

How Disasters Affect Political Support: Experimental Evidence from an Air Crash Accident*

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Abstract: Research on disasters pays much attention to material interests, overlooking the role of symbolic government behavior such as leadership inspection and bureaucratic punishment. This paper develops a contingent signaling theory to explain how punishment of bureaucrats impacts regime support. I posit that the government can punish bureaucrats to signal competence, responsibility or accountability. Utilizing an air crash accident in China, I conduct a survey experiment to test this theory. Analysis shows that accountability sanctions have different effects on political attitudes depending on political knowledge. Politically unsophisticated people tend to lower support for the government when seeing disaster-induced punishment, whereas politically sophisticated individuals remain unaffected or become more supportive. This study has broad implications for disaster management and government accountability.

Keywords: bureaucratic accountability, blame attribution, emergency management, political support, political sophistication

Introduction

Disasters usually diminish support for the government or political leadership, which in turn causes political crises for the incumbent. This phenomenon has been consistently found in the wake of numerous disasters, including Chile’s 2010 earthquake and tsunami (Carlin, Love and Zechmeister, 2014), the United States’ 2005 Hurricane Katrina (Nicholls and Picou, 2013), Japan’s 2011 earthquake and tsunami (Uslaner and Yamamura, 2016) and Pakistan’s 2010 floods (Akbar and Aldrich, 2015). However, public support does not always decline after disasters. Under some circumstances disasters can increase political support. Lazarev et al. (2014) argue that public support increased in Russia after the wildfires of summer 2010. China’s catastrophic Wenchuan Earthquake in 2008 was also found to be associated with higher political trust afterwards (You, Huang and Zhuang, 2020). Likewise, Bechtel and Hainmueller (2011) argue that the incumbent actually benefited from the 2002 Elbe flooding in Germany by providing beneficial policies, and one-quarter of this positive effect can be carried over to the 2005 election.

The literature on disasters and political support largely falls into two camps. The first stream of literature emphasizes the negative consequences of disasters such as casualties and economic losses and that voters tend to blindly blame politicians for failing to prevent or mishandling a disaster outside their control (Achen and Bartels, 2016, pp.116–145; Heersink, Peterson and Jenkins, 2017; Eriksson, 2016; Healy and Malhotra, 2010; Carlin, Love and Zechmeister, 2014). The second body of literature argues against the blind retrospection thesis. Focusing on self-interest and voter rationality, this flourishing literature contends that voters can base their evaluations on government performance. For instance, the incumbent party might ward off electoral punishment by issuing disaster declarations (Healy and Malhotra, 2010). In this line of investigation, scholars largely focus attention on material interests, reaching a consensus that voters reward the incumbent when the latter has done a good job delivering disaster relief (Lazarev et al., 2014; Gallego, 2018; Reeves, 2011; Cole, Healy and Werker, 2012; Cooperman, 2022; Healy and Malhotra, 2009; Bechtel and Hainmueller, 2011) and punish politicians when they fail to

offer help (Blankenship et al., 2021).

There are two major drawbacks to disaster research. First, scholars typically focus on material interests such as disaster affectedness (Sinclair, Hall and Alvarez, 2011; Fair et al., 2017) and economic benefits received from the government (Bechtel and Hainmueller, 2011; Chen, 2013). Nonetheless, political behavior during and after a disaster usually goes beyond mitigating damages and delivering benefits. For instance, political leaders may visit a disaster scene to express sympathy and offer comfort (Lazarev et al., 2014). In addition, some government officials might resign under pressure (Resodihardjo et al., 2016; Littlefield and Quenette, 2007). The political consequences of such behavior have largely escaped scholarly attention. Second, disaster research usually confines the subjects of interest to residents in an area affected by a disaster due to its focus on material interests. In some disaster-hit areas, people who did not suffer losses and thus did not receive compensation expressed a higher level of support than average people in unaffected areas (Lazarev et al., 2014). Why the opinions of unaffected residents are influenced by a disaster remains to be answered.

I develop a *contingent signaling theory* to explain political support in times of crisis. Building upon Lazarev et al.’s (2014) “demonstration effect” thesis uncovered from Russia’s 2010 wildfires, this paper argues that apart from policy benefits, symbolic government behavior can evoke a demonstration effect on how citizens evaluate the government.¹ Different from their focus on the exposure to government relief and Putin’s visit to affected regions, I posit that disaster-induced *punishment* of public officials can serve as a signal strengthening the notion that the government is competent, responsible, accountable and/or trustworthy. However, this effect should occur only when people are politically sophisticated enough to understand accountability punishment. If they lack political knowledge, they will tend to focus on the disaster itself and blame the government for its occurrence.

¹ Political rhetoric or framing can also affect individuals’ attitudes (Druckman and Nelson, 2003; Huber, Hill and Lenz, 2012; Boin, ’t Hart and McConnell, 2009). This paper only discusses government behavior (what they do) and leaves the effect of framing (what they say) for future research.

I exploit a recent air crash accident taking place in China in March 2022 to test the above theory. Analysis based on an experimental design shows that disaster-induced sanctions can decrease satisfaction with and trust in the government across city, provincial, and central levels. However, the negative effect is insignificant unless the government substantially under-punishes public employees. More importantly, the effect of accountability sanctions is moderated by the level of political sophistication. Politically unsophisticated people are more likely to blame the government when seeing disaster-induced punishment, whereas politically sophisticated individuals facing the same situation remain unaffected or become more supportive of the government. A robustness check indicates that the conditional relationship persists among regime outsiders and vanishes among regime insiders. To summarize, the empirical analysis lends support to contingent signaling theory.

This paper makes both theoretical and empirical contributions to the literature. Theoretically, disaster research usually emphasizes the role of disaster damage in eroding political support and the role of disaster relief in restoring public support. In contrast, this paper complements the very few studies that emphasize the demonstration effect of government behavior on political attitudes ([Abney and Hill, 1966](#); [Lazarev et al., 2014](#)). It has important implications for emergency management and disaster research alike by showing that politicians do not necessarily need to make beneficial policies to maintain public support. Rather, some government behavior signaling accountability and responsibility will likely yield a positive demonstration effect among not only disaster victims but also unaffected citizens.

Empirically, the contributions are twofold. First, scholars of disaster research tend to conduct small-N case studies and large-N observational studies. This paper is among the few attempts to utilize an experimental design to draw causal evidence. Second, since [Abney and Hill \(1966\)](#) brought disasters into political science studies, scholars have mostly focused attention on natural disasters. Technological or man-made disasters such as the 2020 Beirut port explosion that killed 220 people, injured 6,500 people and led to the resignation of the entire Lebanese cabinet are rarely discussed in academic contexts. This

paper makes a breakthrough by showing that technological disasters are equally, if not more, important to the study of politics because natural disasters tend to be interpreted by the public as an act of God and thus less of a political issue.

The Politics of Blame Attribution

Voter rationality is central to the retrospective voting model, which assumes that voters evaluate politicians' performance retrospectively and throw them out of office when they fail to meet expectations (Key, 1966; Kramer, 1971; Fiorina, 1981). However, voting behavior in the context of natural disasters casts much doubt on this ideal. This line of argument starts with Achen and Bartels's widely cited 2004 working paper on natural disasters and voting behavior, which they incorporate into their 2016 book entitled *Democracy for Realists: Why Elections Do Not Produce Responsive Government* (2016). Surprisingly, they argue that voters tend to blindly blame the government for events beyond the latter's control. Drawing on 1916 election data in New Jersey where shark attacks occurred repeatedly in the summer, they present evidence that Wilson's vote share suffers a ten-percentage-point decrease in beach communities due to shark attacks. Along this line of argument, a growing body of literature has noted the effect of politically irrelevant factors on elections, such as floods (Heersink, Peterson and Jenkins, 2017), storms (Eriksson, 2016), tornadoes (Healy and Malhotra, 2010), earthquakes (Carlin, Love and Zechmeister, 2014), college football games (Healy, Malhotra and Mo, 2010; Busby, Druckman and Fredendall, 2017), lottery results (Huber, Hill and Lenz, 2012) and candidate name complexity (Muraoka, 2021).

However, the blind retrospection thesis has been challenged both conceptually and empirically. First, some scholars argue that voters are not blind at all with respect to blame attribution. It is the government's responsibility to prevent such negative events by taking measures such as issuing warnings and closing water areas. The electoral loss is evidence of the success of retrospective voting. Empirically, Fowler and Hall (2018) reexamine Achen and Bartels's (2016) argument based on both the latter's original data

and an expanded dataset on shark attacks. They find that [Achen and Bartels's \(2016\)](#) finding is model-dependent, and there is no evidence that shark attacks affect presidential elections when they exploit a more comprehensive dataset spanning from 1872 to 2012. [Remmer's \(2014\)](#) comparative study of natural disasters in twenty-one Caribbean island democracies calls into question the blind retrospection thesis as well, arguing that voters are indeed competent to base electoral choice on economic performance instead of natural disasters. Scholars studying floods in Canada and Croatia find no evidence that floods affect political support ([Bodet, Thomas and Tessier, 2016](#); [Bovan, Banai and Banai, 2018](#)). Moreover, the “football game” example has also been revisited by [Fowler and Montagnes \(2015\)](#), who argue that the result might be a false positive.

In recent decades, a growing body of literature presents evidence that disasters do not necessarily lead to negative consequences, lending support to the mediated retrospection perspective proposed by [Fiorina \(1981\)](#). In other words, voters base electoral choices on government performance instead of only looking at their own wellbeing. A disaster might erode political support at the very beginning, but political support can be restored in the future by virtue of satisfactory government performance ([Lazarev et al., 2014](#)). In this line of argument, most scholars focus on the impact of relief aid and other beneficial policies. The general consensus is that voters do not punish incumbent parties and politicians if they are able to provide financial support to affected regions ([Reeves, 2011](#); [Cole, Healy and Werker, 2012](#); [Cooperman, 2022](#); [Blankenship et al., 2021](#); [Gallego, 2018](#); [Healy and Malhotra, 2009, 2010](#); [Bechtel and Hainmueller, 2011](#)).

The two streams of blame attribution research, “blind retrospection” and “mediated retrospection,” both enrich our understanding of how disasters affect politics. However, there are two major drawbacks in this growing literature. First, both the blind retrospection and mediated retrospection arguments place material interests at the center. The core logic is that losses from disasters cause people to blindly blame the government (blind retrospection), and policy benefits such as relief funds and humanitarian aid trigger a sense of gratitude that maintains or even fortifies political loyalty (mediated retrospection).

In addition to providing material benefits, however, politicians might adopt a series of actions to counteract the negative consequences of a disaster. For instance, they may proactively seek support from upper-level authorities (Gasper and Reeves, 2011) or visit a disaster scene (Lazarev et al., 2014). Bureaucrats may resign due to public pressure (Littlefield and Quenette, 2007). These political actions, despite not distributing material benefits, may change how voters evaluate government performance and attribute blame.

Second, while many scholars confine research subjects to populations affected by the disaster, a large body of literature also attempts to go beyond this limitation by focusing on a much broader electorate. However, why do voters who are unaffected by a disaster change their opinions of the government? Rubin (2015, p. 88) points out several factors, including the likelihood of unaffected citizens experiencing a similar disaster and shared socioeconomic characteristics with the victims. Unfortunately, these conjectures have yet to be tested.

Theory and Hypothesis

This paper proposes a *contingent signaling theory* to fill the aforementioned gaps. I posit that apart from policies aimed at handling disasters, certain government behavior can serve as a signal emblematic of government competence, responsiveness or accountability, which in turn shapes political attitudes. This theory is based upon the fact that government behavior during and after disasters varies. In the presence of a disaster, government leaders must devote their attention to a wide variety of tasks, including policymaking, media interviews, public speech, bureaucratic coordination and on-site inspection. Citizens are attentive not only to whether the government provides disaster relief to affected groups but also to where politicians go, what they say, and how quickly they respond to public concerns. For instance, it is not uncommon for political leaders to inspect a disaster scene in person. This act of inspection, albeit symbolic, can send a signal that the political leadership cares about its people.² When political leaders choose to stay

² I use the word “symbolic” neutrally. This adjective emphasizes the political implications behind government behavior that addresses disasters without resorting to financial means. Its use does not

silent or run away, they are likely to be targeted by the media and voters. The Texas Republican senator Ted Cruz, who took a vacation to Mexico’s Cancun amid a winter storm in 2021 that crippled the state’s power grid, serves as a good example of the price of absence during a disaster.

The notion that symbolic government behavior may impact public opinion is not new. In their seminal work on disasters and politics, [Abney and Hill \(1966\)](#) note that the political ingenuity of New Orleans’ then-mayor Victor Schiro, evinced by his active contact with Washington, diligent work in disaster areas with “shirt sleeves rolled up”, and his image and slogan of “a man of action,” might contribute to his electoral success in the wake of 1965 Hurricane Betsy. [Rubin \(2015, p. 94\)](#) notes that “the political implications of disasters are to a large extent dependent on symbolic images and narratives that emerge in the wake of natural disasters, more so than the disaster’s actual physical impact.” He coins the term “narrative retrospection” to contrast this point with “blind retrospection” and “mediated retrospection.” The first empirical test of this idea was conducted by [Lazarev et al. \(2014\)](#) in their study on Russia’s unprecedented wildfires in the summer of 2010. Lazarev and colleagues find that while voter gratitude does exist, more noteworthy is the demonstration effect, which was possibly caused by President Putin’s visit to the burned areas.

Nonetheless, [Lazarev et al. \(2014\)](#) do not specify how symbolic behavior impacts political attitudes. Will symbolic actions always have a positive effect? My theory refines their framework by taking political sophistication into account. Political sophistication, which is usually measured by political knowledge, can shape how individuals evaluate their government and make decisions ([Zaller, 1992](#); [Gomez and Wilson, 2001](#)). Disaster management involves multiple levels of government and multiple departments in a government. With regard to flood preparation, [Arceneaux and Stein \(2006\)](#) find that voters with more knowledge about local politics are more likely to blame county governments, whereas knowledge of national politics has no effect on blame attribution. Political knowledge increases one’s ability to make sense of political information and connect it to

mean that such behavior will not have an impact.

their opinions (Druckman and Nelson, 2003). This line of research implies that politically sophisticated individuals are more likely to absorb the political narrative in relation to disaster information.

In the eyes of politically sophisticated individuals, symbolic actions might work in two separate ways. First, symbolic actions will likely neutralize the negative consequences of disasters. Casualties, devastation and economic damage will undoubtedly excite negative feelings such as sadness, horror, hopelessness and anger. These negative feelings may be alleviated to a degree by many symbolic actions, such as the comfort offered by political leaders, an image of hardworking politicians or punishment of some responsible persons. Second, symbolic actions might even increase support for the incumbent. A case in point is the research on corruption and anti-corruption campaigns. Despite a plethora of studies showing that corruption undermines political support (Seligson, 2002; Catterberg and Moreno, 2006; Villoria, Van Ryzin and Lavena, 2013), growing evidence points to the positive effect of anti-corruption campaigns on restoring public faith (Zhu, Huang and Zhang, 2019; Tsai, Trinh and Liu, 2022). More specifically, Tsai, Trinh and Liu (2022) present experimental evidence that anti-corruption campaigns heighten public support by signaling government capacity and moral commitments. In a similar vein, symbolic actions amid a disaster might also yield a positive effect by signaling responsiveness, transparency, accountability and so on.

Hypothesis 1: Symbolic actions amid disasters will yield a positive effect on political support among politically sophisticated citizens.

In contrast, citizens lacking political sophistication may act differently. On the one hand, they may be less attentive to politically symbolic actions due to a lack of political knowledge. On the other hand, even if those actions catch their attention, they may be oblivious to the political implications and instead pay more attention to the disaster itself. The psychological literature suggests that voters' emotions are closely related to political behavior. Voters who are in a good mood are more likely to associate their mood with the incumbent party (Isen et al., 1978; Forgas, 1995; Bower, 1981). Moreover, a positive

mood also makes a person more open to the status quo (Samuelson and Zeckhauser, 1988; Yen and Chuang, 2008), thus giving an advantage to the incumbent. By this logic, when politically unsophisticated citizens focus their attention on the disaster itself as opposed to political gestures, they tend to decrease their support for the incumbent due to negative feelings. Thus, I propose the second hypothesis as follows.

Hypothesis 2: Symbolic actions amid disasters will have a negative effect on political support among politically unsophisticated citizens.

Taken together, my contingent signaling theory has the potential to reconcile the blind retrospection and mediated retrospection accounts by introducing the role of political sophistication. Symbolic actions will likely result in blind retrospection if citizens are politically unsophisticated and cannot understand political processes. For instance, a funds-seeking governor flying to Washington to no avail might be blamed by politically unsophisticated voters for failing to bring back financial resources, but politically sophisticated voters might understand the reason for the governor’s futility (e.g., party polarization) and thus view the governor in a more positive light.

Methods

There are numerous symbolic actions that government leadership can take, ranging from on-site inspection, media interviews and public speech to the resignation of responsible officials. All of these actions are symbolic in the sense that unlike issuing disaster declarations and providing relief funds, they do not aid affected populations directly. Rather, these actions just show that the government is devoting attention to the disaster by various means. In this paper, I focus on a unique form of symbolic actions: the punishment of bureaucrats for disasters. More specifically, I exploit a recent air crash accident that took place in China on March 21st of 2022 to test contingent signaling theory.

I selected this case for three reasons. First, as noted earlier, most disaster research pays attention to natural disasters, leaving man-made technological disasters understudied. China’s March 21st air accident is one of the deadliest and most salient accidents in

the past two decades, claiming 132 lives, including all 123 passengers and 9 crew members. Second, China is a very intriguing case to political scientists and comparativists because of its unusually high political support (Li, 2013; Tang, 2018; Chen and Dickson, 2008; Cunningham, Saich and Turiel, 2020). Third, the explanatory power of existing research fades in China’s setting, where there are no elections for high-level politicians. Rather than giving citizens the power to choose politicians, the Chinese government maintains the power to promote and remove officials, and punishment of bureaucrats has become increasingly common in the past two decades.

Survey sample

I conducted an online survey coupled with snowball sampling to collect data in July 2022. The survey protocol was approved by the Institutional Review Board at the author’s institution. Experimental subjects were limited to Chinese adults. I took three measures to ensure data quality. First, I included several attention check questions to exclude responses of poor quality. Second, I dropped survey responses completed in less than three minutes because respondents were unlikely to carefully read questions in a short period of time. Third, while Qualtrics makes it possible to prevent repeated submissions via an IP check, respondents can get around it easily by switching to different browsers or erasing browsing history before a new trial. Hence, responses from the same IP address were dropped to decrease the likelihood of repeated respondents. Eventually, this study gathered 658 valid responses out of 1,035 complete submissions.

Details about the survey data are reported in the Appendix on pages A-1 through A-4. Although survey participants cover 29 of the 31 mainland provincial jurisdictions, they are not a nationally representative sample. Indeed, the experimental subjects of this study represent a young and well-educated group of Chinese nationals who might exert substantial influence on public opinion. The high proportion of party members is also a sign that they are likely elites among their peers. Thus, it is of academic interest to explore the views of this group. In addition, the sample has approached the national landscape in quite a few aspects, such as household registration and ethnic composition.

These characteristics increase confidence that the data can shed some new light on China’s government accountability and regime support.

Treatments

On March 21st of 2022, an airplane from China’s Eastern Airlines crashed into mountains in Guangxi while performing a flight from Kunming to Guangzhou. As the deadliest air crash in China since the beginning of the 21st century, this unprecedented catastrophe took the lives of 132 persons, with passengers and the crew combined. My survey was conducted against the background of this disaster. While the specific punishment for this disaster has yet to come out, I took advantage of two previous air disasters that took place in 2004 and 2010 to probe the role of accountability sanctions.

After showing respondents a series of disaster statistics and examples including the recent air crash, I asked the question “*do you think that accountability sanctions can reduce the possibility of future accidents?*” Respondents chose an answer on a five-point scale from “Definitely not” (1) to “Definitely yes” (5). Respondents randomly assigned to answer this question constitute the control group. The treatment groups, however, were provided with additional information about the accountability sanctions. The first treatment is formulated as follows:

Treatment one: A similar air disaster occurred eighteen years ago. An aircraft of China Eastern Airlines crashed near Baotou Airport on November 21, 2004, killing over forty people and causing an economic loss of more than 100 million Yuan. This accident led the government to subject 12 responsible persons to accountability sanctions. Do you think that accountability sanctions can reduce the possibility of future accidents?

The second treatment group, by contrast, leveraged the air crash of 2010. These two disasters are similar in nature, damage and consequence but greatly differ in accountability sanctions. The 2004 crash killed 55 people while the 2010 disaster killed 44. Their economic damages in current value are 180 and 308.91 million Chinese Yuan,

respectively. While the 2004 disaster led 12 responsible persons to be disciplined, the 2010 disaster impacted 23 public sector employees. With the first treatment serving as a baseline, the second treatment can illuminate whether the scope of sanctions impacts political support. Below is the survey question about the second treatment.

Treatment two: A similar air disaster occurred twelve years ago. An aircraft of Henan Airlines crashed at Lindu Airport in Yichun city on August 24, 2010, killing over forty people and causing an economic loss of more than 100 million Yuan. This accident led the government to subject 23 responsible persons to accountability sanctions. Do you think that accountability sanctions can reduce the possibility of future accidents?

In addition, this paper takes into account the overall scope of accountability sanctions and the level of punished officials. The third treatment displays the total number of government officials being disciplined in 2,355 accidents that have taken place in mainland China since 2001. The 2,355 accidents come from a database that I constructed for another study on China's disaster management. The number of punished government officials in each accident is extracted from official investigation reports. The survey question is as follows:

Treatment three: According to incomplete statistics, 21,552 officials or public employees have been held accountable for 2,355 accidents since 2001, with an average of nine per accident. Do you think that accountability sanctions can reduce the possibility of future accidents?

The fourth treatment scrutinizes the rank of top officials disciplined for a disaster. Among the 2,355 accidents, there are 748 cases in which the top disciplined official is available or identifiable. The department-, or *chu*-level officials account for 58.96% of all disciplined top officials (including deputies). Examples of *chu*-level officials include the chief leader of a county or district and the department head of a city government. To increase the intensity of the treatment, this study focused on ranks higher than the *chu* level, namely, the municipal (*ting*) and provincial/ministerial (*bu*) levels.

Treatment four: According to incomplete statistics, a total of 27 provincial and ministerial officials (including deputies) and 139 municipal officials (including deputies) have been held accountable as the highest level of officials for the 2,355 accidents occurring since 2001, including the former minister of the Railway Ministry Liu Zhijun and the former mayor Han Zheng of Shanghai municipality. Do you think that accountability sanctions can reduce the possibility of future accidents?

Participants were randomly assigned to the control group and four treatment groups, and no one was exposed to more than one treatment. Participants in all four treatment groups were asked the same question as the control group, but the treatment groups received detailed information about accountability sanctions, whereas those in the control group did not. In so doing, this study attempts to ascertain the causal effects of accountability sanctions on political attitudes. In assigning the treatments, it is critical that the treatment groups differ from the control group only in accountability information. However, the treatment questions indeed contain additional information about disasters, thus risking priming the participants by highlighting the repeated occurrences of disasters. Put simply, participants in treatment groups might be influenced not only by accountability sanctions but also by an impression that the government fails to prevent disasters again and again.

I used the question common to all treatment groups and the control group to gauge the potential influence of priming. If the priming effect exists, respondents assigned to treatment groups will give more negative responses to the question “do you think that accountability sanctions can reduce the possibility of future accidents?” I conducted three sets of analysis to scrutinize this possibility. First, this question involves five possible choices: (1) Definitely not; (2) Probably not; (3) Might or might not; (4) Probably yes; (5) Definitely yes. I conducted a χ^2 test of independence between this survey question and participants’ assigned group. The test statistic is 24.403 under 16 degrees of freedom (4×4), resulting in a p value of 0.08106, which is insignificant at the widely adopted 0.05 level. Second, I treated the survey question as a numerical variable given its ordinal

nature, and I performed an analysis of variance to see whether the group means across five survey groups were equal. This test yielded a p value of 0.298. Third, I regressed the survey question on respondent group while controlling for the influence of covariates. I found that only the second treatment variable resulted in a significantly lower rating, but the effect turned insignificant at the 0.05 level. Taken together, these results provide compelling evidence that the priming effect is nonexistent or minimal at most.

Measurement

Preference falsification

When studying political attitudes in authoritarian contexts, a common and legitimate critique is preference falsification or self-censorship (Shi, 2001; Stockmann, Esarey and Zhang, 2018; Robinson and Tannenber, 2019; Tannenber, 2021), a term describing that respondents might refrain from giving sincere opinions out of fear. For example, taking advantage of a coincident nationwide survey implemented before and after a major political purge in China’s Shanghai, Jiang and Yang (2016) observe divergence between expressed support and actual support among local residents, which they interpret as evidence of preference falsification. However, a growing body of experimental research suggests that the influence of preference falsification might be minimal or nonexistent (Tang and Zhang, 2016, pp. 134–151; Lei and Lu, 2017).

I posit that preference falsification is not a major concern in this study for three reasons. First, King, Pan and Roberts (2013) argue that the goal of the Chinese government’s online censorship is not to silence critics but to stymie collective action. Expressing opinions about the government is not the suppression target of the state. Second, preference falsification stands as a major challenge if the aim is to ascertain the *level* of support for a leader or an institution. This study, by contrast, seeks to scrutinize the *change* in support given exposure to a treatment. If this study uncovers a significant finding in the presence of preference falsification, then the true effect must be more pronounced and significant. Third, I adopted a satisfaction measure as a proxy for the conventional

political trust measure due to its commonplace use in China. I expect that measuring satisfaction with the government will be less prone to measurement error if preference falsification is at work.

I displayed dependent variables to participants immediately after assigning the treatments. The variable to be explained is political attitudes toward the government, measured by two survey questions. First, I asked survey participants about their satisfaction with the government at the city, provincial and central levels. They made choices on a 1 (very dissatisfied) to 7 (very satisfied) point scale, with 4 denoting neutrality. The political trust variable is measured in a similar way.

Measuring control variables

I considered a host of variables pertaining to respondents' socioeconomic and political characteristics, including age, gender, household registration type, political affiliation, ethnic background, education, income, etc. Both education and income are measured as ordinal variables and used as continuous variables. In addition, I created a dummy variable *regime insider* to distinguish public servants from ordinary Chinese. This variable should be controlled because the extant literature indicates that respondents embedded in the regime show more support for the government than those outside it (Chen and Dickson, 2008).³ Given the prevalence of disasters in the past two decades, the survey also asked whether respondents had witnessed any accidents that involved government investigation.

Finally, I paid particular attention to political knowledge, which can influence how people process the treatment information about accountability sanctions. The additional information encompassed two components: (1) disaster casualties/damages and (2) accountability sanctions. Although it was made clear that the former led to the latter, it remains unknown whether respondents could make sense of the latter. In China's con-

³ In China, state-owned enterprises (SOEs) and public institutions (*Shiye Danwei*) are closely related to the government. Thus, I adopt two measures of insiders. The narrower measure only includes government employees, whereas the broader measure also includes employees in SOEs and public institutions.

text, accountability is a very common term, but its meaning varies a great deal because the government adopts a wide array of sanctions. People who lack political knowledge might neglect accountability sanctions and merely focus on disaster casualties/damages, which will likely result in dissatisfaction and mistrust. Those who are politically sophisticated, by contrast, might remain unchanged in their perceptions of the government because accountability sanctions counteract the negative feelings caused by disaster casualties/damages. In a more extreme scenario, seeing accountability sanctions might even strengthen satisfaction and trust. Therefore, it is critical to examine whether political knowledge can play a moderating role in shaping political attitudes.

I measured political sophistication as an additive score based on four questions tapping political knowledge. These four questions are used to gauge respondents' knowledge of (1) the permanent members of the Security Council of the United Nations; (2) the Politburo Standing Committee at the central level; (3) the Party Congress held in 2017; and (4) the political leaders in their own provincial jurisdictions. Each question was worth one point, and respondents earned one point when correctly answering a question. Because provincial leaders in China's context include both government heads (governor) and party heads (party secretary), respondents could earn 0.5 points if they only know the name of one of the two leaders. Therefore, the political knowledge variable ranges from 0 to 4 with possible .5 decimals (e.g., 2.5).

Experimental Results

Treatment effects of accountability sanctions

I explore the treatment effects of accountability sanctions on average political attitudes across all three levels of the government. Average treatment effects were estimated by running OLS regressions on all four treatments with the control group serving as the reference group for each binary treatment variable. The model controls for covariates such as income and education. Figure 1 shows that compared with the control group, all four treatments demonstrate a negative effect on political attitudes (with 95% and

90% CIs included). Simply put, participants receiving information about accountability sanctions express less satisfaction with and trust in the government than people who do not receive such information. However, this effect is significant only in the first treatment group, where the government disciplined 12 public sector employees for the 2004 air crash. As a comparison, treatment two contains information that the government disciplined 23 public sector employees for a similar air crash taking place in 2010.

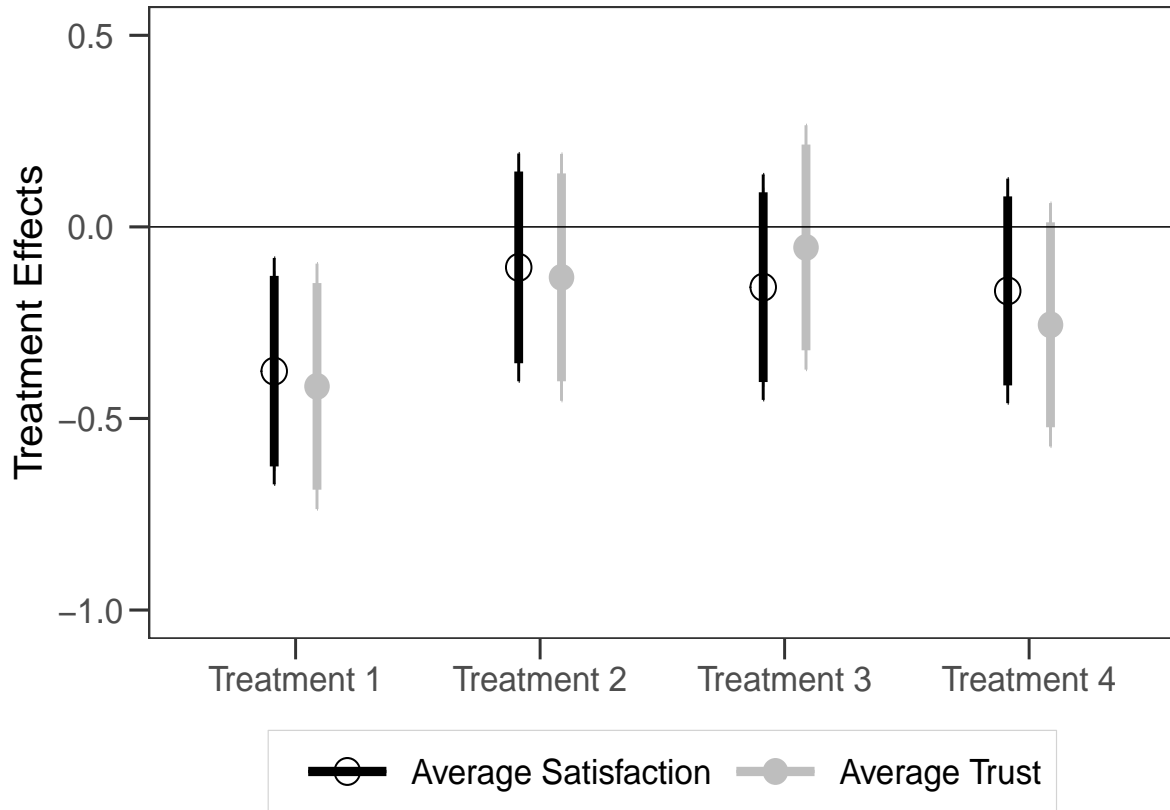


Figure 1: Treatment effects of accountability sanctions on political attitudes

The null effect of the second treatment suggests that as the government punishes more officials for disasters, the public can be appeased. To evaluate this possibility, I coded the first treatment group as the baseline group, and I compared it with the second and third treatment groups. Multivariate regression analysis shows that the average satisfaction and trust are 0.247 and 0.253 points higher in the second group than in the first group. However, the difference does not reach statistical significance probably because of the sample size. Moreover, the differences in political attitudes are 0.229 and 0.384 in the third treatment group, with the latter passing a significance test at the 0.05

level. This finding provides partial evidence that increasing the scope of punishment may serve as an effective way of maintaining and boosting regime support.

Treatment four speaks to the sanction level. In a country with no elections for high-level officials, the bureaucratic punishment of local leaders is perhaps the only situation where blame attribution can be compared to a democratic context. Surprisingly, seeing high-level officials disciplined for a disaster is still associated with lower support, although the negative effects are insignificant at the 0.05 level. Taken together, a preliminary finding from the baseline analysis is that the level of accountability sanctions does not matter, but the scope of sanctions can have an impact. Symbolic actions can yield an inimical effect if the scope of sanctions falls substantially short of public expectations.

Examining the moderating role of political sophistication

This section adopts interaction models to test the moderating role of political sophistication, which is measured by an additive index of four survey questions tapping political knowledge. Interaction terms are generated for all four treatments and political knowledge. Detailed regression results are presented in the Appendix on page [A-8](#).

Figure [2](#) corroborates the hypothesis. There are significant interactive effects between each treatment and political knowledge. Among respondents with little political knowledge, the marginal effects of all four treatments are negative and significant at the 0.05 significance level. Take treatment one in Panel A of Figure [2](#) as an example. For respondents with zero political knowledge (i.e., they incorrectly answered all four questions tapping political knowledge), receiving treatment one can decrease their satisfaction with the government by one point on a seven-point scale. This negative effect shrinks as their political knowledge increases, and the effects become insignificant if they are able to correctly answer three or all four questions.⁴ The other three treatments demonstrate a similar pattern—symbolic accountability punishment can erode mass support among

⁴ These findings are robust to analysis with binning and kernel estimators advocated by [Hainmueller, Mummolo and Xu \(2019\)](#) to take into account the issues of model dependency and the lack of common support. The results are available in the Appendix on pages [A-14](#) and [A-15](#).

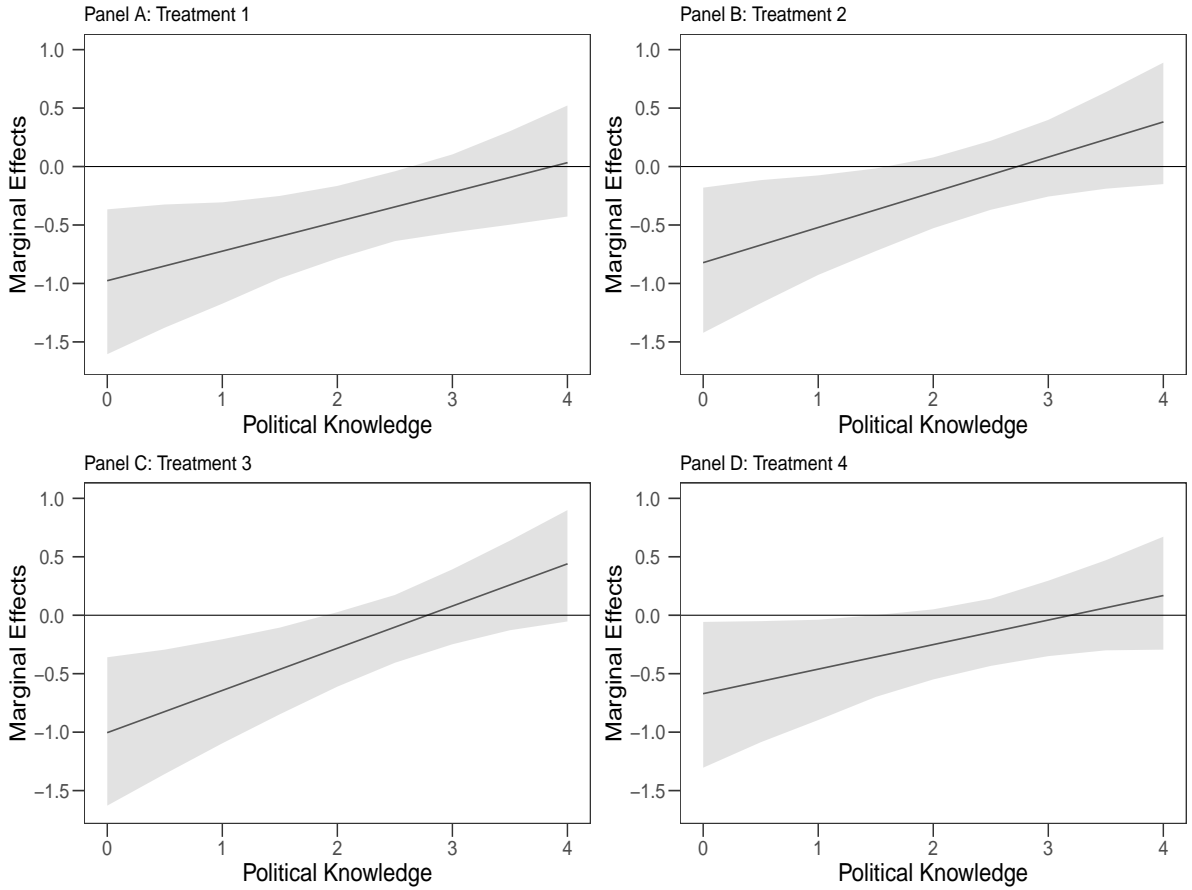


Figure 2: The marginal effects on satisfaction conditional on political knowledge

politically unsophisticated citizens, regardless of the form of punishment. For politically sophisticated citizens, by contrast, accountability sanctions can improve political support, although the improvement is statistically insignificant in all four treatment groups.

Figure 3 shows the average treatment effects on political trust. The findings are similar to those of the satisfaction measure, thus running counter to [Albrecht's \(2017\)](#) argument that political trust is more stable and satisfaction with the government is more prone to change. However, there are some minor differences. First, accountability punishment has a slightly larger impact on political trust than on public satisfaction. Take treatment one for instance. Politically unsophisticated people exposed to treatment one expressed *satisfaction* one point lower than those in the control group. However, their trust in the government is nearly 1.3 points lower. The second difference concerns the statistical significance. In Panel C of Figure 3, treatment three has a significant and positive effect on trust among the most politically sophisticated individuals. This

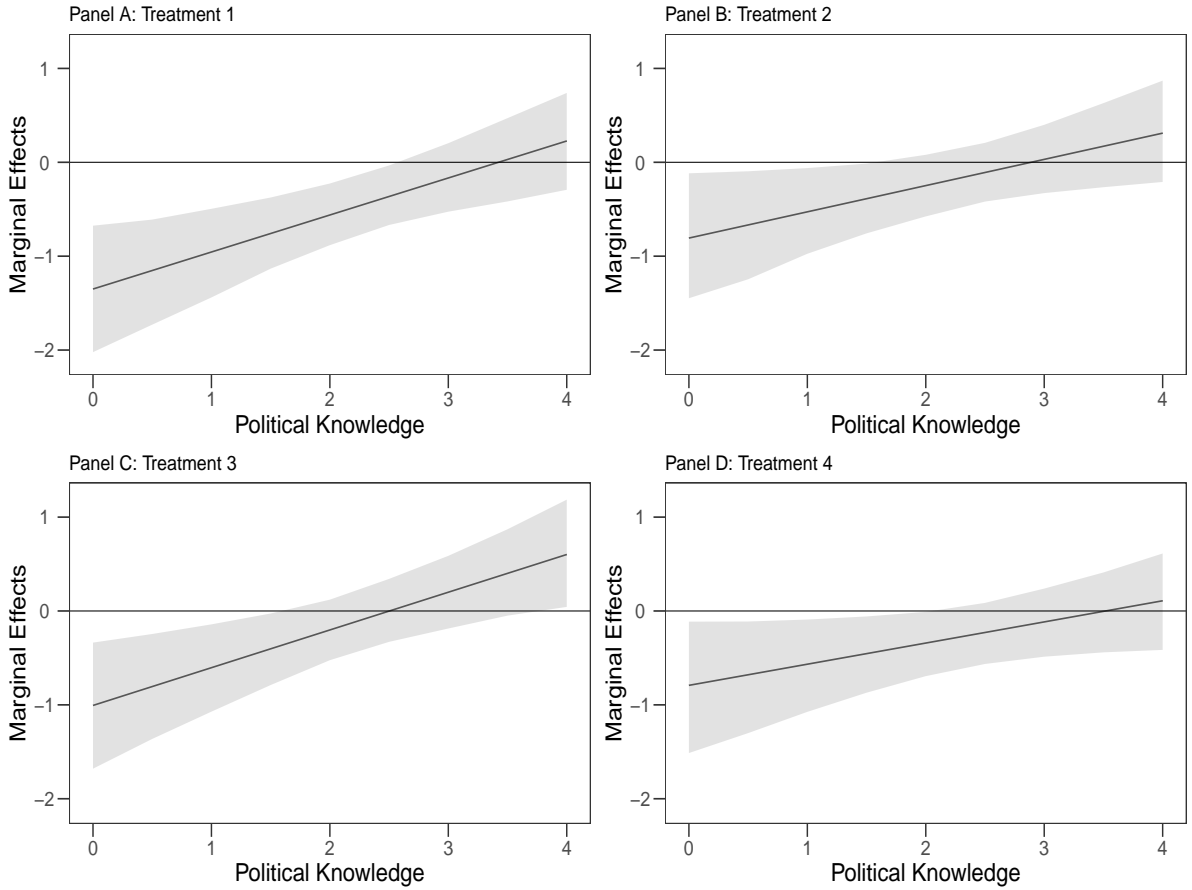


Figure 3: The marginal effects on trust conditional on political knowledge

finding supports the theoretical prediction that symbolic actions may help restore political support.

Evaluating competing explanations

The preceding analysis illuminates how political knowledge moderates public perceptions of the government. However, this relationship could be confounded by an important factor: respondents' relationship to the regime. The literature notes that regime insiders (i.e., civil servants) have different political attitudes from outsiders ([Kang and Zhu, 2021](#)). Is it possible that the previous findings are driven by this very small yet important group of people? On one hand, public servants are employees of the government. Thus, they are likely to express a favorable view of the government. On the other hand, public servants possess more political knowledge than regime outsiders. To rule out this possibility, I examine the effect of accountability sanctions by running regressions in two separate

samples: regime insiders and outsiders. The results are presented in Table 1.

Table 1: The moderating role of political knowledge by respondent identity

	Satisfaction (Outsiders)	Trust (Outsiders)	Satisfaction (Insiders)	Trust (Insiders)
	(1)	(2)	(3)	(4)
Treatment One	-1.367*** (0.401)	-1.933*** (0.433)	-0.045 (0.585)	-0.076 (0.630)
Treatment Two	-1.048*** (0.397)	-1.164*** (0.429)	0.004 (0.574)	0.252 (0.619)
Treatment Three	-1.017** (0.421)	-1.202*** (0.455)	-0.813 (0.542)	-0.427 (0.585)
Treatment Four	-0.850** (0.416)	-0.919** (0.449)	-0.021 (0.590)	-0.215 (0.637)
Political Knowledge	-0.175 (0.127)	-0.257* (0.137)	-0.002 (0.152)	0.087 (0.164)
Treatment One \times Political Knowledge	0.369** (0.163)	0.576*** (0.177)	-0.019 (0.198)	0.032 (0.214)
Treatment Two \times Political Knowledge	0.300* (0.167)	0.313* (0.180)	0.130 (0.194)	0.058 (0.210)
Treatment Three \times Political Knowledge	0.348* (0.178)	0.440** (0.192)	0.320* (0.185)	0.265 (0.199)
Treatment Four \times Political Knowledge	0.209 (0.170)	0.232 (0.183)	0.081 (0.197)	0.097 (0.213)
Controls/Intercept	✓	✓	✓	✓
Observations	381	381	277	277
R ²	0.088	0.115	0.088	0.100
Adjusted R ²	0.046	0.073	0.028	0.041

Note:

*p<0.1; **p<0.05; ***p<0.01

Significant interactive effects persist among regime outsiders, but they vanish in the insider sample. Models (1) and (2) show that people with zero political knowledge are associated with lower satisfaction and trust across all treatments. The positive coefficients on the four interaction terms suggest that the negative effects might shrink or even turn positive as respondents gain more political knowledge. By contrast, the insider sample yields insignificant coefficients. These findings are robust to a narrower measure of insiders that excludes employees in SOEs and public institutions (see Appendix on pages A-12 and A-13). To recapitulate, respondents' identity does not confound the relationship among political knowledge, accountability sanctions and regime support.

Conclusion

Disasters, whether natural or man-made, pose grave challenges to the government. Unfortunately, there is a huge gap between public expectations and leadership behavior in the event of a disaster (Boin and Hart, 2003). A well-functioning accountability system should not only incentivize the government to take proactive measures to handle disasters but also enable voters to impose punishment on political agents when the latter fall short of public expectations. There are multiple frames for achieving accountability, such as democratic, market and administrative channels (Koliba, Mills and Zia, 2011). While electoral democracies can principally rely on elections to oust incompetent officials out of office, authoritarian states can resort to the administrative channel to remove responsible public servants.

I develop a contingent signaling theory to examine the effect of accountability punishment of bureaucrats on regime support. Capitalizing on an experimental design that embeds a recent air crash accident in China, this paper explores how symbolic accountability punishment affects the political attitudes of Chinese citizens. Empirical analysis shows that accountability punishment can have a significant effect on political attitudes, depending on the level of political sophistication. Punishing government officials can significantly weaken political support among politically unsophisticated citizens, but the adverse effect vanishes among politically sophisticated people. Under-punishment can result in the largest drop in regime support among politically unsophisticated respondents, but increasing the scope of punishment will likely improve political support among politically sophisticated people.

This study has broad implications for crisis management, political attitudes and authoritarian resilience. First, material interests are not the only channel through which disasters affect politics. Equally important are government actions that bear on responsiveness, transparency and accountability. Political leaders do not necessarily need to invest financial resources to maintain political loyalty in the event of a disaster. Second, symbolic actions such as accountability punishment are a double-edged sword, which

might have an adverse effect among some people despite its positive effect among others. This risk becomes especially concerning in a competitive media environment where opposition parties and politicians can misinterpret symbolic actions to disadvantage the incumbent. In authoritarian contexts, by contrast, the government-controlled media environment is more conducive to a change in public opinion aligned with state preference (Yeung, 2022; You, Huang and Zhuang, 2020). Future research should devote more attention to the interaction between different forms of symbolic actions and the media environment.

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Online Appendix

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A The geographical distribution of the survey sample

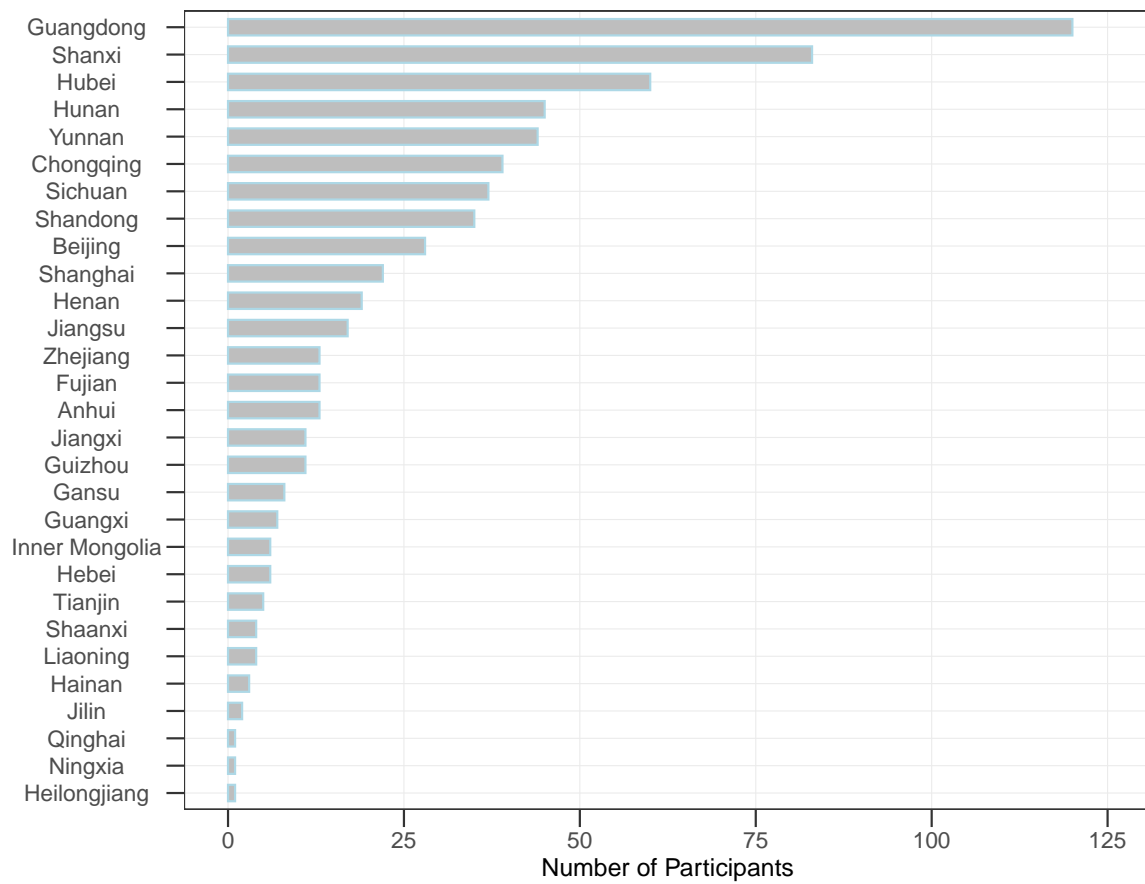


Figure 4: The geographical distribution of the survey sample

B The frequency distribution of dependent variables

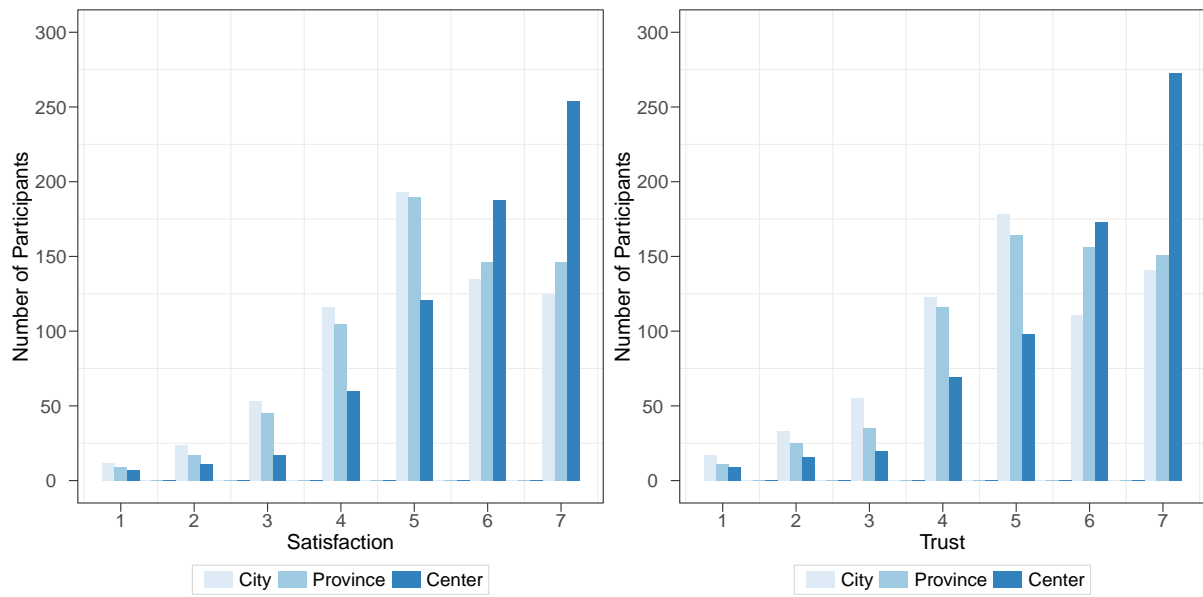


Figure 5: Satisfaction with and trust in different levels of government

C Summary statistics

Table 2: Summary statistics

Statistic	N	Mean	St. Dev.	Min	Median	Max
Satisfaction (Center)	658	5.822	1.293	1	6	7
Satisfaction (Province)	658	5.237	1.393	1	5	7
Satisfaction (City)	658	5.065	1.443	1	5	7
Average Satisfaction	658	5.375	1.227	1	5.333	7
Trust (Center)	658	5.799	1.397	1	6	7
Trust (Province)	658	5.233	1.450	1	5	7
Trust (City)	658	4.989	1.554	1	5	7
Average Trust	658	5.340	1.343	1	5.333	7
Treatment One (2004 Crash)	658	0.202	0.402	0	0	1
Treatment Two (2010 Crash)	658	0.195	0.396	0	0	1
Treatment Three (Sanction Scope)	658	0.202	0.402	0	0	1
Treatment Four (Sanction Level)	658	0.208	0.406	0	0	1
Political Knowledge	658	2.302	1.279	0	2.5	4
Age	658	28.631	7.174	18	28	61
Rural Hukou	658	0.410	0.492	0	0	1
Party Member	658	0.448	0.498	0	0	1
Female	658	0.552	0.498	0	1	1
Education	658	3.435	0.738	1	3	5
Income	658	3.179	2.111	1	3	9
Regime Insider	658	0.138	0.345	0	0	1
Ethnic Minority	658	0.074	0.263	0	0	1
Disaster Experience	658	0.336	0.473	0	0	1

D Balance check

Table 3: Checking the balance of covariates

Variables	Control	T1	T2	T3	T4	P Values
Age	28.43	29.03	27.42	29.49	28.72	0.19
Rural Hukou	0.36	0.47	0.45	0.39	0.38	0.33
Party Member	0.49	0.44	0.41	0.47	0.43	0.78
Female	0.50	0.58	0.52	0.55	0.61	0.40
Education	3.52	3.31	3.48	3.43	3.45	0.20
Income	3.28	3.01	3.38	3.19	3.06	0.60
Regime Insider	0.12	0.13	0.12	0.13	0.19	0.42
Ethnic Minority	0.08	0.10	0.07	0.05	0.07	0.73
Disaster Experience	0.34	0.33	0.34	0.32	0.36	0.97
Political Knowledge	2.42	2.29	2.18	2.22	2.40	0.48
Observations	127	133	128	133	137	

The balance check is intended to evaluate whether the mean of covariates is statistically indistinguishable (balanced) across the four treatment groups and one control group. It shows whether the random assignment is successful or not. P values were obtained by conducting an analysis of variance (ANOVA) for continuous or ordinal covariates and a χ^2 test for categorical variables. All tests yield insignificant results at conventional significance levels, suggesting that the random assignment works well and that all covariates are balanced across the five groups.

E Treatment effects in the baseline model

Table 4: Regression results from the baseline model

	Average Satisfaction		Average Trust	
	(1)	(2)	(3)	(4)
Treatment One	−0.329** (0.152)	−0.377** (0.151)	−0.348** (0.166)	−0.416** (0.163)
Treatment Two	−0.126 (0.154)	−0.106 (0.152)	−0.157 (0.168)	−0.132 (0.164)
Treatment Three	−0.149 (0.152)	−0.157 (0.150)	−0.040 (0.166)	−0.054 (0.163)
Treatment Four	−0.126 (0.151)	−0.167 (0.149)	−0.186 (0.165)	−0.255 (0.162)
Political Knowledge		0.107*** (0.041)		0.121*** (0.045)
Age		0.003 (0.008)		0.004 (0.008)
Rural Hukou		0.193* (0.105)		0.183 (0.114)
Party Member		0.210* (0.110)		0.216* (0.119)
Female		0.053 (0.099)		0.119 (0.107)
Education		−0.146** (0.073)		−0.170** (0.080)
Income		−0.054** (0.027)		−0.085*** (0.029)
Regime Insider		0.256* (0.147)		0.452*** (0.159)
Ethnic Minority		−0.165 (0.181)		−0.025 (0.196)
Disaster Experience		0.138 (0.101)		0.088 (0.110)
Intercept	5.522*** (0.109)	5.600*** (0.342)	5.488*** (0.119)	5.649*** (0.371)
Observations	658	658	658	658
R ²	0.007	0.057	0.008	0.075
Adjusted R ²	0.001	0.037	0.002	0.055

Note:

*p<0.1; **p<0.05; ***p<0.01

F Heterogeneous effects across different government

Table 5: The effects of accountability sanctions on satisfaction and trust

	Satisfaction (City)	Satisfaction (Province)	Satisfaction (Center)	Trust (City)	Trust (Province)	Trust (Center)
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment One	−0.480*** (0.179)	−0.432** (0.172)	−0.217 (0.158)	−0.591*** (0.190)	−0.436** (0.177)	−0.222 (0.171)
Treatment Two	−0.206 (0.180)	−0.123 (0.173)	0.012 (0.159)	−0.173 (0.191)	−0.187 (0.178)	−0.035 (0.172)
Treatment Three	−0.247 (0.178)	−0.159 (0.171)	−0.066 (0.158)	−0.166 (0.189)	−0.027 (0.176)	0.032 (0.170)
Treatment Four	−0.213 (0.178)	−0.202 (0.170)	−0.086 (0.157)	−0.389** (0.188)	−0.264 (0.175)	−0.114 (0.170)
Political Knowledge	0.105** (0.049)	0.102** (0.047)	0.115*** (0.043)	0.153*** (0.052)	0.113** (0.048)	0.096** (0.047)
Age	0.002 (0.009)	0.002 (0.009)	0.006 (0.008)	0.006 (0.010)	0.005 (0.009)	0.001 (0.009)
Hukou	0.172 (0.125)	0.225* (0.120)	0.182* (0.110)	0.128 (0.132)	0.169 (0.123)	0.252** (0.119)
Party Member	0.179 (0.131)	0.211* (0.125)	0.241** (0.115)	0.210 (0.139)	0.243* (0.129)	0.195 (0.125)
Female	0.126 (0.117)	0.098 (0.112)	−0.064 (0.103)	0.247** (0.124)	0.122 (0.115)	−0.012 (0.112)
Education	−0.102 (0.087)	−0.147* (0.084)	−0.190** (0.077)	−0.200** (0.093)	−0.217** (0.086)	−0.093 (0.083)
Income	−0.026 (0.032)	−0.052* (0.030)	−0.086*** (0.028)	−0.068** (0.033)	−0.097*** (0.031)	−0.089*** (0.030)
Regime Insider	0.216 (0.175)	0.298* (0.168)	0.253 (0.154)	0.440** (0.185)	0.455*** (0.172)	0.460*** (0.167)
Ethnic Minority	−0.317 (0.214)	−0.215 (0.206)	0.036 (0.189)	−0.179 (0.228)	−0.108 (0.211)	0.214 (0.205)
Disaster Experience	0.133 (0.120)	0.122 (0.116)	0.160 (0.106)	0.068 (0.128)	0.074 (0.119)	0.121 (0.115)
Intercept	5.149*** (0.407)	5.506*** (0.390)	6.145*** (0.359)	5.288*** (0.432)	5.731*** (0.401)	5.928*** (0.389)
Observations	658	658	658	658	658	658
R ²	0.038	0.050	0.065	0.066	0.074	0.062
Adjusted R ²	0.017	0.029	0.044	0.046	0.054	0.042

Note:

*p<0.1; **p<0.05; ***p<0.01

G Evaluating priming effects of treatment questions

Table 6: Evaluating priming effects of treatment questions

	Dependent Variable: Accountability Effectiveness	
	(1)	(2)
Treatment 1	−0.161 (0.115)	−0.186 (0.113)
Treatment 2	−0.247** (0.116)	−0.201* (0.114)
Treatment 3	−0.116 (0.115)	−0.137 (0.113)
Treatment 4	−0.093 (0.114)	−0.129 (0.112)
Political Knowledge		0.067** (0.031)
Age		0.026*** (0.006)
Rural Hukou		−0.045 (0.079)
Party Member		−0.051 (0.083)
Female		0.022 (0.074)
Education		−0.017 (0.055)
Income		−0.063*** (0.020)
Regime Insider		0.075 (0.110)
Ethnic Minority		−0.059 (0.136)
Disaster Experience		0.189** (0.076)
Intercept	3.575*** (0.082)	2.900*** (0.257)
Observations	658	658
R ²	0.007	0.065
Adjusted R ²	0.001	0.044
F Statistic	1.228 (df = 4; 653)	3.175*** (df = 14; 643)

Note:

*p<0.1; **p<0.05; ***p<0.01

H Results of DV-aggregated interaction models

Table 7: The conditional effects of accountability sanctions on satisfaction and trust

	Average Satisfaction (1)	Average Trust (2)
Treatment One	−0.982*** (0.321)	−1.351*** (0.348)
Treatment Two	−0.812** (0.317)	−0.826** (0.344)
Treatment Three	−1.007*** (0.320)	−0.998*** (0.347)
Treatment Four	−0.683** (0.332)	−0.789** (0.359)
Political Knowledge	−0.130 (0.093)	−0.155 (0.101)
Age	0.003 (0.008)	0.003 (0.008)
Rural Hukou	0.224** (0.105)	0.227** (0.114)
Party Member	0.210* (0.109)	0.218* (0.118)
Female	0.052 (0.098)	0.110 (0.107)
Education	−0.124* (0.074)	−0.148* (0.080)
Income	−0.051* (0.027)	−0.082*** (0.029)
Regime Insider	0.249* (0.146)	0.445*** (0.158)
Ethnic Minority	−0.141 (0.181)	0.024 (0.196)
Disaster Experience	0.144 (0.101)	0.091 (0.109)
Treatment One×Political Knowledge	0.252** (0.120)	0.394*** (0.130)
Treatment Two×Political Knowledge	0.297** (0.121)	0.287** (0.131)
Treatment Three×Political Knowledge	0.363*** (0.122)	0.403*** (0.132)
Treatment Four×Political Knowledge	0.214* (0.123)	0.222* (0.134)
Intercept	6.084*** (0.383)	6.226*** (0.414)
Observations	658	658
R ²	0.072	0.092
Adjusted R ²	0.045	0.067

Note:

*p<0.1; **p<0.05; ***p<0.01

I Results of level-specific interaction models

Table 8: The effects of accountability sanctions on satisfaction and trust

	Satisfaction (City)	Satisfaction (Province)	Satisfaction (Center)	Trust (City)	Trust (Province)	Trust (Center)
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment One	-1.232*** (0.382)	-0.943** (0.367)	-0.771** (0.337)	-1.636*** (0.405)	-1.246*** (0.377)	-1.172*** (0.364)
Treatment Two	-0.916** (0.378)	-0.734** (0.363)	-0.786** (0.333)	-0.953** (0.400)	-0.707* (0.372)	-0.819** (0.360)
Treatment Three	-1.065*** (0.381)	-0.974*** (0.366)	-0.980*** (0.336)	-1.135*** (0.404)	-0.893** (0.375)	-0.968*** (0.363)
Treatment Four	-0.695* (0.395)	-0.559 (0.379)	-0.794** (0.348)	-1.064** (0.418)	-0.573 (0.389)	-0.731* (0.376)
Political Knowledge	-0.140 (0.111)	-0.102 (0.106)	-0.148 (0.098)	-0.154 (0.117)	-0.109 (0.109)	-0.200* (0.105)
Age	0.002 (0.009)	0.001 (0.009)	0.006 (0.008)	0.006 (0.010)	0.005 (0.009)	0.0002 (0.009)
Rural Hukou	0.206 (0.125)	0.259** (0.120)	0.208* (0.111)	0.170 (0.133)	0.215* (0.124)	0.295** (0.119)
Party Member	0.178 (0.130)	0.213* (0.125)	0.240** (0.115)	0.211 (0.138)	0.248* (0.128)	0.196 (0.124)
Female	0.119 (0.117)	0.100 (0.112)	-0.065 (0.103)	0.233* (0.124)	0.118 (0.115)	-0.021 (0.112)
Education	-0.081 (0.088)	-0.128 (0.084)	-0.164** (0.077)	-0.176* (0.093)	-0.200** (0.086)	-0.069 (0.083)
Income	-0.024 (0.032)	-0.048 (0.030)	-0.083*** (0.028)	-0.066** (0.033)	-0.094*** (0.031)	-0.087*** (0.030)
Regime Insider	0.209 (0.174)	0.292* (0.167)	0.247 (0.153)	0.432** (0.184)	0.450*** (0.171)	0.453*** (0.166)
Ethnic Minority	-0.279 (0.215)	-0.193 (0.206)	0.050 (0.190)	-0.126 (0.228)	-0.063 (0.212)	0.261 (0.205)
Disaster Experience	0.139 (0.120)	0.127 (0.115)	0.165 (0.106)	0.071 (0.127)	0.077 (0.118)	0.125 (0.114)
Treatment One×Political Knowledge	0.315** (0.143)	0.213 (0.138)	0.229* (0.126)	0.441*** (0.152)	0.342** (0.141)	0.399*** (0.137)
Treatment Two×Political Knowledge	0.298** (0.144)	0.256* (0.138)	0.337*** (0.127)	0.324** (0.152)	0.212 (0.141)	0.326** (0.137)
Treatment Three×Political Knowledge	0.348** (0.145)	0.350** (0.139)	0.390*** (0.128)	0.411*** (0.154)	0.372*** (0.143)	0.425*** (0.138)
Treatment Four×Political Knowledge	0.200 (0.147)	0.148 (0.141)	0.294** (0.129)	0.281* (0.156)	0.128 (0.145)	0.256* (0.140)
Intercept	5.652*** (0.456)	5.920*** (0.437)	6.679*** (0.401)	5.932*** (0.482)	6.200*** (0.448)	6.546*** (0.434)
Observations	658	658	658	658	658	658
R ²	0.049	0.060	0.080	0.080	0.087	0.079
Adjusted R ²	0.022	0.033	0.054	0.055	0.062	0.053

Note:

*p<0.1; **p<0.05; ***p<0.01

J Robustness check using a broader definition of insiders

Table 9: Examining the competing explanation of the insider hypothesis

	Satisfaction (Outsiders)	Trust (Outsiders)	Satisfaction (Insiders)	Trust (Insiders)
	(1)	(2)	(3)	(4)
Political Knowledge	-0.175 (0.127)	-0.257* (0.137)	-0.002 (0.152)	0.087 (0.164)
Treatment One	-1.367*** (0.401)	-1.933*** (0.433)	-0.045 (0.585)	-0.076 (0.630)
Treatment Two	-1.048*** (0.397)	-1.164*** (0.429)	0.004 (0.574)	0.252 (0.619)
Treatment Three	-1.017** (0.421)	-1.202*** (0.455)	-0.813 (0.542)	-0.427 (0.585)
Treatment Four	-0.850** (0.416)	-0.919** (0.449)	-0.021 (0.590)	-0.215 (0.637)
Age	-0.006 (0.013)	-0.003 (0.014)	0.002 (0.010)	-0.005 (0.011)
Rural Hukou	0.263* (0.140)	0.287* (0.151)	0.242 (0.165)	0.186 (0.177)
Party Member	0.256 (0.162)	0.345** (0.175)	0.170 (0.152)	0.107 (0.164)
Female	-0.041 (0.137)	-0.002 (0.148)	0.169 (0.143)	0.270* (0.154)
Education	-0.177* (0.106)	-0.236** (0.114)	-0.135 (0.102)	-0.178 (0.110)
Income	-0.058 (0.039)	-0.105** (0.042)	-0.048 (0.042)	-0.070 (0.045)
Ethnic Minority	-0.261 (0.298)	-0.013 (0.322)	-0.098 (0.224)	0.004 (0.242)
Disaster Experience	0.193 (0.143)	0.155 (0.155)	0.111 (0.144)	0.058 (0.155)
Treatment One×Political Knowledge	0.369** (0.163)	0.576*** (0.177)	-0.019 (0.198)	0.032 (0.214)
Treatment Two×Political Knowledge	0.300* (0.167)	0.313* (0.180)	0.130 (0.194)	0.058 (0.210)
Treatment Three×Political Knowledge	0.348* (0.178)	0.440** (0.192)	0.320* (0.185)	0.265 (0.199)
Treatment Four×Political Knowledge	0.209 (0.170)	0.232 (0.183)	0.081 (0.197)	0.097 (0.213)
Intercept	6.659*** (0.546)	6.994*** (0.590)	5.745*** (0.609)	5.958*** (0.657)
Observations	381	381	277	277
R ²	0.088	0.115	0.088	0.100
Adjusted R ²	0.046	0.073	0.028	0.041

Note:

*p<0.1; **p<0.05; ***p<0.01

K Interactive effects in models with a broader definition

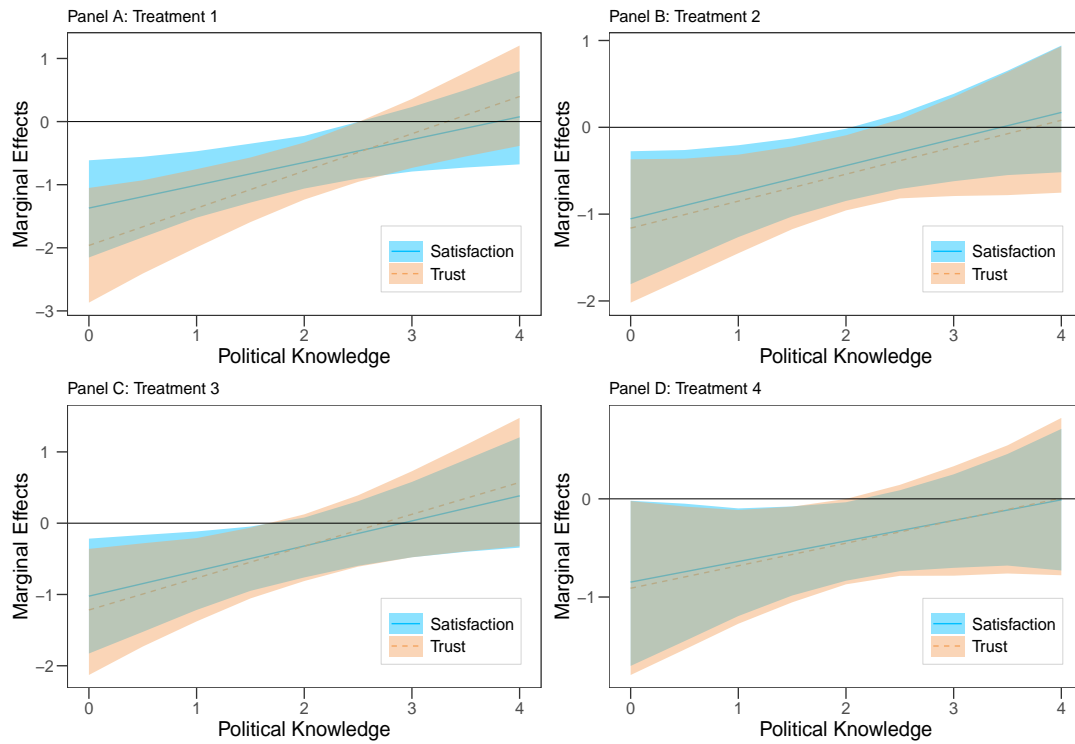


Figure 6: The interactive effects among regime outsiders (broad)

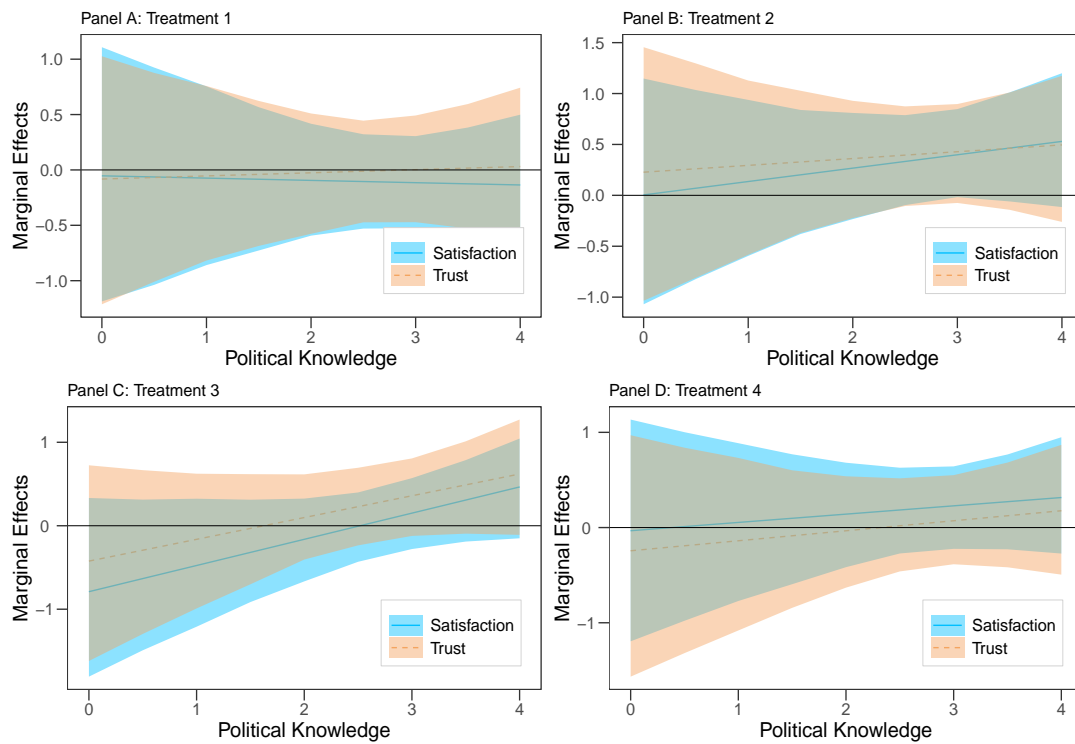


Figure 7: The interactive effects among regime insiders (broad)

L Robustness check using a narrower definition of insiders

Table 10: Examining the competing explanation of the insider hypothesis

	Satisfaction (Outsiders)	Trust (Outsiders)	Satisfaction (Insiders)	Trust (Insiders)
	(1)	(2)	(3)	(4)
Political Knowledge	-0.126 (0.100)	-0.134 (0.108)	-0.126 (0.280)	-0.290 (0.304)
Treatment One	-0.970*** (0.339)	-1.357*** (0.366)	-1.326 (1.278)	-1.629 (1.386)
Treatment Two	-0.755** (0.338)	-0.772** (0.365)	-1.513 (1.111)	-1.387 (1.205)
Treatment Three	-0.960*** (0.346)	-0.887** (0.373)	-1.318 (0.939)	-1.750* (1.019)
Treatment Four	-0.690* (0.361)	-0.757* (0.390)	-0.389 (0.923)	-0.799 (1.002)
Age	0.001 (0.009)	0.004 (0.009)	0.012 (0.018)	-0.004 (0.020)
Rural Hukou	0.245** (0.115)	0.252** (0.124)	0.192 (0.288)	0.210 (0.313)
Party Member	0.210* (0.119)	0.243* (0.129)	0.198 (0.293)	0.075 (0.318)
Female	0.040 (0.108)	0.110 (0.116)	0.135 (0.246)	0.093 (0.267)
Education	-0.105 (0.080)	-0.145* (0.086)	-0.154 (0.216)	-0.066 (0.235)
Income	-0.054* (0.029)	-0.092*** (0.031)	0.060 (0.087)	0.060 (0.094)
Ethnic Minority	-0.090 (0.210)	0.109 (0.227)	-0.016 (0.340)	0.056 (0.369)
Disaster Experience	0.231** (0.113)	0.172 (0.122)	-0.249 (0.225)	-0.264 (0.244)
Treatment One×Political Knowledge	0.212* (0.128)	0.334** (0.139)	0.512 (0.449)	0.824* (0.487)
Treatment Two×Political Knowledge	0.280** (0.131)	0.257* (0.142)	0.464 (0.374)	0.520 (0.406)
Treatment Three×Political Knowledge	0.348*** (0.134)	0.349** (0.144)	0.475 (0.327)	0.773** (0.355)
Treatment Four×Political Knowledge	0.188 (0.136)	0.179 (0.147)	0.243 (0.325)	0.421 (0.353)
Intercept	6.067*** (0.416)	6.175*** (0.450)	5.738*** (1.122)	6.364*** (1.217)
Observations	567	567	91	91
R ²	0.070	0.085	0.187	0.194
Adjusted R ²	0.041	0.056	-0.003	0.006

Note:

*p<0.1; **p<0.05; ***p<0.01

M Interactive effects in models with a narrower definition

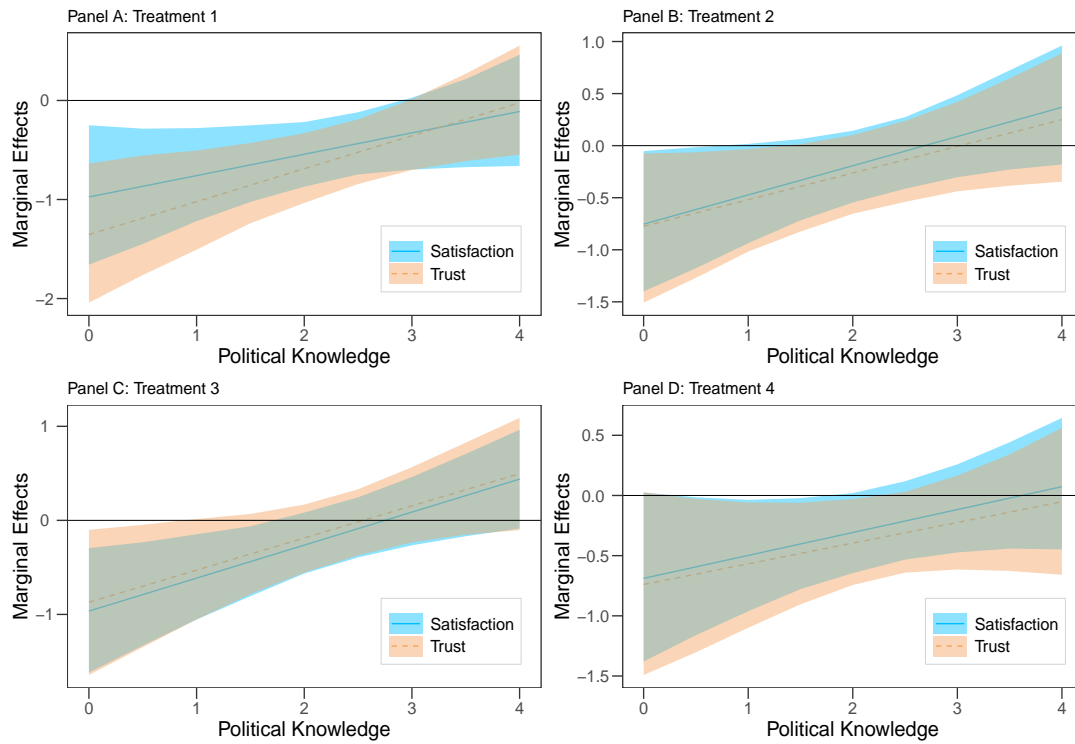


Figure 8: The interactive effects among regime outsiders (narrow)

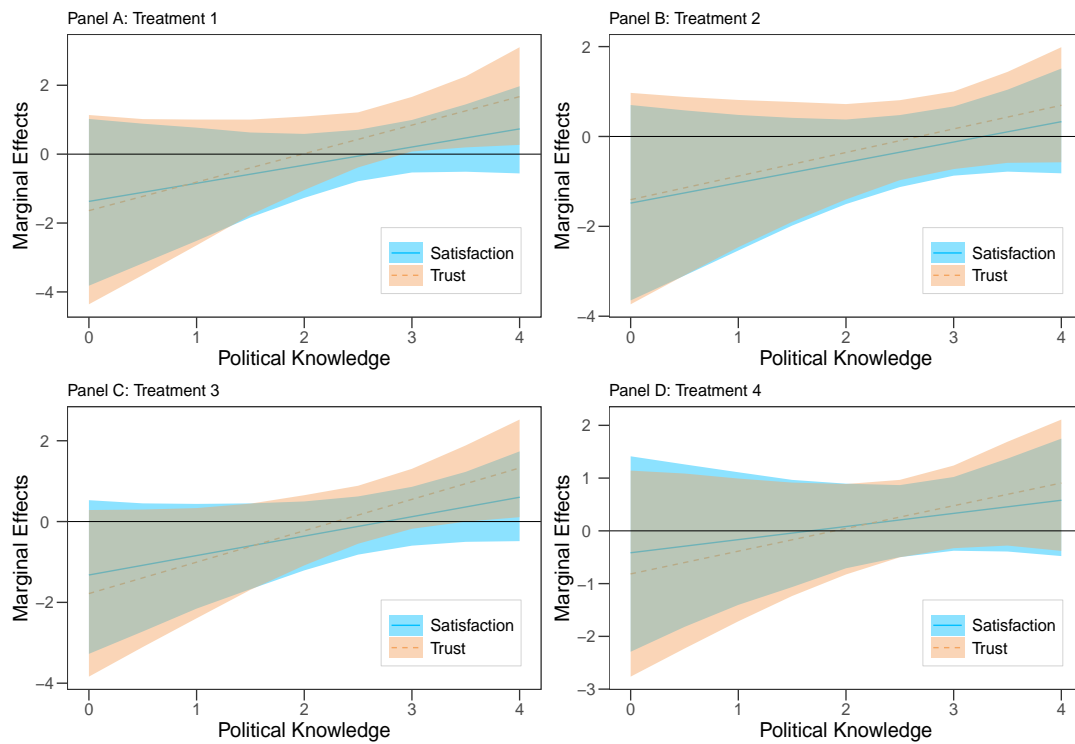


Figure 9: The interactive effects among regime insiders (narrow)

N Robustness check with binning estimators

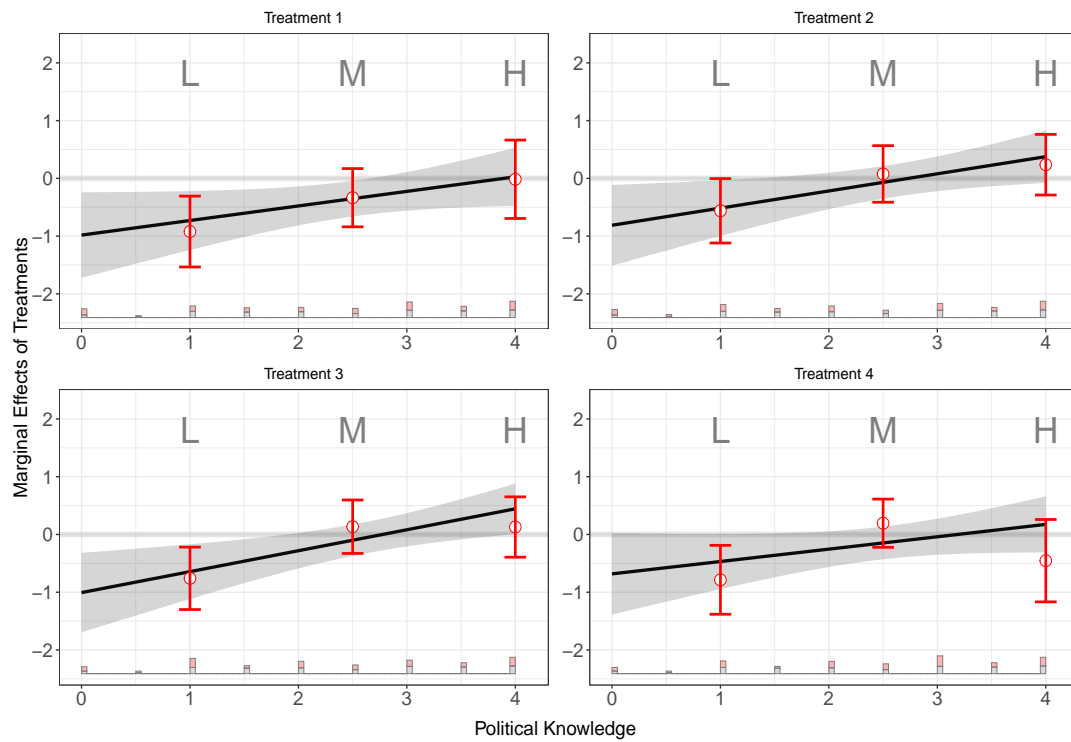


Figure 10: The marginal effects on satisfaction conditional on political knowledge

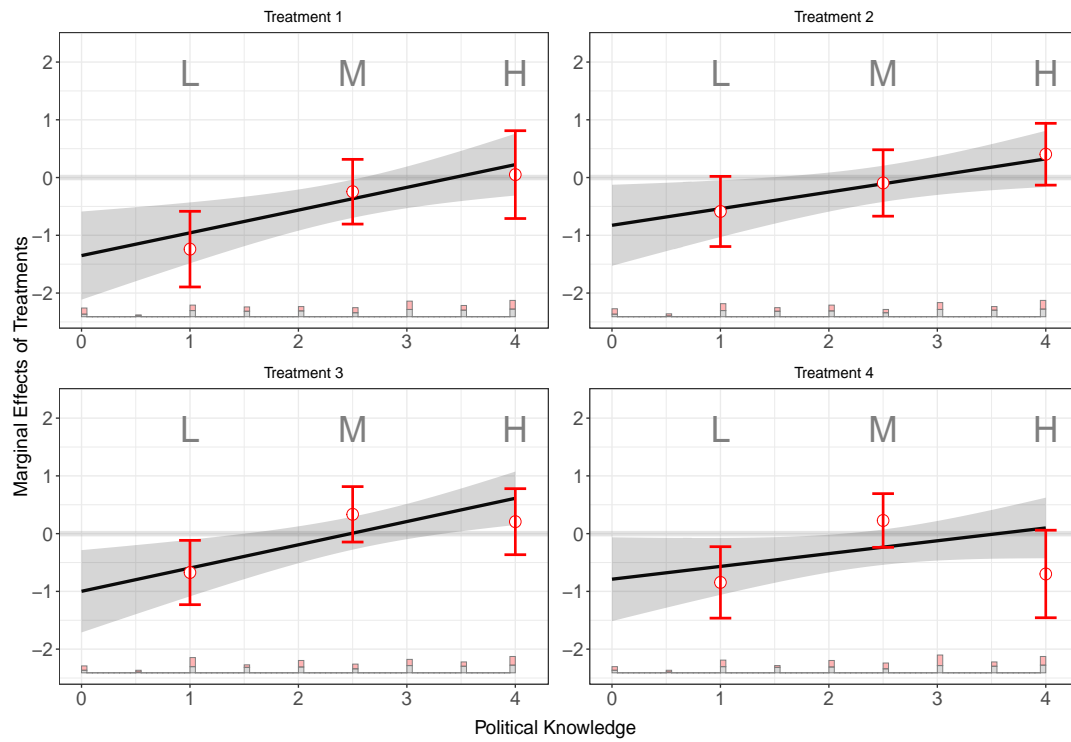


Figure 11: The marginal effects on trust conditional on political knowledge

O Robustness check with kernel estimators

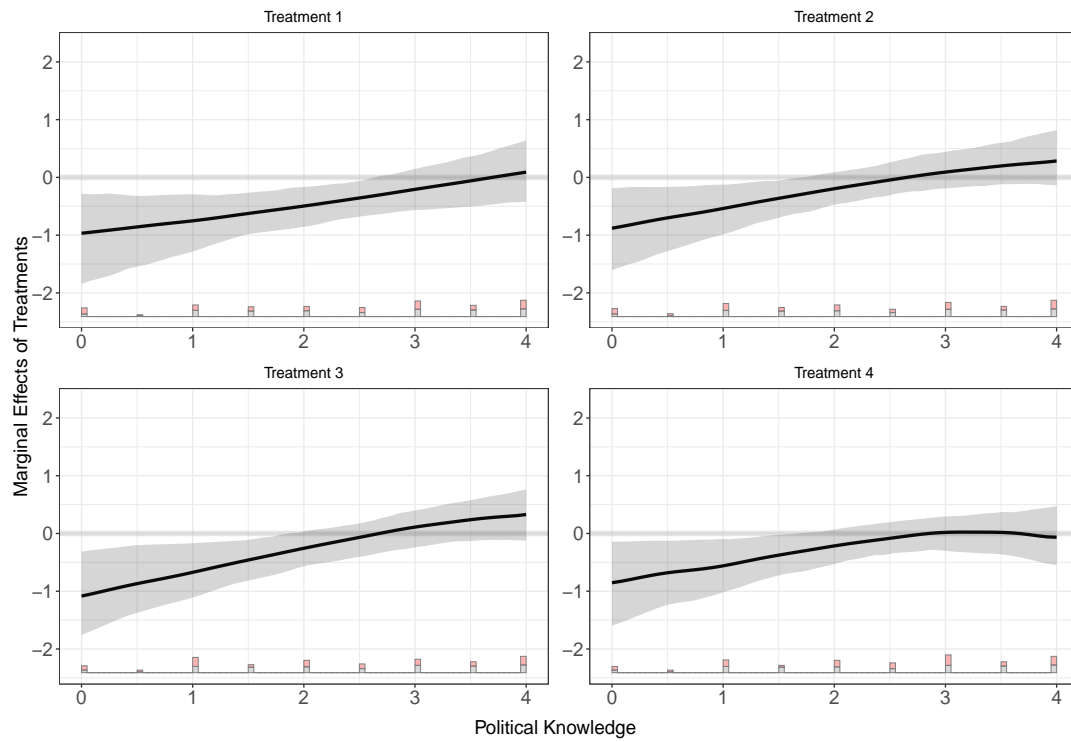


Figure 12: The marginal effects on satisfaction conditional on political knowledge

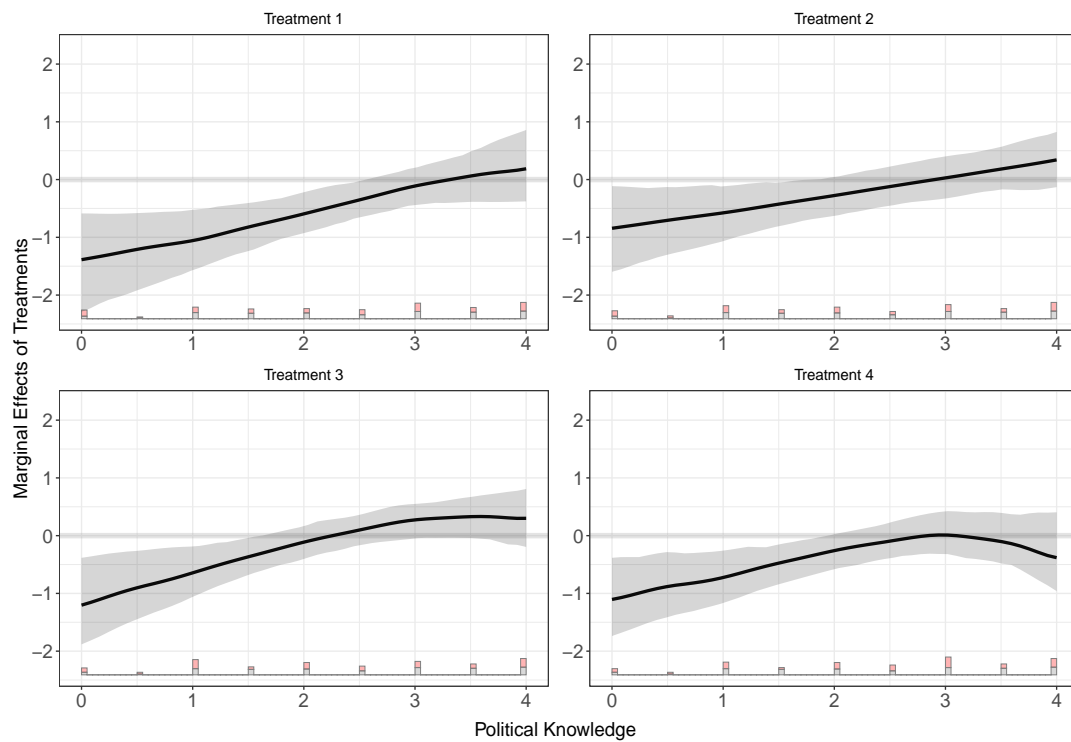


Figure 13: The marginal effects on trust conditional on political knowledge

P Survey questionnaire

Variable	Question	Options
Disaster experience	<p>According to official statistics, a total number of 5,647,777 production safety accidents occurred in China in the period 2004–2020. Among them, there are</p> <ul style="list-style-type: none"> • 99 especially serious accidents with more than 30 fatalities, averaging nearly 6 accidents per year • 964 major accidents with 10 to 30 fatalities, averaging nearly 57 accidents per year • 24,375 larger accidents with 3 to 10 fatalities, averaging nearly 1,434 accidents per year <p>Have you ever witnessed any accident which led to government intervention?</p>	Yes, I have; No, I haven't
Disaster memory	<p>Since the last decade, many catastrophic accidents have occurred in the country.</p> <ul style="list-style-type: none"> • Construction platform collapse at Fengcheng power plant in Yichun, Jiangxi • Landslide of dumping site in Shenzhen's Guangming New Region, Guangdong • Fire and explosion of dangerous goods in Tianjin Ruihai company's warehouse • Jiangsu Xiangshui Tianjiayi chemical company's explosion • "Eastern Star" ship capsized accident in Jianli County of Jingzhou City, Hubei Province <p>To what extent are you impressed with these accidents?</p>	For each disaster, a respondent picked one of the following options: Not at all; A little bit; Much impressed
Attention to the air crash of 2022	<p>On March 21 this year, MU5735, an Eastern Airlines flight from Kunming to Guangzhou, crashed in Teng County, Wuzhou City, Guangxi Province, taking the lives of 132 passengers and crew members on board, making it one of the most terrible accidents in China since the beginning of the century. What is the level of attention you paid to this accident?</p>	No attention; A little; Quite much; Substantial
Control	Do you think that accountability sanctions can reduce the possibility of future accidents?	Definitely not; Probably not; Might or might not; Probably yes; Definitely yes
Treatment 1	A similar air disaster occurred eighteen years ago. An aircraft of China Eastern Airlines crashed near Baotou Airport on November 21, 2004, killing 55 people. This accident led to the government subjecting 12 responsible persons to accountability sanctions. Do you think that accountability sanctions can reduce the possibility of future accidents?	Definitely not; Probably not; Might or might not; Probably yes; Definitely yes
Treatment 2	A similar air disaster occurred twelve years ago. An aircraft of Henan Airlines crashed at the Lindu Airport in Yichun city on August 24, 2010, killing 44 people. This accident led to the government subjecting 23 responsible persons to accountability sanctions. Do you think that accountability sanctions can reduce the possibility of future accidents?	Definitely not; Probably not; Might or might not; Probably yes; Definitely yes
Treatment 3	According to incomplete statistics, 21,552 officials or public employees have been held accountable for 2,355 accidents since 2001, with an average of nine per accident. Do you think that accountability sanctions can reduce the possibility of future accidents?	Definitely not; Probably not; Might or might not; Probably yes; Definitely yes
Treatment 4	According to incomplete statistics, a total of 27 provincial and ministerial officials (including deputies) and 139 municipal officials (including deputies) have been held accountable as the highest level of officials for the 2,355 accidents occurring since 2001, including former minister of the Railway Ministry Liu Zhijun and former mayor Han Zheng of Shanghai municipality. Do you think that accountability sanctions can reduce the possibility of future accidents?	Definitely not; Probably not; Might or might not; Probably yes; Definitely yes

Year of birth (1)	In which year were you born?	Drop-down menu from 1921 to 2020
Government capacity	Overall, how would you rate our government's ability to handle the following affairs? (a) Promoting economic development; (b) Providing public welfare; (c) Handling accidents and disasters; (d) Participating in international affairs	7-point Likert scale from very weak to very strong for each policy area
Satisfaction with government	Overall, how satisfied are you with the following levels of government in your locale?	7-point Likert scale from very dissatisfied to very satisfied for city, provincial and central governments
Trust in government	Overall, how much do you trust the following levels of government in your locale?	7-point Likert scale from not trust at all to completely trust for city, provincial and central governments
UN member	Which of the following countries is NOT a permanent member of the UN Security Council?	UK; Germany; France; Russia; I do not know
Politburo Member	How many members does the Standing Committee of the CPC's Central Politburo consist of?	5; 6; 7; 8; 9; 10; I do not know
Party Congress	What is the rank of the CPC's National Congress held in 2017?	16th; 17th;18; 19th; I do not know
Local leaders	Do you know the names of chief government leaders in your province/municipality/autonomous region? Please note that chief government leaders include both governors and party secretaries.	Know both of them; Know one of them; Know neither of them
Attention check	Please select 789 so that we know you are focused.	453; 720; 789; 999
Ethnic minority	Are you from an ethnic minority group?	Yes, I am; No, I am not
Year of birth (2)	What is your year of birth?	Sliding bar from 1921 to 2020
Province	In which province are you living?	Dropdown list.
Gender	What is your gender?	Female; Male
Party member	Are you a member of the Communist Party of China? (reserve party member included)	Yes, I am; No, I am not
Education	What is your highest educational attainment?	Elementary school or below; Middle school; Bachelor; Master; Doctorate
Employer	What's the type of your employer?	No fixed employers; Private, foreign, or joint-capital enterprises; Government; Public institutions (Shiye Danwei); State-owned enterprise (Guoyou Qiye) or collective enterprises (Jiti Qiye) Below 2,500; 2,501–5,000; 5,001–7,500; 7,501–10,000; 10,001–12,500; 12,501–15,000; 15,001–17,500; 17,501–20,000; Over 20,000
Income	What is your approximate monthly post-tax income in RMB? If you do not have a stable monthly income, please calculate your monthly income by dividing your yearly total income by 12.	
Hukou	What is the type of your Hukou?	Rural; Urban
City of residence	Which city is your place of permanent residence? Please note that we are asking about prefectural city, not county-level city (unless it is directly administered by the provincial government).	Text input manually
Age	How old are you?	Sliding bar from 0 to 100

Note: In addition to the explicit attention check question, the two year-of-birth questions serve as an implicit attention check. Inconsistent answers will lead a response to be dropped due to low quality.