Managing an Industrial Stigma Spillover: The Role of Moral Emotions

by

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ABSTRACT

An industrial stigma spillover occurs when innocent firms' survival and performance are compromised simply being in the same industry with other firms implicated in a negative event. An established body of research has adopted a cognitive view on stigma spillover and shown that as long as two firms are similar enough, an innocent firm will suffer from the spillover from the perpetrator firm. Relatively few studies have examined how stakeholders' emotions elicited by firms before and after a negative event might impact the process. This oversight is surprising because sudden adverse events attract public attention and can be highly emotional. Moreover, managing an emotion-driven stigma spillover caused by a negative event requires very different strategies from that have been documented in the literature, namely, strategies that focus on how firms cope with an established stigmatized identity. This research examines the role of moral emotions in industrial stigma spillover. Moral emotions are people's feelings of what is right and wrong. I employ a mixed-method research design that relies on a qualitative case study of the Chinese infant formula industry and quantitative tests of hypotheses gleaned from the case using archival and experimental data. The study contributes to the stigma-spillover literature by offering an empirical account of how changes in stakeholders' moral emotions give rise to an industrial stigma spillover in a previously respected industry. The study also speaks to how such a stigma spillover can be managed and the effectiveness of various strategies. The main research implication is that a cognitive view of stigma spillover is incomplete, as moral emotions change the degree of contamination. The main implication for practice is that more proactive strategies should be used for managing stigma spillover driven by stakeholders' moral emotions.

PREFACE

This dissertation is an original research project conducted by Rongrong Zhang. Two research projects, namely, a qualitative study [No. Pro00082490, July 11, 2018] and an experimental study [No. Pro00075464, September 1, 2017]), have received research ethics approval from the University of Alberta Research Ethics Board. Part of the literature review chapter (Chapter 2) is related to my first-author literature review paper on stigma across different levels, which has been published as Zhang, R., Wang, M. S., Toubiana, M., & Greenwood, R. 2021. Stigma beyond levels: Advancing research on stigmatization. *Academy of Management Annals*, 15(1): 188-222. Other chapters have not been published as a book or in any journal.

DEDICATION

<u>To my grandparents who believe in education:</u>

Bingcheng Zhang, grandpa (*yeye* *"爷爷"*)
and
Jinliang Cun, grandpa (*Wafang yeye* "瓦房爷爷"):
whom I never met but supported the education of my parents;

Chunlian Li, grandma (*nainai* "奶奶")
and
Fengqing Yang, grandma (*Wafang nainai* "瓦房奶奶"):
who could not read but were partly responsible for my early childhood education;

Zhengyi Liu, grandpa (*Bashan yeye* "保山爷爷")
who passed away before I started my PhD program;

and

Jinzhu Cun, my dearest grandma (*Baoshan nainai* "保山奶奶")
whom I lost two months before my dissertation defence, who taught me how to write,
and told mom:
"In the books there are houses made of gold" (*shuzhong ziyou huangjinwu* "书中自有黄金屋").

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CHAPTER 1. INTRODUCTION

In September of 2008, six babies died and more than 296,000 children were sickened in China after consuming infant formula tainted with melamine, a dangerous chemical that causes kidney stones. A total of twenty-two domestic manufacturers were exposed by the government as responsible for this crisis. No foreign firm was involved. Although the other eighty-seven domestic manufacturers were found innocent, Chinese customers largely stopped buying infant formula from domestic firms and turned to foreign products after 2008.

Before the crisis, the Chinese infant formula industry was praised and favored by the public. Giant firms such as Yili, Mengniu, and Sanlu sponsored the 2008 Summer Olympics in China and space exploration that "make the nation strong" (Jiang, 2008). And the success of the infant formula industry exemplified the success of the Chinese national enterprises (Li, Tang, & Li, 2007). However, after the melamine crisis, all the domestic firms (including the innocent firms) were punished by customers for their geographic association with the guilty firms (i.e., being domestic). These firms experienced an *industrial stigma spillover* because the public generalized the culpability of the twenty-two firms to the whole industry. Stakeholders' positive emotions towards these infant formula firms before the melamine crisis shifted to negative emotions. Terms such as "poisoning milk powder" (*du naifen "毒奶粉"*) frequently appeared in the media and were used by the public to refer to the domestic infant formula. The Minister of Agriculture said, "The preference for imported milk powder has brought shame on the domestic dairy production!" (*People's Daily*, 2015).

Facing this stigma spillover, the domestic infant formula firms utilized a variety of strategies to recover. After more than a decade, stakeholders still have strong negative feelings

towards some of these firms which continued to experience declining sales. Some other domestic firms successfully bounced back in terms of performance. In contrast, all foreign producers experienced sales growth.

Research Questions

The melamine infant formula case illustrates the phenomenon of industrial stigma "spillover"—i.e., the spread of adverse consequences to organizations in some way associated with vilified firms. A central observation of recent studies is that some firms suffer less than others (Diestre & Santaló, 2020; Vergne, 2012) and, paradoxically, some may even benefit—prompting interest in why that is the case (Aranda, Conti, & Wezel, 2020; Roulet, 2020). Most studies examine firms within "core" stigmatized industries, i.e., industries whose products or services violate social norms—such as arms or tobacco (Hudson, 2008)—and are perceived as possessing "a fundamental, deep-seated flaw" (Devers, Dewett, Mishina, & Belsito, 2009: 157). We know much less about how firms within a respected industry might react to the sudden crisis of an "event" stigma, why firms choose particular strategies, and the effectiveness of the potential strategies.

In order to address these blind spots, it is essential to understand the nature of an industrial stigma spillover caused by events, such as Perrier's product recall of its bottled spring water due to being contaminated with benzene, a cancer-causing chemical, and General Motors' recall of cars with faulty ignition switches. These events can be highly emotional (Bannon, 2014; Cody, 1990). Yet scholars use a largely cognitive approach to stigma spillover, focusing on stakeholders' understandings and beliefs about an industry (Barnett & King, 2008; Jonsson, Greve, & Fujiwara-Greve, 2009; Paruchuri & Misangyi, 2015; Roehm & Tybout, 2006; Yu, Sengul, & Lester, 2008). With this cognitive approach, scholars show that when a perpetrator firm is the prototype of the industry, containing key stigmatizing attributes, the stakeholders will categorize "similar" others

within the industry as equally stigmatized (Roehm & Tybout, 2006; Vergne, 2012). However, the similarity view has been criticized for overlooking moral emotions (Haack, Pfarrer, & Scherer, 2014). This oversight is surprising, given that stigmatized organizations are characterized by "social contestation" and "hostile audiences" (Durand & Vergne, 2015: 1205; Hudson, 2008: 259). It follows that when stakeholders generalize the culpability from one company to the industry, they are making a moral judgment by deciding which other companies (besides the wrongdoer) deserve punishment. The basis of this moral judgment is people's feelings of what is "wrong" or "right," namely, moral emotions (Jasper, 2011; Tangney, Stuewig, & Mashek, 2007).

However, we only have a modest understanding of how negative moral emotions affect an industrial stigma spillover. Emphasis to date has been on how stakeholders' beliefs and understandings of an industry affect their evaluations of that industry after a negative event. Scholars suggest that the presence of certain moral emotions might facilitate or contain stigma spillover. Many firms seek to evoke positive moral emotions to attract stakeholders (Aaker & Williams, 1998; Kim & Johnson, 2013). After a negative event, however, stakeholders may react with negative moral emotions such as anger, contempt, and disgust (Haidt, 2003). We still need studies to examine how the tension between positive emotions before and negative emotions after the event affects stakeholders' attitudes and behaviors towards the wrongdoer and the industry to which this wrongdoer belongs. Taking these observations together, I utilize the stigma-management and the moral-emotion literatures to examine the following three research questions:

1. *Do moral emotions impact an industrial stigma spillover?*
2. *If moral emotions do impact an industrial stigma spillover, how do the moral emotions of individual stakeholders elicited by firms before and after a crisis impact an industrial stigma spillover?*

3. How can an industrial stigma spillover driven by stakeholders' moral emotions be managed, and what are the implications of different management strategies?

Two Studies

I executed two empirical studies using a mixed-methods research design. Study 1 focused on the case of the Chinese infant formula industry to examine Research Questions 1 and 3. Study 2 used a scenario-based experiment to examine some preliminary findings from Study 1 regarding moral emotions to answer Research Question 2.

In study 1, I first conducted an exploratory qualitative study of the Chinese infant formula industry from 2008 to 2019. I found that positive moral emotions may accrue to firms before a negative event, and in the case, these emotions elicited customers' negative emotions after the breakout of the melamine crisis. It is plausible that the tension between positive and negative emotions leads to a stigma spillover. However, due to the retrospective nature of Study 1, the causal relationship between moral emotions and spillover could not be discerned.

Turning to Research Question 3, I used an exploratory qualitative study to uncover the coping strategies used by innocent firms in response to the industrial stigma spillover. I observed three proactive strategies, which I labeled category membership deception, category blurring, and category promotion. A very different approach that I observed involved doing little more than stating that the firm is not one of the listed guilty firms—akin to "doing nothing."

This categorization of firms became focal construct for testing hypotheses about the antecedents and performance consequences. In terms of which firms are more likely to use each proactive strategy, and why, I focused upon the effect of a firm's prominence/visibility and the degree of media scrutiny. I find that younger firms, being less prominent, are more likely to use the deception or blurring strategies, whereas older firms are more likely to use the category

promotion strategy. I also find that the strategy of category promotion is enabled by media attention—but that such attention has a policing influence that affects the stability of the strategy's success. In term of performance consequences, I find that category membership deception results in no change in performance, whereas category blurring and category promotion both increase performance. Finally, doing nothing results in a decrease in performance.

Study 2 delved deeper into examining the role of moral emotions in an industrial stigma spillover using an experiment featuring consumer responses to a 5G data-security crisis involving four experimentally manipulated firms. The findings first demonstrate the incompleteness of an exclusively cognitive view of stigma spillover; respondents did switch to other firms who shared the stigmatizing attribute (Roehm & Tybout, 2006). Second, moral emotions also played an important role. I find that stakeholders' higher level of positive emotions elicited by firms before a negative event leads to less negative moral emotions (e.g., contempt and disgust) but more negative basic emotions (e.g., fear and sadness). Among these negative emotions, fear leads to more generalized culpability of the whole industry, such that the level of spillover is worsened. But when stakeholders' positive emotions before a negative event are strong enough, these positive moral emotions can shield innocent firms so that firms suffer less generalized culpability, even though they are similar to the wrongdoer.

This dissertation offers three main contributions. First, it presents an empirical account of strategic responses to an actual industrial stigma spillover that arose from a crisis in a previously respected industry. I highlight that in contrast to strategies commonly used in the core-stigmatized industries, managing an industrial stigma spillover from an event is an effort to "recover lost social support" (Hudson, 2008: 253), which requires more proactive strategies than simply denying guilt and distancing from the stigmatized category. Doing nothing in response to an industrial stigma

spillover can even harm innocent firms. Firms within an industry to which the perpetrator(s) belong(s) need to pay attention to the boundary between the stigmatized and the clean categories and then find a way to be connected to the clean category. I also show that not all firms are equally likely to choose a certain strategy. Instead, their choices are impacted by firm prominence and the degree of media scrutiny. The performance implications of each strategy also differ in the case studied.

Second, this dissertation challenges the similarity model of stigma spillover based on the cognitive perspective. In the experimental study, stigma did not spillover extensively to firms with the stigmatizing attribute (Roehm & Tybout, 2006). Importantly, this dissertation demonstrates the importance of moral emotions in industrial stigma spillovers. After narrowing down the range of moral emotions that are influential in stigma spillover, I highlight that stakeholders' positive moral emotions before an event might change into fear after the event. While fear energizes the stigma spillover from perpetrator firms to other innocent firms, prior pride alone protects an industry from contamination. This finding enriches our understanding of "moral battery" (Jasper, 2011), a pair of positive and negative moral emotions that energizes actions. While scholars have mainly focused on the motivating effect of a moral battery, I demonstrate that the effect of positive moral emotions before a negative event may suppress the effect of negative emotions. Such a moral battery defends against stakeholders' stigmatizing behaviors and protects innocent firms from an industrial stigma spillover.

Third, building on an extreme case (Creed, DeJordy, & Lok, 2010) of the Chinese infant formula industry and then quantitatively testing hypotheses generated from the industry, this dissertation adopts an "inside out" (Sposato & Jeffrey, 2020) mixed-methods approach that captures the uniqueness of the context through indigenous and engaged scholarship (Van de Ven

& Jing, 2012) while gaining general insights from an industrial stigma spillover and studies of moral emotions (Turner, Cardinal, & Burton, 2015). On a more practical level, this work incorporates insights and advice from different non-academic stakeholders such as government officials, dairy industry practitioners, business consultants, and parents (Van de Ven, 2007), so that it informs practitioners about ways to recover from an industry-wide stigma spillover.

The remainder of the dissertation is organized into four chapters. Chapter 2 clarifies key terms and provides the theoretical foundations of this research, namely, the literature on stigma spillover and moral emotions. Chapters 3 and 4 present the infant-formula case study and the experimental study, respectively. Chapter 5 concludes the dissertation with a discussion of research implications, boundary conditions, and potential directions for future research.

CHAPTER 2. THEORETICAL ORIENTATIONS

In this chapter, I first give definitions of key terms used in this dissertation. Then I draw on two main streams of research to motivate my work. I first review the literature on stigma spillover and how a stigma spillover can be managed. Then I review the literature on moral emotions to examine the impact of moral emotions on stigma spillover. I also discuss how insights from these two streams of research shed light on the infant-formula case in China.

Definitions

Here I briefly discuss definitions of the key terms in this dissertation.

Stakeholders. A stakeholder is "any group or individual who can affect or is affected by the achievement of the firm's objectives" (Freeman, 2010: 46). Examples are employees, customers, suppliers, shareholders, managers, patrons, and board members, among others (Scott & Lane, 2000). In this dissertation, I use "stakeholders" as a general term for theorization because the broad term "stakeholder" is both accurate and encompassing for initial theorization, and it speaks to a wide range of stigma and social evaluations literatures. In the two empirical studies, I focus on customers as the key stakeholder group. They are regarded as key stakeholders for my empirical settings because they could impose punishment on (stigmatize) the focal firms.

Moral emotions. Moral emotions have been approached by scholars in either a narrower or a broader way. Haidt (2003: 853) defined moral emotions as "emotions that are linked to the interests or welfare either of society as a whole or at least of persons other than the judge or agent." In contrast, Jasper (2011: 287) defined moral emotions as "feelings of approval or disapproval (including of ourselves and actions) based on moral intuitions or principles." Jasper's definition is broader because it does not restrict moral emotions to feelings about others' or the society's welfare. In this dissertation, my use of the term "moral emotions" is closer to Jasper's (2011) because

customers are key stakeholders in the two empirical studies. Some of the customers were directly impacted by the melamine crisis, so their moral emotions are not only about society's welfare but relate also to self-interests.

Industry and category. In this dissertation, I use "industry" to refer to a group of firms with similar attributes (for example, buyers' willingness to pay, suppliers' price, cost, and opportunity cost), and an industry is grouped by its key stakeholders (Cattani, Porac, & Thomas, 2017; Porter, 1980: 129). Organization theorists introduced a related but more general term, namely, *category*— "the symbolic and material attributes of products, firms, and industries that are both shared among actors and that distinguish these entities from others" (Durand & Thornton, 2018: 632). In this sense, an industry can be viewed as a category, with the boundary of that industry socially constructed, and influenced by external stakeholders such as customers, analysts, and regulators (Cattani et al., 2017; Zuckerman, 1999).

In order to reduce confusion, in this dissertation, I avoid using "category" to refer to an entire industry. Instead, I adopt another use of categories, namely, "subgroups" of firms within an industry. As Durand and Thornton (2018) note, various organizations and products within a broader industry can be constituted as subgroups within it. For example, the global arms industry contains both military and civilian categories (Durand & Vergne, 2015). Law firms in the UK are differentiated by whether or not they are members of the "magic circle" category (Muzio, Aulakh, & Kirkpatrick, 2020). Similarly, universities are typically categorized by whether or not they are members of high-status groups (e.g., "Oxbridge" in the UK and the Ivy League in the US). A potentially confusing term is "strategic groups," which refers to firms within an industry that pursue a similar strategy (Hunt, 1972; Porter, 1979). A category of firms may or may not use similar strategies. But a strategic group is a category of firms that share a similar strategy. In this

sense, "category" is a simpler and broader term used to refer to a group of firms within the same industry.

Stigma, organizational stigma, and industrial stigma. Goffman (1963: 3) defined stigma as "an attribute that is deeply discrediting," representing the discrepancy between one's real social identity and one's virtual identity. Building on Goffman's fundamental work, Devers et al. (2009: 155) defined "organizational stigma" as a "label that evokes a collective perception that the organization is deeply flawed and discredited." More recently, a stigma at an industry level has been defined as a "vilifying label that contaminates a group of similar peers" (Vergne, 2012: 1028). In exploring stigma spillover, this dissertation examines how stigma transfers from the organizational level to the industry level.

Stigma spillover and industrial stigma spillover. The concept of *stigma spillover* is rooted in Goffman's (1963) "courtesy stigma," also known as "stigma-by-association," where individuals are tainted by their personal or professional relationship with stigmatized others (Kulik, Bainbridge, & Cregan, 2008; Pontikes, Negro, & Rao, 2010).

An *industrial stigma spillover* is often caused by a negative event. Studies show that organizations are not always equally at risk. Rather, the degree of spillover within an industry depends at least partly upon whether the guilty firm and innocent firm are within the same category. More specifically, the degree of an industrial stigma spillover depends in part on the relative similarity between guilty and innocent firms and/or the nature of the relationship between them (Paruchuri & Misangyi, 2015). Greve, Kim, and Teh (2016), for example, found that bank runs are more likely to diffuse across structurally equivalent banks or those that share the same organizational form.

An industrial stigma spillover, therefore, occurs when the vilified behaviors of some

members of a category threaten to adversely implicate all other members of that category (Jonsson et al., 2009; Paruchuri & Misangyi, 2015), but not other categories within the same industry. The risk of spillover, in other words, arises from being perceived as "in" that industry category.

Having defined the key terms used in this dissertation, I next turn to stigma and moral-emotion research for more insights to answer my research questions. I first use a recent framework of stigma research to gain a better understanding of industrial stigma spillover. My analysis shows several limitations of our current understanding of this phenomenon.

Sources, Characteristics, and Management Strategies of an Industrial Stigma Spillover

In a recent literature-review paper, my colleagues and I identified six sources (tribal, moral, emotional, associational, physical, and servile) and five characteristics (concealability, controllability, centrality, disruptiveness, and malleability) of stigma (Zhang, Wang, Toubiana, & Greenwood, 2021). Below I use this framework to analyze an industrial stigma spillover. The goal is to have a better understanding of stigma spillover and to identify the blind spots in the extant literature.

Sources. The source of a stigma is that which creates or causes the discrediting "mark" that classifies the social actor as "different … of a less desirable kind" (Goffman, 1963: 3). *Tribal stigma* reflects membership in a group or category that is deemed inferior and discredited (Slutskaya, Simpson, Hughes, Simpson, & Uygur, 2016). Tribal source is relevant to an industrial stigma spillover because innocent firms might be contaminated by other firms' transgressions just because they share the same group membership. Scholars have found that tribal stigma can be attached to a particular geographic market, such as that associated with the "made in China" label (Devers et al., 2009: 158). As another example, local Italian grappa was stigmatized in relation to

spirits produced by foreign competitors (Delmestri & Greenwood, 2016).

Moral stigma refers to "blemishes" of character (Goffman, 1963: 4) based on engagement in activities perceived as immoral or sinful. The moral source of stigma is relevant because an industrial stigma spillover can be attributed to the perceived immorality of the perpetrator firm. Studies of organizational stigma highlight that stigma often derives from perceptions of immorality. Perceptions of organizational immorality may arise from conduct such as being implicated in financial fraud or scandals (Piazza & Jourdan, 2018; Roulet, 2019) or adopting controversial practices (Chuang, Church, & Ophir, 2011). Moral stigma can also be attached to industries that use toxic chemicals (Diestre & Santaló, 2020), sell weapons (Durand & Vergne, 2015), generate nuclear power (Piazza & Perretti, 2015), produce and sell medical cannabis (Lashley & Pollock, 2020), or engage in the slave trade (Ingram & Silverman, 2016).

Emotional stigma arises from engagement with burdensome and threatening emotions. The emotional source is relevant to an industrial stigma spillover because the transgressions of a perpetrator firm often trigger intense emotional responses in the stakeholders. Interestingly, although stigma scholars have long noticed that people respond emotionally to the stigmatized (Pescosolido & Martin, 2015), framing emotion as a source of stigma is a much more recent development. Emotional stigma has been defined as "performances of emotion (or lack of emotion)" that are perceived as negative, inappropriate for a certain situation, excessive, and showing vulnerability (Rivera, 2015: 218). McMurray and Ward (2014), for example, studied Samaritans, a UK organization that provides telephone support for people who experience emotional stress. Whereas janitors are classified as "dirty workers" because of their proximity to physical dirt, McMurray and Ward proposed that distress-line workers are classified as "dirty" because of their proximity to toxic or negative emotions (i.e., "emotional dirt") when working with

people who are suicidal, upset, or abusive. Other examples include workers in rape crisis centers (Zilber, 2002) and slaughterhouses (McLoughlin, 2019), and border control agents (Rivera, 2015). In addition, while there is only limited research on how emotional stigma impacts organizations or industries, it is reasonable to anticipate that organizations with an emotional stigma (e.g., toxic emotional culture, see Frost (2003)) would have a worse relationship with stakeholders—for example, less satisfied customers, lowered employee engagement, reduced productivity, or high levels of turnover.

Associational stigma arises from proximity, association, or contact with those who are stigmatized. Associational stigma is relevant because an industrial stigma spillover occurs when innocent firms are contaminated by their associations with the perpetrator firms within the same industry. Tracey and Phillips (2016) discussed how a social enterprise was stigmatized for working for refugees; Barlow, Verhaal, and Hoskins (2018) found that firms in the craft beer industry were stigmatized because of their association with mass-production breweries; and Slade Shantz, Fischer, Liu, and Lévesque (2019) showed how clothing companies catering to plus-sized customers were stigmatized for their involvement with these customers.

In addition to the above four sources, I also identified two more sources that may be relevant to an industrial stigma spillover only in specific industries—physical source and servile source. The *physical source* refers to a "physically disgusting" label (Hughes, 1958: 49). Whereas physical stigma has often been studied at an individual level (e.g., obesity, disability, pregnancy, etc.) (Goffman, 1963), it can also be attached to occupations, organizations, and industries that are associated with garbage, death, human orifices, or effluents (Grandey, Gabriel, & King, 2019). For example, mixed martial arts (MMA) organizations are stigmatized from a physical source because of MMA fighters' appearances, and the physical harm and blood caused during the fights (Helms

& Patterson, 2014). Other examples include strip clubs (Grandy & Mavin, 2012), brothels (Blithe & Wolfe, 2017), other sex-orientated organizations and industries (Ruebottom & Toubiana, 2020), and the niche market that sells cadavers and body parts (Anteby, 2010). In this sense, an industrial stigma spillover may be relevant when the stigma spillover is caused by a product-harm scandal that may cause deaths or bodily harm.

The last one is the *servile* source of stigma that results from involvement in activities that are "degrading" through subservience (Ashforth & Kreiner, 1999; Hughes, 1958: 319). In the dirty work literature, servile stigma and tribal stigma have been subsumed into the "social" stigma category (Ashforth & Kreiner, 1999). I differentiate the two because tribal stigma is about belonging to a group, whereas servile stigma is related to an actor's position and role relative to others. They can overlap, of course, as one's gender or class can increase the likelihood of being in a servile position relative to others (Hanna & Gough, 2020). However, servile stigma can also stand on its own: taxi drivers are stigmatized for their servile relationship to clients (Phung, Buchanan, Toubiana, Ruebottom, & Turchick-Hakak, 2020), as are domestic workers and cleaners (Lucas, Kang, & Li, 2013). Although scholars most frequently have studied servile stigma at an occupational level, organizations or industries that are subservient to others can also be tainted in this way. For example, sex shops are "ancillary" within the sex industry, such that workers in these shops tend to be ignored (Tyler, 2011: 1479); the hospitality industry likewise was stigmatized for its servility at one point (Hampel & Tracey, 2017). Servile source of stigma can be relevant when stigma spreads within an industry category that is of a lower position relative to other categories.

Characteristics. Characteristics of stigma are the features or properties of a given "mark." All stigmas "involve a range of characteristics that evoke different reactions in different social settings" (Jones et al., 1984; Ragins, 2008: 206). Because some characteristics shape and influence

people's perceptions of, and responses to, stigmatization (Jones et al., 1984), and because not all stigma is equally contagious or contaminating (Summers, Howe, McElroy, Ronald Buckley, Pahng, & Cortes-Mejia, 2018), such characteristics need to be systematically considered.

The first of these, *concealability,* refers to the extent to which a stigma can be hidden or disguised (Clair, Beatty, & Maclean, 2005; Newheiser & Barreto, 2014). The stigma of organizations and industries can be concealable (Hudson & Okhuysen, 2009). For example, gynecological nurses can simply refer to their work as "nursing," thereby avoiding the stigma associated with their specialty (Bolton, 2005: 173). Hudson and Okhuysen (2009) noted that men's bathhouses disguise themselves, and Vergne (2012) likewise revealed how firms in the global arms industry conceal their activities. Relative to individuals, organizations and industries that conceal stigma incur lower psychological costs from doing so but, if discovered, face greater stigmatization and social sanctions (Zhang, Jiang, Magnan, & Su, 2019). Some sources of stigma (e.g., physical source, or moral and emotional sources that attract public attention) might be more difficult to conceal than others. The concealability of an industrial stigma spillover caused by a negative event depends on the salience of the event. When the negative event is salient to relevant stakeholders, it might be harder for innocent firms to conceal their relationship with the perpetrator firm.

The second characteristic, *controllability,* refers to the extent to which a stigmatized organization or industry is perceived as responsible for causing, having, or maintaining the stigma (Bruyaka, Philippe, & Castañer, 2018; Gomulya & Boeker, 2016). Devers and colleagues (2009) proposed that organizational stigma is often perceived as controllable because it typically follows from organizational actors actively choosing to be involved in that which is stigmatized. One consequence, highlighted by Reuber and Fischer (2010), is that controllable event-based acts of misconduct are particularly stigmatizing for organizations (Devers et al., 2009). This observation

also applies to industries (Roulet, 2015). Research indicates that when stigma is perceived as controllable, the resultant stigmatization is harsher, meaning that the stigmatized face greater social sanctions and negative evaluations (Boyce, Ryan, Imus, & Morgeson, 2007; Kibler, Mandl, Farny, & Salmivaara, 2021).

An industrial stigma spillover is often caused by a negative event involving a perpetrator firm. In this sense, the controllability of the perpetrator firm can be perceived as high, while the controllability of innocent firms is low. Scholars have found that more controllable stigma (e.g., organizational wrongdoing) usually generates blame and anger (Sutton & Callahan, 1987), whereas an uncontrollable stigma (e.g., organizational accidents) is more likely to generate pity (Lyons, Volpone, Wessel, & Alonso, 2017; Weiner, Perry, & Magnusson, 1988). Such different emotional responses can influence attitudes and behaviors towards the associated actors (Schepker & Barker III, 2018). In general, controllability is a characteristic that impacts the perceived culpability and responsibility for involvement with a particular source of stigma, and the greater the perceived controllability, the greater the stigmatization. An implication is that when controllability for the perpetrator firm is high, stakeholders' negative emotional responses might be so intense that these emotions would lead them to punish other innocent firms within the same industry.

The third characteristic, *centrality,* refers to the relative proximity of the stigmatized attributes or practices to the core identity of the actor(s) (Hudson, 2008; Law, Martinez, Ruggs, Hebl, & Akers, 2011). Hudson (2008: 253) attributed "core" stigma "to the nature of an organization's core attributes—who it is, what it does, and whom it serves." Industries, such as abortion centers (Augustine & Piazza, 2021) and the gambling and tobacco industries (Galvin, Ventresca, & Hudson, 2004), can be core-stigmatized. The more central the source of stigma to an

actor's identity, the greater the resultant stigmatization. In contrast, Hudson (2008: 253) also theorized "event" stigma, which is caused by "discrete, anomalous, episodic events." An industrial stigma spillover caused by a negative event can be regarded as an "event" stigma. In other words, centrality is low. Although empirical evidence is scant, it is plausible that an event stigma can develop into a core stigma, meaning that the core attributes of firms within the industry become stigmatized because of the event. Certain sources of stigma (e.g., moral source) are considered more central than others so that they might be easier to develop into a core stigma.

Disruptiveness, the fourth characteristic, is the degree to which stigma disrupts social interaction and/or is perceived as a threat to others in society (Stone, Stone, & Dipboye, 1992). Stigma can introduce uncertainty into social relationships (Kleck, 1969) because the stigmatized are perceived as representing a form of disorder in, and danger to, society (Douglas, 2013; Link, Andrews, & Cullen, 1992) and thus can generate fear of contaminating others (Sitkin & Roth, 1993). For example, the U.S. Central Intelligence Agency was feared because of the use of torture (Chwastiak, 2015). Cannabis was once labeled the "killer weed," thus the industry is perceived as a "danger" to society (Lashley & Pollock, 2020: 440). Regardless of the source of stigma, the greater the perceived disruptiveness, the greater the risk in interactions, and "the greater its tendency to evoke strong, negative reactions in others" (Stone et al., 1992: 390). An industrial stigma spillover is often caused by a disruptive event, which generates fear or other negative emotions and thereby contaminates the entire industry.

I also identified that one characteristic that is not evidently relevant in the context of an industry stigma spillover, namely, malleability. *Malleability* refers to the extent to which the nature of the stigma changes over time (Jones et al., 1984). Malleability matters, because, as Stone et al. (1992: 390) elaborated, "individuals who have stigmas that are viewed as irreversible (e.g.,

amputated limbs) or degenerative (e.g., multiple sclerosis) will typically engender more negative reactions from normals than individuals having stigmas that are considered alterable (e.g., acne-related skin problems, facial moles or warts, deficient social skills)." Malleability has not been well-examined in the context of industrial stigma spillover. But scholars have shown that occupations, organizations, and industries may have more or less malleable stigmas. For example, an organizational stigma stemming from the gender composition of its board of directors is malleable (Perrault, 2015), whereas the occupational stigma associated with the sale of sex is less so (Blithe & Wolfe, 2017). The implication is that when a stigma spillover caused by a negative event is malleable, stigma spillover would be more likely to be contained. Otherwise, it would be harder to contain an industrial stigma spillover from an irreversible stigma.

I have identified sources (tribal, moral, emotional, associational, physical, and servile) and characteristics (concealability, controllability, centrality, disruptiveness, and malleability) of stigma and explained how they are relevant to industrial stigma spillover. Importantly, these sources and characteristics can be combined in order to analyze an industrial stigma spillover. For example, *tribal* and *associational* sources imply that an industrial stigma spillover has an impact on a wider range of firms beyond the perpetrator. The *moral* and *emotional* sources imply that an industrial stigma spillover attracts strong public attention so that it might not be *concealable*. An industrial stigma spillover may or may not be caused by the *central* attributes of a group of firms. And for innocent firms within the same industry, they might have less *control* over the negative events. However, if the *disruptiveness* is perceived as high enough, even though *centrality* and *controllability* are low, stakeholders still experience strong negative emotions and might stigmatize innocent firms within the same industry as a result.

An implication of the above analysis is that an industrial stigma spillover can cause

significant adverse impacts on innocent firms, which is supported by empirical evidence (Piazza & Perretti, 2015; Vergne, 2012). Jonsson et al. (2009), for example, show that simply being in the same industry as a vilified firm increases the risk of clients withdrawing from transactions. Desai (2018) observes that if quality problems occur in organizations accredited by a third party, other organizations may experience negative evaluations simply because of their association with the same accreditation agency. More recently, Hsu and Grodal (2021) documented that the increasing association of e-cigarettes with cigarette smoking results in the stigmatization of e-cigarettes by important stakeholders. The significant consequences of industrial stigma spillover spark interest in how such an event can be managed. Having gained a basic understanding of stigma spillover, I proceed to examine what management strategies might be useful to contain an industrial stigma spillover.

Management strategies. A close examination of the extant literature on stigma management shows six different strategies used by organizations: *boundary management, dilution, information management, reconstruction, cooptation,* and *emotion work.*

Boundary management is an attempt by stigmatized actors to influence the boundary between insiders (those who are stigmatized) and outsiders (those who are not). Using this strategy, actors differentiate and determine who belongs to the stigmatized group and who does not (Khazzoom, 2003). For example, Hudson and Okhuysen (2009: 143) showed how men's bathhouses use a set of boundary-management tactics, including "integration," whereby organizations seek to make supportive suppliers "insiders." Similarly, Cook's Travel Agency showed respectability towards users but attacked stigmatizers as a misguided minority who lacked moral rectitude, honesty, and decency (Hampel & Tracey, 2017). At the industry level, such boundaries can be protected by finding a "direct digital pathway to customers" (Slade Shantz et

al., 2019: 1269) and by avoiding outsiders or those who might be likely to stigmatize them (Sutton & Callahan, 1987). This strategy of boundary management has been shown to reduce exposure to stigmatizing audiences, protect key stakeholders, and enable social support (Hudson & Okhuysen, 2009; Tilcsik, Anteby, & Knight, 2015).

Dilution involves severing, reducing, or altering ties to a source of stigma. Firms have been found to decouple their stigmatized activities from their legitimate structures in order to minimize the appearance of belonging to a stigmatized category (Devers et al., 2009). This can mean isolating or censoring particular guilty parties to disassociate an organization from them (Elsbach & Sutton, 1992). It can also involve straddling, whereby organizations and/or industries engage in non-stigmatized activities to distract attention from more stigmatized lines of business (Vergne, 2012). Overall, dilution can enable actors to avoid shame and/or social sanctions, and to become accepted by their audiences (Vergne, 2012). It is a strategy frequently adopted by those facing associational stigma in order to avoid potential contamination from those who are stigmatized (Gomulya & Boeker, 2016).

Information management involves actors actively managing the information shared or disclosed about their stigmatized attributes. The ability to conceal stigma is one part of this strategy. It can take many different forms, including "hiding" by consciously and actively attempting to conceal and "pass as a member of the non-stigmatized majority" (Clair et al., 2005: 50; Kang, DeCelles, Tilcsik, & Jun, 2016). For example, men's bathhouses may pretend to be something else, such as gyms (Hudson & Okhuysen, 2009). Alternatively, stigmatized actors can "signal" by providing hints, clues, and implicit messages that point to their stigma in order to attract resources, including supporters (Jones & King, 2013: 1471). Moreover, actors can "reveal" by purposefully disclosing their stigmatizing attributes to others (Doldor & Atewologun, 2020; Jones, King,

Gilrane, McCausland, Cortina, & Grimm, 2016: 1532), including, for example, accepting responsibility for organizational wrongdoing (Elsbach, 1994; Sutton & Callahan, 1987).

Scholars have revealed the complexity of the information management process (Follmer, Sabat, & Siuta, 2020), which can be influenced by multiple individuals and organizational and situational factors (Clair et al., 2005; Ragins, 2008). For example, Hudson and Okhuysen (2009) noted that an organization's choice of whether or not to hide stigmatizing attributes partly depends upon the level of hostility of the institutional environment. Information management strategies may affect the extent to which actors are accepted in social settings, as well as personal outcomes (e.g., increased psychological distress when hiding and signaling, and decreased distress when revealing) (Toyoki & Brown, 2014).

Reconstruction is used to reshape values, meanings, and/or interpretations of stigma. This strategy involves attempting to normalize stigma by reframing it in a more positive light (Ashforth & Kreiner, 1999; Kreiner, Ashforth, & Sluss, 2006) or by negating the stigma (Browning & McNamee, 2012). Chwastiak (2015: 495) found that agents of the U.S. Central Intelligence Agency reframed torture as clean work by "attributing benign intent to the procedure," "designating torture as legal," and "embedding torture in mundane organizational practices." Tracey and Phillips (2016) found that Keystone, a social enterprise stigmatized for supporting migrants, reframed migration as good for the economy and essential for public service.

An alternative reconstruction tactic is "recalibrating," or adjusting implicit standards of assessing stigmatized attributes (Johnston & Hodge, 2014). For example, organic farming was stigmatized when it was first introduced in Finland in the late 1970s and early 1980s; in response, organic farmers and journalists adjusted the standards for evaluating modern farming to include environmental benefits so that organic farming became understood as "a profitable and beneficial

market category that served everyone's interests" (Slutskaya et al., 2016: 16).

Stigmatized actors can also shift attention to non-stigmatized aspects of their identities, work, or organizations, sometimes referred to as "refocusing" (Ashforth, Kreiner, Clark, & Fugate, 2007: 150; Grandy & Mavin, 2012). For example, Tyler (2011) found that employees working in sex shops in London highlight the advice and guidance they provide to customers, rather than the morally tainted aspects of their work. Walsh, Pazzaglia, and Ergene (2019) describe how former members of a defunct technology company shared stories about the positive aspects of their former organizational identity in order to verify their own worth, regardless of the company's failure.

Stigma management through reconstruction often results in improved identity outcomes—such as an improved sense of self (Levine & Schweitzer, 2015), a stronger organizational identity (Tracey & Phillips, 2016), and enhanced occupational pride (Just & Muhr, 2020). Hence, it is more likely to be deployed when stigma is central to an actor's identity. Interestingly, unlike other strategies, this strategy enables actors to try to alter perceptions regarding the characteristics of stigma. For example, stigmatized actors can propose that a given stigma is not controllable or disruptive (Lamont, 2018), thereby potentially influencing reactions to the stigma.

Cooptation is a strategy whereby the stigmatized actor uses or manipulates stigma strategically. The underlying idea is that actors at all levels can "own" their stigma and benefit from it (Goffman, 1963; Tyler, 2011). For example, organizations and industries have been found to create controversy around their stigma in order to appeal to, and attract, certain audiences (Helms & Patterson, 2014; Roulet, 2020). Compared to boundary management, which builds upon the separation of the stigmatized from the stigmatizer, cooptation places greater emphasis on the deliberate mobilization of neutral and potentially supportive audiences by highlighting the merit and distinctiveness of the stigma. Outcomes associated with cooptation include increased attention

and social validation from preferred audiences, and the potential for increased disapproval and hostility from others (Helms & Patterson, 2014).

Emotion work involves actors using or manipulating emotions to resist the negative influence of stigmatization (Hochschild, 1979; McMurray & Ward, 2014). It generally helps actors cope by shifting the emotions associated with stigmatization from negative to positive (e.g., shame to pride) (Benjamin, Bernstein, & Motzafi-Haller, 2011; Hamilton & McCabe, 2016). Emotion work can be applied to one's own emotions (Toubiana, 2020) or may involve attempts to manipulate others' emotions (McMurray & Ward, 2014). For example, some researchers have launched examinations into how actors can work to activate certain emotions in order to appeal to stakeholders or garner acceptance, and even to enhance emotional investment and ties with stakeholders (Lashley & Pollock, 2020; Pontikes et al., 2010). Firms in the medical cannabis industry used patients' testimonials in marketing to build "emotional connections" with key audiences (Lashley & Pollock, 2020: 452).

The above review gives important insights into how organizations might strive to avoid stigma spillover. But it also reveals some blind spots. First, attention is primarily given to strategies used for the stigma that is central for firms—in other words, in "core" stigmatized industries (Hudson, 2008) that bear a stigma with higher centrality. In contrast, little is known about strategies that effectively cope with stigma arising from an unexpected "event," or a crisis or scandal with high "visibility and publicity" (Adut, 2005; Roulet, 2020: 52)—such as the exposure of accounting fraud by Parmalat (Gabbioneta, Greenwood, Mazzola, & Minoja, 2013), corruption in the Enron affair that implicated Arthur Andersen (Jensen, 2006), and of wrongdoing within the Catholic Church (Palmer & Feldman, 2018). Yet, as Hudson and Okhuysen (2009) emphasized, strategies

appropriate for handling core stigma may not be relevant for avoiding stigma spillover from an unexpected event, because a core stigma implicates the fundamental identity of an organization, but an event stigma arising from a crisis may not—although it may progress to that point (Hsu & Grodal, 2021).

A second blind spot is that we have only a modest understanding of whether particular strategies are more appropriate for some but not all organizations. Instead, there is an implicit assumption that firms within a category—typically conceptualized as an industry—are equally vulnerable to stigma spillover and thus would make similar strategic choices. Yet, firms vary in important characteristics that might attract or deflect stigma spillover—such as their status (Graffin, Bundy, Porac, Wade, & Quinn, 2013; Wang, Raynard, & Greenwood, 2020) or social prominence. As Vergne (2012: 1,027) emphasizes, "more prominent members of a stigmatized category" are particularly at risk "because they epitomize the negative features attributed to the vilified category." Further, the risk of spillover may be affected by the degree of media scrutiny to which organizations are subjected (Carberry & King, 2012; Zavyalova, Pfarrer, Reger, & Shapiro, 2012). It follows that if some firms are more scrutinized and vulnerable to the consequences of stigma spillover, the choices of their spillover strategy may differ.

Third, even less is known about the performance consequences of different strategies to manage stigma spillover from a crisis. Attention instead has been focused upon which organizations are more likely to experience stigmatization and the strategies by which they might avoid it, without assessing performance implications (for exceptions, see Alexy and George (2013); Diestre and Santaló (2020)). The general lack of attention given to the impact of spillover strategies upon performance prompted Wenzel, Stanske, and Lieberman (2021) to emphasize the need for a more explicit understanding of how firms respond to crises and the different performance

implications. We still have much to learn about which strategies are adopted by which organizations and with what consequences.

Fourth, although one of the sources of an industrial stigma spillover is "emotional source" and one of the stigma-management strategies is "emotion work," attention to how emotions impact an industrial stigma spillover remains limited. The reason might be attributed to the fact that stigma-spillover research has mainly adopted a cognitive approach, meaning that scholars focus more on people's beliefs and understandings of an industry rather than their emotional responses (Haack et al., 2014). However, an exclusively cognitive view might be flawed because stigma spillover does not always happen automatically. An industrial stigma spillover can be much more complex than previously understood. Given that stigma contains strong emotional elements, it involves more intuitive judgment, which makes a primarily cognitive view less useful (Pollock, Lashley, Rindova, & Han, 2019). Below I first differentiate the cognitive approach from the emotional approach to stigma spillover. I highlight why and how an emotional approach to stigma spillover is important. Then I focus on "moral emotions"—which are the most relevant emotions to stigma—in order to generate insights on how emotions might play a role in an industrial stigma spillover.

Moral Emotions and Industrial Stigma Spillover

Cognitive and emotional approaches to an industrial stigma spillover. Focusing on cognition, i.e., the "thinking, problem solving, and planning" (Giorgi, 2017: 717), scholars attribute the rise of an industrial stigma spillover to stakeholders' sensemaking processes that are evoked by a negative event. The starting point of this sensemaking process is for stakeholders to determine a "blame category" to which a perpetrator firm belongs, and then stakeholders would stigmatize every member within that category (Wiesenfeld, Wurthmann, & Hambrick, 2008: 236).

This view often implies an "automatic process" of stigma spillover. For example, Hebl and Mannix (2003) used experiments to show that simply sitting next to an obese female coworker is enough to trigger the stigma spillover. The tribal and associational sources of stigma that are reviewed above illustrate such a view on industrial stigma spillover such that stakeholders automatically categorize a group of associated firms within the same industry as the "blame category" and punish them. However, the moral and emotional sources of stigma reviewed above suggest that an industrial stigma spillover contains moral and emotional elements which cannot be explained by a purely analytical process. Moreover, part of stakeholders' sensemaking process may be an assessment of the characteristics of stigma (i.e., concealability, controllability, centrality, disruptiveness, and malleability). Some of these characteristics also draw our attention to the emotional process of an industrial stigma spillover. For example, stakeholders may have very different emotional experiences when they assess the focal event as more or less controllable or more or less disruptive. Accordingly, in order to gain a better understanding of how firms select stigma-management strategies, and whether the selected strategies can effectively contain a stigma spillover, we need to consider emotions.

Emotions, defined as people's feelings, or "passions and desires [that] are not reducible to the pursuit of rational interests" (Voronov & Vince, 2012: 59), are important in an industrial stigma spillover because of two reasons. First, emotions change individuals' sensemaking process after a negative event. Wyer (2003: 307) pointed out that in specific situations, emotions become the "preconditions for cognitive process," which can influence people's reactions towards new information without conscious awareness. Also, people's emotional experiences can serve as information about their attitudes towards themselves, others, or the situations they confront, which may validate or annul other information, or change the weight of particular information in

sensemaking. Second, emotions are increasingly viewed as "a crucial link between micro and macro levels of social reality" (Creed, Hudson, Okhuysen, & Smith-Crowe, 2014; Turner & Stets, 2005: 1). An industrial stigma spillover arises from a negative event that involves one or a few organizations. As individual stakeholders make sense of this event, they impose stigma on not only the perpetrator firms, but also the innocent firms within the same industry. During an industrial stigma spillover process, emotions become an important but under-explored link of these actors across different levels (e.g., individuals, organizations, and industries). Haack et al. (2014) theorized that emotions produce legitimacy spillovers in people's evaluations of transnational governance schemes. Although their study is about legitimacy, it implies that emotions might be the animator of other social evaluations such as stigma.

Moral Emotions. Among different emotions, moral emotions have received the most attention in stigma literature. Stigma is "essentially a moral issue," and it exerts the most influence by threatening what is valued by social actors (Yang, Kleinman, Link, Phelan, Lee, & Good, 2007: 1,524). Pollock et al.'s (2019) review of different social evaluations showed that moral and emotional aspects are important content for stigma. Hampel and Tracey (2019: 11) conceptualized stigma as being part of "a spectrum of moral evaluation," with stigmatization occupying the extreme negative end. Furthermore, moral emotions are critical elements of the "human moral apparatus," which influences the link between moral evaluations and moral behaviors (Tangney et al., 2007: 347). Essentially, moral emotions provide power and energy for people to avoid the bad and approach the good. Thus, without an understanding of moral emotions, we cannot comprehend moral evaluation and its negative extreme consequence, stigmatization.

Scholars have differentiated different types of moral emotions using two dimensions, namely, the disinterestedness of elicitors and pro-sociality of action tendency (Haidt, 2003). The

disinterestedness of elicitors refers to "the degree to which an emotion can be elicited by situations that do not directly harm or benefit the self" and pro-sociality refers to "the degree to which an emotion's action tendencies are prosocial" (Haidt, 2003: 854). Other scholars have refined the original typology proposed by Haidt (e.g., Greenbaum, Bonner, Gray, & Mawritz, 2020; Tangney et al., 2007). Building on this work, I categorize moral emotions into two groups: First, "self-conscious emotions" are positive or negative feelings towards the self when one upholds or violates moral standards. Examples are positively-valenced pride, and negatively-valenced shame, guilt, and embarrassment; Second, other-focused moral emotions that occur when other actors violate or uphold moral standards, including the negatively-valenced anger, disgust, and contempt, and positively-valenced gratitude and elevation (see Table 2.1 for a summary).

Table 2.1 Different Types of Moral Emotions

	Definitions	Valence	Examples
Self-conscious	Feelings towards the self when one upholds or violates moral standards	Positive	Pride
		Negative	Shame, guilt, embarrassment
Other-focused	Feelings towards others when another one upholds or violate moral standards	Positive	Gratitude, elevation
		Negative	Anger, disgust, contempt

Notably, Haidt (2003: 853) adopted a very strict definition of moral emotions to refer to emotions "that are linked to the interests or welfare either of society as a whole or at least of persons other than the judge or agent." This strict definition may restrict the research scope to only a few moral emotions. For example, pride may not be regarded as a moral emotion because it occurs when good things happen to the self, not others. However, Haidt (2003: 864) also pointed out that moral emotion is "a matter of degree" and "any emotion is a moral emotion to the extent that it has disinterested elicitors and prosocial action tendencies." Later Tangney et al. (2007) expanded the list of moral emotions to include pride. Another example is fear. Fear is regarded as

a non-typical moral emotion because it normally occurs when the self is threatened. However, in many situations, fear leads to high pro-social tendencies such as law-abiding or norm-respecting behaviors (Haidt, 2003). Scholars have found that fear drove social control agents to impose sanctions on the stigmatized to maintain social order (Pontikes et al., 2010), which is a case where fear is linked to societal or group interests rather than self-interest only. But the boundary between moral and non-moral emotions is still debated in the literature.

Moreover, whether and which types of moral emotions may play a role in an industrial stigma spillover have not been well-understood. Existing literature suggests several plausible emotions that may play a role in an industrial stigma spillover process. Before a negative event, firms might elicit positive self-conscious emotions from stakeholders (as did China's infant formula industry). Scholars have demonstrated that organizations purposefully elicit certain self-conscious positive emotions from stakeholders to increase desired organizational outcomes (Bohns & Flynn, 2013; Daniels & Robinson, 2019). For example, marketing research has shown how positive moral emotions such as pride can help firms attract customers (Aaker & Williams, 1998).

However, given that an industrial stigma spillover involves the violation of firms, it is plausible that stakeholders may feel other-focused negative moral emotions. After a negative event, individual stakeholders will actively make sense of the event and may "label" innocent firms within the same industry involved in illegitimate practices as incongruent with social norms and values (Devers et al., 2009: 162). This labeling process is also subject to an individual's emotional experiences. For example, stakeholders' strong negative emotions such as anger, contempt, and shame may motivate them to impose blame on the perpetrator, or even similar actors (Link, Yang, Phelan, & Collins, 2004). More interestingly, the positive emotions elicited by firms before the negative event, and the negative emotions after the negative event may generate tension. As

worded by Jasper (2011: 291), the tension between one positively valent and one negatively valent emotion acts as a "moral battery" that energizes behaviors. Although we know moral batteries can fuel social movement (e.g., Gould, 2009), we do not know much about how polarized moral emotions might impact an industrial stigma spillover process.

Summary

In this chapter, I defined key terms used in this dissertation. Then I analyzed the sources, characteristics, and potential management strategies of industrial stigma spillover. In doing so, I was able to identify four blind spots in the literature. First, stigma scholars have mainly focused on strategies used by industries for stigma with a higher level of centrality (or core stigma), but there is limited evidence about whether these strategies can be used to manage an industrial stigma spillover. Second, we have only a limited understanding of how firms choose among these strategies. Third, the implications of strategies are still unclear. Finally, and most notably, we know little about how moral emotions impact an industrial stigma spillover. Then I draw on moral-emotions literature to show that moral emotions are very important in an industrial stigma spillover, but empirical evidence is still scant. In the next two chapters, I describe two related studies to address these blind spots.

CHAPTER 3. STIGMA SPILLOVER IN THE CHINESE INFANT FORMULA
INDUSTRY

In this chapter, I present a study of the stigma spillover in the Chinese infant formula industry. This study examines Research Questions 1 and 3: *Do moral emotions impact an industrial stigma spillover? How can an industrial stigma spillover driven by stakeholders' moral emotions be managed, and what are the implications of different management strategies?* To address these research questions, I adopted a mixed-methods approach combining qualitative and quantitative analyses. Following prior studies (e.g., Shymko & Roulet, 2016; Thornton, 2002), I began with an exploratory qualitative study, using interviews supplemented with archival and media data, to understand how moral emotions impact an industrial stigma spillover, and I identify strategies taken or not taken by firms and the rationales underpinning them. Having done so, I used quantitative data to test the hypotheses discerned from the qualitative data. In the Summary section, I focus on the key implications of the findings. Using the mixed-methods approach in this way allows cross-validation of the evidence through different lenses, thereby facilitating the development of theory and testable hypotheses (Creswell, 2014; Zott & Huy, 2007).

Stage 1: An Exploratory Qualitative Study

China has one of the fastest-growing and highly profitable infant formula industries in the world. Even though hit by the scandal, China still occupies 46% of the total share of the world infant-formula market in 2015 (Changing Markets, 2017). The price of infant formula is high in China, especially for imported infant formula. For example, according to the research of Changing Markets, Aptamil Profutura 1 from Danone costs US$55, US$24, and US$17 in China, Germany, and the UK, respectively (Changing Markets, 2017). The main reason for this price discrepancy is customers' distrust in domestic firms, which gives foreign firms opportunities to charge a premium

price for the same products (Hanser & Li, 2015).

Another important reason for the size of the Chinese infant-formula industry is the low breastfeeding rate in China—surprisingly lower than the world average (Rollins et al., 2016). In 2018, China's national exclusive breastfeeding rate for children under six months of age was 29.2%, while the world average is 43% (China Development Research Foundation, 2019). The situation in cities was worse than in rural areas. The causes are complicated. The marketing of infant-formula companies is regarded as one important reason (Rollins et al., 2016). Also, institutional supports are lacking in China, and the maternity leaves are short for parents.

Another important feature of this industry is the division between domestic and foreign infant formula industries. Even before the melamine crisis, there was a distinction between foreign and domestic infant formula categories (*Nielsen*, 2016). After China joined the World Trade Organization in 2001, several foreign infant formula firms entered China and gained a premium market position (Yili Annual Report, 2002). Foreign infant formula enjoyed a "holy halo" (*Xinhua Daily Telegraph*, June 18, 2005), which enabled the companies to charge higher prices. Nevertheless, the "domestic" firms grew quickly, and their market share increased from 25% in 2002 to 65% before the melamine crisis in 2008 (*Nielsen*, 2016), an event later described as the industry's "greatest earthquake" (*People's Daily*, May 26, 2011), "watershed" (*Xinhua*, May 29, 2012), and "shuffle" (*People's Daily*, September 30, 2019). During the crisis, 296,000 babies and children sickened, and six died. In September of 2008, the Chinese government identified 22 of 109 domestic firms as producers of tainted products, whereas products from all 55 foreign firms showed negative results for contamination.

From 2008 to 2015, sales of infant formula produced by foreign firms rose from 35% to 80% of the market, even though their average price was 28% higher than that of domestic products

(Ministry of Commerce, 2015). Yet, not all innocent domestic firms suffered to the same extent. Feihe, for example, a run-of-the-mill small producer before 2008, overcame its initial market loss and acquired the second-largest market share of all firms (i.e., domestic and foreign) over the next ten years (Feihe Prospectus, 2019). The puzzle, therefore, that I sought to understand is: How did some but not all innocent firms in the "domestic" category successfully manage the high risk of stigma spillover?

Data Sources. I mainly used interviews, participant observation, and archival and media data for this stage. A detailed description of the data and its use can be found in Appendix A.

Interviews. I conducted 35 semi-structured open-ended interviews (with 33 informants; 2 were interviewed twice) from 2017 to 2019 with multiple stakeholders in order to gain different perspectives on how stigma spillover happened and how firms responded to the crisis. Specifically, I first conducted 8 pilot interviews with 5 parents and 3 retailers to help form a general understanding of the infant formula industry. Through these pilot interviews, I learned that the melamine crisis is a complicated and sensitive topic in China, and media reports have even been censored by the central government (Lu, Tao, & Woo, 2009). Thus, for the formal interviews, in order to follow up on the questions and observations gained during the pilot interviews, I identified interviewees through a snowball sampling technique (Biernacki & Waldorf, 1981) starting with an independent researcher who specializes in the analysis of the infant formula industry; I asked that he put me in touch with other industry insiders. This snowball sampling approach helped me gain access to more interviewees and to identify the key informants and key events (Myers & Newman, 2007; Patton, 2002). Among the 27 formal interviews that I conducted in this stage, 5 industry experts have extensive knowledge of this industry. The experts and managers held high positions in the government, associations, or companies. They had many years of experience in the Chinese

dairy industry, which required regular interactions with the government, media, customers, and others. I was also connected with 6 victims' parents, who had experienced and been directly affected by the melamine crisis. They were in ideal positions to express and describe their attitudes, emotions, and behavioral responses towards the firms. I also interviewed 12 industry practitioners: 5 informants from the innocent domestic firms, including one that had consecutive losses in sales after the melamine crisis, one that became a market leader, and one that achieved growth after the crisis but whose sales later declined dramatically; 3 informants from two guilty firms; 2 informants from 2 foreign firms; and 2 suppliers. In addition, I interviewed 3 journalists who conducted intensive investigations of the melamine crisis.

Each interviewee is assigned with a legend key as follows: A01–A05: industry analysts; F01–F02: informants from foreign firms; G01–G03: informants from guilty domestic firms; I01–I05: informants from innocent domestic firms; J01–J03: journalists; P01–P05: non-victim parents; V01-V06: victims' families; R01–R02: retailers; and S01–S02: informants from supplying firms. A detailed description of the informants can be found in Appendix B.

During the formal interview, a semi-structured approach was adopted: informants were first asked to provide a self-introduction. Then they were asked to describe their knowledge and/or experience of the Chinese infant formula industry. For industry analysts and journalists, I questioned how they were involved in the infant formula industry, their general assessment of this industry, and their comments on the competitive behaviors of firms. Industry practitioners were asked about the advantages and disadvantages of their companies, and the competitive strategies of their firms. Parents were asked how they chose from the range of infant formula products and how they determined which brands were foreign or domestic. Each interview lasted between thirty minutes and two hours. All interviews were conducted in Mandarin Chinese, recorded, and

transcribed.

Participant observation. During the interviews described above, I was able to build a good rapport with the informants, and I was invited to conduct observations. The first one was a meeting with other infant formula experts at a well-known Chinese infant formula company to discuss the marketing strategy of this company. This meeting provided me with insights into how companies formed their strategies. I also participated in three online meetings with victims' parents, relatives, and friends during which these parents discussed how the melamine crisis impacted their lives. I was invited by a victim's family for lunch and dinner several times, and to shop for the child. We had chats about these families' experiences during and after the melamine crisis. I wrote observations, notes, and critical reflections immediately after returning home (Emerson, Fretz, & Shaw, 2011). These ethnographic observations serve as a foundation for learning about parents' emotional experiences during and after the melamine crisis.

Archival data. Given the retrospective nature of this study, I also consulted archival and media sources. I collected the *Chinese Dairy Industry Yearbooks* from 2002 to 2019. These yearbooks, published by the Chinese Ministry of Agriculture and the Dairy Association of China, document the critical events in the Chinese infant formula industry. Following the advice of industry analysts, I analyzed 10 industry reports written by independent research institutions (including Nielsen, CSC Financial, China Merchants Securities, Huatai Securities, and Ping An Securities) that describe actions taken by firms after the melamine crisis.

I collected newspaper articles that report on the behaviors of firms. These articles provided information about media reports of the melamine crisis and firms' actions after the crisis. I consulted articles in the *Xinhua Daily Telegraph* and the *People's Daily* from September 2008 (i.e., the breakout of the crisis) to December 2019 using the keywords "milk powder," "infant formula,"

or "melamine crisis" (all in Chinese) in the full text.

Although the above two media sources provided an overview of the infant formula industry, small firms typically were not reported on, but the information could be obtained from two widely consulted online media sources—Sina and iFeng. Journalists in my interviews (J01; J02) confirmed that these two media outlets are more responsive and informative than the government-controlled *People's Daily,* Xinhua News Agency, or China Central Television (CCTV) about the infant formula industry. For example, while the government-controlled media are significantly censored and thus tend to adopt a positive tone regarding domestic firms' strategies, this is less true for Sina and iFeng because they are relatively less monitored by the government (J01).

Video clips. I reviewed 70 video clips released from 2008 to 2019 by China Central Television (CCTV), the predominant television channel in mainland China. These video clips provided information not included in the industry reports of firms nor mentioned to me by informants. A graduate student from a Hong Kong university who studied film making gave me access to 12 videos that this student shot for a documentary about a melamine victim's father. These video clips documented the daily experience of the victim's parents. I took notes while watching the video clips, and then organized them into memos.

Data Analysis. I first analyzed the archival documents and interview data. I organized the documents and transcripts chronologically by the year they were produced and by source (interview, government and dairy association, companies, or media). To gain a basic understanding of the industry, I first used all the "chronicle of events" chapters in the Chinese Dairy Industry Yearbooks because they documented key events that happened in this industry. I took notes during reading and highlighted the repeated features of this industry, including the division between "domestic" and "foreign" categories, the melamine crisis as a "watershed" for the industry, and

the customers' "stigmatization" and "shaming" of domestic firms after the melamine crisis.

Having gained a basic understanding of the industry, I proceeded to analyze all the archival documents, interview transcripts, and observation memos. I read them line by line and paraphrased any sentences or paragraphs that seemed relevant to the study. A typical paraphrased sentence began with the time of the texts, followed by the key actors and its actions; for example, "In Dec. 2008, Sanlu Company went bankrupt because of melamine crisis." Based on these descriptions, I built a chronology of the Chinese infant formula industry depicting who did what, when, and why. By taking this step, I understood the key events and processes. The initial analysis showed that customers were key stakeholders because they had transactions with companies, and they actively circulated their feelings and opinions about these companies to other people they know. The emergence of "stigmatization" and "emotions" in this step called my attention to the stigma and moral-emotions literature.

Next, I grouped this information into two stages for further analysis: pre-melamine crisis and post-melamine crisis. In each stage, I focused on the interactions between companies and customers, especially the emotional expressions and experiences.

Emotional dynamics. The prominence of emotions in the data led me to document specific emotions within each stage using an open coding approach (Strauss & Corbin, 1998; Van Maanen, 1979). Companies expressed emotions in the pre-melamine and post-melamine phases, while customers' emotions were mainly expressed in the post-melamine phase. In the pre-melamine phase, companies' emotional codes include "pride," "confidence," and "national pride." In the post-melamine phase, companies' emotional expression was mainly "guilt." Customers' emotional codes in the post-melamine phase include "anger," "contempt," "anxiety," "concern," and "fear." Iterating with literature, I then clustered similar codes together, looked for relationships among

these codes, and assembled them into higher-order themes. The analysis revealed two categories: "moral emotions," which are people's feelings about right and wrong (Jasper, 2011), such as guilt, shame, pride, and anger; and "basic emotions," such as fear, anxiety, sadness, and concern, that are not necessarily related to people's judgment of moral issues. The interviews with multiple stakeholders showed that the dramatic change in stakeholders' feelings from positive before the crisis to extremely negative after the crisis was one of the main reasons why it was very hard for the industry to recover from declining performance. This process of data analysis involved several rounds of iteration between data and the stigma and emotion theories. Overall, the data analysis was conducted in a similar way to existing emotion studies (Fan & Zietsma, 2017).

Management strategies. Firms' strategic responses occurred in the post-melamine stage. The initial analysis showed that firms had two general choices: taking a more reactive approach by doing nothing or taking more proactive actions. An important assumption at the outset of this study was that the risk of adverse consequences following from stigma spillover was very real. Therefore, I conducted a preliminary comparative analysis of the market performance of two innocent domestic firms that initially had done little (a "do nothing" strategy) and two innocent firms that had more proactively adopted strategies to push back against the risk of stigma spillover. These four firms were suggested by an independent researcher. My purpose was to confirm that proactive strategic responses might work. The comparison showed that the market performance of "do nothing" firms fell for several years after 2008, whereas the two more proactive firms avoided performance decline—one of them enjoyed noticeable market growth. Hence, I proceeded with data collection and analysis.

I then focused on the strategies taken by firms in response to the stigma spillover. I began by identifying strategies from informants' responses to the question "what did this company do in

response to the impact of the melamine crisis after 2008?" From these responses, I identified three strategies. First, some firms sought to appear "foreign" by using foreign names and registering their products as foreign even though they were produced in China. I conceptualized this strategy as "category membership deception." Other firms established factories overseas to gain foreign milk sources and claimed that there was no difference between domestic and foreign infant formula—I coded this strategy as "category blurring." Lastly, a group of firms claimed that domestic infant formula was better than foreign formula, pointing to their investment in research and development as proof of their claims. I called this strategy "category promotion." Having discerned the three strategies, I used archival and media data to confirm that I had not missed other strategies. Appendix C provides illustrative quotes to show how I coded these strategies in this study.

Finally, I uncovered possible rationales for the firms' selection of strategies—which inspired hypotheses for later testing. Two rationales became clear: "prominence/visibility" as reflected by organizational age and media scrutiny. For example, informants from Sanyuan Company believed that the coverage by the media of its research investments into developing Chinese formula and the fact that the firm had served the Chinese public for decades would give credibility to the claim that its products were superior to foreign products. Whenever possible, I triangulated data from multiple sources and cross-validated evidence. For example, when an industry analyst described that a particular firm had built an overseas factory to combat the negative effects of the melamine crisis, I checked that this action was documented in the industry or media reports.

In the next section, I present findings from the qualitative analysis. I first give a chronological description of the Chinese infant formula industry. Then I focus on how firms

responded to the crisis, describing the strategies identified and generating specific testable hypotheses. In proposing these hypotheses, I consider the extent to which "media scrutiny" and "prominence" affect the choice of strategy and the likely consequences.

Findings. I identified that before the crisis, Chinese infant formula firms expressed pride. After the melamine crisis in 2008, wrongdoers for the melamine crisis collectively expressed guilt. Despite the effort of wrongdoers to apologize and make compensation, customers still experienced strong negative moral emotions. As a result, although only 22 firms were actual wrongdoers in the melamine crisis, customers stigmatized the whole Chinese infant formula industry. In response to the stigma spillover, firms adopted different strategies; and the findings reveal firms' rationale for choosing a certain strategy and the performance implications of these strategies.

Positive emotions before the melamine crisis. The Chinese dairy industry expanded rapidly and became the fastest-growing agriculture sector in China after the Chinese economic reform. Although the competition between domestic and foreign dairy companies was fierce, in 2006, the total sales of the top four domestic dairy-processing companies (Yili, Mengniu, Sanlu, and Bright) represented about half of the sales of the entire dairy market (Sharma & Zhang, 2014). With support from the government and the efforts of large dairy companies, a sense of pride was expressed by dairy giants. In the 2000s, one of the most popular slogans of Mengniu Dairy was "a jin of milk a day keeps Chinese strong" (*Sina*, September 12, 2006).[1] The dairy companies were proud to present their image as big companies in a powerful nation. Mengniu was selected as the milk specially produced for Chinese astronauts in 2003. Similarly, Yili Dairy became the first and only dairy-product sponsor for the 2008 Olympics. The domestic infant formula companies, as a

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[1] Jin is a traditional Chinese unit of liquid measurement: one jin is about 500 milliliters.

part of the Chinese dairy industry, were also trusted and favored by the public. Using Chinese infant formula became part of customers' identity. While Mengniu and Yili (mentioned above) had businesses in both the liquid milk and infant formula sector, some companies exclusively ran an infant formula business. Among them, Sanlu was the most successful. It had been the market leader of the infant formula sector for 15 years consecutively before the melamine crisis, and it was regarded as the "quality benchmark" of Chinese infant formula.

These companies were widely recognized by the public. For example, in 2005, Chinese Food News reported on the first "Golden Cow Awards" for corporate leaders. Tian Wenhua, the CEO of Sanlu Dairy (the largest infant formula company), was awarded the title of "the top ten most respected entrepreneurs in the Chinese dairy industry" along with Niu Gensheng from Mengniu, Wang Jiafen from Guangming Dairy, and CEOs of other major dairy companies that did not produce infant formula (*Chinese Dairy Industry Yearbook,* 2006). In November of 2007, Mengniu Dairy won the title of "Customers' Favorite Brand" (*Chinese Dairy Industry Yearbook,* 2008). In March of 2008, Sanlu won the National Science and Technology Advancement Award, regarded as the highest achievement for the dairy industry's research and development. And on May 12, 2008, only a few months before the melamine crisis, the unfortunate earthquake occurred in Wenchuan. This was the largest and most destructive earthquake since the founding of modern China. Sanlu Diary quickly raised and donated 1 million yuan worth of dairy products. Sanlu Group, its suppliers, and employees donated more than 5 million yuan to the disaster area through local charities. Six days after the earthquake, Sanlu Group learned of the shortage of infant milk powder in the disaster area, and once again rose to the occasion, donating infant formula milk powder worth 8.8 million yuan to the disaster area to provide the "care of mother" to children in urgent need of nutrition. As of May 18, 2008, Sanlu Dairy had donated more than 15 million yuan

to victims of the Wenchuan earthquake, which was the largest donation by the dairy industry. At that time, the media praised Sanlu as a company that "has long been enthusiastic about public welfare and bravely takes social responsibility" (see the full quote below).

> After the Wenchuan earthquake on May 12, tens of thousands of people have lost their lives and hundreds of thousands have been homeless. Sanlu always cares about the lives and health of the people in the disaster area. It has long been enthusiastic about public welfare and bravely takes social responsibility. Sanlu cares about what the people in the disaster-stricken areas care about, it wants what the people in the disaster-stricken areas want, and it also needs what the people in the disaster-stricken areas need. Sanlu gave its warm helping hands and sincere love to the people in the disaster-stricken areas again and again. (*Sina,* May 19, 2008)

Negative emotions towards the main wrongdoers. The melamine crisis broke out on September 11, 2008, when the Health Ministry of China announced that the infant formula of the Sanlu Group was contaminated with melamine. Babies were sickened and even died from kidney stones caused by melamine. At that time, Sanlu was the market leader, a frequent award winner, and the most successful company in the Chinese infant formula industry. Soon, as more sickened children were reported within only a few days, the government immediately investigated the industry.

On September 17, 2008, the AQSIQ (Administration of Quality Supervision) revealed the test results of 491 batches of baby-formula samples from all 109 domestic baby-formula companies. It found that 69 batches from 22 companies had tested positive for melamine. In contrast, none of the 224 tested samples from the foreign infant formula firms contained melamine. According to the inspection of AQSIQ, among all the products that were contaminated by melamine, Sanlu milk powder produced in Shijiazhuang contained the highest level of melamine, up to 2563 mg/kg, while the amount for products from the other 21 involved companies was 0.09– 619 mg/kg. By making this announcement, the government reinforced this distinction by

classifying infant formula products as either "domestic" or "imported"—in effect, categorizing them. The report was intensively circulated by the media. The immediate effect was that the media and purchasers of infant formula began to treat the products of foreign firms as safer than those of domestic firms.

In January of 2009, the 22 wrongdoers collectively sent out a message to express their guilt. These messages reached out to all the Chinese people who were using mobile phones:

> The melamine crisis is heartbreaking. We, the 22 dairy companies (Sanlu as the representative wrongdoer), feel deeply sorry for harming the children and our society, and we beg your forgiveness. We have learned our lesson. Now we are determined to put an end to defective products. We are willing to accept your supervision. We will compensate the sickened children and offer medical compensation options to customers. (*Sina,* Jan 4, 2009)

However, this guilt expression did not placate the customers. On the contrary, customers continued to feel strong negative emotions regarding the melamine crisis. The public expressed the strongest negative feelings towards the main wrongdoer, Sanlu company. Hackers attacked Sanlu's website, changing its name to "the Melamine Group." "Sanlu" means "three deer" in Chinese, traditionally a symbol of happiness and longevity in Chinese culture. However, after this crisis, "Sanlu" became synonymous with poisonous milk powder. At the beginning of 2011 (the Year of the Rabbit according to the Chinese lunar calendar), a cartoon video spread on the Chinese Internet in which some rabbits lived happily in a small village. However, when the little bunnies were fed with "Three Tiger baby milk," they turned green and their heads exploded (Mackinnon, 2011). The cartoon was soon taken down by the government. Though the creator claimed it was a fairy tale, the "Three Tiger baby milk" clearly reminded people of Sanlu (three deer) milk. This popularity of this satire represents people's "contempt" towards the main wrongdoer.

Besides contempt, other common negative emotions were anxiety, concern, and fear. One

parent said: "I still have a lot of concerns" (P01). Another parent also expressed her fear: "I feared that my baby might have consumed the tainted milk powder so that I kept an eye on the news to make sure there was no negative news about the brand that I chose for my baby" (P04). Having seen on television the suffering of other babies who consumed tainted milk powder, she said: "It broke my heart to see those babies' suffering. They are so little." Victims' parents expressed the strongest negative emotion. One parent said: "Sometimes I really want to curse them. It might be very hard for other people to understand that anger" (V03). One parent expressed "anger" and described the wrongdoers as "animals who kill and set fire" (V01). These victims' parents trusted only foreign milk powder, even though getting milk powder from overseas can be challenging. A parent described his observation when purchasing foreign milk powder overseas:

> When we Chinese go abroad, people will point at you and say: "Look at all your bags and suitcases! Traffickers! Brokers! Shame! You shameful Chinese! You can launch satellites and your phones have 5G, but you can't even make milk powder!" They despise us. See, you can't help [laughing] either. Seriously, I am telling the truth. (V01, observation notes)

> The melamine crisis destroyed many families, creating sustained challenges for their lives.

Some customers expressed their disappointment and sadness after the crisis:

> Because I am a single mother taking care of the child, at the same time, I had to defend my rights. You would encounter a lot of trouble if you want to continue. Cry? I have never cried in front of others, and no one has ever seen me shed tears; but in fact, I have shed tears. Of course, I do not want to shed tears, neither did I want my child to cry. No matter what, I will say "do not cry." I just hope my child and others won't suffer anymore. (V06)

> A journalist recalled that when she was interviewing a parent whose child was diagnosed

with kidney stones, this parent was crying:

> The father told me that his daughter was diagnosed with kidney stones because of consuming tainted infant formula. He said his daughter still does not know the condition at all. I remembered that he sat down in a park, crying while talking to me. I know that he was desperate. (J02)

> An industry analyst highlighted that customers' negative feelings were ignited after the

melamine crisis.

> The melamine crisis was not just about one company. Once the customers' feelings were ignited, the entire industry will collapse overnight. This is a trust crisis. It is caused by humans. Consumers drank fake milk powder which hurt them too heavily. It was their hatred. It would take more than just two or three years to forget about the problem. Their hatred was deep in their bones (*henzhi rugu* "恨之入骨"). The physical condition of their children is still not as good as normal people. Such customers are not one or two, they are a group, distributed throughout the society. Then their relatives and friends knew about their situation, so they felt sorry for them and sympathized with them. Under this circumstance, even though the firms made compensation, will the customers not think of the crisis in 2008? The truth is that they think that "those companies have harmed us consumers so severely." Would these customers be grateful to the companies? They hate the companies. (J02)

Stigma spillover. Driven by the strong negative emotions, customers stopped purchasing domestic infant formula. They did not stop using infant formula. One parent said, "I do not dare to feed my baby with domestic infant formula" (P01). Another parent said, "Only by purchasing foreign infant formula can I be sure about the safety. I do not trust any domestic infant formula" (P02). This preference enhanced the distinction between domestic and foreign categories. The loss of confidence in domestic products threatened all 109 domestic firms (Nielsen, 2016). The 87 innocent domestic firms were confronted with a serious risk of stigma spillover—simply because they were in the "domestic" category. Terms such as "poisonous milk powder" (*du naifen* "毒奶粉") frequently appeared in the media and were used by the public to refer to "domestic" infant formula products. The Minister of Agriculture later caustically declared, "The preference for imported milk powder has brought shame on the domestic dairy production!" (People's Daily, June 19, 2015). The domestic infant formula category had become "a rat running across the street, with everybody shouting 'kill it'" (*laoshu guojie, renren handa* "老鼠过街，人人喊打") (S02).

The significant drop in sales and prices of domestic infant formula reflected the

stigmatization of the domestic category (Nielsen, 2016). In 2015, China imported 176,000 tonnes of infant formula—4.8 times the amount in 2008 (*Chinese Dairy Industry Yearbook,* 2017)—even though the average price of foreign infant formula was 28% higher than that of domestic formula (Ministry of Commerce, 2015). The price discrepancy of domestic and foreign firms at the higher end of the market also increased after the melamine crisis. In major metropolises, the market share of foreign infant formula was as high as 98% in 2012 (*iFeng*, 2012). The main reason for this price discrepancy is customers' stigmatization of domestic firms, which gives foreign firms opportunities to charge a premium price for the same products (Hanser & Li, 2015).

It became apparent that the domestic infant formula industry as a whole was stigmatized after the melamine scandal. A parent said that he used to prefer domestic infant formula to foreign infant formula because he thought whatever was produced locally was always better than foreign and unknown products. But this belief was completely changed after the melamine crisis, and now his family purchased only foreign infant formula for their children (V02). Another victim's parent said:

> My whole family used to trust the big domestic companies because they were "national brands" which had been serving Chinese customers for years. My parents, who were older, were always proud of these national brands. But we were shocked when my daughter was diagnosed with kidney stones. Now even my parents do not consume any domestic dairy products. (V01, observation notes)

A manager who works for a domestic infant formula firm recalled the difference in customers' feelings about them before and after the melamine crisis:

> We used to be proud of our status as a long-standing domestic infant formula company. We were the first domestic firm to produce infant formula that resembles breastmilk. Customers liked our products, and our products were even sold to the Great Hall of the People. After the melamine crisis, we were avoided by customers because they feared that our products were contaminated, even though the government has reported that we were innocent! *My relatives also only trust foreign infant formula now and I can do nothing about it.* (I04, my italics)

Stigma spillover management. In response to the stigma spillover, innocent domestic firms within the industry adopted a range of strategies. Four strategies emerged from the data (see Appendix C for exemplar quotes of each strategy): category membership deception, category blurring, category promotion, and doing nothing. For each strategy, I do three things. First, I present detailed qualitative evidence pertaining to the three strategies. Second, I build on the qualitative insights and hypothesize which firms are more likely to use each of the three strategies. Specifically, I theorize the influence of a firm's age upon the choice of strategy, along with the extent to which it is subject to media scrutiny. Third, I hypothesize the performance consequence for each strategy—specifically, whether the firm's market share would decline, be maintained, or increase.

Strategy 1: Category membership deception. "Category membership deception" is an attempt to present an organization as a member of the category least likely to suffer stigma spillover. In my context, a domestic firm would present itself and its products as "foreign" by adopting foreign names, registering its brands overseas, and placing highly visible foreign names on their product packages—even though Chinese citizens owned the company and the formula was produced in China. Some firms established overseas "shell companies" to make their foreign identity more convincing (V01). As an analyst pointed out, the strategy was one of deception because the firms "did not have the 'foreign blood' of foreign capital or foreign technologies. (And) they did not enter the foreign market at all. All the products were 100% sold in China" (A02).

Category membership deception was made possible by the widespread practice within supermarkets and baby-care stores of placing "imported baby products" on different shelves from those of domestic products. The interviewees suggested that until 2013 when the government denounced the practice, supermarkets and baby-care stores were generally lax in checking whether

a product was really foreign or simply displayed as foreign (V01; F01). The deception strategy was thus possible because the display of apparently foreign origins on the packages of products could mislead supermarket employees, who would unwittingly place them on the same shelves as true foreign products. In some other instances, retailers were content to collude because foreign products sold at a higher price (A02).

Shelving arrangements (i.e., the location of the products in the supermarkets) and the labels on product packages were important indicators used by customers to determine which brands were "imported infant formula"—and thus for which products they were willing to pay a premium price (V01–V06; P01–P05; R01–R02). One victim's parent (V01) showed me the product package of a brand with a U.S. flag on it, which misled his family into believing that the brand was foreign—though it was actually domestic. In an investigation in Beijing, journalists found that salespersons in the supermarkets tried to convince customers that "Ausnutria," a Chinese infant formula brand, "is definitely a foreign brand, you can buy it in Australia, and you can find its English name printed on the cans, Ausnutria," but it turned out to be from a company based in Hunan Province in mainland China (*People's Daily*, July 21, 2011).

My supposition is that not all firms would be able to use this strategy. The risk is that deception, if recognized, would prompt harsh reactions from consumers—as happened in 2013 when the *People's Daily* and Xinhua News Agency highlighted that H&H, Ausnutria, and Edison were "fake foreign milk powder firms" and referred to them as "fake foreign devils" (*jia yangguizi* "假洋鬼子"). It follows, therefore, that the degree of prominence, i.e., the extent to which a firm or brand is familiar to consumers, would affect whether a firm would contemplate the deception strategy. The interviewees, for example, told me that they were particularly familiar with older

domestic infant formula brands (I04; V02). Similarly, firms that were discussed in the media would likely be cautious about using deception because media scrutiny increases the risk of exposure. Hence:

> *Hypothesis 1a: In response to the risk of event stigma spillover, less prominent (e.g., younger) firms are more likely to adopt the strategy of category membership deception.*

> *Hypothesis 1b: In response to the risk of event stigma spillover, firms subject to higher media scrutiny are less likely to adopt the strategy of category membership deception.*

The rationale underlying the adoption of the deception strategy is that it would protect against loss of sales. However, because the strategy is associated with keeping a low prominence and avoiding media scrutiny, firms using this strategy may not be able to use extensive marketing campaigns to attract customers. Moreover, cautious parents might conduct intensive research to determine whether a brand was foreign or not (V01-V06; P01-P05) so that this strategy may not work to improve sales. Thus this strategy may be more likely to be associated with no change in performance. Thus:

> *Hypothesis 1c: In response to the risk of event stigma spillover, adoption of the strategy of category membership deception will be associated with no change in performance.*

Strategy 2: Category blurring. The strategy of blurring denies any difference between the existing categories. As the melamine crisis unfolded, domestic firms sought to persuade customers that there was little if any difference between their products and those of foreign firms. The symbolic boundary being drawn between "domestic" and "foreign" products was openly challenged as misleading and inappropriate (A01). Those advocating this strategy proclaimed that they were using foreign milk sources, and that there were extensive collaborations between Chinese and foreign firms in the form of foreign direct investment, joint ventures, and mergers. In this way, the blurring strategy challenges the portrayal of foreign and domestic infant formula

products, and the firms that produce them, as being fundamentally different.

In other words, unlike the strategy of category membership deception (which implicitly accepts the idea that "foreign" is superior to "domestic" and seeks to take advantage of that ranking), the blurring strategy claims that the implications being drawn from the differentiation between the two categories is mistaken and misguided. This strategy had an important requirement: a convincing explanation as to why the differentiation was misleading. To meet this requirement, users of this strategy claimed that they owned overseas factories and had learned from foreign practices—to the extent that there was little difference, if any, between themselves and "foreign" firms. Analysts suggested to me that the media probably saw this justification as reasonable because it could be confirmed (e.g., by checking ownership of overseas factories). To publicize the explanation, these firms adopted extensive advertisements and promotions. For example, the chairman of a domestic firm personalized the firm's international nature in marketing:

> Our company has built an infant formula factory in France with 100 thousand tons of production capacity. All milk sources would come from overseas. That's why I dare to say that our infant formula is not different from foreign infant formula. It can be absolutely reliable. My son is consuming this type of domestic formula. (CCTV, May 30, 2013)

Not all firms could readily use the blurring strategy. Older firms, for example, because of their relative prominence, are less likely than younger firms to do so because their identity as Chinese is more established in the perceptions of consumers and the media. Moreover, if older firms began to raise the idea that they planned to cooperate with overseas firms, this might compound rather than remove the post-melamine perception of Chinese firms as less advanced than foreign firms. As one industry expert expressed it:

> ... prominent firms need to think twice before adopting this strategy…Adopting this strategy shows that even the prominent domestic firms are not confident in "Chinese infant formula" so that they can only go out, seek foreign milk sources, and then use

their milk powder produced overseas to occupy the Chinese market. In doing so, these firms are helping other foreign firms. It will strike the foundation of the whole domestic milk formula category. (A02)

In this sense, the social prominence associated with age works against using the strategy of blurring. Younger firms, in contrast, do not have the anchor of a long-standing and widely recognized Chinese identity. Similarly, firms that receive less media attention are less likely to have a widely recognized Chinese identity. Being relatively unknown, these firms could more believably declare their overseas connections. Hence:

> *Hypothesis 2a: In response to the risk of event stigma spillover, less prominent (e.g., younger) firms are more likely to adopt the category blurring strategy.*

> *Hypothesis 2b: In response to the risk of event stigma spillover, firms subject to higher media scrutiny are less likely to adopt the category blurring strategy.*

Firms adopting the blurring strategy expected that they would avoid any adverse effects upon their sales. In fact, they were optimistic that this strategy would increase sales because it would open up sales in foreign markets. Song Liang, a researcher employed by a leading domestic firm and head of a think tank for the Chinese government, was confident that the distinction between domestic and foreign categories would eventually disappear:

> Internationalization is an inevitable trend for domestic infant formula firms. Currently, we are gaining advanced technologies and management skills, improving our R&D, and acquiring better milk sources. The next step is to have a say in the international trades. In the last stage, firms will be able to enter the international market. This is happening to a few firms. Some firms have used this strategy to sell their products to Southeast Asia and the Middle East. In the future, as more and more domestic infant formula firms go abroad, there will be no such division as "domestic" versus "foreign" formula. (Song, 2018)

Some foreign firms (e.g., Nestlé) had already begun to use domestic milk sources (A04; P02). Over time, therefore, it was expected by industry observers that customers would gradually accept that there was no major difference between domestic and foreign categories (A01; P03). Hence:

Hypothesis 2c: In response to an event stigma spillover, adoption of the category-blurring strategy will be associated with an improvement in performance.

Strategy 3: Category promotion. Different from deception or blurring, the promotion strategy accepts the boundary between categories but seeks to reverse the ranking of the separated categories. In this case, this meant promoting Chinese products as superior to those of foreign firms. Beingmate, the first adopter of promotion, boasted that it was "producing the more suitable infant formula for Chinese babies" (Beingmate Annual Report, 2011: 14). Feihe similarly proclaimed its milk powder to be better than foreign firms' because it was carefully tailored to the very different "biological physiques" of the Chinese (*People's Daily*, November 30, 2018). Other firms, referencing traditional Chinese medicine, portrayed their infant formula as something that "won't increase the inner heat" (*bu shanghuo* "不上火") of Chinese babies (*People's Daily*, June 17, 2017). *²*

The idea behind these claims is that the foreign formula might be of good quality, but the Chinese formula is more suitable and thus superior because of the biological needs of Chinese babies. The claim resonated with many people's cultural beliefs. As an old Chinese saying goes, "the unique features of a local environment give special characteristics to its inhabitants" (*yifang shuitu yang yifang ren* "一方水土养一方人") (*Xinhua*, November 1, 2017). To make the claim convincing, however, firms realized that they would have to do two things. First, they had to publicly distance themselves from the misbehavior of the guilty domestic firms—a challenge much more important to them than to firms using the deception or blurring strategies (I03; I05). One firm proudly stated: "Even famous domestic firms, such as Mengniu and Yili, were involved in the 2008

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² According to traditional Chinese medicine, human bodies can function properly only by achieving a Yin-Yang balance; it is unhealthy to have excessive inner body "heat" (too much yang).

melamine crisis. In contrast, our products tested negative for melamine, which explained why our products were always safe and superior to many other firms" (I03).

Second, and more importantly, the promotion strategy had to be seen as credible in order to resonate with skeptical consumers. This challenge was pursued in the melamine context by publicizing through the media that Chinese infant formula "closely resembles the breast milk of Chinese moms" (*People's Daily*, June 22, 2018)—*and* that it had been developed only after extensive investment in scientific research centers. The claim was also publicized through education forums. As a marketing director explained:

> It is a process of educating your customers…To do so, we have classes designed for the new parents to learn and share some baby-caring knowledge and skills. During these workshops, we introduce the idea that "domestic infant formula is better for Chinese babies," and give free samples to the parents so that they can have a better understanding of our products. (I01)

Basing the credibility of the promotion strategy upon scientific research conducted in research centers benefited older firms because the research centers required considerable investment. Older firms, moreover, also had the advantage of public support from the government, which had invested heavily in the research centers. Expressing their support for Chinese firms because of their commitment to research, the government and media appealed to national pride, saying that it was *these* firms that would "revitalize the Chinese infant formula industry" (I03; I04). This promotion strategy, in other words, is more credible if pursued by more prominent firms that can meet the criteria of credibility. Thus:

> *Hypothesis 3a: In response to the risk of event stigma spillover, the more prominent (e.g., older) firms are more likely to adopt the category-promotion strategy.*

> *Hypothesis 3b: In response to the risk of event stigma spillover, firms subject to higher media scrutiny are more likely to adopt the category-promotion strategy.*

Some industry analysts were skeptical. One analyst bluntly concluded: "It is bullshit, a pure

marketing gimmick" (A01). But even an analyst who dismissed the idea that domestic firms were "producing more suitable formula for Chinese babies" acknowledged that these firms did much in terms of product quality, safety improvement, and customer education (A01). He also admitted that these firms were praised by an increasing number of customers: "I observed that their sales were increasing in many big cities, and finally they would reach a tipping point when customers all believe that domestic firms are trustworthy." The possible success of the strategy was acknowledged. Thus:

Hypothesis 3c: In response to an event stigma spillover, adoption of the category-promotion strategy will be associated with an improvement in performance.

Doing nothing. Besides the three strategies described above, firms had the option to "do nothing," namely, not using any one of the three strategies. An industry analyst said that some innocent firms did nothing after the crisis because their leaders wished to pick up some market share lost by guilty firms (A05). However, it is difficult for older and high-profile firms to stand by and do nothing because they might be expected by different stakeholders to react to the scandal or even make a change. For example, Sanyuan, founded in 1964, had a long reputation for "supplying high-quality dairy products for the State Council" (I04). Because it was innocent for the melamine crisis, the government and public expected it to revitalize the whole industry (I03; I04). Municipal Government Beijing provided about 1.7 million dollars for Sanyuan's research and development (*People's Daily*, May 5, 2014). Hence, I predict that:

Hypothesis 4a: In response to the risk of event stigma spillover, less prominent (e.g., younger) firms are more likely to do nothing.

Hypothesis 4b: In response to the risk of event stigma spillover, firms subject to higher media scrutiny are less likely to do nothing.

Previous studies assume that all members of a category are at risk of being stigmatized

simply by virtue of being in that category. Doing nothing to counter the diffusion and attribution of the stigma, therefore, should lead to adverse performance consequences.

Hypothesis 4c: In response to an event stigma spillover, doing nothing will be associated with a performance decrease.

Having identified the strategies used by innocent Chinese firms and predicted the implications of each strategy, in the next section I use quantitative methods to test these hypotheses.

Stage 2: Quantitative Tests of Hypotheses

The melamine crisis broke in September 2008, and it took time for the government, media, and customers to make sense of the crisis and react accordingly. Therefore, to test the hypotheses I chose 2009 as the first year of observation because it marks the beginning of customers' stigmatization of the domestic category and firms' reactions to the stigma spillover. The dataset consists of the 13 Chinese firms whose 18 brands enjoyed 75% of the baby-food sales of domestic firms. These firms are innocent of the melamine scandal. Specific data of the infant formula sector was not available but given that infant formula took up more than 80% of the sales for the companies, this dataset is a good proxy of the infant formula market sales. The firms and their brands in the sample are widely recognized by industry analysts and practitioners as major players in the domestic category (A01; I03). Data was not available for the other smaller firms in the category.

Measures. I consulted firms' annual reports, prospectuses, websites, and media reports to code strategies. Firms would not typically admit to using category membership deception (H1). However, in 2013 the government listed the firm brands that had practiced deception. Firms that were listed were coded as 1 (0 otherwise). I checked company archives to confirm the particular years in which firm brands used deception. Although firms would not call it deception, they would

openly claim their fake "foreign identity" (e.g., using foreign milk sources or owning foreign factories) in annual reports, as long as they had not been caught by the government. To code category blurring (H2), I detect if a brand built an overseas foreign factory. In a given year, when a brand announces that it is building or acquiring a factory overseas, the variable Blurring is coded as 1; if its foreign factory does not stop construction or operation in the following years, the variables for the following years are all coded as 1; 0 otherwise. Category promotion (H3) is indicated by whether a brand promoted its formula as "better than the foreign" or "more suitable for Chinese babies." In a given year, if a brand declared its research centers had developed a unique and superior "Chinese formula" and provided evidence that its formula is beneficial to Chinese "biological physiques," the variable Promotion is coded as 1 (0 otherwise). As for doing nothing (H4), the variable is coded as 1 if a brand does not adopt any one of the three strategies in a given year (0 otherwise).

The measure of performance is the natural logarithm of a brand's market share in a given year (hereafter, log (market share)). By market share, I mean the market sales of a brand divided by the total sales of all brands, domestic and foreign, in the Chinese market. I focus on brand-level rather than firm-level market share because I am interested in the impact of particular strategies on performance: firms may use different strategies for their different brands. I sourced sales data from Euromonitor, which is an independent market research and consulting company. Its Passport database is a reliable source of the baby-food market sales and is frequently used by firms in their annual reports. It is also used in industry reports and referred to by the media. I included a total of 18 innocent brands in the analysis. I use organizational age, i.e., the number of years since a firm's establishment, as the measure of "prominence."

For "media scrutiny" I calculated the number of articles that discuss a firm in the

WiseSearch database. To do so, I searched for articles that named a firm in the title and then read these articles in detail to isolate the 1,422 articles about infant formula. I calculated the number of articles that mentioned a firm in a certain year: this number is the measure of "total media scrutiny" of a firm in a given year. From the 1,422 articles, I identified 852 that had positive references to firms.

Because publicly listed firms might have more resources by which to achieve better performance, I control for ownership type by adding a dummy coded 1 for the 7 publicly listed firms. Similarly, because the location of a firm may influence its access to customers with different levels of income, I control for headquarters location by adding a categorical variable ranging from 0 to 2. These numbers represent three different categories of cities adopted from the Chinese city tier ranking system by Business Network, one of the largest finance and economics Chinese media outlets. This ranking system is based on cities' population and economic, cultural, and political influences. In particular, 0 = third-tier cities, which are the least developed in the dataset, such as Daqing or Hohhot; 1 = second-tier cities such as Changsha or Harbin; 2 = first-tier cities, which are the most developed in mainland China, such as Beijing or Guangzhou. Finally, I control for time-varying characteristics of the environment by adding a set of year dummies.

TABLE 3.1 provides descriptive statistics and correlations of all the variables. It may seem unusual that the sum of strategies exceeds 1; this is because a few brands used more than one strategy at the same time.

Table 3.1. Study 1 Descriptive Statistics and Correlations (N = 154)

	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. Log (market share)	-5.33	1.61									
2. Nothing	0.47	0.50	-0.49								
3. Deception	0.08	0.27	0.13	-0.25							
4. Blurring	0.27	0.44	0.22	-0.57	-0.12						
5. Promotion	0.26	0.44	0.48	-0.50	-0.17	-0.09					
6. Age	31.37	17.61	-0.04	0.18	-0.28	-0.44	0.49				
7. Media	9.17	18.47	0.43	-0.31	0.01	0.18	0.48	-0.04			
8. Lagged Log (market share)	-5.26	1.50	0.97	-0.40	0.12	0.14	0.48	0.03	0.44		
9. Headquarters	0.99	0.65	0.51	-0.33	0.03	0.25	0.27	-0.02	0.27	0.47	
10. Public	0.63	0.48	0.01	-0.24	0.05	0.34	-0.15	-0.12	0.12	-0.01	0.09

The Effects of Prominence and Media Scrutiny on the Choice of Strategies. To test H1a–H1b, H2a–H2b, and H3a–H3b—namely, how prominence (indicated by age) and media scrutiny impact the likelihood of a certain strategy being used—I utilize a logit model with clustered errors for analysis because of the binary nature of the dependent variables (i.e., whether or not to use a certain strategy). I include headquarters location, firm ownership type, and year dummies as control variables. TABLE 3.2 shows the results of the logit model with robust standard errors clustered at the brand level. The dependent variables are the likelihood of adopting a certain strategy (i.e., deception, blurring, or promotion).

TABLE 3.2. The Effects of Prominence and Media Scrutiny on Choice of Strategy

Variables	Model 1 Deception	Model 2 Blurring	Model 3 Promotion	Model 4 Nothing
Age	-0.128	-0.085	0.191	0.029
	(0.049)	(0.040)	(0.059)	(0.027)
	[0.008]	[0.035]	[0.001]	[0.287]
Media	0.008	0.001	0.204	-0.040
	(0.026)	(0.010)	(0.041)	(0.043)
	[0.759]	[0.936]	[0.000]	[0.349]
Headquarters	-0.417	0.967	-0.003	-0.740
	(1.969)	(1.487)	(0.480)	(0.602)
	[0.832]	[0.515]	[0.995]	[0.219]
Public	-0.136	2.148	-2.457	-0.856
	(1.443)	(1.459)	(1.151)	(0.898)
	[0.925]	[0.141]	[0.033]	[0.341]
Constant	1.682	-0.338	-7.767	1.990
	(2.680)	(1.667)	(3.037)	(1.066)
	[0.530]	[0.839]	[0.011]	[0.062]
Year dummies	Yes	Yes	Yes	Yes
Pseudo R^2	0.28	0.44	0.67	0.20
Observations	65	151	162	172

Note. Standard errors are given in parentheses and *p*-values in square brackets. Observation number changes because of missing values.

I first report the effects of prominence measured by age of firm on choice of strategy. H1a is supported, as shown by Model 1 (b = –0.128, *p* = .008), which means that less prominent (i.e., younger) firms are more likely to adopt a deception strategy. H2a is also supported, as shown by Model 2 (b = –0.085, *p* = .035), which means that less prominent (i.e., younger) firms are more likely to use a blurring strategy. H3a is supported, as shown by Model 3 (b = 0.191, *p* = .001), which means that more prominent (i.e., older) firms are more likely to adopt a promotion strategy. H4a is not supported, as shown by Model 4 (b = 0.029, *p* = 0.287), which means the prominence of firms does not have a significant relationship with firms' likelihood of doing nothing.

The hypotheses about media scrutiny receive less support. H1b, H2b, and H4b are not

supported; I do not find statistically significant results for adoption of category membership deception (Model 1: b = 0.008, p = .759), category blurring (Model 2: b = 0.001, p = .936), or doing nothing (Model 4: b = -0.040, p = .349). H3b, however, is supported; media scrutiny increases a firm's likelihood of adopting the promotion strategy (Model 3: b = 0.204, p = .000).

Robustness check. I replace total media scrutiny with positive media scrutiny in each model. The results are consistent with the findings reported above.

Performance Implications of Strategies. To examine the performance implications of each strategy, I use a difference-in-differences (DD) model in the presence of staggered treatments at the brand level (Bertrand, Duflo, & Mullainathan, 2004; Flammer & Kacperczyk, 2019). For each strategy I estimated the following regressions:

$$\log(market\ share)_{it} = \alpha_i + \alpha_t + \beta\ Strategy_{it} + \gamma'\mathbf{X}_{it} + \varepsilon_{it}\ (1-4)$$

Where i indexes brands; t indexes years; α_i are brand fixed effects; α_t are year fixed effects; and X is the vector of control variables, which includes ownership (publicly listed or not), last year's performance of brands, and total media scrutiny. $Strategy_{it}$ is the "treatment dummy" for adopting a certain strategy—that is, a dummy variable that equals 1 if brand i has adopted a certain strategy (i.e., deception, blurring, promotion, or doing nothing) by year t. According to H1c, H2c, H3c, and H4C, I predict that β_1 should not be significant, β_2 and β_3 should be positive. The regression is estimated by Ordinary Least Squares (OLS) with brand and year fixed effects.

TABLE 3.3 summarizes the results. In all regressions, the dependent variable is the logarithm of the market share of a brand.

Table 3.3. Performance Implications of Each Strategy

VARIABLES	Model 1	Model 2	Model 3	Model 4
Strategy$_{deception}$	-0.105			
	(0.133)			
	[0.431]			
Strategy$_{blurring}$		0.253		
		(0.120)		
		[0.037]		
Strategy$_{promotion}$			0.342	
			(0.141)	
			[0.017]	
Nothing				-0.261
				(0.115)
				[0.025]
Public	-0.239	-0.229	-0.183	-0.183
	(0.132)	(0.129)	(0.129)	(0.130)
	[0.072]	[0.078]	[0.161]	[0.162]
Media	0.002	0.000	0.001	0.001
	(0.002)	(0.002)	(0.002)	(0.002)
	[0.362]	[0.848]	[0.568]	[0.558]
Log sales	0.931	0.923	0.912	0.915
	(0.036)	(0.036)	(0.036)	(0.036)
	[0.000]	[0.000]	[0.000]	[0.000]
Constant	-0.280	-0.393	-0.503	-0.273
	(0.211)	(0.215)	(0.227)	(0.207)
	[0.188]	[0.070]	[0.028]	[0.190]
Brand FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	154	154	154	154
R^2	0.972	0.973	0.973	0.973

Note. Standard errors are given in parentheses and *p*-values in square brackets.

Model 1 shows the performance implication of a deception strategy. The regression includes the treatment dummy, *Strategy$_{deception}$* (which equals 1 when a firm has adopted a deception strategy by year *t,* 0 otherwise). This coefficient is not significant (b = –0.105, *p* = .431), supporting H1c. Model 2 shows the performance implication of a blurring strategy. The regression includes the treatment dummy, *Strategy$_{blurring}$* (which equals 1 when a firm has adopted a blurring

strategy by year *t,* 0 otherwise). This coefficient is positive and significant (b = 0.253; *p* = .037) supporting H2c. Model 3 shows the performance implication of a promotion strategy. The regression includes the treatment dummy, *Strategy*$_{promotion}$ (which equals 1 when a firm has adopted a promotion strategy by year *t,* 0 otherwise). This coefficient is positive and significant (b = 0.342; *p* = .017), supporting H3c. Model 4 shows the performance implication for the strategy of "doing nothing" (which equals 1 when a firm has not adopted one of the other three strategies). The coefficient is negative and significant (b = –0.261, *p* = .025), supporting H4c.

This approach can be illustrated with an example. Suppose that I want to estimate the effect of firms' adoption of a "deception" strategy in 2012 on their performance. I would compute the difference in firms' performance pre-2012 and post-2012 for firms that adopted the deception strategy ("treatment firms"). However, other events, such as an economic boom, may happen around 2012, potentially impacting firms' performance. Thus, I can use firms that that have never adopted this strategy ("control group") and compute corresponding difference in these firms' performance. Computing the difference between these two differences provides an estimate of the effect of firms' adoption of the deception strategy in 2012. The difference between this example and my regression framework above is that the latter accounts for the fact that the adoption of a certain strategy is staggered over time across different firms. This means that my control group is not only restricted to firms that have never adopted this strategy but also firms that do not adopt a certain strategy at time t, even if they will adopt this strategy later on (Bertrand & Mullainathan, 2003; Flammer & Kacperczyk, 2019).

Robustness checks. I used alternative controls by replacing total media scrutiny with positive media scrutiny and by adding the average wage of the province where a firm is located. The results are consistent with the above findings.

Summary

In this chapter, I examine the following research questions: Research Question 1: *Do moral emotions impact an industrial stigma spillover?* Research Question 3: *How can an industrial stigma spillover driven by stakeholders' moral emotions be managed, and what are the implications of different management strategies?* Concerning Research Question 1, I documented that the melamine crisis in China led to a stigma spillover from perpetrator firms to all firms in the domestic category but not to firms in the foreign category. Before the breakout of the melamine crisis, companies elicited positive emotions from stakeholders. However, the breakout of the crisis became a "watershed" event for this industry (*Xinhua*, May 29, 2012). The industrial stigma spillover began with the government's categorization of the industry as domestic and foreign. Customers then experienced strong negative emotions towards the wrongdoers, including contempt, anger, fear, and sadness. Although companies tried to use their acknowledgements of guilt to placate customers, customers still stopped purchasing infant formula from all Chinese producers. Thus, this crisis negatively impacted not only the wrongdoers but also innocent firms, indicative of stigma spillover across the category of domestic producers. Domestic firms experienced a continuous decline in their sales after 2008.

Concerning Research Question 2, many innocent domestic companies adopted one of three strategies to manage the stigma spillover: category membership deception, category blurring, and category promotion. Other innocent firms did nothing in response to manage the spillover. Concerning the choice of strategies, I found that younger firms were more likely to adopt the deception or blurring strategies, whereas older firms were more likely to use the promotion strategy. I found that media scrutiny significantly increased the adoption of the promotion strategy, but it did not significantly impact the deception or blurring strategies. These strategies also had

performance implications. "Doing nothing" led to a decrease in sales; blurring and promotion strategies both increased sales; and deception did not have a significant impact on sales.

The findings regarding Research Question 1 provide some evidence to support the argument that moral emotions drive the stigma spillover process. However, because of the retrospective nature of the study, I was only able to identify what kind of emotions were expressed by firms before the melamine crisis but not able to document how customers perceived the pride expressed by companies before 2008. In other words, I do not know whether customers felt pride in domestic firms before the crisis. Moreover, I was not sure whether the stigma spillover is driven by customers' feelings or whether it occurred simply because domestic firms share the category membership. In addition, I chose an extreme case, and it is not clear whether the findings can be applied to other settings. I design an experiment in Study 2 to examine my second research question.

CHAPTER 4. AN EXPERIMENTAL EXAMINATION OF MORAL EMOTIONS IN AN INDUSTRIAL STIGMA SPILLOVER

Findings from the melamine study in Chapter 3 indicate that moral emotions impact industrial stigma spillovers, affirming the question asked in Research Question 1. Research Question 2 asks: *How do individual stakeholders' moral emotions elicited by firms before and after a crisis impact an industrial stigma spillover?* In this chapter, I develop an experimental study to address this research question that challenges the exclusively cognitive focus on stigma spillover in the literature. I first describe the cognitive view of stigma spillover then explain how moral emotions impact this model. I argue that an exclusively cognitive view emphasizing similarity as the core mechanism of stigma spillover is incomplete because the degree of stigma spillover from a perpetrator firm to other firms within the same industry depends first, on stakeholders' emotions elicited by firms before a crisis, and second, their negative emotions towards the perpetrator firm(s) after a crisis. I develop hypotheses regarding the role of stakeholders' moral emotions. I then use an experimental study to test these hypotheses.

Attribute Similarity in Industrial Stigma Spillovers

Stigma scholars are increasingly interested in stigma spillover at an industry level: when a negative event happens to one firm, other firms within the same industry, albeit innocent in terms of the negative event, suffer from the industrial stigma spillover from the perpetrator firm. Paruchuri and Misangyi (2015: 169) showed that the degree of spillover depends on the "similarity" between the perpetrator firm and other firms; they theorized the "generalization-instantiation" process of spillover: after the revelation of a negative event, stakeholders will generalize culpability from the perpetrator and perceive similar firms as instantiations of generalized

culpability.

This "similarity" view, which is based on people's understanding of the industry, is essentially cognitive. It implies an automatic stigma spillover process. That is to say, as long as an actor is *similar* enough to the stigmatized others, stigma spillover will happen. Taking a close look at this view, we learn that scholars determine similarity based on two factors: a) whether the bystander firms share core attributes with the perpetrator firm; and b) whether one of these core attributes is stigmatizing, such as being related to the negative event or contrary to deeply held values (Hudson, 2008; Vergne, 2012; Vergne & Wry, 2014). In an exemplary study with a cognitive view of stigma spillover, Roehm and Tybout (2006) used a series of experiments simulating a hamburger meat crisis. They operationalized that a) Burger King (BK) was a typical member of the traditional fast food (TFF) category; b) Dairy Queen was a typical member of the desserts category; and c) Hardee's could be regarded as a typical member of either the TFF or desserts category. The key attribute of TFF is serving hamburgers, and the key attribute of the desserts category is serving ice cream. Then a hamburger meat contamination crisis happens. After the crisis, serving hamburgers becomes a key stigmatizing attribute. In this example, from a cognitive view, one would predict more stigma spillover from BK to Hardee's. This was demonstrated by Roehm and Tybout (2006). Integrating the two conditions from management research with the experimental study from marketing research, I propose:

> *Hypothesis 1a: From a cognitive view of stigma spillover, as long as an innocent firm shares core attributes with the perpetrator firm, this innocent firm will suffer from an industrial stigma spillover.*

> *Hypothesis 1b: From a cognitive view of stigma spillover, as long as an innocent firm has the core stigmatizing attribute, this innocent firm will suffer from an industrial stigma spillover.*

Moral Emotions in Industrial Stigma Spillovers

Based on my findings in Chapter 3, I challenge this automatic process by testing how moral emotions influence industrial stigma spillovers. Moral emotions are people's "feelings of approval or disapproval based on moral intuitions or principles" (Jasper, 2011: 287). Scholars suggest that moral emotions are at the center of the stigmatization process (Hampel & Tracey, 2019; Pollock et al., 2019; Yang et al., 2007). Essentially, moral emotions provide energy for people to avoid the bad and approach the good (Tangney et al., 2007)—in other words, to stay away from the stigmatized. For example, Kecinski, Keisner, Messer, and Schulze (2018) found that although no health risk existed by drinking water that contained a sterilized cockroach, participants refused to do so, driven by disgust.

However, research on how moral emotions impact an industrial stigma spillover remains scant. Scholars have suggested that the tension between positive and negative moral emotions might impact people's actions towards a target. And because the stigma is imposed by key stakeholders on target firms or industries, I argue that the tension of different emotions experienced by stakeholders influences the degree of stigma spillover. Jasper (2011: 291) proposed the idea of "moral battery," which is a pair of "polarized moral emotions," that might generate tension between stakeholders' feelings and perceptions of the focal actor. For example, Gould (2009) documented how the tension between different feelings motivated activists to take action in the ACT UP movement. She showed that lesbian and gay activists first experienced fear and shame facing the government's inaction towards the AIDS epidemic. At the same time, they felt proud of their unique identity and their initiative in taking care of sick members. The tension between negative and positive emotions eventually energized their confrontational activism.

Interestingly, one recent study shows that a "moral battery" might suppress actions. The

implication for an industrial stigma spillover is that a moral battery can protect innocent firms within the same industry from stigma spillovers. Jarvis, Goodrick, and Hudson (2019) found that when trying to disrupt the animal-abusive industrial practices of Factory Farming Operations (FFOs), animal rights advocates (AROs) experienced compassion and affective commitments to their work and animals (positive emotions). But they also experienced acute, intense moral shock, anger, or sorrow (negative emotions) when learning about abusive practices. These emotions with opposite valence formed a "reactive–affective conflict," which prevented AROs from taking confrontational actions towards the potential supporters for these activists so that they could collect more evidence of abusive practice and win more supporters. In this unique study, the "reactive–affective conflict" (the moral battery) suppressed confrontational actions, which implies that a moral battery might suppress negative emotions. While there is a rich literature on the energizing effect of moral battery (Norgaard & Reed, 2017; Ransan-Cooper, Ercan, & Duus, 2018), how a moral battery suppresses actions has not been well understood in the literature. Below I use the idea of moral battery to modify the generalization–instantiation model of stigma spillover (Naumovska & Zajac, 2021; Paruchuri & Misangyi, 2015).

Scholars have shown that a firm might evoke stakeholders' positive feelings by using advertising and marketing communications. For example, Kim and Johnson (2013) examined how firms elicited customers' pride or guilt to increase their purchase intention. Similarly, Cavanaugh, Bettman, and Luce (2015) found that eliciting "love" of customers in marketing campaigns increased their consumption. However, less is known about how these positive emotions might impact stakeholders' perceptions of firms after a negative event. It is plausible that stakeholders will have negative moral emotions towards the perpetrator firm. And the contrast between positive emotions elicited before the event and the negative emotions after forms a "moral battery."

Because moral battery can energize or suppress actions, it can have two different effects on stakeholders' generalized attitudes towards other firms within the same industry, and the degree of stigma spillover.

On the one hand, the negative event is a "moral shock" for stakeholders, which makes them realize that the perpetrator firm is not what they expect (Jasper & Poulsen, 1995). They might feel angry, disgusted, or contemptuous observing the perpetrator's transgression (Haidt, 2003). This experience can be painful because it challenges people's understanding of what is right and what is wrong. When the negative moral emotions are too painful, stakeholders will generalize the culpability to the whole industry and have very negative attitudes towards other innocent firms within the same industry, and even withdraw from any relationship formed with the perpetrator (Chi, Friedman, & Lo, 2015). To sever all associations with the focal firm, stakeholders might even stigmatize a firm that is dissimilar to the perpetrator firm. Thus I propose:

Hypothesis 2a. A higher level of positive moral emotions elicited by a perpetrator firm prior to a negative event increases stakeholders' negative moral emotions towards the perpetrator firm after a negative event.

Hypothesis 2b. Greater negative emotions towards a perpetrator firm increase stakeholders' generalized negative attitudes towards innocent firms within the same industry.

Hypothesis 2c. Driven by a higher level of generalized negative attitudes, stakeholders are more likely to stigmatize innocent firms within the same industry, so that the degree of an industrial stigma spillover will be higher.

On the other hand, stakeholders' positive moral emotions might have a direct impact on their attitudes. The argument is that stakeholders' positive moral emotions might not fade away even after the negative event. If stakeholders still feel positive about the focal firm after a negative event, it is unlikely that they will generalize the culpability from the perpetrator firm to other firms within the same industry—regardless of whether they are similar to the perpetrator firm or not. As

a result, stakeholders are less likely to have generalized negative attitudes towards other firms within the same industry. When the positive emotions elicited before the event are strong enough, an industrial stigma spillover is less likely to happen. Thus:

Hypothesis 3a. A higher level of positive moral emotions elicited by a perpetrator firm prior to a negative event decreases stakeholders' generalized negative attitudes towards innocent firms within the same industry.

Hypothesis 3b. Driven by a lower level of generalized negative attitudes, stakeholders are less likely to stigmatize innocent firms within the same industry, so that the degree of an industrial stigma spillover will be lower.

Although with different directions, Hypotheses 2 and 3 both challenge the exclusively cognitive view of stigma spillover stated in Hypothesis 1. They highlight that moral emotions, rather than the similarity between firms, impact stigma spillover. An illustration of Hypotheses 2a–c and Hypotheses 3a–b can be found in FIGURE 4.1. Stakeholders' positive moral emotions elicited by a perpetrator firm have two different potential effects on an industrial stigma spillover through two different paths. As predicted by H2a to H2c, the effect of positive moral emotions on an industrial stigma spillover is positive. Stakeholders' positive moral emotions shift to negative moral emotions after a negative event, which increases their generalized negative attitudes towards innocent firms within the same industry. The generalized negative attitudes lead to an industrial stigma spillover. At the same time, as predicted by H3a to H3b, the effect of stakeholders' positive emotions on an industrial stigma spillover is negative, because stakeholders' positive moral emotions reduce negative attitudes towards the whole industry. Which path has a greater impact needs to be empirically investigated.

FIGURE 4.1. Moral Emotions' Impacts on an Industrial Stigma Spillover

Path 1: H2a→H2b→H2c
Path 2: H3a→H3b
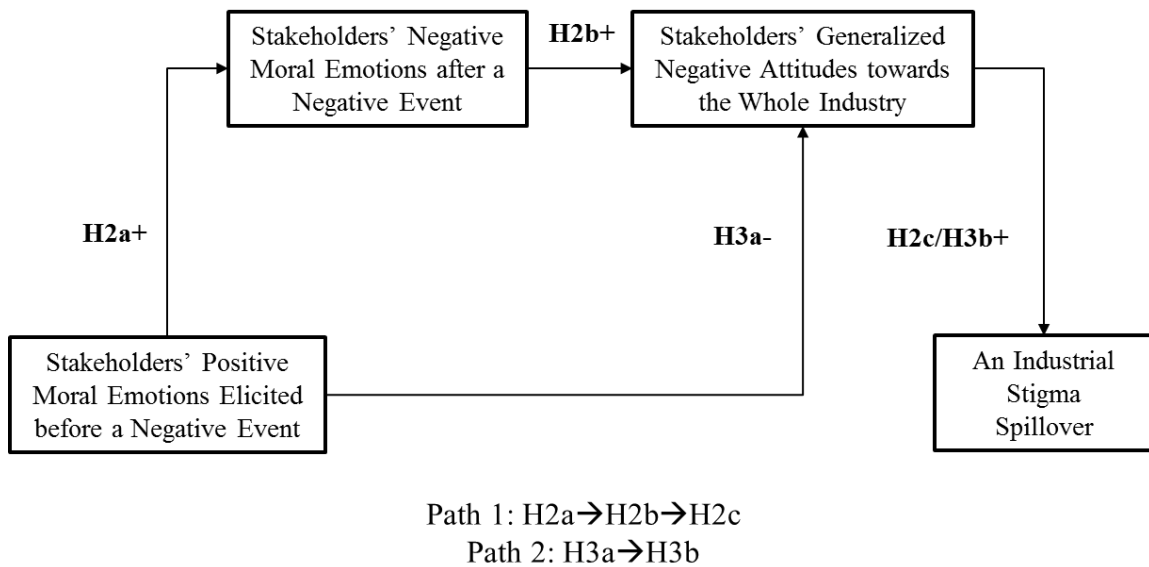
Below I implement an experimental study with the goals of 1) demonstrating the incompleteness of a cognitive view of stigma spillover (H1); and 2) testing the impacts of moral emotions and examining which path of stigma spillover is more plausible (H2 or H3).

Methods

In order to test the proposed hypotheses, I use a scenario-based experimental approach. To develop the scenario, the first step is to determine a stakeholder group to focus on. I chose to focus on customers. Study 1 (Chapter 3 in this dissertation) found that customers are key stakeholders in an industrial stigma spillover. Research on stigma by Wiesenfeld et al. (2008) identified three key stakeholder groups that impose sanctions on stigmatized actors, including economic, social, and legal arbiters. Customers are an economic arbiter because they are able to impose financial sanctions on stigmatized firms by withdrawing from transactions with the target firms. Customers are also a social arbiter because they sometimes can become highly visible activists who can render assessments of firms to key audiences. Choosing customers also allows me to utilize the rich

experimental apparatus developed in the literature of psychology, organizational behavior, and marketing to facilitate the experimental design.

As for the choice of the main factor of interest, i.e., positive moral emotions, Study 1 implies that pride may be an important positive moral emotion elicited by firms before a negative event, and pride has relevant implications for stigma spillover. This is aligned with research showing that pride is commonly used in marketing and advertising by firms to evoke pride from customers and attract them to purchase products (Aaker & Williams, 1998; Han & Ling, 2016). Thus, in Study 2 I focus on the role of pride in stigma spillover. As suggested by the emotion literature, I included a second positive emotion commonly expressed by firms in advertising appeals, namely, empathy (Aaker & Williams, 1998; Han & Ling, 2016). I do so in order to examine whether the content of positive moral emotions matters in the stigma spillover process.

I designed a scenario around a 5G data-security crisis in the United Kingdom and China. I chose the 5G industry to facilitate experimental manipulation. China has been praised for leading the 5G industry, and Chinese customers have positive feelings about 5G products (Xia, Bi, Zhao, & Zhao, 2019). In contrast, the public in the UK has some concerns about the 5G technology (*BBC*, 2019). Thus, respondents in the sample may have different levels of positive emotions towards 5G firms preceding the experimental crisis. Moreover, the selection of a data-security crisis facilitates testing a range of emotions because data-security issues can have a wide range of impacts on members of the public (Chatterjee, Gao, Sarkar, & Uzmanoglu, 2019). In the case of the infant formula industry, customers had positive feelings about the industry before the scandal. To demonstrate that it is high-level positive emotions that impact stigma spillover, I need an industry where stakeholders may have different levels (high and low) of positive feelings of that industry. In this sense, 5G is such an industry where different levels of positive emotions can be found in

different countries.

Study Overview

A total of 200 participants were recruited via Qualtrics for a small reward. The experimental material is relevant to using public transit or ride-hailing services included in 5G SmartCity plans. Because the experiment was conducted in 2020, during the COVID-19 pandemic when people's means of transportation might be affected, I recruited only participants who used one of these two services more than three times a week before COVID-19. Because this experiment requires participants to pay attention to the emotional stimuli, I included three filtering questions; participants who did not pass these questions were excluded from the data analysis. So the final sample includes 95 participants living in London (mean age = 56.55; female = 39%) and 89 participants living in Beijing (mean age = 37.55; female = 46%).

At the beginning of the study, participants indicated their agreement to take part in the research with a consent form. Then participants read a scenario about a phone service provider that recently launched its 5G SmartCity plan. The cover story was developed via extensive pilot studies with graduate students and initial tests with 50 participants recruited from Prolific in the UK and 50 participants recruited from Wenjuanxing.com in China. I asked participants in the pilot studies to provide feedback on the clarity of the cover story. The cover story reads as follows:

> Recently, phone service providers in your city have introduced their 5G SmartCity plans. These plans provide real-time information on public transit schedules (e.g., buses, subways, light rail train, etc.) and available ride-hailing services (e.g., Uber, Lyft, Addison Lee, *Didi dache*"滴滴打车" etc.) nearby. Because of the significantly increased network capacity and speed, 5G technology provides a more accurate prediction of the traffic than traditional technologies (e.g., the one used by Google Maps), which will largely reduce traffic congestion in the city and save customers' time. Please imagine that you do not own a private car so that you need these services (public transit or ride-hailing) on a daily basis. Please also imagine that you are a customer who is using a 5G SmartCity plan from Company A. Then we will ask you to look at an advertisement for Company A (about 30 seconds). After that, we will ask you to answer a few questions pertaining to the scenario.

In each country, participants were randomly assigned to one of two groups. One received an advertisement featuring pride, while the other group received an advertisement featuring empathy. Participants then responded to manipulation checks about these two emotional appeals.

After the manipulation checks, they were told to read information about a data-security crisis involving Company A:

> Company A was found to sell customers' personal information collected for the ride-hailing service. The leaked information includes customers' full names, addresses, email addresses, and mobile phone numbers. This incident affected over 5 million customers. And it is still not clear whether other companies have a similar problem.

Participants were asked to indicate their emotional responses to Company A. Then I measured their generalized attitudes towards the whole 5G SmartCity Plan industry. Using a behavioral measure, I captured whether an industrial stigma spillover spread to innocent firms. Finally, participants were asked to provide demographic information such as gender, age, and preferred means of transportation. The original vignette and questionnaire were crafted in English and then translated into Chinese. They were read by three bilingual Chinese graduate students to ensure the accuracy of the translation.

Measures

Positive moral emotions before a negative event. I created two types of emotional appeals to evoke either participants' empathy or pride. The two emotional appeals were made as similar as possible, differing only in terms of the emotion type. In the pride appeal, participants read: "Building extraordinary intelligent abilities. Seizing infinite chances. Winning advantages at unprecedented speeds. The 5G-SmartCity Plans from Company A. Achieving peak performance in life." Participants in the empathy-appeal condition read: "Keeping connected with your loved ones. Sharing life moments. Reaching out to friends fast. The 5G-SmartCity Plans from Company

A. Always be there for you." To enhance the manipulation, I added visual stimuli following past research (Aaker & Williams, 1998; Han & Ling, 2016), as shown in Appendix D. Participants were asked to look at the stimuli and then indicate to what extent they experience the emotions, namely, pride and empathy (1=not at all; 7=very strongly). The measures were included with three items relevant to pride ("proud," "confident," and "excited"), and three items relevant to empathy ("warmhearted," "emotional," and "moving"). I also included a control group (N = 93, 42 from London; 53 from Beijing) without the emotional expressions to understand participants' baseline feelings towards the 5G industry in China and the UK.

Emotional responses. Participants were asked "to what extent do you feel the following emotions concerning Company A's behavior" in order to measure five negative emotions towards the wrongdoer. Motivated by findings from the qualitative study and moral-emotion research (Rozin, Lowery, Imada, & Haidt, 1999), I measured three negative moral emotions: contempt ("contemptuous," "scornful," and "disdainful"), anger ("angry," "mad," and "very annoyed"), and disgust ("disgust," "feeling of distaste," and "feeling of revulsion"). These three moral emotions are known as "CAD," the most common negative moral emotions that people will feel after the transgression of other parties (Greenbaum et al., 2020). Following Xie, Bagozzi, and Grønhaug (2015), I measured two other basic negative emotions: fear ("threatened," "scared," and "fearful") and sadness ("depressed," "sad," and "discouraged"). These two are known as "basic emotions" that are not necessarily caused by the moral judgment of right and wrong but are triggered by people's general negative reactions to threats. All items were measured with 7-point scales anchored at 1 = "not at all" to 7 = "very strongly."

Attitudes. The attitudes measurement is adapted from Roehm and Tybout (2006). Participants were asked to respond to the following question: "Given the scenario, what are your

attitudes towards the SmartCity plan in general?" Participants supplied their response according to 7-point Likert scales to indicate whether they 1) think the 5G SmartCity plan is good for customers; 2) feel positive about the 5G SmartCity plan; 3) suspect the 5G SmartCity plan is a scam; and 4) have a favorable attitude towards the 5G SmartCity plan. During data analysis, items 1, 2, and 4 were reverse-coded to indicate participants' negative attitudes towards the industry.

Stigma spillover (Behavioral responses). Respondents were given five choices on what to do after the event. The first was to stay with the 5G plan of Company A. The second was to switch to the 5G plan of Company B, which offers both ride-hailing and transit information. The third was to switch to the 5G plan of Company C, which only offers ride-hailing information. The fourth was to switch to Company D, which only offers transit information. The final choice was opting out of 5G plans altogether. Companies B to D represent firms with different degrees of similarity to Company A and the stigmatizing attribute. Company B is the same as Company A; Company C contains the stigmatizing attribute (ride-hailing service); and Company D is the most dissimilar one to Company A, and it does not contain the stigmatizing attribute.

I used two ways to code these responses for analysis. The first way is to code each response as a binary variable (variables A, B, C, D, and opt out; 1 = yes; 0 = no); these are used to test the main effects of positive moral emotions on customers' emotional and behavioral responses. In the second approach, I coded a continuous variable which is called "stigma spillover" ranging from -1 to 3; this is used to test mediated models. The rationales are as follows: 1) stigma spillover = -1: there is no stigmatization at all, when customers still want to choose Company A (stay with the perpetrator); 2) stigma spillover = 0: there is no stigma spillover when customers choose Company B (exactly the same as Company A), because no associated companies are affected; 3) stigma spillover = 1: stigma spillover only affects perpetrator firm and the identical company when

customers choose firms which contain a stigmatizing attribute (Company C); 4) stigma spillover=2: stigma spillover is limited to a small scope, when customers still choose firms which are dissimilar from the perpetrator (Company D) but avoid a firm that is similar to the perpetrator (Company B) or contain the stigmatizing attribute (Company C); and 4) stigma spillover = 3: stigma spillover is of the highest degree when customers choose to opt out of a 5G plan.
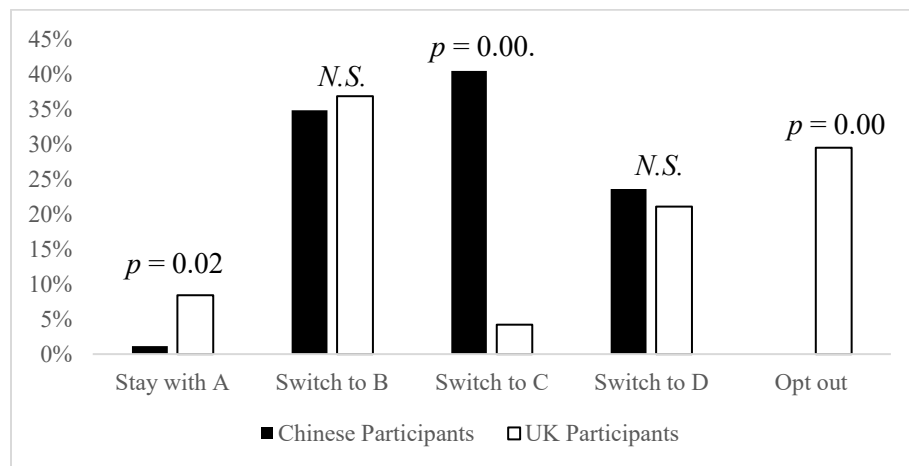
Results

Manipulation checks. In order to examine the effectiveness of the manipulation, I added a control group where no emotional appeal was used. The total number of participants for the manipulation check is 277 (137 from China). The 3 (empathy, pride, or the control group) by 2 (China or UK group) ANOVA tests show that regardless of which type of emotional appeal was presented or no emotional appeal was presented, Chinese participants felt a higher level of positive emotions (X = 13.71, F = 233.81, p < 0.001) than the UK participants (X = 5.51). Furthermore, when looking at the main effect of emotional appeal, I found that participants in the control group felt the highest level of pride (X = 12.44, F = 6.84, p < 0.01) than participants in the pride-appeal group (X = 10.81), and empathy-appeal group (X = 9.69); and participants in the control group felt the highest level of empathy (X = 10.77, F = 5.64, p < 0.01) than participants in the empathy-appeal group (X = 9.43) and pride-appeal group (X = 8.75).

This surprising result leads me to compare the pride and empathy group, and I found that participants in the pride or empathy group felt no significant differences in pride or empathy (pride group: F = 1.86, p = 0.17; empathy group: F = 0.70, p = 0.40). This insignificant difference between empathy and pride stimuli and the higher level of felt emotions in control group confirm that there were pre-existing country differences in participants' feelings towards the 5G industry. Under this situation, the content of positive moral emotions did not make a significant difference. These

results are consistent with evidence that Chinese customers have more positive feelings about 5G products than UK customers do (*BBC*, 2019; Xia et al., 2019). I proceeded to test hypotheses by treating both emotional appeals (empathy or pride) as positive moral emotions, with different levels (higher positive emotions in China; lower in the UK).

Behavioral responses. The behavioral responses are shown in FIGURE 4.2. I found that for Chinese participants, about 1.12% chose to stay with Company A; 34.83% chose to switch to Company B's SmartCity plan; 40.45% chose to switch to Company C's SmartCity plan; 23.60% chose to switch to Company D's SmartCity plan; and 0% chose to opt out of all SmartCity plans. In contrast, for UK participants, 8.42% chose to stay with A; 36.84% chose to switch to Company B; only 4.21% chose to switch to Company C; 21.05% chose to switch to Company D; and 29.48% chose to opt out from a 5G plan. ANOVA tests show that the portion of UK participants staying with Company A (X = 8.42%) was significantly higher (F = 5.36, $p < 0.05$) compared to Chinese participants (X = 1.12%). The portion of UK participants (X = 36.84%) that chose Company B's plan was not significantly different from (F = 0.08, $p > 0.05$) the Chinese sample (X = 34.83%). The portion of UK participants who chose to switch to Company C (X = 4.21%) was significantly lower (F = 43. 46, $p < 0.01$) than Chinese participants (X = 40.45%). The portion of UK participants that chose Company D's plan (X = 21.05%) was not significantly different from (F = 0.17, $p > 0.05$) the Chinese sample (X = 23.60%). And the portion of UK participants who chose to opt out (X = 29.48%) was significantly higher than (F = 36.79, $p < 0.01$) among Chinese participants (X = 0).

FIGURE 4.2. Behavioral Responses of Participants from Different Countries


These results challenge the cognitive view of stigma spillover **(H1a or H1b)** because stigma spillover does not occur between similar firms (A and B). For example, Company B is the most similar to A, but a large number of UK and Chinese customers are still willing to choose Company B's plan. Companies B, C, and D can all be regarded as sharing some degree of similarity with A. Nevertheless, some stakeholders shifted to them. Moreover, for Company C's plan, although it contains the stigmatizing attribute (providing ride-hailing service), stakeholders (especially Chinese customers) still chose it. This indicated that even a company that contains a core stigmatizing attribute was not negatively affected. And none of the Chinese customers chose to opt out from the 5G SmartCity plan, while a significantly higher number of UK participants did. Here, a higher level of positive moral emotion evoked before the negative event protected innocent firms within the same industry from stigma spillover.

Emotional responses towards the perpetrator firm. An ANOVA test on participants' emotional responses indicates that different levels of prior positive moral emotions generate very different emotional experiences after the crisis across different countries. In particular, Chinese participants felt significantly stronger fear (X = 14.20; F = 8.75, $p < 0.01$) than UK participants (X

= 12.54). Chinese participants' sadness was also marginally higher (X = 12.64; F = 3.12, *p* = 0.08) than that of UK participants (X = 11.72). UK participants felt stronger contempt (X = 14.17; F = 62.00, *p* < 0.01) than Chinese participants did (X = 10.27). UK participants also felt stronger disgust (X = 13.76; F = 8.47, *p* < 0.01) than Chinese participants (X = 12.24). However, I did not find significant differences in participants' feelings of anger. These results are shown in FIGURE 4.3.

FIGURE 4.3. Mean Negative Emotions of Participants in Different Countries
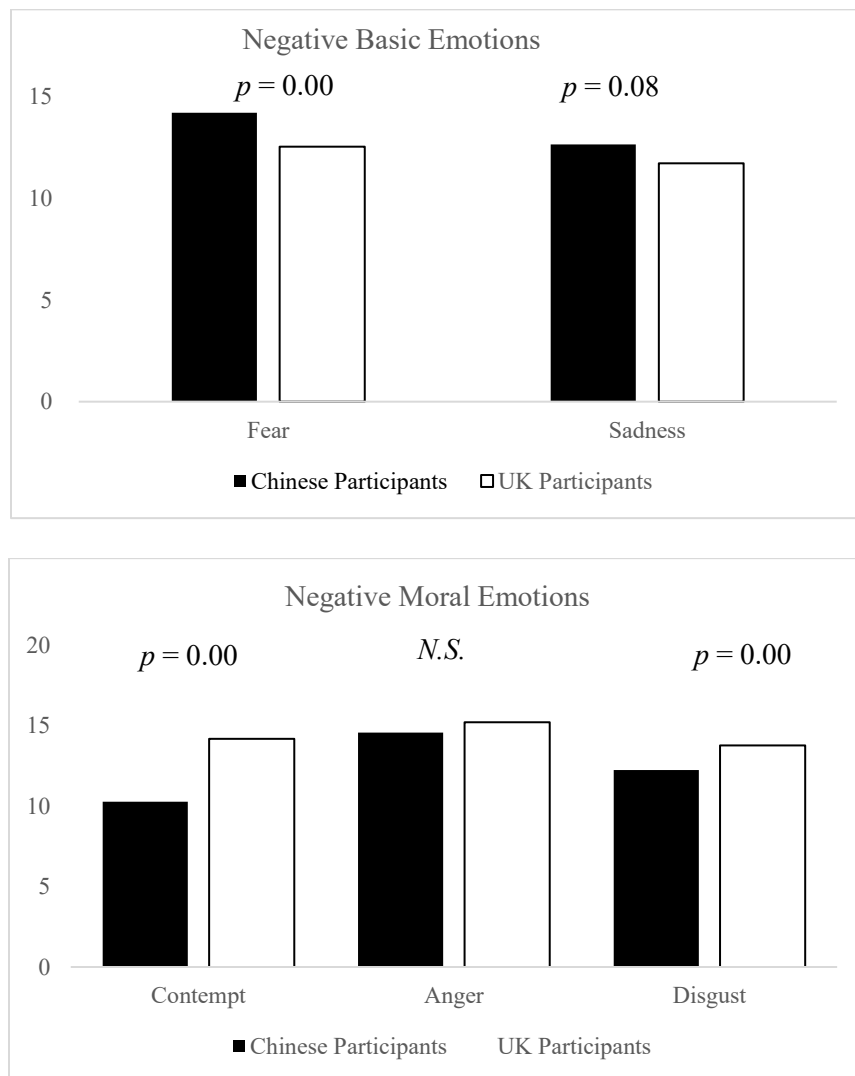
0 = not at all; 21 = very strongly.

Attitudes towards the whole industry. An ANOVA test on participants' attitudes indicates that different levels of prior positive emotions differentially impact participants' attitudes towards the whole industry after the negative event. In particular, Chinese participants have significantly lower negative attitudes (i.e., more favorable attitudes) towards the 5G SmartCity industry (X = 16.97, F = 194.52, $p < 0.01$) after the negative event than UK participants do (X = 8.62). In other words, participants from China still feel more positive about the 5G industry than the participants from the UK. These results are shown in FIGURE 4.4.

FIGURE 4.4. Mean Negative Attitudes of Participants in Different Countries
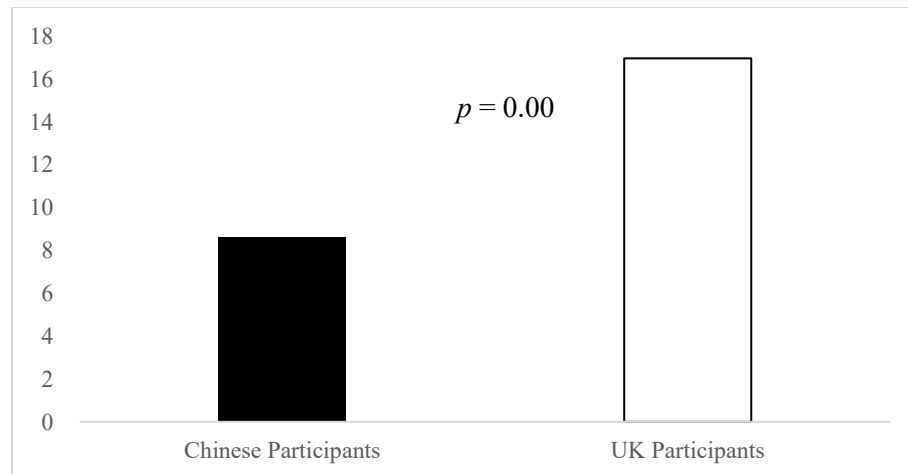
0 = not at all; 18 = very negative attitudes

Double-mediation analysis. The above analysis indicates that eliciting different levels of positive moral emotions of participants will lead to their different emotional and attitudinal responses as well as different degrees of stigma spillover. In H2 and H3, I posited that stakeholders' positive moral emotions before a negative event might increase or decrease the degree of stigma spillover through different paths. I test this account via a double-mediation model that uses country (China vs. the UK) as an independent variable, customers' negative emotions towards the wrongdoer as the first mediator, their generalized negative attitudes towards the whole industry as

the second mediator, and the degree of stigma spillover as the dependent variable. Descriptive statistics and correlations of the study variables were computed (see TABLE 4.1).

TABLE 4.1. Study 2, Descriptive Statistics and Correlations

	Mean	SD	1	2	3	4	5	6	7
1. Stigma Spillover	1.07	1.18							
2. Negative Attitudes	12.93	5.82	0.46**						
3. Fear	13.34	3.90	0.24**	0.01					
4. Sadness	12.16	3.57	0.18*	-0.05	0.72**				
5. Contempt	12.29	3.89	0.23**	0.48**	0.33**	0.41**			
6. Anger	14.90	3.02	0.21**	0.27**	0.61**	0.61**	0.68**		
7. Disgust	13.03	3.64	0.18*	0.27**	0.54**	0.57**	0.81**	0.73**	
8. China	0.48	0.50	-0.17*	-0.72**	0.21**	0.13	-0.50**	-0.11	-0.21**

$N = 184$; ** $p < 0.01$; * $p < 0.05$.

In order to narrow down the range of negative emotions, I performed five separate double-mediation models using each one of the five negative emotions measured (fear, sadness, contempt, anger, and disgust) following the bootstrapping method (Preacher & Hayes, 2008). Double mediation was found only in the model in which fear was used as the mediator. As for other emotions, including them into the model did not support the relationship proposed in H2 (i.e., prior positive moral emotions increase the degree of stigma spillover) or H3 (i.e., prior positive moral emotions decrease the degree of stigma spillover).

Fear. I find that when the variable "country" (= 1 China, high positive emotions; = 0 the UK, low positive emotions) is entered as a predictor, it significantly predicts stigma spillover, $b = -0.49$, $t = -4.3$, $p < 0.01$, and accounts for 9.24% of the variance in the model. After controlling for covariates, the country predicts a higher level of fear towards the wrongdoer, a lower level of generalized negative attitudes towards the whole industry. Generalized negative attitudes predict a higher level of stigma spillover.

Double-mediation analysis allows me to isolate the indirect effects. When both fear and generalized negative attitudes are considered as mediators, they significantly and sequentially mediate the relationship between country and stigma spillover (indirect effect = 0.06, CI [0.01, 0.13]). The indirect effect of country through fear as the sole mediator on the relationship between country and stigma spillover shows that fear could sufficiently explain the relationship (indirect effect = 0.09, CI [0.01, 0.2]). The indirect effect of country through generalized negative attitudes as the sole mediator on the relationship between country and stigma spillover shows that generalized negative attitudes sufficiently explain the relationship (indirect effect = -1.13, CI [-1.51, -0.78]). The direct effect of country on stigma spillover is statistically significant (b = 0.59, t = 2.63, p = 0.01), indicating a partial mediation. FIGURE 4.5 provides an analysis diagram of the double-mediation effect.

FIGURE 4.5. Analysis Diagram of Mediation: Effect of Fear and Generalized Negative Attitudes in the Model Simultaneously and Operating in Sequence
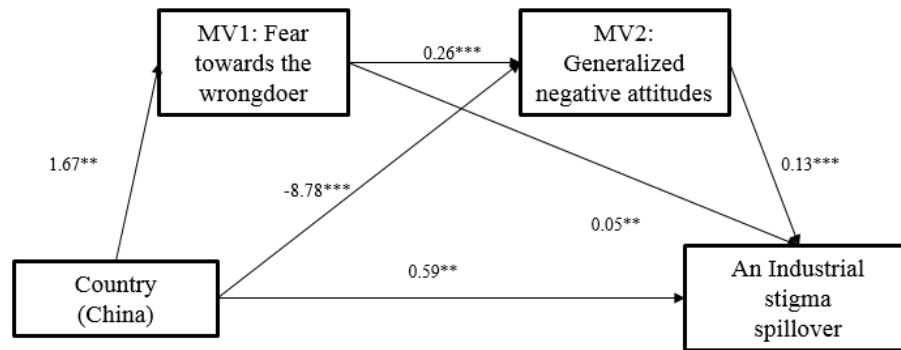
*** $p < .001$, ** $p < .01$, * $p < .05$.

Summary

In this chapter, I investigate Research Question 2: *If moral emotions do impact an industrial*

stigma spillover, how do the moral emotions of individual stakeholders elicited by firms before and after a crisis impact an industrial stigma spillover? I demonstrate that a cognitive view of stigma spillover is incomplete. While such a view predicts that stigma will spill over from a perpetrator firm to innocent firms in the same industry, as long as the innocent firms are similar to the perpetrator firm or contain core stigmatizing attributes, I find that customers might still purchase products from similar firms within the same industry.

To modify the cognitive view on stigma spillover, I test whether the degree of stigma spillover depends on stakeholders' emotions elicited by firms before and after a negative event. Overall, the findings indicate that a higher level of positive moral emotions can impact the degree of stigma spillover in two ways. In the first path, people from China felt a higher level of pride (compared to those in the UK in this study), which induces a higher level of fear towards the wrongdoer after the data-security crisis, and the fear increases the level of generalized negative attitudes, with the latter resulting in a higher degree of stigma spillover. In the second path, however, the pride felt in China reduces the generalized negative attitudes towards the whole industry after the negative event, such that it leads to a lower degree of stigma spillover.

Although both indirect paths are significant, the second indirect path discussed above has a larger effect. Thus, overall, people from China are less likely to stigmatize innocent firms. The implications of the findings will be discussed in the next chapter.

CHAPTER 5. CONCLUSION

The starting point of this research was the desire to understand the relationship between moral emotions and an industrial stigma spillover. My path to increasing my understanding of this topic was guided by 3 Research Questions: 1. *Do moral emotions impact an industrial stigma spillover?* 2. *If moral emotions do impact an industrial stigma spillover, how do the moral emotions of individual stakeholders elicited by firms before and after a crisis impact an industrial stigma spillover?* And 3. *How can an industrial stigma spillover driven by stakeholders' moral emotions be managed, and what are the implications of different management strategies?* Using the case of the melamine crisis of the Chinese infant formula industry, in Study 1, I examined Research Question 1 and 3. I showed that customers' pride before the crisis shifted to negative moral emotions, which led to the stigmatization of the whole industry. To manage this spillover, firms used three proactive strategies. I tested whether the choice of strategy was influenced by an organization's relative prominence and the extent of its media scrutiny. Then I explored how companies select strategies and the performance implications of the strategies.

Because of the retrospective nature of Study 1, I was not able to test the causal relationship between moral emotions and industrial stigma spillover. Thus, in Study 2, I designed an experiment utilizing a purported 5G data-security crisis to investigate Research Question 2. I demonstrated the limits of an exclusively cognitive view of an industrial stigma spillover. Then I modified the similarity view of the stigma spillover model by incorporating moral emotions as a mechanism of spillover. I also narrowed down the range of negative moral emotions that play a role in a spillover process. In what follows, I detail how the results from the melamine crisis case and the experimental study extend research on industrial stigma spillover. I also highlight how insights from the study can be applied to studies of moral emotions. I conclude by outlining the boundary

conditions of the study as well as potential avenues for future research.

Implications for Stigma Spillover Management

In Study 1, I demonstrated that moral emotions indeed impacted an industrial stigma spillover in the context of Chinese infant formula industry after the melamine crisis (Research Question 1). More importantly, I examined the strategies used to address the emotion-driven industrial stigma spillover (Research Question 3). I found three strategies for actively managing an industrial stigma spillover: category membership deception, category blurring, and category promotion. In this section, I compare each of the three strategies found in this study of an event-stigmatized industry with the strategies for coping with stigmatization from being in a socially vilified (core-stigmatized) industry. This enables me to capture the distinctive features of strategies for coping with the risk of stigma following a potentially stigmatizing event in an otherwise reputable industry. I assess why particular firms use the strategies and how successful they are in the marketplace.

Before turning to each of the strategies, however, two overarching features of stigma spillover management strategies deserve mention. First, in contrast to strategies commonly used in a core-stigmatized industry, managing a spillover within a reputable industry is best attempted by connecting to a clean category within that industry rather than by distancing from a stigmatized one. Put another way, to "recover lost social support" (Hudson, 2008: 253) appears to require more than a message of "we are not like them, the bad guys"; instead, the message has to be that "we are the good guys." It is not a matter of denying guilt, but of claiming (showing) goodness. Attempting simply to differentiate from a guilty category by emphasizing that "we are not them" implicitly and adversely reinforces the connection with the guilty—whereas pointing to "good" firms has the opposite and more positive effect. An implication is that the adopted strategies will

be more aggressively proactive than the strategies observed in contexts of core stigma (such as concealing or distracting). Second, event stigmas are typically sudden occurrences that excite negative public attention. Thus emotions are prominent, and firms must recognize their importance in their responses.

Turning to the three strategies and comparing them to the strategies identified in the literature, the first observation is that all three strategies are affecting the boundaries within an industry. This boundary, the distinction between a clean category and a stigmatized category, is drawn by "secondary stakeholders," in particular, the government and the media (Freeman, 2010). Devers et al. (2009) theorize that stigmatization arises from individuals' labeling of focal organizations as deviant and making vilifying claims about an organization. When the label and claims are accepted by a "critical mass" of a group of stakeholders, an organizational stigma occurs. The infant formula case draws our attention to the role of field-level secondary stakeholders in addition to the individual sensemakers. These secondary stakeholders provides individuals with the label of clean and stigmatized categories. In fact, they draw and enforce the boundary between "right" and "wrong" (Becker, 1967), which leads to the industrial stigma spillover. This finding resonates with the literature of social evaluations showing that multiple groups of external stakeholders can impact firms' survival and performance (Deephouse, Bundy, Tost, & Suchman, 2017).

Although focusing on the boundary between clean and stigmatized categories, the three strategies adopted by firms are different from "boundary management" in literature (Zhang et al., 2021). The latter's goal is to clarify the boundary between stigmatizer and the stigmatized so that stigmatized actors can stick together (Hudson & Okhuysen, 2009). In contrast, the three strategies identified in this dissertation are aiming to influence the boundary between the stigmatized

category and the "clean" category.

The basis of the first strategy—category membership deception—is the avoidance of being placed in the same category as organizations denounced for their improper behavior. This is achieved not by distancing the firm from the blamed organizations ("we are not guilty firms") but by claiming to be a member of an explicitly praised (in this case, the "foreign") category. In some ways, this strategy of deception is similar to the "concealing" strategy (one form of information management) illustrated by men's bathhouses pretending to be gyms (Hudson & Okhuysen, 2009). However, concealment and deception are fundamentally different in that concealment hides a firm's identity from hostile social audiences—specifically, from "secondary stakeholders" to protect "primary stakeholders"—and deception intentionally cheats the primary stakeholders (i.e., the customers) (Wang et al., 2020). This difference has an important implication, namely that if exposed, the deception strategy will instigate a sense of betrayal and arouse the emotional anger of primary stakeholders and precipitate adverse performance effects.

The second strategy, category blurring, resembles the "dilution" found in core-stigmatized industries (Delmestri & Greenwood, 2016)—but, again, it differs in an important way. In a core-stigma context, firms use "dilution" to distance from the stigmatized category ("we are not them") and attach to a more preferable one. In other words, dilution reinforces the boundary between the two categories. Blurring, in contrast, seeks to eliminate an unwanted boundary ("we and the good guys are the same"). Blurring also differs from Vergne's (2012) observation in the arms industry, because blurring attempts to remove the boundary between categories to the point of blending them into one superordinate category; in contrast, dilution retains and utilizes the boundaries between core-stigmatized and other categories.

The final strategy, "category promotion," seeks to reorder the relative social valorization

attributed to the categories—in this case, to rank domestic milk powder higher than foreign. Boundaries between categories are accepted, but the purpose of the strategy is to invert their hierarchical order. The promotion strategy shows similarities to the combination of reconstruction strategy and emotion work. The promotion strategy was successful in less than three years—whereas the reconstruction of Thomas Cook travel, for example, took about two decades (Hampel & Tracey, 2017). This suggests that the reversal of an event stigma using the category promotion strategy can be achieved in much less time relative to reversing core stigma. The speed of the change may also be more rapid because the industry was previously highly respected. This finding suggests that although attention has been focused on which strategies may be useful to contain a stigma spillover, equally important is the timing of stigma management. It is plausible that the earlier firms act in response to spillover, the quicker firms might recover from it. A promotion strategy also involves emotion work. In using a promotion strategy, firms tried to elicit customers' positive emotions in order to destigmatize a category. Given that promotion strategy achieved significant performance increase for firms, this finding suggests the necessity of taking the emotional and cultural meaning of strategies into consideration.

Although some spillover studies demonstrate a positive spillover effect, meaning that innocent firms might benefit from the scandal involving their peers (Paruchuri, Pollock, & Kumar, 2019; Piazza & Jourdan, 2018), in the case of the Chinese infant formula industry, positive spillover did not happen. Moreover, doing nothing in response to the crisis led to a decrease in performance. The reason might be that the melamine scandal is a very serious event that caused the deaths of babies. Facing an extremely negative event, firms need to be responsive to the negative effect of stigma spillover in order to recover from it.

Selection of strategies. I find that younger firms are more likely to adopt the deception or blurring strategies, whereas older firms are more likely to deploy the promotion strategy. I hypothesized correctly that the first two strategies would be risky for more publicly prominent firms—hence the avoidance of these strategies by older firms. I also hypothesized that media scrutiny would affect an organization's choice of deception or blurring strategy. Surprisingly, however, this was not the case. Media scrutiny had little effect. Why there is little media influence is not readily apparent, but my interpretation is that this lack of influence may have been because the purchase of infant formula is shaped by information sources such as word-of-mouth and social media, rather than the traditional media I examined in this study.

In contrast, the media have a significant influence on the promotion strategy. The strategy of promotion *needs* media attention—it is a critical means by which to publicize and gain credibility for the claim of category superiority. However, as I note below, the media also serve a policing role that has implications for performance outcomes.

Performance implications for each strategy. In considering the effects of each strategy upon performance, two points need emphasizing. First, none of the three strategies resulted in performance loss—contrary to what happened to the "do nothing" firms. However, the relative effectiveness of the strategies varied: deception did not have the same significant impact as did blurring and promotion. Follow-up interviews intimated a possible reason why deception was less effective. It may be because the newly created "foreign" brands were unknown to customers, who were reluctant to buy from companies they had little knowledge of or experience with—especially when a large and thus confusing number of "foreign" brands had been rushed into the market (A02). In other words, consumers were driven by caution. In effect, an unexpected aspect of a

crisis-driven stigma—unlike contexts of core stigma, where perceptions are established—can make primary stakeholders especially cautious and thus undermine strategies such as deception.

Second, probing the qualitative data reveals differences between blurring and promotion—blurring in this context provided stable annual sales increases, whereas promotion in some years provided increases beyond those achieved by the blurring strategy, but in other years was associated with losses in market share. Beingmate, for example, used the strategy and by 2012 had gained the highest market share in the domestic category, but thereafter experienced consistent losses. My interpretation is that the promotion strategy was successful in my context because the claim that Chinese products were more tailored to Chinese physiology and were based upon serious scientific research resonated with traditional cultural norms ("we are different") yet drew upon modern science. Moreover, the promotion claim was collective, in the sense that the firms using this strategy did so together. Further, the government—which in China is an "authoritative stakeholder" (Wang et al., 2020)—underpinned the credibility of the claims.

But why, then, was this strategy more unstable than blurring? My analysis suggests that firms using the promotion strategy were vulnerable to media criticism. That is, media attention enables the promotion strategy, but it also has a policing function (Lawrence & Suddaby, 2006) that can wobble the effect of the strategy. Firms that are being scrutinized more closely, albeit positively, for the most part, may experience more criticism for even modest misbehaviors. For example, the CEO of Wonder Sun, a widely respected domestic firm with more than 50 years' history, proudly said to the media that "the quality of domestic infant formula represented by Wonder Sun is better than foreign products" (*Beijing Times*, March 19, 2013; *Beijing Youth Daily*, May 9, 2013). However, a branch of Wonder Sun was later exposed to have hygiene problems (*Xinhua,* April 6, 2016). This revelation hit the headlines of newspaper articles, and social media

circulated the news that "domestic infant formula was involved in safety issues again! Wonder Sun was ordered to rectify" (*Daily Headlines,* April 19, 2016). Media attention, in other words, can be a double-edged sword.

Implications for Moral Emotions

In Study 2, I investigated Research Question 2. My examination of the role of moral emotions in an industrial stigma spillover demonstrated that a cognitive view of stigma spillover is incomplete because prior and subsequent moral emotions play a role in the process of stigma spillover. The first insight drawn from the experimental study is that moral emotions do matter in a stigma spillover process. And in this way, this study resonates with the emerging body of work using emotion as the "source" of stigma (McMurray & Ward, 2014; Rivera, 2015). Scholars have claimed that as long as two firms are similar enough, stigma spillover will happen (Paruchuri & Misangyi, 2015). The experimental study shows that prior positive emotions before the crisis might change this exclusively cognitive model of stigma spillover. In particular, I find that a higher level of positive moral emotions triggers negative basic emotions such as sadness and fear, while a lower level of positive moral emotions leads to more negative moral emotions such as contempt and disgust.

This finding provides the second insight into the moral emotions literature by differentiating moral emotions from basic emotions in an industrial stigma spillover. While Haidt (2003: 864) argued that moral emotion is a "matter of degree" and "any emotion is a moral emotion to the extent that it has disinterested elicitors and prosocial action tendencies," other scholars suggest that negative basic and moral emotions are fundamentally different (Bornstein, Katzir, Simchon, & Eyal, 2020; Greenbaum et al., 2020; Xie et al., 2015). While basic emotions represent people's immediate survival responses to external threats, moral emotions require more abstract

thinking and moral evaluations (Izard, 2007). Bornstein et al. (2020: 2) used the idea of "psychological distance" to emphasize that different types of appraisals determine which negative emotions people may experience: They argued that distanced events "are remote from direct experience, are construed more abstractly" so that this type of events leads to more abstract thinking of the negative event (Bornstein et al., 2020: 2). When a negative event is not directly related to people's experience, people are more likely to assess the long-term implications of moral violations so that they are more likely to experience negative moral emotions. In contrast, when a negative event is close to people's experience, people are more likely to think about the concrete and immediate consequences of the event and focus on whether it would threaten their survival or not. Thus, in this case, people experience more negative basic emotions, such as fear and sadness.

Using the idea of the psychological distance to interpret my finding, it is plausible that prior positive moral emotions change people's psychological distance with an industry, which leads to different negative feelings after a negative event. Participants from China experienced more pride before the experimental 5G scandal, which may decrease the psychological distance between the scandal and themselves. After the breakout of the scandal, they would immediately feel personally threatened, so that these people might be more likely to feel negative basic emotions. In contrast, participants from the UK felt less pride before the fictional scandal so that they would not link the fictional 5G scandal to their own experience. After the scandal, they would not feel immediate threats but would reflect more on the implications of the moral evaluation. As a result, participants from the UK felt more negative moral emotions. Surprisingly, participants from two groups (high-positive emotion and low-positive emotion) did not experience different levels of anger. This is interesting because scholars in the past treat anger as an important moral emotion that drives people to take action (e.g., DeCelles, Sonenshein, & King, 2019). My experimental

study does not disprove the power of anger, because the two groups might both feel very angry at the firm's transgression. However, this study draws my attention to other negative (moral) emotions. This implies that after a negative event, people might feel a "constellation" of different negative emotions (Gould, 2009). Although anger is important, it is the combination of anger and other emotions that drives people to act in a certain way.

The third insight of the experimental study is that it narrows down the range of negative emotions that contribute to the stigma spillover process. In particular, the double-mediation analysis further demonstrates that pride and fear are important emotions to take into consideration when examining an industrial stigma spillover. This finding enriches our understanding of the "moral battery" (Jasper, 2011). Jasper theorized moral battery as a pair of negative and positive moral emotions with a tension that energizes actions. However, how exactly a moral battery works is less studied. In this study, I demonstrate that prior pride impacts an industrial stigma spillover through two paths: 1) prior pride may elicit fear, such that stakeholders are more likely to stigmatize innocent firms within the same industry; 2) prior pride also has a strong shield effect for innocent firms within the same industry by reducing stakeholders' generalized negative attitudes towards the whole industry. In the 5G experiment, the effect of the second path is larger than the first path so that pride protects the innocent firms from being contaminated. The implication is that positive moral emotions generated by firms not only attract stakeholders to the focal firm but also suppress the negative impacts brought by stakeholders' negative emotional experiences after a negative event, thus protecting peers in the same industry from an industrial stigma spillover.

Under what conditions would the effect of the first path be larger than the second path? In other words, when would prior positive moral emotions not be able to protect innocent firms? The

seemingly contradictory findings in the infant formula case (where prior pride led to more stigma spillover) and the 5G experimental study (where prior pride contained stigma spillover) sheds light on this puzzle. This difference may be explained by the level of the malevolence of the two different events. The "disruptiveness" is an important characteristic of a certain stigma (Jones et al., 1984). In the case of Chinese infant formula, babies were killed, which is a highly disruptive case. In the experimental study, I focused on a data-security crisis, where the degree of malevolence might be lower than the infant formula case. Lange and Washburn (2012) argued that people are constantly sorting environmental stimuli into approach versus avoid or good versus bad. The more serious a negative event, the more likely this event will fall into the "bad" category of stimuli that evoke intense negative moral reactions. When an event is categorized as "serious," people are more likely to ignore previous positive feelings they felt before the event because they already have a schema of negative reactions towards the focal firm. In the more extreme cases, people would avoid the whole industry in order to protect themselves. Future research adopting experimental methods can demonstrate whether the degree of the malevolence of the event might impact the degree of stigma spillover. An alternative explanation is that stakeholders experienced moral shocks in the melamine crisis (Study 1) because the event was unexpected and it challenged customers' prior understanding and belief of the industry (Jasper & Nelkin, 1992). As a result, customers were more likely to take stigmatizing actions and less likely to forgive the stigmatized industry, even though they felt strong positive emotions before the event. In contrast, "cyber and data breaches are an everyday reality and a growing threat for all major companies" (Reputation Institute, 2020: 3). This trend has made the data security crisis (Study 2) less likely to be a moral shock to stakeholders. It may be even more so for China than the United Kingdom (International Telecommunication Union, 2018). Scholars in the future can investigate how moral shocks impact

an industrial stigma spillover.

Future Research Directions

Although this study delivered the above useful insights, it has limitations. The melamine study covers only a small sample of firms. It is not uncommon to adopt small samples (Deephouse, 2000; Tripsas, 1997), and scholars have warned of the danger of "big samples and small effects" (Combs, 2010). But studies in other contexts, using larger samples, with different measures of stigmatization, would be useful to confirm and extend the findings. Further, most of the firms in my context did not choose to exit the industry which opens up opportunities for future research. One line of research could take further the idea that the social prominence of a firm circumscribes the possible strategies that can be successfully deployed. The qualitative findings of the melamine study hinted that status might affect the outcomes of the strategies adopted. Are there conditions that circumscribe whether high-status firms are more likely to recover from sales losses? Or, on the contrary, are there situations where status might be a "hazard" (Graffin et al., 2013) instead of a "shield" (Hochschild, 1983)? Or, when the innocent or perpetrator firms fall into negative stereotypes, will stakeholders experience different moral emotions that change their culpability generalization (Naumovska & Zajac, 2021)? Similarly, under which conditions might larger or smaller firms be more salient and receive closer scrutiny, and thus be especially vulnerable if they choose the deception strategy? And, does it matter who is doing the scrutinizing (Wang et al., 2020)?

A related direction of research could examine whether the history of particular firms and the industry affects how stakeholders respond to spillover strategies. History has been found to matter in stigma management (Rivera, 2008), raising the question as to whether a firm previously associated with questionable behavior can use the same strategies as those with less blemished

records. Does the record of the industry have any effect? Future research can examine whether it is more difficult for firms in "sinful" industries (Cai, Jo, & Pan, 2012) to manage an event stigma spillover. In terms of effectiveness, firms were able to use the promotion strategy to achieve performance improvement promptly. This observation may be attributed to specific contextual elements (Wang & Laufer, 2020).

The contextual considerations become important boundary conditions for this study. For example, in Study 1, the melamine crisis is different from the fall of Enron scandal implicating Arthur Andersen (Jensen, 2006), the wrongdoing of top managers in Skandia AB impacting subsidiaries of other innocent life insurance companies (Jonsson et al., 2009), or the Volkswagen emission crisis harming other German companies (Aichner, Coletti, Jacob, & Wilken, 2020). In the latter cases, only one firm was involved in scandals, while the melamine crisis hit 20% of firms within the same category. The high ratio of wrongdoers in my case might make the negative spillover more likely. Thus, future research can test whether spillovers are more likely when a higher ratio of firms are engaged in vilified behaviors.

However, the fact that China maintains a low breastfeeding rate even after the 2008 melamine crisis implies that the industrial stigma spillover, in this case, might be mitigated because people still rely on infant formula. In the context of North America, the degree of stigma spillover would be higher if a negative event hit the infant formula industry. Similarly, the fact that traditional Chinese medicine highlights the physical distinctiveness of the Chinese might have also facilitated the promotion strategy. In other words, the social context has to be considered in assessing the speed of overcoming stigma spillover. Further research on socio-cultural differences—not only across countries but in terms of how they apply to different forms of crisis— would be particularly insightful.

The experimental study provides other opportunities for future research. For example, although I intended to test whether the priming of different positive emotions might lead to the differing degree of stigma spillover in the experimental study, I failed to do so because the manipulation check of pride versus empathy did not pass. I confirmed that it is because the pre-existing positive emotions towards 5G firms in the two countries I chose are very different. But the 5G data-security crisis did have its strengths of having a broader influence on different stakeholders, which makes the spillover effect more likely. However, this design can be problematic. For example, people may not be familiar with the 5G crisis I described, or people have a strong bias towards this industry. Either way, the generalizability will be compromised. Furthermore, the experimental study was conducted in 2020, when the world was divisive about 5G. It was helpful to manipulate the differing degrees of positive moral emotions in different countries. But the country difference is so big that it overtakes the difference between pride and empathy. Future research can choose other settings to test the effect of different positive emotions. For example, a fast-food chain crisis as presented by Roehm and Tybout (2006) might be a more common and unbiased case for people from different countries.

Last, I used behavioral measures for stigma spillover, which is reasonable because stigma triggers avoidance. But they are indirect measures of stigma. Developing scales of organizational stigma and stigma spillover would be essential to move this stream of research forward. Moreover, it is notable that negative emotional responses *per se* can be treated as an important element of stigma (Pollock et al., 2019; Zhang et al., 2021). My findings imply that future research needs to consider not only negative moral emotions such as contempt, disgust, and anger but also negative basic emotions such as fear and sadness.

Summary

Research on stigma has been developing for almost sixty years (Goffman, 1963), but scholars have just begun examining stigma at the organization or industry level in the past twenty years. Although emotion is increasingly recognized as an important element of stigma, we still have much to learn about how moral emotions impact an industrial stigma spillover. The intersection of these two streams of research allowed me to examine the melamine case that has puzzled me for more than a decade. Through studying this case, I realized that stigma spillover and the emotional experiences of stakeholders are highly relevant for business, especially in the era of social media. And I learned that the consequences of a negative social spotlight can be "sudden, unexpected, and massively disruptive" (Wenzel et al., 2021). I hope that this study takes the first step towards seeking ways of containing the negative impact of stigma spillover.

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APPENDIX A. DATA SOURCES FOR STUDY 1

Data Type	Details	Amount	Use in Analysis
Interviews	33 interviews with multiple stakeholders, lasting between 30 minutes to 4 hours	303 single spaced transcripts	Provided insight into stakeholders' evaluations of firms and emotional experiences; provided insight into how firms responded to the negative impact of the melamine crisis
Participant Observations	1 meeting with a Chinese infant formula researcher and 3 infant formula executives and managers in a leading infant formula firm to discuss the strategy of the firm; 3 online meetings with victims' friends and families to discuss how melamine crisis impacted their lives	102 hours of observation; 53 single-spaced pages of notes	Provided access to participants and more data
Archival Documents	The Chinese Dairy Industry Yearbooks (2002–2019): "Chronicle of Events" prepared by the Ministry of Agriculture of China and the Dairy Association of China and the Chinese government	180 single spaced pages of documents	Provided insight into the key events and critical stakeholders of the industry; confirmed stigma spillover
	Industry reports prepared by independent market research companies such as Nielsen, Euromonitor International, and CCM Data and Business Intelligence	368 pages of documents	Provided insight into how firms made strategies; confirmed information provided by stakeholders
	Newspaper articles: Searched "milk powder" in "Wisesearch," one of the major Chinese newspaper databases, with the keyword "milk powder" in two central media sources: People's Daily and Xinhua News Agency; and two online media platforms: Sina and iFeng.	5161 pages of documents	Provided insight into media's report on melamine crisis; provided information that was not mentioned by informants

Video clips	70 video clips video clips released from 2008 to 2019 by the China Central Television (CCTV); 12 video clips by a documentary maker; ranging from 5 minutes to 3 hours	52 hours of observation; 20 single-spaced pages of notes	Provided insight into stakeholders' emotions

APPENDIX B. INVENTORY OF INTERVIEW DATA

Type	Key	Quantity	Data Specifics
Industry analysts	A01	2 interviews	3 hours and 20 minutes; conducted in Chinese; recorded and transcribed
	A02	1 interview	1 hour and 10 minutes; conducted in Chinese; recorded and transcribed
	A03	1 interview	55 minutes
	A04	1 interview 1 phone interview	1 hour and 30 minutes; conducted in Chinese; recorded and transcribed
	A05	1 interview	1 hour and 35 minutes; conducted in Chinese; recorded and transcribed
Informants from foreign firms	F01	1 phone interview	50 minutes
	F02	1 phone interview	30 minutes
Informants from guilty domestic firms	G01	1 phone interview	35 minutes; conducted in Chinese; recorded and transcribed
	G02	1 phone interview	15 minutes; conducted in Chinese; recorded and transcribed
	G03	1 phone interview	30 minutes; conducted in Chinese; recorded and transcribed
Informants from innocent domestic firms	I01	1 interview	30 minutes; conducted in Chinese; recorded and transcribed
	I02	1 interview	1 hour and 40 minutes; conducted in Chinese; recorded and transcribed
	I03	1 interview	55 minutes; conducted in Chinese; recorded and transcribed
	I04	1 interview	1 hour and 23 minutes; conducted in Chinese; recorded and transcribed
	I05	1 interview	35 minutes; conducted in Chinese; field notes
Journalists	J01	1 phone interview	50 minutes; conducted in Chinese; recorded and transcribed
	J02	1 phone interview	35 minutes; conducted in Chinese; recorded and transcribed
	J03	1 phone interview	30 minutes;
Victim and families	V01	2 interviews	2 hours and 20 minutes; conducted in Chinese; recorded and transcribed
	V02	1 phone interview	1 hour; conducted in Chinese; recorded and transcribed
	V03	1 phone interview	40 minutes; conducted in Chinese; recorded and transcribed
	V04	1 phone interview	30 minutes; conducted in Chinese; recorded and transcribed
	V05	1 zoom interview	55 minutes; conducted in Chinese; recorded and transcribed

	V06	1 zoom interview	25 minutes; conducted in Chinese; recorded and transcribed
Non-victim Parents	P01	1 phone interview	30 minutes; conducted in Chinese; recorded and transcribed
	P02	1 phone interview	30 minutes; conducted in Chinese; recorded and transcribed
	P03	1 phone interview	15 minutes; conducted in Chinese; recorded and transcribed
	P04	1 phone interview	30 minutes; conducted in Chinese; recorded and transcribed
	P05	1 phone interview	30 minutes; conducted in Chinese; field notes
Retailers	R01	1 phone interview	45 minutes; conducted in Chinese; recorded and transcribed conducted in Chinese; recorded and transcribed
	R02	1 phone interview	20 minutes;
Suppliers	S01	1 phone interview	35 minutes; conducted in Chinese; recorded and transcribed
	S02	1 phone interview	40 minutes; conducted in Chinese; recorded and transcribed

APPENDIX C. STRATEGY CODING ILLUSTRATIONS

Strategies	Sources	Illustrations
Category deception	Interviews	• "H&H was located in Guangzhou, but it claimed to be a foreign firm. Domestic firms of this kind were wearing a 'foreign suit' whereas their products were all produced in China." (F01) • "Fake foreign firms were not really internationalized. They did not acquire any foreign milk sources, or gain any foreign technologies, nor did they learn any advanced management skills from foreign firms." (A01)
	Archival	• "Our products are produced from high quality milk powder imported from Australia." (Ausnutria Annual Report, 2009, p.2) • "Some firms print foreign names on their cans but they are not real foreign firms. They are located in the third- or fourth-tier cities. Their production cost is very low, only about 40 Chinese yuan per can, but the retail price is as high as 300 yuan." (CMS Industry report, 2013: 2)
	Media	• "Guangzhou-based Biostime used a French supplier to produce its 'Biostime France' infant formula and sell domestically." (*Sina*, August 22, 2013) • "Experts said that 90% of the foreign milk powder was 'fake' foreign that claimed to be produced overseas but was found to be produced domestically…including Wahaha's 'Edison.'" (*Xinhua*, April 23, 2013)
Category blurring	Interviews	• "We own a factory and farmland overseas to collaborate with and learn from foreign firms." (I02) • "Some domestic firms built their foreign factories to acquire superior milk sources, such as Yili in New Zealand, Feihe in Canada, Synutria in France, Beingmate in Australia." (F02)
	Media	• "H&H announced that it collaborated with a French dairy producer, Isigny Sainte Mère (ISM) to invest 20 billion Euro in expanding its infant formula production capacity in France." (*Sina,* July 2, 2013) • "Feihe invested $234 million in building its overseas factories in Kingston, Canada (*Xinhua,* August 09, 2017)."
	Archival	• "We planned to expand production capacity through the construction of the new factory in Netherlands in response to an anticipated increase in demand for infant and toddler nutrition product worldwide." (Ausnutria Annual Report, 2014: 9)

		•	"(We) acquired 51% stake of Darnum factory from Fonterra in Australia." (Beingmate Annual Report, 2015: 11)
Category promotion	Interviews	•	"The main distinctive advantage of our firm is our expertise in 'producing milk powder that is more suitable for Chinese babies.'" (I05)
		•	"Foreign infant formula is not necessarily suitable for Chinese babies because it is based on the physiology of foreign babies. In contrast, we are developing milk powder that resembles Chinese moms' breastmilk by solid R&D." (I03)
	Media	•	"Sanyuan Ilacto infant formula is produced according to the physiological needs of Chinese babies. It adopts the formula that is closest to Chinese moms' breastmilk and the most advanced technologies…its quality is even better than that of foreign brands." (*Yangtse Evening Post,* October 19, 2009)
		•	Six infant formula firms were announced by the Dairy Association as 'National Team Members' including Sanyuan, Beingmate, Baiyue, and Chenguan, for their dedication to increasing customers' confidence and providing high quality products for Chinese customers." (*The Beijing News*, January 23, 2014)
	Archival	•	"Five firms, including Wonder Sun, released their new formulas and promised to ensure product safety. Industry insiders regarded this action as a high-profile movement of domestic firms to compete with foreign firms." (*Chinese Dairy Industry Yearbook*, 2013: 418)
		•	"We introduced OPO 3.5 formula, which was designed for Chinese babies." (Junlebao Website, 2014)

APPENDIX D. Emotional Appeals (English and Chinese)

English Emotional Appeals: Empathy and Pride

Keeping connected with your loved ones.
Sharing life moments together.
Reaching out to friends fast.
The 5G-SmartCity plans from Company A.
Always be there for you.

Building extraordinary intelligent abilities.
Seizing infinite chances.
Winning advantages at unprecedented speeds.
The 5G-SmartCity plans from Company A.
Achieving peak performance in life.

Chinese Emotional Appeals: Empathy and Pride

即时联通爱人。
分享生活瞬间。
快速联络亲友。
A公司**5G**智慧城市套餐。
时刻在您身边。

打造杰出智能。
把握无限机会。
快速赢得优势。
A公司**5G**智慧城市套餐。
成就人生巅峰。