

# **Attribution of Responsibility, Risk Perception, and Perceived Corporate Social Responsibility in Predicting Policy Support for Climate Change Mitigation: Evidence from South Korea**

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## **Abstract**

A recent nationwide survey reported that South Koreans perceive large corporations as the party that should be the most responsible for tackling climate change. This public opinion result offers insight into the argument that defining who is responsible for the climate change issue can guide campaigners and policymakers in designing effective communication strategies. This study examines how attributing responsibility to large corporations can affect behavioral intention to support government policy and regulation via a moderated mediation model of the perceived risk of climate change and corporate social responsibility (CSR). A nationwide online survey of 295 South Koreans was conducted. The findings reveal an indirect effect of responsibility attribution on behavioral intention through risk perception. Moreover, perceived CSR moderated the causal link between risk perception and behavioral intention, such that South Koreans reported higher levels of behavioral intention when they reported higher CSR. However, perceived CSR failed to moderate the indirect effect. These findings have implications for communication processes and policymaking to address climate change problems in South Korea.

*Keywords:* climate change, attribution of responsibility, risk perception, CSR, policy support, South Korea

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In South Korea, a recent nationwide public opinion poll reported that its citizens believe that large corporations are most responsible for tackling climate change, followed by politicians, small- and medium-sized enterprises, and the government (SisaIN & Hankook Research, 2022). In this cross-sectional national poll, 82% of the respondents indicated that they were more interested in the climate crisis than they were 10 years ago, and 88.6% agreed with the necessity of solutions to the crisis. This public concern has produced social dialogue among various actors, including politicians, citizens, and the media. In the social dialogue, it is crucial to determine what people believe to be the causes of climate change and who is responsible for them (Chang et al., 2016; Jang, 2013). Defining cause and responsibility has been deemed the key to promoting pro-environmental behaviors and attitudes, such as climate change mitigation (Ferguson & Branscombe, 2010). Furthermore, it can help societal actors support proposed governmental solutions such as policies and regulations.

Research on climate change has paid considerable attention to the communication process, including risk perception (Chang et al., 2016; Choi et al., 2022; Hagen et al., 2016; Jin, 2022; Kim et al., 2018; O'Connor et al., 1999; Steynor et al., 2021; Wang, 2017). Theoretical and empirical evidence has documented the antecedents and outcomes of risk perceptions. However, only a few studies (e.g., Chang et al., 2016; Kim et al., 2018) have investigated the potential relationship between attribution of responsibility to climate change, risk perception, and supportive mitigation behaviors. More efforts should be made to examine the factors related to climate change mitigation behaviors. Given that South Koreans are more likely to attribute the cause of and responsibility for climate change to large corporations, it is critical to explore how the perceived attributions of responsibility, risk, and corporate social responsibility (CSR) are interrelated.

The purpose of this study is twofold: first, to examine whether there is a mediation effect among attribution of responsibility, risk perception, and supportive behavior for climate change policy and corporate regulation. Second, this study analyzes the moderating effect of perceived CSR on the relationship between risk perception and supportive behavior. It is important to identify any causal relationship

and moderating processes. By investigating these two effects, this study can make a meaningful contribution to risk communication scholarship and practice. Practitioners, such as campaigners and policymakers, can propose proper strategies for targeting key publics and preparing governmental solutions. They can also consider the direction of climate change mitigation policies by understanding the key publics' perceptions of responsibility attribution, risk, and CSR. A way of attributing climate change as the responsibility of large corporations will guide practitioners to hold public discussions with relevant societal actors.

## **Theoretical Frameworks**

### **Attribution of Responsibility, Risk Perception, and Behavior Change**

Attributions refer to “perceptions of the causality or the perceived reasons for a particular event’s occurrence” (Weiner, 1985, p. 280). Nisbett et al. (1976) noted that individuals attempt to make judgments about causes for the effects they observe, which can determine their perception of society and behaviors. Individuals infer the causes of unexpected events or actions with negative consequences. This inference process enables individuals to make affective, cognitive, and behavioral changes to aspects such as emotion, policy attitudes, judgment of responsibility, and achievement motivation (Weiner, 1985, 2006).

When individuals attribute the causes of certain events or actions, they interpret and react differently depending on whether the causes are internal or external. Ross (1977) indicated that internal attributions are inferences that emphasize an individual’s attributes, such as traits, abilities, motives, and physical characteristics. Moreover, internal attributions stress that the causes of events or actions are within a person’s control. External attributions emphasize environmental or situational factors outside an individual’s control, such as task difficulties, incentives, social influences, and the physical characteristics of a certain environment. In the context of climate change, some attribute this global problem to internal, individual responsibility, and others to external, societal situations, such as the responsibility of governments and companies (Chang et al., 2016).

Regarding internal and external attribution, considerable attention has been paid to the notion of controllability and responsibility. Weiner (2006) conceptualized controllability as the extent to which a cause is volitionally alterable. When an actor's misdeed is typically deemed controllable, the actor is more likely to be judged responsible (Weiner, 1993). This indicates that controllability can act as an antecedent to responsibility. By applying controllability to various social contexts, Weiner (1985, 1993, 2006) examined the theory of perceived responsibility and social motivation. He explained that public policies to reduce social problems can be influenced by individuals' perceptions of the causes of the problem as controllable or uncontrollable. This means that causal attributions are more likely to affect individuals' beliefs about who is responsible for addressing the social problem. This subsequently produces support for policies such as governmental solutions (Niederdeppe et al., 2011).

Internal and external attributions of responsibility influence biases. The basic tenets of attribution theory recognize the existence of attributional biases (Kahlor et al., 2002; Kelley, 1967), whereby individuals infer causes with positive personal outcomes internally and causes with negative personal ones externally. Perceived adverse effects can include risk estimates, defined as "possible loss or damage arising from an action or event, often formalized as the product of probability and extent of damages" (Jungermann & Slovic, 1993, p.87). Jungermann and Slovic characterized controllability and responsibility as risk dimensions. Individuals are more likely to perceive greater risk when it is deemed beyond their control. Accordingly, they will infer the causes of the problem of climate change from external surroundings such as corporations.

Prior research on the attribution of responsibility for climate change has provided empirical evidence for its impact on perceptual and behavioral changes (e.g., Chang et al., 2016; Jang, 2013). Chang et al. (2016) found that the attributions of responsibility to individuals, the government, or large corporations are significantly related to the perceived risk of climate change. Specifically, this result suggests that people are more likely to believe that the government and corporations are responsible for climate change, which is beyond the average citizens' own control. Owing to their lack of control over the outcome of climate change, people tend to

perceive a greater risk. Given the basic tenets of attribution bias, it can reasonably be assumed that attributing the responsibility for climate change to such external actors as large corporations will increase the level of individuals' perceived risk. This indicates that attributing responsibility to large corporations may be related to a lower level of perceived controllability. Therefore, the following hypothesis is proposed:

**H1:** Attributing responsibility to large corporations will increase the perceived risk of climate change.

In addition to the relationship between responsibility attribution and perceived risk, this study also predicts its impact on such behavior change as support for government policy and corporate regulation. Past research on environmental communication demonstrated that attribution of responsibility for climate change to governments is more likely to affect supportive action for global and domestic climate change policies (e.g., Jang, 2013). This finding suggests that attributing responsibility for the environmental problem to external actors can lead to anger or negative anti-corporate sentiment. These emotions caused by perceived corporate irresponsibility may subsequently affect support for government policy and corporate regulation. As Weiner (2006) articulated, perceptions of responsibility are pivotal in influencing affective and behavioral responses. Attributions bring about emotions generated by a given event and future interactions with the actors involved. The negative emotions and views of others and organizations are influenced by the attributions of responsibility. In light of this theoretical framework and evidence, the following hypothesis is proposed:

**H2:** Attributing responsibility to large corporations will positively affect the behavioral intention to support government policy and corporate regulation.

Risk perceptions matter in determining behavioral intentions (O'Connor et al., 1999). A substantial body of literature has revealed that risk perception predicts behavioral changes. Causality has also been proven in the context of climate change. Specifically, an increased perception of climate change risk was found to cause a stronger behavioral intention to support mitigation policies in South Korea (Kim et al., 2018), China (Wang, 2017), the U.S. (Choi et al., 2022), European countries (Hagen et

al., 2016), and East Africa (Steynor et al., 2021). Given that individuals take actions to minimize exposure to the risks they perceive (Nightingale & Fischhoff, 2001), risk communication scholarship holds that risk perception leads to preventive behaviors directly or indirectly. This proposition anticipates that individuals' perceived risk of climate change generates their willingness to support relevant mitigation policies to reduce their exposure to such a risk. This study focuses on the mediating role of perceived risk in that it predicts behavior change and is determined by various psychological factors, including attribution of responsibility. Thus, the following hypothesis is suggested:

**H3:** Risk perception will mediate the relationship between attributing responsibility to large corporations and behavioral intention to support government policy and corporate regulation.

### **Moderating Role of Perceived Corporate Social Responsibility**

Despite the theoretical importance of the causal relationship between risk perception and behavior change, mixed evidence has been reported. Rimal et al. (Rimal & Juon, 2010; Rimal & Limaye, 2012; Rimal & Real, 2003) maintained that moderators should be considered in the causal relationship between risk perception and preventive behaviors. They articulated that risk perception does not always predict behavior change, because individuals' reactions to elevated risk do not normally occur unless they also perceive that something can be done to avoid the threat. Individuals' risk-ameliorating behaviors often require efficacy beliefs in dealing with threats. South Koreans criticize the role and efforts of large corporations in addressing the issue of climate change. A nationwide public opinion poll (SisaIN & Hankook Research, 2022) reported that South Koreans believe that large corporations are most responsible for the climate crisis, rather than politicians, small- and medium-sized enterprises, and the government. This suggests that even if perceived severity of and vulnerability to climate change can serve as motivators for supporting its policy, perceived corporate role and responsibility for the environment may also be influential in mitigating climate problems. That is, belief in corporations' control over the problem is more likely to strengthen the causal relationship between risk perceptions and supportive policy behavior. Therefore, this study proposes the following hypothesis:

**H4:** The relationship between risk perception and behavioral intention to support government policy and corporate regulation will be stronger at higher levels of perceived CSR than at lower levels of perceived CSR.

Moreover, this study explores the moderating role of CSR in the mediating relationship between attribution responsibility, risk perception, and supportive behavioral intention. Perceived CSR may be considered a variable that influences this mediation. If individuals recognize corporate responsibility to reduce the climate change problem, the causal relationship of the mediation may be more heightened. People with strong CSR beliefs about climate change may achieve psychological harmony by pursuing relevant actions. In other words, those who perceive a high level of CSR are expected to have a more significant impact on the risk communication process for climate change than those who do not. Accordingly, this study tests whether perceived CSR moderates the mediation effect, as follows:

**H5:** The mediating relationship among attribution responsibility, risk perception, and behavioral intention to support government policy and corporate regulation will be moderated by perceived CSR. Specifically, the greater the perceived CSR, the stronger the mediating effect of risk perception.

## **Method**

### **Data Collection**

Data were collected through a nationwide online survey company in South Korea from February 2nd–3rd, 2023. Using proportional quota sampling (age, sex, and geographical region), e-mail invitations were sent to 1,780 pre-recruited panel members who met the criteria. Of the qualified members, 549 participants clicked on the web survey, and only 332 completed it. Therefore, the response rate was calculated as 18.7% (332/1780). After removing unreliable data (37 cases), 295 valid responses ( $N = 295$ ) were included in the final data analyses. The respondents were assured that their participation was voluntary and that their responses would remain anonymous.

## Survey Instrument

A questionnaire was used to measure attribution of responsibility, risk perception, perceived CSR, and supportive behavioral intention. Except for demographics, all items were gauged using a 1 (strongly disagree) to 7 (strongly agree) Likert scale. Attribution of responsibility was assessed with a single item by rating the following statement: "The responsibility for the climate change crisis rests with large corporations" ( $M = 4.8$ ,  $SD = 1.2$ ). Risk perception was measured by adopting and modifying items from previous research (Jin, 2022). It included three items: "To me, climate change is a serious problem," "To me, climate change is a significant issue," and "To me, climate change is a deadly problem" ( $\alpha = .930$ ,  $M = 5.5$ ,  $SD = 1.0$ ). Perceived CSR was gauged by adopting and modifying items from prior research (Cho, 2006). It included three items: "Large corporations recognize environmental protection-related programs as an important part of corporate activities," "Large corporations are contributing a lot to environmental protection," and "Large corporations have a strong sense of social responsibility" ( $\alpha = .916$ ,  $M = 4.0$ ,  $SD = 1.3$ ). Supportive behavior was measured by adopting and modifying items from previous research (Jin, 2022). It included three items: "I am willing to support the government's corporate regulations or related policies to respond to climate change," "I am willing to support the policy of increasing the basic fuel efficiency of vehicles," and "I am willing to support the policy of imposing additional taxes on companies based on their energy use" ( $\alpha = .768$ ,  $M = 5.4$ ,  $SD = 1.0$ ).

## Analyses

This study first analyzed descriptive statistics and correlation and selected Model 4 (Hypotheses 1, 2, 3) and Model 14 (Hypotheses 4 and 5) of SPSS PROCESS macro 4.1 (Hayes, 2018). For Model 4, indirect effects were tested using 5,000 bootstrapped resamples. The use of a bootstrapping approach is recommended to assess the mediation effects in a regression-based analysis to obtain confidence limits for specific indirect effects (Preacher & Hayes, 2004). This analysis generated 95% bias-corrected and adjusted confidence intervals (CI). Significant indirect effects are identified by CIs that do not contain zero (Hayes, 2018). For Model 14, the independent and dependent variables were mean-centered for the conditional effect test. Control



variables included sex, age, education, socioeconomic level, and political preferences. The study reports unstandardized regression coefficients and standard errors for all results.

## Results

### Participants

Respondents ( $N = 295$ ) from eight metropolitan areas and all nine regional provinces of South Korea were asked to report their sex, age, education, socioeconomic level, political preference, and place of residence. The respondents were 50.5% females and 49.5% males distributed across the following age ranges ( $M = 39.6$ ,  $SD = 10.8$ ): 25.1% in their 20s; 24.4% in their 30s; 25.4% in their 40s; and 25.1% in their 50s. Distribution across the education levels was as follows: a high school diploma or lower (10.2%), a college degree or attending (78.3%), and a graduate degree or attending (11.5%). The socioeconomic levels were as follows: 6.1% lower lower, 14.2% upper lower, 41.7% lower middle, 35.9% upper middle, 1.0% lower upper, and 1.0% upper upper. The political preferences were as follows: 16.6% conservative; 61.0% moderate; 21.7% liberal; and 0.7% very liberal.

### Correlations

The correlation matrix and descriptive statistics for all key observed variables are presented in Table 1. The results showed that behavioral intention had a significant positive correlation with five variables [age ( $r = .233$ ,  $p < .001$ ), political preference ( $r = .167$ ,  $p = .004$ ), attribution of responsibility ( $r = .408$ ,  $p < .001$ ), risk perception ( $r = .421$ ,  $p < .001$ ), and CSR perception ( $r = .124$ ,  $p = .034$ )]. Moreover, attribution of responsibility was positively correlated with risk perception ( $r = .252$ ,  $p < .001$ ).

**Table 1**

*Correlation Coefficients and Descriptive Statistics for the Observed Key Variables*

	1	2	3	4	5	6	7	8	9
1. Sex (male=0)	-								
2. Age	-.029	-							
3. Education	-.117*	-.093	-						
4. Socioeconomic level	.075	-.050	.098	-					
5. Political preference	.057	.059	.077	.047	-				
6. Attribution	.065	.139*	.067	.063	.203***	-			
7. Risk perception	.189**	.124*	-.012	.135*	.129*	.252***	-		
8. CSR perception	-.047	.078	-.022	.119*	-.113	-.064	.078	-	
9. Behavioral intention	.056	.233*	.083	.106	.167**	.408***	.421***	-.124*	-
<i>M</i>	n.a.	39.6	n.a.	n.a.	n.a.	4.8	5.5	4.0	5.4
<i>SD</i>	n.a.	10.8	n.a.	n.a.	n.a.	1.2	1.0	1.3	1.0
$\alpha$	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	.930	.916	.768

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

**Evidence for Hypotheses**

H1 predicted that attributing responsibility to large corporations would affect the perceived risk of climate change. Table 2 shows that attribution of responsibility is significantly and positively related to risk perception ( $B = .180, SE = .050, p < .001$ ) [ $R^2 = .120, F = 6.545(6, 288), p < .001$ ], thus supporting H1. This finding indicates that attributing responsibility to large corporations tends to increase the perceived risk of climate change after controlling for the five demographic factors. Additionally, attribution of responsibility was significantly and positively associated with sex ( $B = .339, SE = .115, p = .004$ ) and socioeconomic level ( $B = .125, SE = .062, p = .045$ ).

H2 proposed that the attribution of responsibility to large corporations would lead to the behavioral intention to support government policy and corporate regulation. H3 posited that risk perception would mediate the relationship between attribution of responsibility and behavioral intention. Table 3 shows that both

attribution of responsibility ( $B = .232, SE = .042, p < .001$ ) and risk perception ( $B = .297, SE = .049, p < .001$ ) had a statistically significant positive association with behavioral intention. The results revealed a significant indirect effect of attribution of responsibility on behavioral intention through risk perception ( $Effect = .053, BootSE = .020, BootCI = .019 \text{ to } .095$ ). Therefore, both H2 and H3 are supported.

**Table 2**

*Regression Model of Risk Perception*

Variables		Dependent Variable: Risk Perception					
		B	SE	t	p	LLCI	ULCI
Control variables	Sex	.339	.115	2.938	.004	.112	.567
	Age	.010	.005	1.780	.076	-.001	.020
	Education	-.030	.125	-.240	.810	-.276	.216
	Socioeconomic level	.125	.062	2.015	.045	.003	.247
	Political preference	.108	.092	1.182	.238	-.072	.288
Independent variable	Attribution	.180	.050	3.626	.000	.082	.278

$R^2 = .120, F = 6.545, df = 6, 288 (p < .001)$

**Table 3**

*Regression Model of Behavioral Intent (Mediation Effect)*

Variables		Dependent variable: Behavioral intention					
		B	SE	t	p	LLCI	ULCI
Control variables	Sex	-.032	.097	-.329	.742	-.222	.158
	Age	.014	.004	3.163	.002	.005	.023
	Education	.149	.103	1.444	.150	-.054	.352
	Socioeconomic level	.045	.052	.880	.380	-.056	.147
	Political preference	.077	.076	1.022	.307	-.072	.226
Independent variable	Attribution	.232	.042	5.532	.000	.149	.314
Mediator	Risk perception	.297	.049	6.106	.000	.201	.393

$R^2 = .307, F = 18.195^{***}, df = 7, 287 (***p < .001)$

Next, the study examined whether the relationship between risk perception and behavioral intention to support government policy and corporate regulation would be stronger at higher levels of perceived CSR.

**Table 4**

*Regression Model of Behavioral Intent (Moderation Effect)*

Variables		Dependent Variable: Behavioral Intention					
		B	SE	t	p	LLCI	ULCI
	Sex	-.057	.095	-.598	.551	-.244	.130
	Age	.015	.004	3.308	.001	.006	.023
Control variables	Education	.132	.101	1.303	.194	-.067	.332
	Socioeconomic level	.067	.051	1.321	.187	-.033	.168
	Political preference	.072	.076	.959	.338	-.076	.221
Independent variables	Attribution of responsibility	.221	.041	5.366	.000	.140	.303
	Risk perception	.338	.050	6.775	.000	.240	.436
Moderator	CSR perception	-.131	.038	-3.413	.001	-.206	-.055
Interaction term	Risk perception x CSR perception	.066	.033	1.999	<b>.047</b>	.001	.131

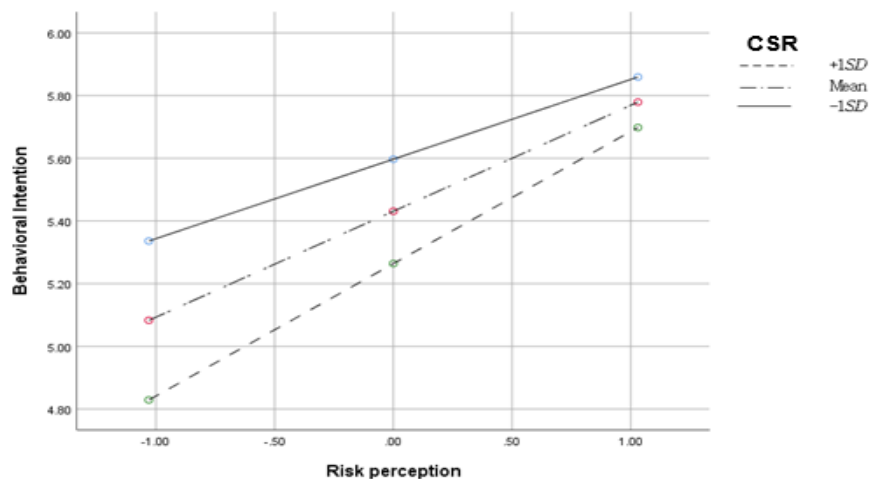
$R^2 = .338, F = 16.147, df = 9, 285, p < .001$

Table 4 shows that the significance between risk perception and behavioral intention varied according to perceived CSR ( $B = .066, SE = .033, p = .047$ ). Figure 1 presents a visual depiction of the moderation at +1/-1 standard deviations. This shows that the relationship between risk perception and behavioral intention is significant and positive across all three groups of perceived CSR, with the relationship being stronger among those with higher levels of perceived CSR. In fact, the

relationship between risk perception and behavioral intention was stronger in the group with one standard deviation above the mean in the sample ( $Effect = .422, SE = .074, p < .001$ ). Among the respondents of groups who were at the mean ( $Effect = .338, SE = .050, p < .001$ ) and one standard deviation below the mean ( $Effect = .254, SE = .074, p < .001$ ) on the measure of perceived CSR, the relationship between risk perception and behavioral intention was weaker. Thus, these results support H4.

**Figure 1**

*Conditional Effects of Risk Perception on Behavioral Intention by CSR*



Finally, H5 expected that perceived CSR would moderate the indirect association between attribution of responsibility and behavioral change through risk perception, such that this association would be stronger among those with higher levels of perceived CSR. However, the index of moderated mediation did not show significant conditional indirect effects ( $index = .012, BootSE = .012, BootCI = -.010$  to  $.036$ ). Therefore, H5 is not supported.

## Discussion

This study examined how attributing responsibility to large corporations can result in behavioral intention to support government policy and regulation via a moderated mediation model of the perceived risk of climate change and CSR. The findings

demonstrate an indirect effect of responsibility attribution on behavioral intention through risk perception. Moreover, perceived CSR moderated the path from risk perception to behavioral intention, such that South Koreans reported higher levels of behavioral intention if perceived CSR was higher. However, perceived CSR failed to moderate the indirect effect. These findings have important implications for communication processes and policymaking to address climate change problems in South Korea.

These mediation findings add to the literature that suggests the theoretical value of attribution and risk in the communication process. By extending research on the attribution of responsibility in the context of climate change, this study identified it as a psychological factor that can affect individuals' perception of climate change risk. Given that risk matters in predicting behavior change (O'Connor et al., 1999), researchers and practitioners should understand the various antecedents of risk perception. In line with previous studies (Chang et al., 2016; Jang, 2013), this finding shows that attributing the responsibility of climate change to large corporations will be more likely to heighten the perceived risk of climate change. As reviewed earlier, attribution of responsibility can cause individuals to infer the causes of problems from external factors thought to be beyond their control. The degree of perceived controllability and responsibility as dimensions of risk leads individuals to estimate negative outcomes from the climate change crisis. For this reason, practitioners need to adequately communicate the responsibility for climate change issues with the relevant publics, including citizens, corporations, and the government. This effort will help the public correctly understand the issue and plan effective policies.

Moreover, the significant finding of an indirect link between attribution of responsibility and behavioral intention highlights the crucial role of risk perception. As hypothesized in this study, risk perception mediates the effect of attribution of responsibility on supportive behavioral intention. This is in line with previous research (Kim et al., 2018) that found a mediating role of risk perception in action for climate change mitigation. This suggests that the behavioral intention to support government policies and the regulation of large corporations can be affected directly or indirectly by attribution of responsibility. Special attention should be paid to the

mediating role of risk perception in such communication processes. Accordingly, when policymakers and campaigners create a policy-friendly environment for climate change mitigation, they can consider the mediating process.

The study also reveals a statistically significant moderating role of perceived CSR. The causal relationship between risk perception and behavioral change should be more specifically tested by other moderating factors. Rimal et al. (Rimal & Juon, 2010; Rimal & Limaye, 2013; Rimal & Real, 2003) argued that an individual's response to escalated risks does not normally occur unless they also believe that something can be done to avoid threats. This theoretical approach yields insights into the role of perceived CSR in causal relationships. When individuals shape efficacy beliefs to take action for risk aversion, such as the behavioral intention to support policies, they perceive the controllability of the climate change problem. If perceived controllability occurs from individuals' belief that large corporations strive for environmental protection, individuals' risk estimates are more likely to increase their behavioral intention to support policies. Practical implications suggest that corporations' authentic social and environmental responsibility efforts and initiatives should be made. Skepticism and negativity, such as greenwashing, may hinder public support for relevant government policies and regulations.

Unexpectedly, this study found that perceived CSR does not tend to moderate the mediating process. This result indicates that individuals' perceived CSR exerts a similar influence on the causal linkage between attribution of responsibility and behavioral change via risk perception. Irrespective of perceived CSR level, an indirect effect is more likely to occur. A reasonable explanation could be that individuals expect large corporations' engagement in the climate change problem to be social norms and values that are applied equally to the causal linkage. Those with all levels of perceived CSR for climate change tended to achieve psychological harmony by pursuing related actions in the mediating process.

Despite these critical implications, future research could improve on a few limitations: The cross-sectional analyses may preclude insight into the causal link between attribution of responsibility, risk perception, and behavioral intention. In this regard, a longitudinal panel-based approach or experimental data would be beneficial.

Additionally, this study did not measure the controllability of risk, which seems to be closely related to the attribution of responsibility. This may hinder an understanding of the causal link between them. In the future, scholars may wish to identify other antecedents, mediators, and moderators that reflect supportive behaviors in addressing climate change issues.

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Date of Submission: 2023-02-28

Date of Acceptance: 2023-05-18