of perceived interfirm similarity and trust at high and low levels of perceived CER (Figures 2 and 3) to facilitate the interpretation of the two interaction effects. Figures 2 and 3 illustrate that the negative effect of perceived interfirm similarity on affective and cognitive trust is attenuated with increasing levels of perceived CER.

<Table 4 Here>

<Figure 2 Here>

<Figure 3 Here>

Discussion and Conclusion

Corporate environmental misconducts are morally intolerable and harmful (Greve et al., 2010). When environmental misconduct is revealed to have occurred at one firm, a contamination process ensues within the culpable firm's industry. This contamination may be affected by the public's familiarity with and evaluations to the innocent firm or its environmental responsibility performance. Previous research has pointed out the negative effects of environmental misconduct on innocent firms. However, little is known on the process of social contamination.

Our work contributes and advances the existing study by filling the research gap. First, we develop a theoretical framework uncovering the social-cognitive process of crisis spillover, wherein social trust is proposed as a mechanism channel. The indirect spillover impact of environmental misconduct is exerted through social trust on stakeholders' oppositional behavioral intention. The results suggest that the negative and indirect impact of perceived interfirm similarity on oppositional behavioral intention is exerted via the key mediators of affective and cognitive trust. This finding confirms a long-term implicit assumption observed in prior research (e.g., Diestre and Rajagopalan, 2014; Paruchuri and Misangyi, 2015; Yu et al., 2008), that is, crisis outflows through the social cognitive process. Thus, a crisis which occurred in the focal firm will not necessarily outflow to other firms as long as stakeholders' trust in the crisis-tied firm is not influenced. Our work examines the mediating mechanism of affective and cognitive trust, which further complements previous research that covers only one dimension of trust (i.e., affective trust) (Sánchez-Franco and Roldán, 2015). Moreover, the mediation effect of affective and cognitive trust on the relationship between perceived interfirm similarity and oppositional intention varies. Affective trust completely mediates such relationship, whereas cognitive trust partially mediates the

relationship. After the occurrence of a crisis, perceived interfirm similarity can be reflected completely through emotion-based trust (i.e., affective trust). Firms that are in favor of the stakeholders' emotional support would not suffer from the other firm's wrongdoing even if high similarities exist, which may explain the mentioned crisis involving a Samsung phone. The sale of Huawei mobile phones is not influenced by Samsung phone's battery explosion accident, because Chinese customers always keep a high emotional preference for the homemade brand. Cognitive trust is mainly formed from stakeholders' knowledge. Thus, cognitive trust cannot completely explain the whole influential scale of interfirm similarity in crisis spillover. Such distinction enriches the understanding of the role of social trust in bridging social perception and social behavior (Sánchez-Franco and Roldán, 2015).

Second, this study establishes a critical theoretical boundary of crisis spillover effects by opening up the black box of the interaction effects of perceived general familiarity, CER, and interfirm similarity on social oppositions. In this way, this study advances previous research that recognized the importance of perceived interfirm similarity as a categorization standard in crisis spillover (e.g., Poroli and Huang, 2018). This study also demonstrates the "buffering" effect of CER. Perceived CER can buffer the negative effect and encourage stakeholders to think rationally. However, the significant moderating impact of general familiarity in alleviating the negative crisis spillover effects is not found in this study. The general information is possibly being ignored or not strong enough to encourage critical reflection when stakeholders evaluate the innocent firm. Only detailed or specific information could help stakeholders in risky situations to assess the certainty, severity, and immediacy of threatening events (Lindell and Perry, 2012).

The interesting finding is the positive aspect of stakeholders' perceived CER with the firm. The negative impact of the perceived interfirm similarity on social trust is alleviated when the stakeholders perceive high CER with the innocent firm. Stakeholders' trust is affected by an organizational environmental scandal when perceived CER is weak. This finding is important for scholars to develop a comprehensive understanding of the role of CER. Our research provides new perspectives on the contingencies of crisis spillover effects by presenting the negative aspect of perceived CER as moderator. In comparison with the general familiarity that is mainly dependent on people's general impression (e.g., firm size), perceived CER reflects a different aspect of social perception. Specifically, perceived CER stresses the rational thinking that stakeholders have. When stakeholders perceive that the firm has good performance in environment protection (that is related to their interests), they will be less affected even when the firm lost in the crisis. Such perception changes and reduces the weight of negative perception (e.g., perceived interfirm similarity) that

affects affective and cognitive trust. This finding also shows that people's cognition in spreading the guilt of misconduct to other firms is a complicated process than people may have considered. The evaluation process of a firm depends on stakeholders' impression of interfirm similarities and consideration on firms' specific performance that is related to their interests (i.e., CER).

Third, the implication of this study can be extended to reputation research, highlighting the practical implication for firms on how to alleviate the spillover effects of another firm's misconduct. Our results suggest that perceived CER shows a buffering role in accounting for the relationship between interfirm similarity and social trust. Thus, when negative information about the culpable firm is widely spread in communities, a company known by stakeholders can be influenced by an industry peer's misconduct. However, firms with good CER can avoid such suffering to some extent. This finding is consistent with the corporate reputation literature suggesting that corporate reputation has multiple dimensions that act differently in crisis context (Wei et al., 2017; Rindova, Williamson, Petkova, and Sever, 2005). After one firm experiences misconduct, high CER perceptions among stakeholders may allow the innocent firm to receive positive evaluations, alleviating the result of being evaluated as "bad" firm. Thus, firms should enhance their specific favorability (i.e., environmental responsibility) to avoid unwanted sufferings. In terms of reputation management in a crisis context, managers should think from the perspective of stakeholders and take further consideration into building the dimension of reputation that focuses on the concerns of stakeholders.

Several limitations of this study provide additional opportunities to the development of future research. First, this study does not distinguish the impact of different types of environmental misconducts. Not all environmental misconducts would be perceived by the public as equally pertinent to other industry firms. Different types of misconduct may have different degrees of spillover effects. People may perceive different degrees of "generalizability" of different types of misconduct, which is another question for future research to tackle. Second, our research scope focuses only on perceived general familiarity and CER. Thus, other firm-level and contextual variables, such as firm size, profitability, environmental pressure, and negative publicity, are not controlled in our research design. Information may also play an important role in crisis spillover. Thus, future research should include additional control variables and test the generalizability of the findings of this study to other contexts. Moreover, the effects of potential moderators on the relationships presented in the main model, such as social media involvement and habit, would be interesting subjects for future research. Third, our study is cross-sectional. Thus, causation should be interpreted with caution. Although difficult to carry out, research subjects should also be observed across different time points.

References

Adut, A. (2005). A theory of scandal: Victorians, homosexuality, and the fall of Oscar Wilde. *American Journal of Sociology, 111,* 213–248.

Ahluwalia, R., Burnkrant, R. E, & Unnava, H. R. (2000). Consumer response to negative publicity: The moderating role of commitment. *Journal of Marketing Research, 37*(2), 203–214.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science, 16*, 74–94.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182.

Borah, A., & Tellis, G. J. (2016). Halo (spillover) effects in social media: Do product recalls of one brand hurt or help rival brands? *Journal of Marketing Research, 53*(2), 143–160.

Brooks, M. E., Highhouse, S., Russel, S. S. & Mohr, D. C. (2003). Familiarity, ambivalence and firm reputation: Is corporate fame a double-edged sword? *Journal of Applied Psychology, 88*(5), 904–914.

Brooks, M. E., & Highhouse, S. (2006). Familiarity breeds ambivalence. *Corporate Reputation Review, 9*(2), 105–113.

Desai, V. M. (2011). Mass media and massive failures: Determining organizational efforts to defend field legitimacy following crises. *Academy of Management Journal*, *54,* 263–278.

Diestre, L., & Rajagopalan, N. (2014). Toward an input-based perspective on categorization: Investor reactions to chemical accidents. *Academy of Management Journal, 57*(4), 1130–1153.

Du, X. (2015). Is corporate philanthropy used as environmental misconduct dressing? Evidence from Chinese family-owned firms. *Journal of Business Ethics, 129,* 341–361.

Fiske, S. T. (1989). Examining the role of intent: Toward understanding its role in stereotyping and prejudice. In J. S. Uleman & J. A. Bargh (Eds.), *Unintended thought:* 253–283. New York: Guilford Press.

Hirshleifer, D., & Teoh, S. H. (2003). Limited attention, information disclosure, and financial reporting. Journal *of accounting and economics*, *36*(1-3), 337–386.

Hung-Baesecke, C.-J. F., Chen, Y.-R. R., & Kim, J.-N. (2015, March). *Social amplification of problem chain-recognition effect on risk policies: Escalated issue spillover from government distrust and media use.* Paper Presented at the 18th International Public Relations Research Conference, Miami, FL.

Jonsson, S., Greve, H. R., & Fujiwara-Greve, T. (2009). Undeserved loss: The spread of legitimacy loss to innocent organizations in response to reported corporate deviance. *Administrative Science Quarterly*, *54*(2), 195–228.

Kahuni, A.T., Rowley, J., & Binsardi, A. (2009). Guilty by association: image 'spill-over' in corporate co-branding. *Corporate Reputation Review, 12*(1), 52–63.

Kang, E. (2008). Director interlocks and spillover effects of reputational penalties from financial reporting fraud. *Academy of Management Journal, 51*, 537–555.

Kim, J-N., & Rhee, Y (2011). Strategic thinking about employee communication Behavior (ECB) in public relations: Testing the models of megaphoning and scouting effects in Korea. *Journal of Public Relations Research, 23*(3), 243–268.

Greve, H. R., Palmer, D., & Pozner, J. E. 2010. Organizations gone wild: The causes, processes, and consequences of organizational misconduct. *The Academy of Management Annals, 4(1),* 53-107.

Lee, S. Y., & Rim, H. (2016). Negative spillover in corporate–nonprofit partnerships: Exploring the effects of company–cause congruence and organization–public relationships. *Public Relations Review, 42*, 710–712.

Lee, J., Lee, J. N., & Tan, B. C. Y. (2015). Antecedents of cognitive trust and affective distrust and their mediating roles in building customer loyalty. *Information Systems Frontiers, 17*, 159–175.

Lewis, J. D., & Weigert, A. (1985). Trust as a social reality. *Social forces, 63(June)*, 967–985.

Lin, C. P., Chen, S. C., Chiu, C. K., & Lee, W. Y. (2011). Understanding purchase intention during product-harm crises: Moderating effects of perceived corporate ability and corporate social responsibility. *Journal of Business Ethics, 102*, 455–471.

Lindell, M. K., & Perry, R. W. (2012). The protective action decision model: theoretical modifications and additional evidence. *Risk Analysis: An International Journal*, *32*(4), 616-632.

Liu, H., Chu, H., Huang, Q., & Chen, X. (2016). Enhancing the flow experience of consumers in China through interpersonal interaction in social commerce. *Computers in Human Behavior,* 58, 306–314.

Luce, R. A., Barber, A. E., & Hillman, A. J. (2001). Good deeds and misdeeds: A mediated model of the effect of corporate social performance on organizational attractiveness. *Business & Society, 40*(4), 397-415.

Machleit, K. A., Allen, C. T., & Madde, T. J. (1993). The mature brand and brand interest: An alternative consequence of ad-evoked affect. *Journal of Marketing, 57,*72–82.

Malhotra, N. K., Kim, S. S., & Patil, A. (2006). Common method variance in IS research: A comparison of alternative approaches and a reanalysis of past research. *Management Science, 52*(12), 1865–1883.

Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review, 20*, 709–734.

Mazurkiewicz, P. (2004). Corporate environmental responsibility: Is a common CSR framework possible? World Bank working paper, Retrieved from http://siteresources.worldbank.org/EXTDEVCOMSUSDEVT/Resources/csrframew ork.pdf.

McKnight, D. H., Cummings, L. L., & Chervany, N. L. (1998). Initial trust formation in new organizational relationships. *Academy of Management Review, 23*, 473–490.

Menon, G., Raghubir, P., & Schwarz, N. (1995). Behavioral frequency judgments: An accessibility-diagnosticity framework. *Journal of Consumer Research*, *22*(2), 212-228.

Midden, C. J. H., & Huijts N. M. A. (2009). The role of trust in the affective evaluation of novel risks: The case of CO2 storage. *Risk Analysis, 29*(5), 743–751.

Naumovska, I., & Lavie, D. (2019). When an industry peer is accused of misconduct: contagion vs. competition effects on blameless firms. *Academy of Management Proceedings*, 1, https://doi.org/10.5465/AMBPP.2019.218.

Jeffries, F. L., & Reed, R. (2000). Trust and adaptation in relational contracting. *Academy of Management Review, 25*(4), 873–882.

Johnson, D. & Grayson, K. (2005). Cognitive and affective trust in service relationships. *Journal of Business Research, 58*, 500–507.

Reimsbach, D., & Hahn, R. (2015). The effects of negative incidents in sustainability reporting on investors' judgments－an experimental study of third－party versus self－disclosure in the realm of sustainable development. *Business Strategy and the Environment, 24*(4), 217–235.

Rempel, J. K, Holmes, J. G, & Zanna, M. P. (1985). Trust in close relationships. *Journal of Personality and Social Psychology, 49*(1), 95–112.

Rao, A. R., & Monroe, K. B. (1988). The moderating effect of knowledge on cue utilization in product evaluations. *Journal of Consumer Research, 15*(2), 253–264.

Sánchez-Franco, M. J., & Roldán, J. L. (2015). The influence of familiarity, trust and norms of reciprocity on an experienced sense of community: an empirical analysis based on social online services. *Behaviour & Information Technology, 34*(4), 392–

412.

Smith, E. R., Miller, D. A., Maitner, A. T., Crump, S. A., Garcia-Marques, & T., Mackie, D. M. (2006). Familiarity can increase stereotyping. *Journal of Experimental Social Psychology, 42*, 471–478.

Pappu, R., & Cornwell, T. B. (2014). Corporate sponsorship as an image platform: understanding the roles of relationship fit and sponsor–sponsee similarity. *Journal of the Academy of Marketing Science, 42*(5), 490–510.

Paruchuri, S., & Misangyi, V. F. (2015). Investor perceptions of financial misconduct: The heterogeneous contamination of bystander firms. *Academy of Management Journal, 58*, 169–194.

Pavlou, P. A., Liang, H., & Xue, Y. (2007). Understanding and mitigating uncertainty in online exchange relationships: A principal-agent perspective. *MIS Quarterly, 31*(1), 105–136.

Perrini, F., Castaldo, S., MisanI, N., & Tencati, A. (2010).The impact of corporate social responsibility associations on trust in organic products marketed by mainstream retailers: a study of Italian consumers. *Business Strategy and the Environment, 19*, 512–526.

Pfarrer, M. D., Pollock, T. G., & Rindova, V. P. (2010). A tale of two assets: the effects of corporation reputation and celebrity on earnings surprises and investors' reactions. *Academy of Management Journal, 53*(5), 1131–1152.

Poroli, A., & Huang, L. V. (2018). Spillover effects of a university crisis: A qualitative investigation using situational theory of problem solving. *Journalism & Mass Communication, 95*(4), 1128–1149.

Prati, G., & Zani, B. (2013). The effect of the Fukushima nuclear accident on risk perception, antinuclear behavioral intentions, attitude, trust, environmental beliefs, and values. *Environment and Behavior, 45,* 782–798.

Rahman, N., & Post, C. (2012). Measurement issues in environmental corporate social responsibility (ECSR): Toward a transparent, reliable, and construct valid instrument. *Journal of Business Ethics, 105,* 307–319.

Rindova, V. P., Williamson, I. O., Petkova, A. P., & Sever, J. M. (2005). Being good or being known: An empirical examination of the dimensions, antecedents, and consequences of organizational reputation. *Academy of Management Journal, 48*(6), 1033–1049.

Sherman, S. J., Judd, C. M., & Park, B. (1989). Social cognition. *Annual review of psychology, 40,* 281–326.

Vlachos, P. A., Tsamakos, A., Vrechopoulos, A. P., & Avramidis, P. K. (2009). Corporate social responsibility: Attributions, loyalty, and the mediating role of trust.

Journal of the Academy of Marketing Science, 37(2), 170–180.

Wahba, H. (2008). Does the market value corporate environmental responsibility? An empirical examination. *Corporate Social Responsibility and Environmental Management, 15*, 89–99.

Wei, J., Ouyang, Z., & Chen, H. (2017). Well known or well liked? The effects of corporate reputation on firm value at the onset of a corporate crisis. *Strategic Management Journal, 38*(10), 2103–2120.

Wei, J., Wang, F., & Lindell, M. K. (2016a). The evolution of stakeholders' perceptions of disaster: a model of information flow. *Journal of the Association for Information Science and Technology, 67*(2), 441–453.

Wei, J., Zhao, M., Wang, F., Cheng, P., & Zhao, D. (2016b). An empirical study of the Volkswagen crisis in China: customers' information processing and behavioral intentions. *Risk Analysis, 36*(1), 114–129.

Zou, H. L, Zeng, R.C., Zeng, S. X., & Shi, J. J. (2015). How do environmental violation events harm corporate reputation? *Business Strategy and the Environment, 24*(8), 836–854.

Appendix A: Measurement items

Perceived interfirm similarity (Pappu and Cornwell, 2014)

PIS1: [COMPANY1] is similar to [COMPANY2].

PIS2: [COMPANY1] share a lot in common with [COMPANY2].

PIS3: The statuses of [COMPANY1] and [COMPANY2] are alike.

Perceived general familiarity (Luce et al., 2014; Machleit, Allen, and Madde, 1993)

PGF1: Regarding [COMPANY1], you are familiar.

PGF2: Regarding [COMPANY1], you are experienced.

PGF3: Regarding [COMPANY1], you are knowledgeable.

PGF4: Regarding [COMPANY1], you are informed.

Perceived CER (Rahman and Post, 2012; Perrini et al., 2010)

CER1: [COMPANY1] behaves responsibly regarding the environment.

CER2: [COMPANY1] is aware of environmental issues.

CER3: [COMPANY1] provide information about environmental audits.

CER4: [COMPANY1] participate in government initiatives to improve environmental practices.

Affective trust (Johnson and Grayson, 2005)

AT1: I feel that [COMPANY1] is trustworthy.

AT2: I feel that [COMPANY1] is very responsive to publics.

AT3: I have strong trust with [COMPANY1] when talking to others about it.

AT4: I think that this [COMPANY1] takes into account the repercussions that their actions could have on the public.

Cognitive trust (Lee et al., 2015; Johnson and Grayson, 2005)

CT1: I believe that the [COMPANY1] will respond with understanding in the event of problems as expected.

CT2: I have positive expectations regarding this [COMPANY1]'s responsiveness to publics

CT3: I have confidence that [COMPANY1] has very high integrity.

CT4: I think that [COMPANY1] has the necessary resources to successfully carry out its activities.

Oppositional behavior intention (Prati and Zani, 2013; Kim and Rhee, 2011)

OBI1: Write negative comments or antagonistic posting for [COMPANY1] on the Internet.

OBI2: Say bad things to friends and neighbors about negative aspects of the management and [COMPANY1].

OBI3: Attempt to persuade people who have positive opinions about [COMPANY1].

OBI4: Attempt to petition the government departments.

Table 1. Confirmatory factor analysis results.

Constructs	Items	SFL	AVE	CR
Perceived interfirm similarity	PIS1	0.86	0.77	0.91
	PIS2	0.94		
	PIS3	0.83		
Perceived general familiarity	PGF1	0.74	0.70	0.90
	PGF2	0.84		
	PGF3	0.89		
	PGF4	0.84		
Perceived CER	CER1	0.78	0.63	0.87
	CER2	0.79		
	CER3	0.82		
	CER4	0.79		
Affective trust	AT1	0.81	0.60	0.84
	AT2	0.83		
	AT3	0.76		
	AT4	0.80		
Cognitive trust	CT1	0.82	0.59	0.85
	CT2	0.77		
	CT3	0.82		
	CT4	0.81		
Oppositional behavior intention	OBI1	0.85	0.68	0.90
	OBI2	0.86		
	OBI3	0.86		
	OBI4	0.83		

Notes: SFL = standardized factor loading; AVE = average variance extracted; CR = composite reliability.

Table 2. Descriptive statistics and correlation matrix.

	Mean	SD	1	2	3	4	5	
Perceived interfirm similarity	3.16	0.94	**0.88**					
Perceived general familiarity	3.49	0.76	-0.15**	**0.84**				
Perceived CER	3.22	0.80	-0.13*	0.72**	**0.79**			
Affective trust	3.33	0.75	-0.34**	0.68**	0.69**	**0.77**		
Cognitive trust	3.48	0.74	-0.24**	0.69**	0.63**	0.79**	**0.77**	
Oppositional behavior intention	2.49	0.80	0.26**	-0.64**	-0.57**	-0.71**	-0.68**	**0.82**

Note: Bold figures on the diagonal are the square root of AVEs for the constructs.

* $p < 0.05$, ** $p < 0.01$, N=387.

Table 3. Regression results of the mediating role of trust.

Variable	Model 1	Model 2	Model 3 Oppositional behaviour intention	Model 4 Oppositional behavior intention	Model 5 Oppositional behavior intention
	Affective trust	Cognitive trust			
Gender	0.065 (0.227)	0.010 (0.057)	-0.109* (0.275)	-0.076 (0.059)	-0.105* (0.060)
Age	0.042 (0.053)	0.042 (0.038)	-0.055 (0.065)	-0.034 (0.039)	-0.038 (0.040)
Education	0.021 (0.036)	0.057 (0.040)	-0.153*** (0.045)	-0.143*** (0.041)	-0.130*** (0.042)
Perceived interfirm similarity	-0.182*** (0.027)	-0.106*** (0.028)	0.124*** (0.032)	0.033 (0.031)	0.081*** (0.030)
Perceived CER	0.380*** (0.044)	0.264*** (0.047)	-0.257*** (0.053)	-0.067 (0.053)	-0.148*** (0.052)
Perceived general familiarity	0.344*** (0.047)	0.457*** (0.050)	-0.441*** (0.056)	-0.269*** (0.055)	-0.253*** (0.058)
Affective trust				-0.501*** (0.057)	
Cognitive trust					-0.411*** (0.054)
Adj. R^2	0.593	0.529	0.475	0.564	0.543

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4. Regression results for moderation effects.

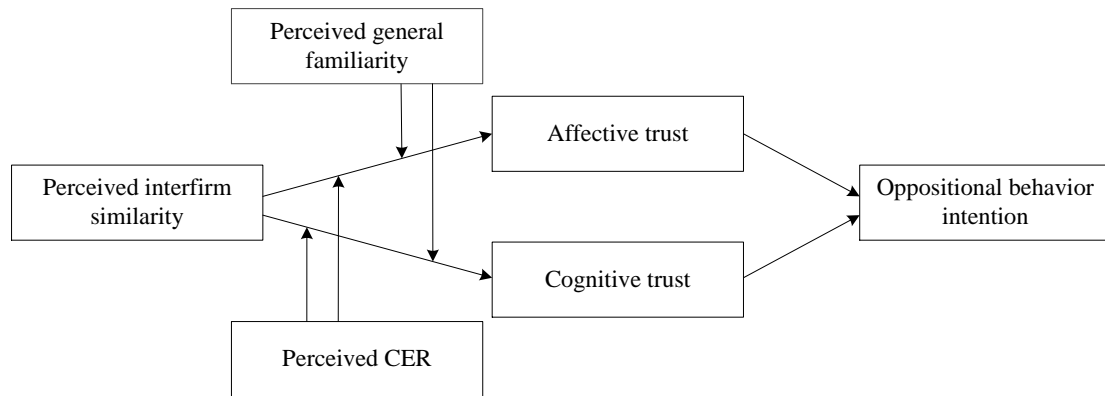| Variable	Model 1 Affective trust	Model 2 Cognitive trust	Model 3 Affective trust	Model 4 Cognitive trust
Gender	0.065	0.010	0.050	-0.004
	(0.227)	(0.057)	(0.053)	(0.057)
Age	0.042	0.042	0.045	0.045
	(0.053)	(0.038)	(0.035)	(0.038)
Education	0.021	0.057	0.027	0.063
	(0.036)	(0.040)	(0.037)	(0.040)
Perceived interfirm similarity	-0.182***	-0.106***	-0.182***	-0.105***
	(0.027)	(0.028)	(0.026)	(0.028)
Perceived CER	0.380***	0.264***	0.342***	0.231***
	(0.044)	(0.047)	(0.046)	(0.049)
Perceived general familiarity	0.344***	0.457***	0.337***	0.451***
	(0.047)	(0.050)	(0.046)	(0.050)
Perceived general familiarity * Perceived interfirm similarity			-0.029	-0.036
			(0.032)	(0.034)
Perceived CER * Perceived interfirm similarity			0.085**	0.082**
			(0.034)	(0.037)
Adj. R^2	0.593	0.529	0.600	0.534

Note: ** $p < 0.05$, *** $p < 0.01$
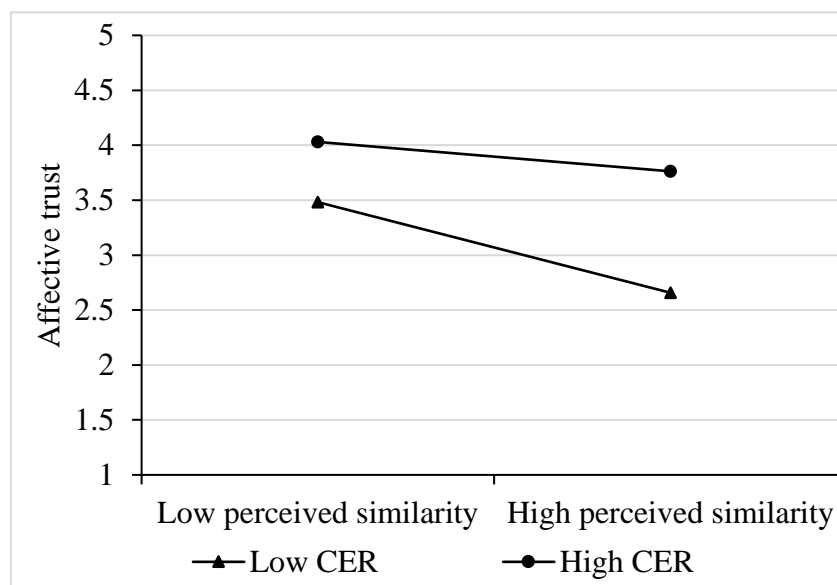
Figure 1. Hypothesized model.

Figure 2. The moderating effect of perceived CER on the relationship perceived interfirm similarity and affective trust.
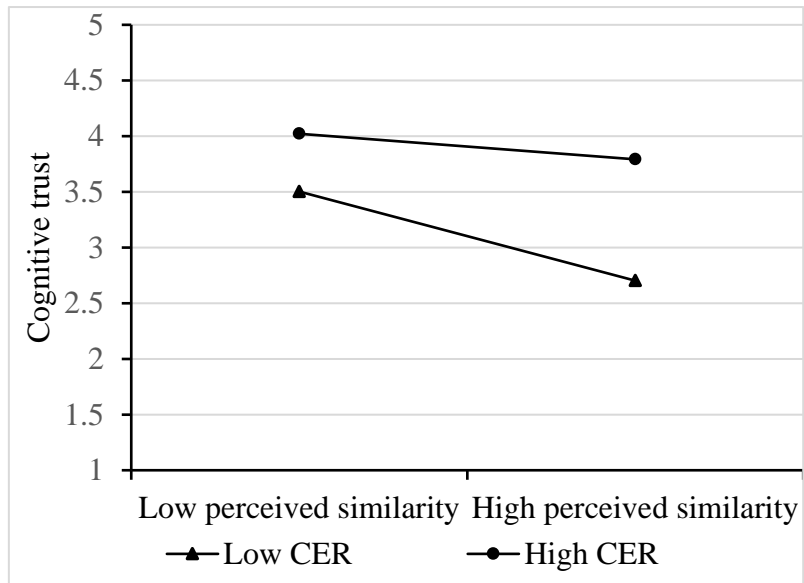
Figure 3. The moderating effect of perceived CER on the relationship perceived interfirm similarity and cognitive trust.