Helpful or harmful? The impact of gender stereotypes on publics' crisis response

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Abstract

Purpose – Although situational crisis communication theory (SCCT) is centered on rationality and cognitive information processing, it ignores that people are also driven by irrationality and non-cognitive information processing. The purpose of this study aims to fill this gap by examining how gender stereotypes, based on perceived spokesperson sex influence the public's perceptions of crisis response messages.

Design/methodology/approach – A 2 (industry type: automotive vs daycare industry) $\times$ 2 (spokesperson's sex: male vs female) $\times$ 2 (crisis response appeal: rational vs emotional) between-subject online experiment was conducted to examine the effect of gender stereotype in crisis communication.

Findings – Results showed that either matching spokesperson sex with sex differed industry or matching sex differed industry with appropriate crisis response appeal can generate a more positive evaluation of the spokesperson and the organization. The results also revealed under which circumstances, the attractiveness of different sex of the spokesperson can either promote or mitigate people's perceptions of the organization. Furthermore, when people are aware of a spokesperson's sex, in a female-associated industry, a mismatching effect of a positive violation of a male-related stereotype overrides a matching effect of a female-related stereotype in crisis communication.

Originality/value – This study is among the first to identify how the gender of a spokesperson and industry type affect publics' crisis response.

Keywords Crisis communication, SCCT, Gender stereotype, Emotional vs rational crisis response

Paper type Original Article

Organizational crises are low probability, high-impact events that threaten the reputations of companies (Pearson and Clair, 1998). Fortunately for these organizations, effective crisis management leads to increases in perceived credibility of the organization's crisis response (e.g. Kim and Cameron, 2011), more supportive behavior toward the organization and less attribution of crisis responsibility (e.g. Kim and Sung, 2013). To guide crisis response strategy, crisis managers often make use of situational crisis communication theory (SCCT). SCCT suggests a cognitive way to deal with a crisis by categorizing crisis type (e.g. Coombs, 2007), identifying attribution of crisis responsibility (e.g. Brown and Ki, 2013) and recognizing crisis intensifiers, such as crisis history (e.g. Coombs, 2004). SCCT provides an evidence-based framework to cope with a crisis (Coombs, 2007), focused on how cognitive factors influence the public's reaction to the crisis response. However, people's decision-making processes are not simply based on cognitive facts; non-cognitive factors play a role as well (Slovic *et al.*, 2002).

During crisis communication, one of the non-cognitive factors that influences stakeholders' decision-making is the sex of the spokesperson. Crijns *et al.* (2017) found, in a context of a preventable crisis using the rebuild crisis response strategy, sex [1] similarity generated more empathy toward the spokesperson and organization's reputation. In addition to sex similarity, implicitly noting whether someone is male or female triggers people's

stereotypical associations about gender roles and influences their decision-making and evaluation (Ellemers, 2018; Shih *et al.*, 1999). Gender stereotypes facilitate estimation of unknown situations. Hence, when a crisis occurs and prompts numerous uncertainties, people tend to adopt gender stereotypes as a shortcut to help them process information.

Decades of research reveal people have varying expectations for how men and women should communicate (e.g. Kite *et al.*, 2016; Kray *et al.*, 2001). Since agentic traits like assertiveness and performance are considered good qualities of men, while communal traits like warmth and caring are viewed as desirable qualities of women (e.g. Kite *et al.*, 2016), people tend to associate different occupations with men (e.g. policing) and women (e.g. nursing) (Jarman *et al.*, 2012). In addition to associating specific occupations with different sexes, people also expect men and women to be associated with distinct traits. For example, men tend to be perceived as more rational, whereas women tend to be evaluated as more emotional (e.g. Kray *et al.*, 2001). In the context of crisis communication, sex differed occupations can be assumed based on whether the organization belongs to a male- or female-dominated industry. Sex-associated traits can also be reflected by whether the crisis response message adopts a rational or emotional appeal. Despite numerous studies have examined how gender stereotypes influence people's perception of males and females in the field of public relations, for example, Fröhlich and Peters (2007) studied gender stereotypes regarding women's situation in public relations in general, and Place and Vardeman-Winter (2018) investigated how gender stereotypes disfavored women in the leadership roles in public relations, the role of gender stereotype in crisis communication has yet to be studied. When a crisis occurs, both the spokesperson sex and the involved industry can trigger people's gender stereotype association. However, extant crisis communication research neglects how gender stereotype evoked by spokesperson sex and sex differed industry impacts publics' perception of crisis response. Thus, the present study aims to fill this gap by examining how gender stereotypes, based on perceived spokesperson sex across sex differed industry influence the public's perceptions of crisis response messages.

When processing information, people are prone to evaluate information matching stereotypical expectations as more reliable than information violating those expectations (Swim and Sanna, 1996). Therefore, in the present study, the researchers investigate if matching spokesperson sex with a sex-associated industry and crisis response appeal will generate a more positive evaluation of the organization during a crisis. Given that 95% of workers in the automotive industry are male, and 94% of daycare industry employees are female (Coffin and Lawrence, 2020), these industries are the focus of the present study. When compared to preventable crises, it is easier to reduce attribution of crisis responsibility in accidental crises. Moreover, it is easier to repair reputations and less costly to manage (Coombs and Holladay, 2002). Because inappropriate crisis responses may escalate accidental crisis to more severe crises (Coombs and Holladay, 2002), it is valuable to study accidental crises and discover effective crisis response strategies for reducing the attribution of crisis responsibility. Therefore, the present study focuses on an accidental technical-error product harm crisis and frames crisis response appeals based on the recommended excuse and justification strategies proposed by SCCT (Coombs, 2007).

Literature review

To examine the role of gender stereotype in crisis communication, this study will cover following major theories and concepts in the following literature review section. The first theory to be reviewed is the SCCT. This theory offers guidance in crisis communication by categorizing crisis types and providing corresponded crisis response strategies. The second concept to be reviewed is gender stereotype. As spokesperson's sex is one of the most noticeable features of publics' evaluation, people tend to evaluate the spokesperson based on

the gender schema. The third concept to be reviewed is sex differed industry. Despite females gained extraordinary momentum in workplace, there is still a sex segregation in occupational roles. For instance, automotive industry is dominated by males, whereas daycare industry is dominated by females. The fourth concept to be reviewed is emotional and rational appeal. In addition to sex differed industry, people also associate different communication styles with women and men. Women are expected to have more emotional traits while men are more rational. Corresponded hypotheses will be proposed under the reviewed concepts.

Situational crisis communication theory (SCCT)
SCCT is widely accepted and provides public relations practitioners with a recommended set of strategies spokespersons can use to maintain a favorable reputation during a crisis. SCCT originates from attribution theory which considers how initial crisis responsibility, coupled with crisis history, should guide crisis response. Crises are grouped into clusters (victim, accidental or intentional), which determine the level of responsibility (mild, moderate or severe) that the public attributes to affected organizations (Coombs, 2007). Organizations that experience a crisis for which they are not deemed responsible (e.g. a natural disaster) are assigned to the victim cluster whereby they experience only a mild reputation threat. In the accidental cluster, an organization's actions unintentionally lead to a crisis, thus a moderate reputational threat occurs. However, if a crisis is deemed intentional due to an organization knowingly placing people at risk or taking inappropriate or unethical actions, the organization will encounter a severe reputational threat.

Suggestions for reputation repair actions are dependent on the position of the organization among four postures: denial, diminishment, rebuilding and bolstering. If the organization takes the denial posture, three strategies may be used: attacking the accuser, denial or scapegoating. In the case of diminishment, the organization may opt to partake in excusing and justification. To communicate a rebuilding posture, two strategies are recommended: compensation and apology. Furthermore, SCCT also recommended using ethical base response, such as instructing and adjusting information to protect the stakeholders physically and mentally from a crisis (Coombs, 2015).

Spokesperson gender and gender stereotype
Although SCCT has been empirically examined and provides useful insight for various organizations, it mainly focuses on how publics process an organization's response based on crisis type and crisis posture; however, the spokesperson disseminating the crisis response message also influences publics' crisis response evaluations. Several efforts have been made to examine how a spokesperson influences crisis communication. For instance, Crijins *et al.* (2017) examined how sex similarity between the spokesperson and stakeholder affected stakeholders' evaluations of the spokesperson and the organization. Furthermore, Kapuściński *et al.* (2021) studied how a spokesperson's sex moderates the effectiveness of apology on the evaluation of organizational attractiveness. When a spokesperson is present in crisis communication, sex difference is one of the most salient features that people will notice. The spokesperson's sex is likely to trigger publics' gender stereotypes about what a social group typically does and what should not do (e.g. Wei and Ran, 2017). Therefore, being aware of the spokesperson's sex and sex differed industry may also exert impact on publics' crisis response.

When encountering people, whether it be passing someone on the street or observing an organizational spokesperson, people implicitly note sex (Olivola and Todorov, 2010; Shih *et al.*, 1999). Once sex is observed, people then draw on gender schemas to establish acceptable social roles (e.g. Patton and Smith, 2020). Gender schemas are broad cognitive frameworks which proscribe how men and women should act in a given context (Hudak, 1993). When information received confirms with schematic expectations, people are more likely to view it

as reliable and evaluate it favorably (Swim and Sanna, 1996; Patton and Smith, 2020). When gender schemas are violated, sanction is likely to occur (Sullivan *et al.*, 2018).

As sex is one of the most accessible features of a spokesperson, spokesperson's sex influences people's evaluation of the organization (Kapuscinski *et al.*, 2021). The impact of spokesperson's sex is associated with people's perceptions of what a social group should do (e.g. Eagly and Karau, 2002). For example, warmth and competence are two primary dimensions of gender stereotypes (Judd *et al.*, 2005). Warmth indicates a reliable and trustworthy concern for others and consists of helpfulness and friendliness (Cuddy *et al.*, 2008). In contrast, competence reflects assertiveness, intelligence, skills and efficacy (Cuddy *et al.*, 2008). Research showed that people tend to associate women with warmth, while men are related to competence (e.g. Glick *et al.*, 2004; Haines *et al.*, 2016). Due to the different expectations caused by gender stereotype, people are also inclined to associate different occupations with distinct sex. Occupations which reflect warmth and caring is considered women-related job, such as nursing (Kite *et al.*, 2016). However, occupations which imply competence and strength is regarded as men-related job, such as policing. Therefore, when a spokesperson's sex matches social expectation of certain occupation, people tend to view the spokesperson more favorable.

Sex differed industry

The importance of industry context in predicting the power of gender schemas varies along with conditions. While women have made remarkable gains in the workplace over the past half century, these gains are not uniform across sectors (Croft *et al.*, 2015; Shinar, 1975). Some sectors remain overwhelmingly male while others are now predominantly female. Social surveys show that across 30 industrialized countries, there is a clear segregation according to sex in occupational roles (Ellemers, 2018). For example, the automotive industry is dominated by males and 90.6% mechanical engineers are men ("Mechanical Engineer Demographics and Statistics in the U.S.," 2022). The daycare industry is dominated by females and 95% of childcare workers are women (Welna, 2020). Due to the industry differences, even if the same type of crisis occurs (e.g. technical error accident), the public tends to have different expectations of organizations. If an organization cannot meet the public's expectations, the crisis response will not effectively help the organization rebuild its reputation. Thus, during a crisis, the public may perceive what a spokesperson says based on not just their sex, but also the sector in which the crisis is occurring.

In addition to differentiating crisis clusters, different industries and the public's association with those industries also affects crisis response expectations. While one could explore the impact of gender schemas on evaluations of spokespersons in any number of industries, the present study concerns two industries generally accepted to be masculine and feminine: the automotive industry (Foley *et al.*, 2020) and the daycare industry (Rolfe, 2006). Based on extant research of gender schemas in various fields (e.g. Olivola and Todorov, 2010), it is likely spokesperson sex impacts how people will evaluate the crisis and accompanying response messaging. Therefore, when a technical error crisis – the cause of accidents is equipment or technology related – occurs in the automotive industry (Coombs, 2004), given the feature of a male-dominated industry, people expect a competent male expert to tell them the solution and ensure that a similar crisis will not happen again (e.g. Powell *et al.*, 2012). When the same type of crisis occurs in the daycare industry, a characteristic female-dominated industry, people will expect a caring female spokesperson to help them cope with the crisis (e.g. Kite *et al.*, 2016). Thus, the following hypotheses are posed:

H1. In the automotive industry, during a technical error crisis, a male spokesperson will generate more positive evaluation of the organizational evaluation (e.g. perceived credibility of crisis response, less attribution of crisis responsibility, organizational

reputation, attitude and behavioral intention of the organization), and more positive evaluation of the spokesperson (e.g. attractiveness, trustworthiness and expertise) than a female spokesperson.

H2. In the daycare industry, during a technical error crisis, a female spokesperson will generate more positive organizational evaluation (e.g. perceived credibility of crisis response, less attribution of crisis responsibility, organizational reputation, attitude and behavioral intention of the organization), and more positive evaluation of the spokesperson (e.g. attractiveness, trustworthiness and expertise) than a male spokesperson.

Attractiveness, trustworthiness and expertise are three dimensions of source credibility (e.g. Baker and Churchill, 1977; Kahle and Homer, 1985). Attractiveness refers to a person's physical appeal. Drawing from "attractiveness bias," people tend to associate socially desirable personality traits more with physically attractive people than those who are deemed physically unattractive (e.g. Ryan and Costa-Giomi, 2004). Trustworthiness refers to the extent people perceive that an information source is honest and reliable (Tormala *et al.*, 2006). Expertise reflects the degree to which people perceive that an information source is an expert (Tormala *et al.*, 2006). According to Ohanian's (1991) finding, a spokesperson's perceived image–specifically, the source credibility which includes attractiveness, trustworthiness and expertise–affects consumers' purchase intention. Accordingly, the following hypothesis is proposed:

H3. Source credibility (e.g. attractiveness, trustworthiness and expertise) will respectively mediate the effect between the interplay of spokesperson and industry type and people's evaluation of the organization (e.g. perceived credibility of crisis response, attribution of crisis responsibility, organizational reputation, attitude and behavioral intention of the organization).

Emotional vs rational crisis response

Although SCCT presumes a match between crisis response and publics' attribution of crisis responsibility (e.g. Coombs, 2007), crisis message appeal also plays an important role in crisis communication. In crisis communication, organizations either adopt an emotional (e.g. Kim and Cameron, 2011) or rational appeal (e.g. Yoo and MacInnis, 2005) or both appeals (e.g. Abang Ahmad *et al.*, 2017). Emotional appeals are characterized by using drama, subjective and evaluative properties (Stafford and Day, 1995; Yoo and MacInnis, 2005). Since organizational crises are emotionally charged, emotional crisis responses may induce favorable outcomes for organizations. For example, Kim and Cameron (2011) found that the use of intensive emotional appeals in corporate crisis response messages results in more positive behavioral intentions when the public is exposed to sadness-inducing news coverage about a crisis. Hence, apart from crisis response content, emotional framing may also serve as a crisis communications strategy (Coombs, 2007; Kim and Cameron, 2011). Rational framing messages appeal to receivers' rationality by emphasizing objective and factual information. Rational appeals promote the evaluation of the organization's message credibility (e.g. Yoo and MacInnis, 2005). Therefore, emotional and rational appeal messages affect people's decision making in different ways. Emotional appeals satisfy people's emotional need and result in more positive attitude and behavioral intention toward the organization (Kim and Cameron, 2011; Yoo and MacInnis, 2005). In contrast, rational appeals meet people's need for cognition and lead to a thorough message evaluation.

Emotional and rational traits also associated with gender stereotypes. Emotional traits are stereotypically feminine, whereas rational traits are stereotypically masculine (Kray *et al.*, 2001). These differences also manifest in language usage. Gender schemas hold that men and

women should communicate differently (Hudak, 1993). Generally, women are expected to be communal and men should be agentic (Bauer, 2014; Eagly and Stefan, 1984; Faniko *et al.*, 2017; Hudak, 1993). Importantly, each of these traits is associated with a different style of speech (Kirtley and Weaver, 1999). Thus, when someone speaks, they are judged based on whether their language conforms to others' sex-based expectations (e.g. Shih *et al.*, 1999). When a crisis occurs, gender schemas lead people to expect for female spokespersons to exhibit emotional traits and for male spokespersons to be rational (Hudak, 1993). When considering the characteristics of sex differed industries, a male spokesperson with a rational crisis response message in the automotive industry corresponds to the publics' expectation; whereas a female spokesperson in the daycare industry that communicates an emotional crisis response is in accordance with the publics' expectation. Thus, the authors advance the following hypotheses:

H4. In the automotive industry, during a technical error crisis, a male spokesperson with a rational crisis response will generate more positive organizational evaluation (e.g. perceived credibility of crisis response, less attribution of crisis responsibility, organizational reputation, attitude and behavioral intention of the organization), and more positive evaluation of the spokesperson (e.g. attractiveness, trustworthiness and expertise) than a male spokesperson with an emotional crisis response.

H5. In daycare industry, during a technical error crisis, a female spokesperson with an emotional crisis response will generate more positive organizational evaluation (e.g. perceived credibility of crisis response, less attribution of crisis responsibility, organizational reputation, attitude and behavioral intention of the organization), and more positive evaluation of the spokesperson (e.g. attractiveness, trustworthiness and expertise) than a female spokesperson with a rational crisis response.

H6. Source credibility (e.g. attractiveness, trustworthiness and expertise) will respectively mediate the effect between the three-way interaction of spokesperson gender, industry type and crisis response appeal, and people's evaluation of the organization (e.g. perceived credibility of crisis response, attribution of crisis responsibility, organizational reputation, attitude and behavioral intention of the organization).

Methodology
Experimental design and procedure
This study utilizes a 2 (industry type: automotive vs daycare industry) × 2 (spokesperson's sex: male vs female) × 2 (crisis response appeal: rational vs emotional) between-subject online experiment. Participants were randomly assigned to either the automotive or daycare industries. At the beginning of the experiment, participants were asked to read a short news story containing crisis information from either the automotive industry (e.g. an electric vehicle recall from QQQ company) or the daycare industry (e.g. an *Escherichia coli* outbreak at Little Bunny Daycare). After reading the news story, participants were asked to read either a rational or emotional crisis response message communicated by either a male or female spokesperson. After reading the crisis response message, participants were asked to evaluate their attributions of the organization's crisis responsibility, crisis response credibility, attitudes toward the organization, future behavioral intentions concerning the organization and organizational reputation. Following these measurements, participants were also asked to rate the attractiveness, trustworthiness and expertise of the spokesperson. The research team conducted manipulation checks of the message appeal of crisis response and demographic information.

Participants
A total of 405 valid participants who live in the United States were recruited from CloudResearch and provided with $0.80 compensation for completing the study. CloudResearch allows researchers to collect higher quality data from the Internet than from Amazon M-Turk (Litman *et al.*, 2016). There were 246 male participants (60.7%) and 159 female participants (39.3%). The minimum age of participants is 20 and the maximum age is 76. The average age of participants is 40. Of these participants, 312 are Caucasian, 51 are African American/Black, 27 are Hispanic, 34 are Asian, 3 are American Indian or Alaska Native, 1 is Native Hawaiian or Pacific Islander and 2 self-identified as mixed race. The highest level of education reported by participants included: less than a high school diploma ($N = 1$), high school diploma ($N = 56$), some college ($N = 81$), associate degree ($N = 44$), bachelor's degree ($N = 183$), master's degree ($N = 35$), doctoral degree ($N = 2$) and three participants indicated that they have earned a professional degree.

Stimuli
To eliminate confounding effects of pre-crisis reputation, two fictitious organizations were created: QQQ Electric Vehicle Company and Little Bunny Daycare. Because an accidental crisis is much easier and less expensive to manage than a preventable crisis (Coombs and Holladay, 2002), a technical error crisis is selected in this study. The technical error of a vehicle recall in the automotive industry was caused by a battery material supplier. The technical error of an *E. coli* outbreak in the daycare industry was caused by contaminated food from a supplier. According to SCCT, diminishment crisis response strategies include excuse (e.g. denying intent to do harm or claiming inability to control the events) and justification (e.g. minimizing the perceived damage caused by the crisis) are recommended when responding to an accidental crisis. Hence, the diminished crisis response strategies were adopted by the spokespersons in this study (e.g. excuse: we don't have control of the battery failure; justification: we have switched to a much safer battery material) in response to the accidental crises. Furthermore, as instructing and adjusting crisis response are recommended as base crisis response (Coombs, 2015), this study also incorporated instructing and adjusting information (e.g. automotive industry: if you think your vehicle might experience any battery-related issue, don't hesitate to contact us; daycare industry: if any symptoms related to *E.coli* emerged, please contact your healthcare provider promptly).

The manipulation of rational and emotional crisis response framing is drawn from Stafford and Day's (1995) study. The rational crisis response message emphasizes factual information and objectivity (e.g. "Lithium-ion battery cells have electrodes placed close together, which increases the chances of a short and filled with a flammable liquid electrolyte"), whereas the emotional crisis response message focuses on subjective, evaluative properties and emotional adjectives (e.g. "We were deeply disturbed to learn today that some of the food items in our daycare tested positive for *E. coli*"). As for spokespersons, to avoid confounding effects of different age, ethnicity and image quality, the authors used AI-generated middle-aged Caucasian portraits (see Appendix 1 for full crisis response).

Pretest
Several pretests were conducted to examine the crisis response message appeal, people's perceptions of the spokesperson, gender association with different industries and crisis type. To examine the crisis response message appeal ($N = 100$), a one-way ANOVA was performed. The measurements were adopted from Zhang *et al.*'s (2014) study (e.g. this message has a very strong appeal to my emotions; this message contained a lot of rational information). The results showed that participants provided a higher emotional evaluation in the emotional appeal crisis response than rational crisis response, $F(3, 96) = 7.15$, $p < 0.001$,

and a higher rational evaluation of rational appeal crisis response than emotional crisis response $F(3, 96) = 8.00, p < 0.001$. A Tukey post hoc test showed that participants perceived that emotional crisis response from the automotive industry included more emotional appeals ($M = 4.96, SD = 1.52$) than the rational crisis response from the automotive industry ($M = 3.38, SD = 1.95$), $p = 0.017$; emotional crisis response from the daycare industry contained more emotional appeal ($M = 5.09, SD = 1.62$) than the rational crisis response from the daycare industry ($M = 3.31, SD = 2.05$), $p = 0.004$; rational crisis response from the automotive industry reflected more rational appeals ($M = 6.00, SD = 1.29$) than the emotional crisis response from the automotive industry ($M = 4.58, SD = 1.64$), $p = 0.003$; and rational crisis response from the daycare industry incorporated more rational appeals ($M = 6.17$, $SD = 0.76$) than the emotional crisis response from daycare industry ($M = 5.00, SD = 1.71$), $p = 0.015$. There were no significant differences in emotional crisis response between automotive industry and daycare industry, $p > 0.1$, or in rational crisis response between automotive industry and daycare industry, $p > 0.1$.

To examine people's perceptions of the spokesperson ($N = 50$), a t-test was conducted. The measurements were adopted from Ohanian's (1991) study with 7-point semantic scales (e.g. attractive/unattractive, honest/dishonest, expert/not an expert). T-test results showed that participants evaluated both male and female spokesperson similarly across attractiveness, $t(48) = -1.26, p = 0.21, M_{\text{male spokesperson}} = 3.97$ vs $M_{\text{female spokesperson}} = 3.55$, trustworthiness, $t(48) = -0.36, p = 0.72, M_{\text{male spokesperson}} = 2.82$ vs $M_{\text{female spokesperson}} = 2.70$, and expertise, $t(48) = 0.80, p = 0.43, M_{\text{male spokesperson}} = 2.92$ vs $M_{\text{female spokesperson}} = 3.18$. Therefore, both crisis response messages and the images of spokesperson were manipulated successfully.

Furthermore, a pretest among 52 participants evaluated gender association in the automotive industry and daycare industry and crisis type. The results showed that people are more likely to associate the automotive industry with males ($M = 4.73, SD = 2.13$) and the daycare industry with females ($M = 5.17, SD = 1.83$). These results supported previous literature showing that the daycare industry is dominated by females, while the automotive industry is dominated by males ("Automotive gender statistics," 2021). As for crisis types, the results showed that although people attributed more crisis responsibility to automotive industry ($M = 4.67, SD = 1.57$) than daycare industry ($M = 3.00, SD = 2.30$), the overall crisis responsibility score fell within the range of accidental crisis compared to previous studies' manipulation (e.g. Coombs and Holladay, 2002; Claeys *et al.*, 2010). Therefore, the crisis type manipulation was also successful.

Measurement
There are two sets of dependent variables in this study: source credibility of the spokesperson (e.g. attractiveness, expertise and trustworthiness) and organizational evaluation (e.g. perceived credibility of crisis response, attribution of crisis responsibility, organizational reputation, attitude and behavioral intention of the organization).

Spokesperson evaluation. The measurement of participants' perceptions of spokesperson's attractiveness (e.g. attractive/unattractive) (Cronbach's $\alpha = 0.91$), trustworthiness (e.g. honest/dishonest) ($\alpha = 0.97$) and expertise (e.g. expert/not an expert) ($\alpha = 0.95$) were adopted from Ohanian's (1991) study with 7-point semantic scales.

Organizational evaluation. The measurement of perceived crisis response credibility was adapted from Lock and Seele (2017) (e.g. "I think the statements in the story are accurate") ($\alpha = 0.93$). The measurement of attribution of crisis responsibility was adapted from Kim and Sung (2013) and Kim and Cameron (2011) (e.g. to what extent, do you think the company is responsible for the crisis?) (Cronbach's $\alpha = 0.96$). The measurement of organizational reputation was adopted from Coombs and Holladay (1996) (e.g. The organization is concerned with the well-being of its publics) ($\alpha = 0.903$). The measurement

of future positive behavioral intention of the organization was adapted from Kim and Sung (2013) (e.g. I would purchase the company's products/services) ($\alpha = 0.96$). All the aforementioned dependent variables were measured using 7-point Likert-type scales (1 = strongly disagree to 7 = strongly agree). The measurement of attitudes toward the organization was adopted from Wagner *et al.* (2009) on 7-point semantic differential scales (e.g. good/bad, favorable/unfavorable) ($\alpha = 0.97$).

Results

Manipulation checks

An independent *t*-test showed that participants ($N = 405$) evaluated emotional crisis response in the automotive industry as containing more emotional appeal ($M = 3.99$, $SD = 1.83$) than the rational crisis response ($M = 3.46$, $SD = 1.76$), $t (201) = 2.09$, $p = 0.038$, and participants evaluated the rational crisis response as containing more rational appeal ($M = 4.69$, $SD = 1.66$) than the emotional crisis response ($M = 4.19$, $SD = 1.73$), $t (201) = -2.08$, $p = 0.038$. In the daycare industry, participants evaluated the emotional crisis response as containing more emotional appeal ($M = 4.25$, $SD = 1.64$) than the rational crisis response ($M = 3.09$, $SD = 1.90$), $t (199) = 4.62$, $p < 0.001$, and participants evaluated the rational crisis response as containing more rational appeal ($M = 5.77$, $SD = 1.24$) than the emotional crisis response ($M = 4.86$, $SD = 1.45$), $t (199) = -4.74$, $p < 0.001$. Hence, the manipulations of message appeal in the main study were successful.

Hypotheses testing. The first two hypotheses (H1, H2) proposed an interaction effect between spokesperson sex and industry type. H1 asserted that when an accidental crisis occurs in the automotive industry, a male spokesperson will generate more positive evaluation of the organization and the spokesperson than a female spokesperson. H2 asserted that when an accidental crisis occurs in the daycare industry, a female spokesperson will generate more positive evaluation of the organization and the spokesperson than a male spokesperson. A two-way MANOVA (multivariate analysis of variance) was conducted using people's perceptions of the spokesperson and organization as dependent variables. The results showed that spokesperson sex and industry type had a marginally significant interaction effect (Wilks' Λ $F = 1.93$, $p = 0.063$, $\eta_p^2 = 0.034$). To examine each dependent variable more specifically, the two-way interaction effect between spokesperson sex and industry type was examined. It showed a significant interaction effect on organization's reputation $F (1, 396) = 4.95$, $p = 0.027$, $\eta_p^2 = 0.012$, perception of spokesperson's expertise $F (1, 396) = 4.81$, $p = 0.029$, $\eta_p^2 = 0.012$ and a marginally significant effect on perception of spokesperson's trustworthiness $F (1, 396) = 2.90$, $p = 0.089$, $\eta_p^2 = 0.007$.

To further examine the significant interaction effect, a series of simple effects were performed on the organization's reputation, spokesperson's expertise and trustworthiness. For organizational reputation, the simple effect showed that in the daycare industry, a female spokesperson generates more organizational reputation ($M = 5.26$, $SD = 1.21$) than a male spokesperson ($M = 4.88$, $SD = 1.49$) in a marginal significant level, $F (1, 401) = 3.49$, $p = 0.062$, $\eta_p^2 = 0.009$. In the automotive industry, a male spokesperson generates a similar level of organizational reputation ($M = 4.52$, $SD = 1.58$) to a female spokesperson ($M = 4.29$, $SD = 1.53$), $F (1, 401) = 1.23$, $p = 0.27$, $\eta_p^2 = 0.003$. Hence, H2 was partially supported. Furthermore, simple effect also showed that the female spokesperson produced more organizational reputation in the daycare industry than in the automotive industry, $F (1, 401) = 22.19$, $p < 0.001$, $\eta_p^2 = 0.052$ (see Figure 1).

For spokesperson's expertise, the simple effect showed that in daycare industry, a female spokesperson was perceived as having a similar level of expertise ($M = 5.03$, $SD = 1.36$) to a male spokesperson ($M = 4.77$, $SD = 1.30$), $F (1, 400) = 1.77$, $p = 0.18$, $\eta_p^2 = 0.004$. In the
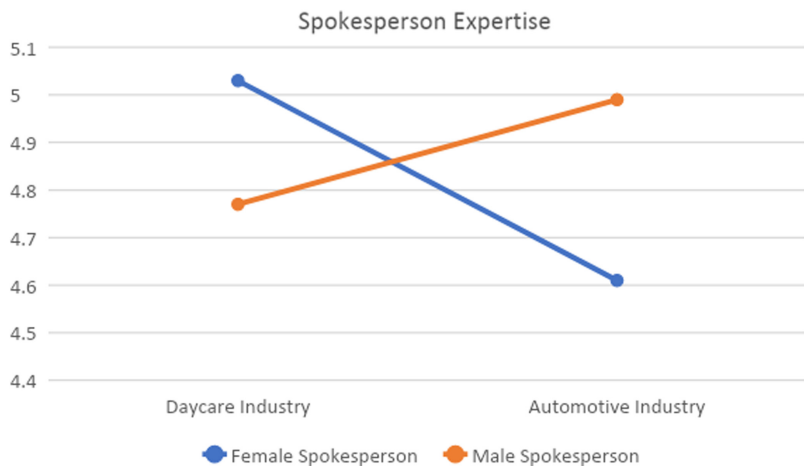
Organizational reputation

Source(s): Figure by authors

automotive industry, a male spokesperson was perceived as having more expertise ($M = 4.99$, $SD = 1.38$) than a female spokesperson ($M = 4.61$, $SD = 1.60$), $F(1, 400) = 3.63$, $p = 0.057$, $\eta_p^2 = 0.009$. Hence, H1 was partially supported. The simple effect also showed that female spokespersons were perceived as having more expertise in the daycare industry than in the automotive industry, $F(1, 400) = 4.47$, $p = 0.035$, $\eta_p^2 = 0.011$ (see Figure 2).

For spokesperson's trustworthiness, simple effect result showed that female and male spokespersons generated similar levels of trustworthiness in both the daycare industry, $F(1, 397) = 2.72$, $p = 0.10$, $\eta_p^2 = 0.007$, and automotive industry, $F(1, 397) = 0.38$, $p = 0.53$, $\eta_p^2 = 0.001$. However, female spokespersons produce more trustworthiness in the daycare industry ($M = 5.08$, $SD = 1.27$) than in the automotive industry ($M = 4.17$, $SD = 1.63$), $F(1, 397) = 17.70$, $p < 0.001$, $\eta_p^2 = 0.043$. Male spokespersons also produce more
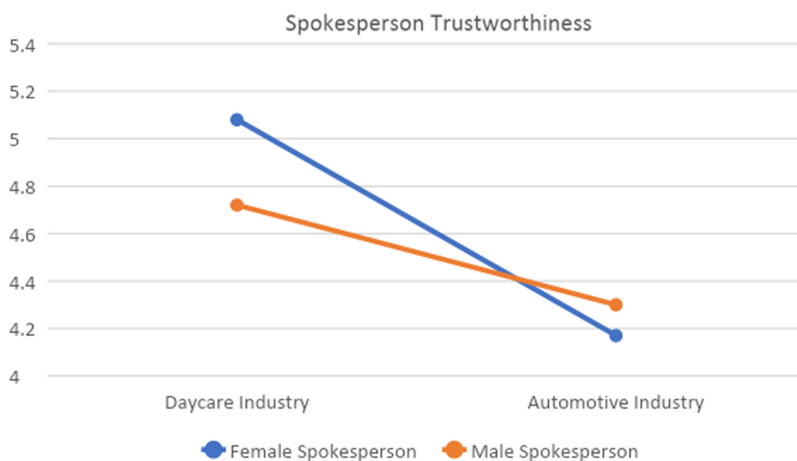
Spokesperson Expertise

Source(s): Figure by authors

trustworthiness in the daycare industry ($M = 4.72$, $SD = 1.55$) than in the automotive industry ($M = 4.30$, $SD = 1.62$), F (1, 397) = 3.79, $p = 0.052$, $\eta_p^2 = 0.009$ (see Figure 3). Therefore, the interaction effects of H1 and H2 were partially supported regarding organizational reputation and spokesperson's expertise.

H3 asserted that source credibility (attractiveness, trustworthiness and expertise) will respectively mediate the effect between the interplay of spokesperson sex and industry type and people's evaluation of the organization. To examine the moderated mediation effect, Hayes (2018) PROCESS Model 8 was employed. A bootstrapping technique with 5,000 resamples at 95% confidence intervals was used to analyze the entire model. The results showed that there was no significant moderated mediation effect through attractiveness, expertise and trustworthiness on people's evaluation of the perceived credibility of crisis response, attribution of crisis responsibility, organizational reputation, attitudes and behavioral intention of the organization. Hence, H3 was not supported.

However, to examine how source credibility (attractiveness, trustworthiness and expertise) mediates the effect between the spokesperson and people's evaluation of the organization, Hayes (2018) PROCESS Model 4 was employed. A bootstrapping technique with 5,000 resamples at 95% confidence intervals was used to analyze the entire model. The results showed that only attractiveness significantly mediated the effect between spokesperson sex and perceived credibility of crisis response, effect = -0.22, SE = 0.07, BootCI = $[-0.36, -0.10]$, attribution of crisis responsibility, effect = -0.22, SE = 0.07, BootCI = $[-0.36, -0.10]$, attitudes toward the organization, effect = -0.10, SE = 0.04, BootCI = $[-0.17, -0.03]$ and behavioral intention of the organization, effect = -0.15, SE = 0.06, BootCI = $[-0.27, -0.06]$. There was also a significant direct effect between spokesperson sex and attitudes toward organization, effect = 0.21, SE = 0.10, BootCI = [0.01, 0.41] and behavioral intention of the organization, effect = 0.38, SE = 0.14, BootCI = [0.10, 0.65]. However, there was neither significant mediation effect between spokesperson sex and organizational reputation, effect = 0.06, SE = 0.03, BootCI = [0, 0.12] nor significant direct effect between spokesperson sex and organizational reputation, effect = -0.04, SE = 0.09, BootCI = $[-0.21, 0.14]$. The MANOVA results showed that there was a significant main effect of spokesperson sex on dependent variables (Wilks' Λ $F = 8.69$, $p < 0.001$, $\eta_p^2 = 0.14$). The results showed that female spokespersons ($M = 4.28$, $SD = 1.21$)

Figure 3.
Two-way interaction
between
spokesperson's sex and
industry type of
spokesperson
trustworthiness

Source(s): Figure by authors

generate more attractiveness than male spokespersons ($M = 3.57$, $SD = 1.18$), F (1, 396) = 35.40, $p < 0.001$, $\eta_p^2 = 0.08$. Therefore, the significant mediation results indicated that for female spokespersons an enhanced attractiveness produces more perceived credibility of the crisis response, positive attitudes and intentions of the organization, but results in more attribution of crisis responsibility of the organization. As for male spokespersons, an enhanced attractiveness produces less perceived credibility of the crisis response, less positive attitudes and intentions of the organization, but also generates less attribution of crisis responsibility to the organization.

H4 and H5 proposed a three-way interaction effect. H4 asserted that in the automotive industry, male spokespersons with a rational crisis response will generate a more positive evaluation of the organization and the spokesperson than male spokespersons with an emotional crisis response. H5 posits that in the daycare industry, female spokespersons with an emotional crisis response will generate a more positive evaluation of the organization and the spokesperson than female spokespersons with a rational crisis response. The results of a three-way MANOVA reveal no significant three-way interaction effect (Wilks' Λ $F = 1.15$, $p = 0.33$, $\eta_p^2 = 0.02$). However, there was a marginally significant two-way interaction effect between industry type and crisis response message appeal on behavioral intention of the organization, F (1, 392) = 2.73, $p = 0.099$, $\eta_p^2 = 0.007$. Simple effects showed that in the automotive industry, rational appeal crisis response messages ($M = 3.96$, $SD = 1.87$) generated more behavioral intention than emotional appeal crisis response messages ($M = 3.49$, $SD = 1.64$), F (1, 401) = 3.74, $p = 0.054$, $\eta_p^2 = 0.009$. However, there was no significant effect in the daycare industry, F (1. 401) = 0.03, $p = 0.87$, $\eta_p^2 < 0.001$ (see Figure 4). Therefore, H4 and H5 were not supported.

When source credibility, such as attractiveness, trustworthiness and expertise, were controlled as a covariance, ANCOVA results showed that, in the daycare industry, there was a significant interaction effect between spokesperson sex and crisis response message appeal, F (1, 192) = 3.84, $p = 0.052$, $\eta_p^2 = 0.02$. Simple effects showed that male spokespersons with an emotional crisis response ($M = 4.89$, $SE = 0.13$) generate more positive attitudes toward the organization than female spokespersons with an emotional crisis response ($M = 4.36$, $SE = 0.13$), F (1, 192) = 8.16, $p = 0.005$, $\eta_p^2 = 0.04$ (see Figure 5).
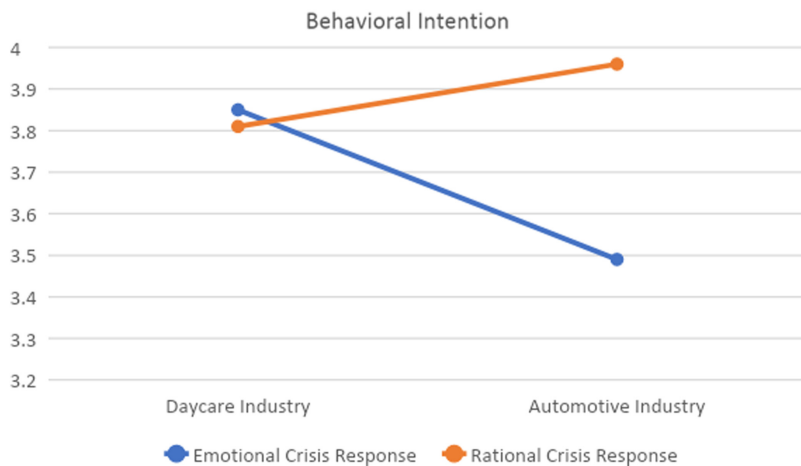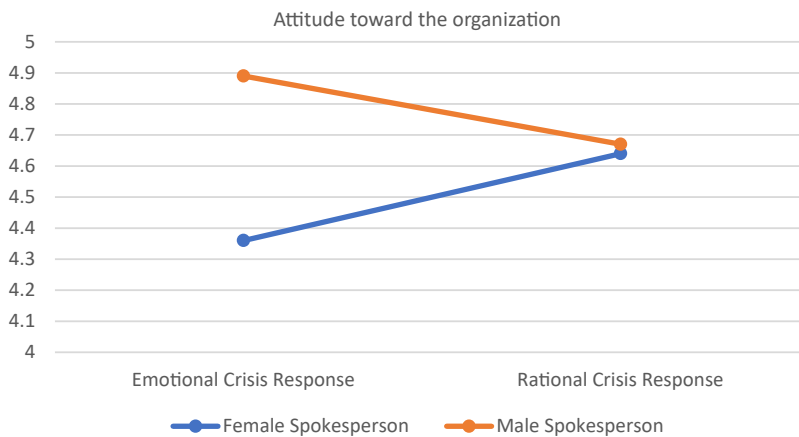

Figure 4.
Two-way interaction between industry type and crisis response appeal of behavioral intention of the organization
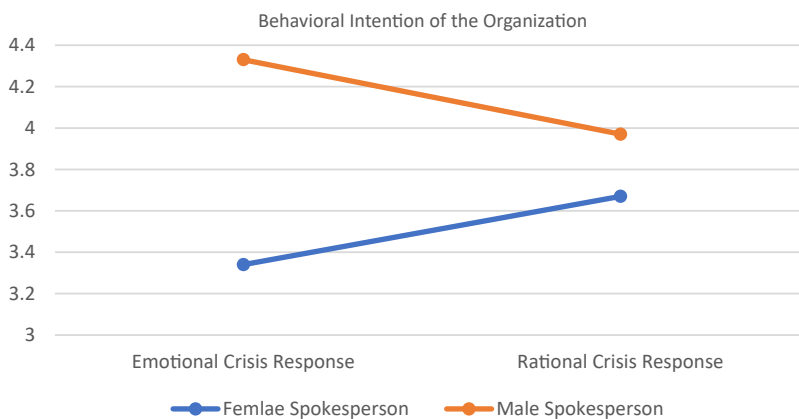
Source(s): Figure by authors

ANCOVA results also showed that, in the daycare industry, there was a marginally significant effect between spokesperson sex and behavioral intention concerning the organization, F (1, 192) = 3.26, p = 0.07, η_p^2 = 0.02. Simple effect showed that male spokespersons with an emotional response (M = 4.33, SE = 0.19) generate more favorable behavioral intention toward the organization, such as future purchase behavior of the company's products/services, than female spokespersons with an emotional crisis response (M = 3.34, SE = 0.19), F (1, 192) = 13.20, p < 0.001, η_p^2 = 0.06 (see Figure 6).

H6 asserted that source credibility (attractiveness, trustworthiness and expertise) will mediate the effect between the three-way interaction effect of spokesperson sex, industry type, crisis response message appeal and people's evaluation of the organization. Hayes, 2018 PROCESS Model 12 was conducted to examine H6. No significant mediated results emerged. Hence, H6 was not supported. A matrix of all variables analyzed in this study can be found in Table 1.

	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Attractiveness	3.93	1.24	–										
2. Trustworthiness	4.56	1.56	0.489**	–									
3. Expertise	4.85	1.42	0.399**	0.703**	–								
4. Message credibility	4.22	1.81	−0.107*	−0.492**	−0.344**	–							
5. Attribution of Crisis Responsibility	4.22	1.81	−0.107*	−0.492**	−0.344**	1.000**	–						
6. Attitude toward the organization	4.41	1.62	0.466**	0.805**	0.635**	−0.550**	−0.550**	–					
7. Behavior of the organization	3.77	1.74	0.394**	0.628**	0.475**	−0.379**	−0.379**	0.756**	–				
8. Organizational Reputation	4.74	1.50	0.360**	0.827**	0.607**	−0.558**	−0.558**	0.777**	0.652**	–			
9. Spokesperson gender	1.50	0.50	−0.286**	−0.038	0.02	0.02	0.02	0.011	0.036	−0.028	–		
10. Crisis Response Appeal	1.49	0.50	0.031	0.011	−0.005	0.044	0.044	0.034	0.062	0.019	0.008	–	
11. Industry type	1.50	0.50	−0.004	−0.213**	−0.034	0.408**	0.408**	−0.148***	−0.033	−0.221**	0.012	−0.002	–

Note(s): Cronbach's alphas are shown in the diagonal

*$p < 0.05$; **$p < 0.01$

Source(s): Table by authors

Table 1.
Matrix table of all variables

Discussion

This study examines how gender stereotypes impact people's perceptions of the effectiveness of crisis response message appeal across industries – such as the automotive and daycare industries – that are typically associated with specific sexes. The results show that, in an industry associated with females (daycare), female spokespersons generate more organizational reputation than males. In contrast, in a male-associated industry (automotive), male spokespersons are perceived as having more expertise than females. Furthermore, the results indicate that gender stereotyping not only occurs across different sexes but also takes place in associated industries. In the automotive industry, crisis response messages using a rational appeal generate more behavioral change than those using an emotional appeal. These findings correspond to gender-role congruity bias (Koch *et al.*, 2015); the greater the incongruence between gender stereotype and the gender role of a job, the greater gender bias. Hence, either matching spokesperson sex with sex differed industry or matching sex differed industry with appropriate crisis response appeal can generate a more positive evaluation of the spokesperson and the organization.

The results also reveal how source credibility, especially spokesperson attractiveness, influences people's organizational evaluation and attribution of crisis responsibility. The different role of attractiveness across genders can be explained by both attractiveness bias and gender stereotypes. According to attractiveness bias, people tend to believe that people who are perceived to be physically appealing have more positive characteristics and desirable personality traits, than those perceived as physically unattractive (e.g. Dion *et al.*, 1972; Langlois *et al.*, 2000). According to gender stereotypes, women experience more body image-related evaluations, while men tend to be more associated with competence (Ellemers, 2018; Tiggemann *et al.*, 2009). Hence, when it comes to the public's general evaluation of an organization during a crisis, attractiveness bias favors the use of a female spokesperson. Due to the halo effect of attractiveness and the congruency effect of female and attractiveness, people tend to transfer the positive evaluation of the attractive female spokesperson to the evaluation of the perceived credibility of crisis response, attitude and behavioral intention of the organization. The opposite effect of attractiveness for male spokespersons reflects the congruency effect of gender stereotyping as people value competence rather than the attractiveness of a male.

However, when it comes to attribution of crisis responsibility, attractive bias favors a male spokesperson. Attractive male spokespersons generate less blame, while attractive female spokespersons generate more blame. That indicates how contextual factors can reverse the effect of attractiveness across genders. Since the attribution of crisis responsibility reflects the locus of control of a crisis, whether it is caused by a person or not (Coombs, 2004), attribution of crisis responsibility associates with personal competence in the context of the professional world. As Hosoda *et al.* (2003) found, attractiveness for females could be disadvantageous in traditionally viewed masculine environments. The reversed attractiveness influence for female spokespersons corresponds to a "beauty is beastly" effect. But the halo effect of attractiveness exerts an impact on male spokespersons in competence-related evaluations.

Furthermore, the results display an interplay of spokespersons' sex and crisis response appeal in the daycare industry. When source credibility is controlled in a female-associated industry, male spokespersons with an emotional crisis response generate more positive attitudes and behavioral intention for the organization than female spokespersons with an emotional crisis response. The finding contradicts the congruency effect that female spokespersons with an emotional crisis response will be more effective in the daycare industry. However, this does not suggest that stereotypes have no influence on decision-making. On the contrary, the reversed effect occurs because of the different sex expectations based on gender stereotypes (e.g. Biernat and Manis, 1994). Thus, the contradicted finding

may be explained by expectancy violations theory which suggests that an expected behavior can be violated in either positive or negative directions (e.g. Burgoon, 1993). When a crisis occurs in a female-dominated industry, a male spokesperson with an emotional crisis response positively violates people's expectations and results in more favorable evaluation.

Theoretical implications
This study enriches current crisis communication research by recognizing how a non-cognitive factor – gender stereotypes – implicitly influences people's perceptions of crisis response. In doing so, the authors identify four key theoretical implications. First, this study complements SCCT by revealing the cardinal role of gender stereotyping via the manifestation of spokesperson sex and sex differed industry in crisis communication. Although SCCT is centered on rationality and cognitive information processing, it ignores that people are also driven by irrationality and non-cognitive information processing. Gender stereotypes are socially constructed (De Lemus *et al.*, 2012; Cunningham, 2001) and, while generally stable (Eagly, 2013), are dynamic over time. Gender schemas only persist because society collectively will them to exist. Gender stereotypes, which are derived from gender schemas, are non-cognitive-based stereotypes and implicitly influence people's perceptions (Ellemers, 2018; Dhanani and Wolcott, 2014). As such, they are fundamentally subconscious factors that people adopt in daily life to ease information processing and reduce cognitive demands for information receivers (Bodenhausen *et al.*, 1994). Much like previous work finding the broader political and institutional context impacts the extent and consequences of gender schemas (Faludi, 1991; Gleason and Smart, 2022), the results of the present study show that gender schemas operate in different industries and for different traits.

This study also speaks to how people use heuristics as information shortcuts in decision making. The finding of this study showed that both spokesperson sex and sex differed industries are subject to gender stereotyping. When the spokesperson's sex matches the sex differed industry, the gender-role congruency effect yields more positive organizational reputation and spokesperson evaluation. Hence, this study expands SCCT by revealing how gender stereotype influences reputation management. To further develop SCCT model, in addition to current rational foundations in SCCT, such as attribution of crisis responsibility, which determines crisis type and corresponded responses, the irrational factor, such as gender stereotype, which results from spokesperson sex and industry type, also plays a vital role in crisis response. This is especially the case when crisis response is delivered using a visual medium, or when the public assumes the sex of a spokesperson based on their name (Chung and Pennebaker, 2007) being attached to a written crisis response. The presence of a spokesperson and sex of the spokesperson will affect crisis response effectiveness (Mehrabian and Valdez, 1990; Szmer *et al.*, 2010).

Third, this study also contributes to crisis communication research by revealing how source credibility, especially attractiveness, influences people's reactions to crisis response messages. Regardless of industry type, attractive female spokespersons result in more positive perceptions of the organization, while attractive male spokespersons generate the opposite effect for the organization. This corresponds to previous research on gender stereotyping that indicates females are associated with physical attractiveness, while males are associated with competence (Ellemers, 2018; Tiggemann *et al.*, 2009). Therefore, matching female spokespersons with attractiveness can increase the public's likelihood to engage in supportive behavior toward the organization. However, the matching effect between gender and attractiveness is reversed in crisis attribution. This finding contributes to SCCT by showing how the non-cognitive factors affect an organization's reputation and attribution of crisis responsibility aside from crisis types and response strategies. According to attribution theory, the locus of control and stability of the crisis influence people's perceptions of a crisis

and guide organizations in selecting appropriate crisis response strategies (Coombs, 2004). Aside from the cognitive attribution process, the present study found non-cognitive factor, such as spokesperson attractiveness, also influences people's attributions of crisis responsibility. Previous research showed that people associate attractive females with less intelligence, while attractive males do not experience similar associations in a professional field (Hosoda *et al.*, 2003). In the present study, attractive female spokespersons elicited more attribution of crisis responsibility to the organization, whereas attractive male spokespersons generated less responsibility to the organization, which is consistent with Hosoda *et al.*'s (2003) findings. Therefore, this study shows under which circumstances, source credibility – especially attractiveness – can promote or mitigate people's perceptions of the organization.

Fourth, this study also displays how gender stereotypes moderate the effect of crisis response framing in terms of attitude and behavioral intention toward an organization. The results suggest that in male-associated industries, regardless of spokesperson sex, matching a male-associated industry with rational appeal crisis response messages generates more favorable behavioral intention toward the organization. However, in a female-associated industry, a mismatching effect is more persuasive. The results show that when source credibility is controlled for spokespersons in a female-associated industry, mismatching of male spokespersons to emotional crisis messages triumphed over the matching of female spokespersons to emotional crisis response. The mismatching effect of male spokespersons in female-associated industries indicates a positive expectancy violation of gender stereotyping. Although people associate males with work and females with family and caretaking (Ellemers, 2018), when males violate gendered expectations, it results in more positive perceptions of the organization. Thus, contrary to previous findings (e.g. Claeys and Cauberghe, 2012), matching effect is not always the most efficient persuasive strategy when it comes to non-cognitive factors-related decision-making. When people are aware of a spokesperson's sex, in a female-associated industry, a mismatching effect of a positive violation of gender stereotype overrides a matching effect in crisis communication.

Practical implication
The results of this study provide several important practical implications for public relations practitioners responding to accidental crises. First, in an obvious sex differed industry, such as the daycare or automotive industries (e.g. Shinar, 1975), practitioners should be aware of the impact of matching a spokesperson's sex with a sex differed industry for enhancing organizational reputation and spokesperson's credibility because of gender schemas (Eagly, 2013). Although female spokespersons will more effectively restore organizational reputation and regain spokesperson credibility in female-dominated industries (Barrett-Landau and Henle, 2014), as this study only examined one type of industry (e.g. automotive vs daycare industry) from various male- and female-dominated industries, the practitioners should be cautious in generalizing this strategy in other sex differed industries due to the nuances of distinct industries. Furthermore, since sex differed industries also experience similar gender stereotypes, female spokespersons are preferred to be selected to deal with crises occurring in female-associated industries rather than in male-associated industries. Although male-associated industries did not experience a similar pattern regarding organizational reputation and trustworthiness, when a crisis occurs in a male-associated industry, a male spokesperson is preferred to be selected, because male spokespersons induce more perceived expertise than female spokespersons. Therefore, in addition to identifying crisis types and selecting corresponding crisis response strategies, discerning industry type and assigning matched spokespersons can also aid reputation restoration and improve spokesperson credibility.

Second, practitioners should be cautious of the power of attractiveness in crisis communication. According to the finding, attractive female spokespersons elicit more

positive attitudes and behavioral intentions toward the organization, while attractive male spokespersons produce a reversal effect. Given the causal role of attractiveness in crisis perception, this results also remind practitioners that they should be wary of not manipulating publics by taking advantage of the attractiveness feature of spokesperson. Despite the power of attractiveness in affecting people's perception, practitioners should maintain a high ethical standard in spokesperson selection rather than resort to tricks to deceive publics.

Third, practitioners should select appropriate crisis response frames to use gender stereotypes to their advantage during crisis response. In a male-associated industry, regardless of a spokesperson's sex, matching rational crisis response frames to male-associated industries will generate more favorable behavioral intention toward the organization. However, in female-associated industries, when the credibility of a spokesperson is held constant, a mismatching effect of a male spokesperson with an emotional crisis response will generate more positive attitudes and behavioral intention toward the organization than a matching effect of a female spokesperson with emotional crisis response. Therefore, in addition to utilizing the matching effect of rational crisis response in male-associated industry, communication practitioners can also exploit the merit of mismatching strategy in female-associated industries via positive expectancy violations of male-related gender stereotypes. An overall summary of this study's finding can be found in Appendix 2.

Limitation and future directions

This study has some limitations. First, it is limited to exploring accidental crises. Future research should examine how gender stereotypes influence other types of crises, such as victim and preventable crises. Second, fictitious organizations were used in this study to avoid prior attitudes confounding the results. Future studies might investigate a real organization to enhance ecological validity. Third, this study only examined one type of organization from gender differed industries, the daycare and automotive industries. Further research can be done to examine a diverse sex differed industry, for example, a beauty products organization vs a military organization, to examine the robustness of these findings. Fourth, to avoid confounding factors other than sex influencing people's evaluation, this study used middle-aged Caucasian spokespersons. More research needs to be done to examine diverse features of a spokesperson under the scope of gender stereotyping, such as spokespersons with different ethnicities and ages. Finally, more investigation is needed concerning how culture influences gender stereotypes. This study mainly focuses on gender stereotypes in United States culture, which is characterized by higher levels of individualism and lower levels of collectivism (Hofstede, 1984). In the United States, men are considered as less interdependent than women; however, in Korea, which is featured by higher levels of collectivism, men are considered to be more interdependent than women (Cuddy et al., 2015). Given the cultural differences, gender stereotypes will have some nuances across cultures. But they can change over time, albeit slowly (Faludi, 1991; Pam et al., 2012). Therefore, future studies should examine the role of spokesperson sex in crisis communication in different cultures.

Notes

1. The literature often uses the word "gender" in place of sex (see for instance: Crijens et al., 2017). Recognizing sex and gender are conceptually different (e.g. McDermott and Hatemi, 2011), the authors adopt the term "sex" whenever discussing the male/female dichotomy. The authors reserve the term gender for the range of expectations that surround how men and women should act in a host of contexts (Butler, 1990).

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Appendix 1
Crisis response

Automotive Industry: (Text by authors)
Brief crisis description: There was an electric vehicle recall from QQQ company. Please read the following spokesperson's response to the crisis.

Male spokesperson with a rational crisis response: (Text by authors)

The results of an independent investigation confirm that some of the electric vehicles have battery issues. Although battery issue is a rare incident, we take these matters seriously. We don't have control of the battery failure. The battery failure was caused by the battery material supplier. Lithium-ion battery cells have electrodes placed close together, which increases the chances of a short and filled with a flammable liquid electrolyte. To ensure your safety, we have switched from the lithium-ion battery cells to lithium iron phosphate batteries. If you think your electric vehicle might experience any battery related issue, feel free to contact us for an examination. Our research and development team will work hard to resolve this issue and ensure your safety.

CEO of QQQ vehicle company

(Image courtesy of AI generated picture)

Female spokesperson with an emotional crisis response: (Text by authors)

We were deeply disturbed to learn today that some of the electric vehicles in our company have battery issues. We were shocked by this horrible circumstance and immediately recalled the battery failed vehicles. We don't have control of the battery failure. The battery failure was caused by the battery material supplier. It will be heartbroken if any accident is caused by the failed battery. To ensure your safety, we have switched to a much safer battery material. If you think your electric vehicle might experience any battery related issue, don't hesitate to contact us. We are as frustrated as you are and find this unacceptable. We share your concern and wholeheartedly assure you that your safety is our top-priority.

CEO of QQQ vehicle company

(Image courtesy of AI generated picture)

Daycare Industry: (Text by authors)

Brief crisis description: there was an E. coli outbreak in Little Bunny Daycare. Please read the following spokesperson's response to the crisis.

Male spokesperson with a rational crisis response: (Text by authors)

The results of an independent investigation confirm that some of the food items in our daycare have tested positive for E. coli (the O157:H7 strain). We discarded the E. coli contaminated food and notified the supplier. We don't have control of the food contamination. The food was contaminated by the food supplier. Most cases of E. coli infections are mild and do not cause a serious health risk. However, children aged five and under, who become infected with a STEC infection (the O157:H7 strain) develop a condition called hemolytic uremic syndrome (HUS). In this condition, toxins in children's intestines from STEC cause diarrhea. If your child experiences any symptoms that may be linked to E. coli infection, please contact your healthcare provider. To ensure your child's safety, we have updated the whole disinfection system.

CEO of Little Bunny Daycare

(Image courtesy of AI generated picture)

Female spokesperson with an emotional crisis response:

We were deeply disturbed to learn today that some of the food items in our daycare tested positive for E. coli. We were shocked by this horrible circumstance and immediately discarded the E. coli contaminated food and notified the supplier. We don't have control of the food contamination. The food was contaminated by the food supplier. It will be heartbroken if any of our child experiences any symptoms that may be linked to E. coli infection. If any symptoms related to E. coli emerged, please contact your healthcare provider promptly. To ensure your child's safety, we have updated the whole disinfection system. We are as frustrated as you are and find this unacceptable. We share your concern and wholeheartedly assure you that your child's safety is our top-priority.

CEO of Little Bunny Daycare

(Image courtesy of AI generated picture)

Appendix 2
Results summary

	Daycare Industry		Automotive Industry	
	Matching effect	**Mismatching effect**	**Mismatching effect**	**Matching effect**
	Female Spokesperson	Male Spokesperson	Female Spokesperson	Male Spokesperson
Trustworthiness	=	=	=	=
Expertise	=	=	–	+
Organizational Reputation	+	–	=	=

	Female Spokesperson in Daycare	Female Spokesperson in Automotive	Male Spokesperson in Daycare	Male Spokesperson in Automotive
	Matching effect	**Mismatching effect**	**Mismatching effect**	**Matching effect**
Trustworthiness	+	–	+	–
Expertise	+	–	=	=
Organizational Reputation	+	–	=	=

	Daycare Industry		Automotive Industry	
	Matching effect	**Mismatching effect**	**Mismatching effect**	**Matching effect**
	Emotional response	Rational Response	Emotional Response	Rational Response
Behavioral Intention	=	=	–	+

Daycare Industry	Emotional Crisis Response		Rational Crisis Response	
	Matching effect	**Mismatching effect**	**Mismatching effect**	**Matching effect**
	Female Spokesperson	Male Spokesperson	Female Spokesperson	Male Spokesperson
Attitude	–	+	=	=
Behavioral Intention	–	+	=	=

+: more effective
–: less effective
=: similar level of effect.

            +   +

Female spokesperson—attractiveness—perceived credibility of crisis response

                    Positive attitude and intention of the organization

                    More attribution of crisis responsibility

            +   –

Male spokesperson—attractiveness— Less perceived credibility of crisis response

                    Less positive attitude and intention of the organization

                    Less attribution of crisis responsibility

+: higher level
–: lower level

Source(s): Table by authors