COVID-19-related conspiracy theories in China: The role of secure versus defensive in-group positivity and responsibility attributions

Xue Wang¹*, Shi-Jiang Zuo²*, Hoi-Wing Chan³*, Connie Pui-Yee Chiu³ and Ying-yi Hong³

Abstract

Many COVID-19 conspiracy theories implicate China and its agents, whether implicitly or explicitly, as conspirators with potentially malicious intent behind the current pandemic. We set out to explore whether Chinese people believe in pandemic-related conspiracy theories, and if so, how do their secure (in-group identification) and defensive (collective narcissism) in-group positivity predict their conspiracy beliefs. We hypothesized that national identification would negatively predict the tendency to attribute responsibility to an in-group, thus predicting less risk-rejection conspiracy theory beliefs (e.g., COVID-19 is a hoax). In contrast, national collective narcissism would positively predict the tendency to attribute responsibility for the pandemic to an out-group, which in turn would validate conspiracy theories that acknowledge the risk of the pandemic (e.g., COVID-19 is a bioweapon). To test these predictions, we collected data in China (n = 1,200) in April 2020. Supporting our predictions, national identification was negatively associated with risk-rejection conspiracy beliefs via in-group attribution, whereas national collective narcissism was positively associated with risk-acceptance conspiracy beliefs via out-group attribution.

Keywords

China, conspiracy theory, national identification, national collective narcissism, in-group, out-group, attribution, COVID-19

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Introduction

The term “conspiracy theory” refers to “an explanation of historical, ongoing, or future events that cites as a main causal factor a group of powerful persons, the conspirators, acting in secret for their own benefit against the common good” (Uscinski, 2018, p. 235; cf. van Prooijen & van Vugt, 2018). A conspiracy theory is notably different from a conspiracy, as the former is a perceived accusation of unknown validity and the latter is a true causal chain of events (Douglas et al., 2019). Despite lacking established evidence, people may still believe in conspiracy theories because such beliefs may appear to provide meaning and explanation in the face of threat and uncertainty (Douglas et al., 2017; Swami et al., 2014). Accordingly, public health crises often spawn conspiracy theories (Klofstad et al., 2019; van Prooijen & Douglas, 2017), a tendency that has been particularly evident in the COVID-19 pandemic.

Since the beginning of 2020, a novel coronavirus, SARS-CoV-2, has swept over the world and infected more than 179 million people to date (World Health Organization, 2021). At the same time, misinformation...
such as rumors and conspiracy theories has been widely circulating (Pennycook et al., 2020; Shahsavari et al., 2020), resulting in an “infodemic.” In the face of such rampant misinformation, combating the infodemic becomes as important as combating the pandemic itself. A body of literature has shown that believing in COVID-19 conspiracy theories brings detrimental effects, including underestimating the risk of the pandemic, decreasing health-protective actions, mistrusting the government and healthcare workers, and exaggerating conflicts between groups (Allington et al., 2020; Chan, Chiu et al., 2021; Jolley & Paterson, 2020; McKay et al., 2020).

These extant studies, however, mainly investigated Western and European populations (e.g., the USA, the UK, and Poland; Georgiou et al., 2020; Oleksy et al., 2021), thereby neglecting other populations (e.g., China). This reflects the common “WEIRD” sampling bias in psychological research, according to which studies disproportionately focus their research on populations that are Western, educated, industrialized, rich, and democratic (Henrich et al., 2010; see also Cheon et al., 2020). To help remedy this oversight, the current research recruited Chinese participants and examined how their endorsements of conspiracy beliefs would be predicted by secure versus defensive in-group positivity through in-group versus out-group responsibility attributions in the context of the COVID-19 pandemic.

This investigation is intriguing because the COVID-19 pandemic allegedly originated in Wuhan, a city in China; thus, China and its agents have been blamed both implicitly and explicitly as conspirators with allegedly malicious intent in many pandemic-related conspiracy theories. Consequently, COVID-related conspiracy theories should be unpalatable to Chinese people. Nevertheless, Chinese people also experienced an in-group image threat when others around the world referred to the novel coronavirus as the “Chinese virus” or “Wuhan virus” (Budhwani & Sun, 2020). The needs to protect the in-group image may encourage Chinese people to endorse conspiracy theories to the extent that these theories help to provide meaning and explanation to reduce threat. To this end, we differentiate between secure versus defensive in-group positivity based on how they construct responsibility attributions for COVID-19.

In particular, we argue that secure in-group positivity (national identification) would be associated with less responsibility attribution for the pandemic to the in-group, whereas defensive in-group positivity (national collective narcissism) would be associated with more responsibility attribution to an out-group, especially a contentious out-group. The former attribution would then be linked with a weaker belief in risk-rejection conspiracy theories (e.g., COVID-19 is a hoax) because denying COVID-19 is not needed when in-group blame is reduced. By contrast, the latter attributions would be linked with a stronger belief in risk-acceptance conspiracy theories (e.g., COVID-19 is a bioweapon) because such conspiracy beliefs help to reinforce out-group blame.

**Secure versus defensive in-group positivity and conspiracy beliefs**

Previous research has shown that group identity is a primary motivation for conspiracy beliefs because conspiracy beliefs provide clear causal explanations and are related to maintaining a positive in-group image (Douglas et al., 2017; Douglas et al., 2019; Sullivan et al., 2010; Swami et al., 2014). Indeed, social identities (e.g., partisanship; Miller, 2020) have been shown to predict conspiracy theory beliefs amid the COVID-19 pandemic as well.

Two concepts related to group identity are especially important to understand conspiracy beliefs, namely, in-group identification and collective narcissism (Cichocka, 2016; Cichocka et al., 2016). In-group identification refers to a confidently held positive evaluation of one’s in-group that is independent from how the group is perceived by others—it is a secure in-group positivity without the narcissistic component (Cichocka, 2016). In contrast, collective narcissism refers to a defensive in-group positivity wherein members of an in-group hold an inflated sense of the importance of their in-group, which demands others’ respect and admiration (Golec de Zavala et al., 2009).

Although both concepts assume a positive evaluation of one’s in-group, they are argued to be driven by different motivations (Cichocka, 2016; Cislak et al., 2021). Group identification stems from the satisfaction of individual needs and encompasses emotional attachment to the in-group (Cichocka, 2016). Not surprisingly, in-group identification is related to many positive consequences, such as a higher in-group loyalty, a greater willingness to benefit the in-group, and a resilience to threats (Cichocka, 2016; Marchlewskas et al., 2020). It also predicts higher intentions to cooperate with others and to engage in disease-preventive behaviors to fight against the COVID-19 pandemic (Chan, Wang et al., 2021; Federico et al., 2020).

Similar to in-group identification, collective narcissism is associated with the positive attributes of the social groups to which people belong. However, it entails a belief that a given in-group has unparalleled greatness and requires external validation; collective narcissism thus “stems from the frustration of individual needs and fulfills a compensatory function” (Cichocka, 2016; Golec de Zavala et al., 2009). As a result, collective narcissism links to an array of
undesirable outcomes, such as hostile and aggressive attitudes toward out-groups and excessive sensitivity to threats and criticisms (Cislak et al., 2021; Leong, 2008; Lyons et al., 2013; Lyons et al., 2010). In the context of COVID-19, it predicted less favorable attitudes toward the European Union among Polish participants who regarded the European Union as competitors (Zemojtel-Piotrowska et al., 2021).

Prior research has consistently found that in-group identification and collective narcissism have opposite associations with conspiracy beliefs. In-group identification is linked to an objective and compassionate perception of the in-group and low sensitivity to out-group threats (Cichocka et al., 2015; Golec de Zavala et al., 2013; Lyons et al., 2013), which further discourages beliefs in conspiracy theories related to intergroup conflicts and political actions, regardless of the conspirators’ identity (Cichocka et al., 2016; Golec de Zavala & Federico, 2018). Consistently, high self-esteem, which is closely related to national identification but not national narcissism, is negatively related to conspiracy beliefs (Stieger et al., 2013). In the context of COVID-19, national identification also negatively predicted vaccination-related conspiracy beliefs (Cislak et al., 2020). Notably, the negative prediction of in-group identification and conspiracy beliefs is often observed after partialing out the prediction of collective narcissism (Cichocka et al. 2016). In other words, the relationship between in-group identification and conspiracy beliefs is suppressed by collective narcissism.

In contrast, the defensive nature of collective narcissism encourages conspiracy beliefs because conspiracy theories provide explanations for disadvantaged social positions or the suffering of one’s in-group. Prior research has found that collective narcissism positively predicts endorsement of generic conspiracy theories. For example, national collective narcissism among American participants predicted belief in secret political actions by unspecified groups (Golec de Zavala & Federico, 2018). It also positively predicted generic COVID-19-related conspiracy beliefs and vaccination conspiracy beliefs (Cislak et al., 2020; Sternisko et al., 2020; Stojica & Umbres, 2020). When conspiracy theories explicitly implicate in-group or out-group conspirators, national narcissism only predicts beliefs in out-group conspiracy theories. For instance, national collective narcissism among Polish participants predicted conspiracy beliefs that the Jewish out-group aimed to take control of the world (Golec de Zavala & Cichocka, 2012) and that Russia was involved in a Polish catastrophe (Cichocka et al., 2016). Catholic collective narcissism predicted conspiracy beliefs that gender studies and gender-equality activists, who were regarded as a religious out-group, secretly plotted to harm traditional values (Marchlew ska et al., 2019).

National collective narcissism predicted the beliefs in conspiratorial actions of foreign governments, but it did not predict those involving the American government (Cichocka et al., 2016).

Whereas existing literature has consistently documented opposite predictions of in-group identification and collective narcissism on conspiracy beliefs, limited research has examined the underlying mechanism of these relationships (except for Cichocka et al., 2016 who found perceived threat as the mediator). We proposed that the relationships between in-group identification, collective narcissism, and conspiracy beliefs may be explained by the different attributional tendencies when facing in-group image threats. We predict that in-group identification may predict less responsibility attribution for the COVID-19 pandemic to the in-group, while collective narcissism may predict more responsibility attribution to a contentious out-group. These two attributions further predict endorsement of different types of conspiracy beliefs.

Secure versus defensive in-group positivity and responsibility attributions

The COVID-19 pandemic as a public-health crisis challenges both the leadership and the healthcare system of a country. Governments, centers for disease control and prevention, medical systems, and even scientists have been criticized for their late and insufficient responses to the outbreak (Dunning & Pownall, 2020; Pegram, 2020). A public-health crisis of this magnitude may threaten the positive image individuals hold of their own nation (Sternisko et al., 2020). While facing such in-group image threat induced by the pandemic, we argue that secure and defensive in-group positivity would predict different attributional tendencies to cope with such threat.

In-group identification predicts a greater tendency to derive self-esteem from the group (Cichocka, 2016; Marchlew ska et al., 2020). Such a tendency is further associated with less in-group attribution while explaining intergroup conflicts to protect the positive in-group image (Doosje & Branscombe, 2003). For instance, Turkish identification negatively predicted the tendency to attribute Turkish–Armenian conflicts to the in-group (Bilali et al., 2012). Relatedly, national identification was associated with less attribution to inner and stable dispositions and less collective guilt about in-group negative acts (Bilewicz et al., 2017; Rotella & Richeson, 2013a). We expected that such attributional bias would be observed in the context of COVID-19. That is, we expected national identification to negatively predict the tendency to attribute responsibility for the pandemic to one’s own nation.
Collective narcissism may also predict self-serving attribution of responsibility for the pandemic, but we expect such attribution mainly toward the out-group. Collective narcissism draws individuals’ attention to unsatisfied group needs, including external recognition, which lead them to blame, aggress, and derogate the out-group to cope with the in-group image threat (Golec de Zavala et al., 2019). While facing intergroup conflicts, collective narcissists explain out-group behaviors with more hostile intentions and advocate revenge to the out-group (Golec de Zavala et al., 2009). These findings imply that national collective narcissism is associated with the tendency to attribute responsibility for the pandemic to other nations. Taken together, we make the following predictions:

H1: National identification negatively predicts attributing the responsibility for the pandemic to one’s own nation.

H2: National collective narcissism positively predicts attributing responsibility for the pandemic to a foreign nation.

It is noteworthy that we do not have specific predictions for the association between national identification and out-group attribution or between national collective narcissism and in-group attribution. Since prior research has shown that in-group identification mainly predicts lower in-group attribution (Bilali et al., 2012; Bilewicz et al., 2017; Rotella & Richeson, 2013a) and collective narcissism mainly predicts out-group hostility (Golec de Zavala et al., 2009; Golec de Zavala et al., 2019), the relationship between national identification (or national collective narcissism) and out-group attribution (or in-group attribution) should be weaker than our hypothesized relationships.

Risk-acceptance versus risk-rejection conspiracy beliefs

The COVID-19 pandemic has been loaded with conspiracy theories about the source of the novel coronavirus and the impacts of the disease it causes. Based on how the conspiracy theories evaluate the risk of the pandemic, previous research has identified two key types of COVID-19-related conspiracy theories (Chan, Chiu et al., 2021; Imhoff & Lamberty, 2020; Oleksy et al., 2021; Sternisko et al., 2020). The first type of conspiracy theories accepts the risk of COVID-19 by claiming that it is a biochemical weapon or was created/released to decrease the global population; in contrast, the second type rejects the pandemic’s risk by alleging that the pandemic is a hoax and its risk has been exaggerated for secret purposes (Georgiou et al., 2020; Kay, 2020; Rothmund et al., 2020; Uscinski et al., 2020).

These two types of conspiracy beliefs link to distinct behavioral implications and social attitudes (Imhoff & Lamberty, 2020; Oleksy et al., 2021; Sternisko et al., 2020). Specifically, holding risk-acceptance conspiracy beliefs has been shown to predict protective or over-reactive behaviors (e.g., wearing masks, hoarding, and withdrawing cash; Chan, Chiu et al., 2021; Imhoff & Lamberty, 2020), as well as support for the control and surveillance of foreigners (Oleksy et al., 2021). By contrast, risk-rejection conspiracy beliefs negatively predict containment-related behaviors (e.g., handwashing, social distancing; Chan, Chiu et al., 2021; Imhoff & Lamberty, 2020) as well as support for public policies to contain the pandemic (Sternisko et al., 2020).

Taken as a whole, this body of research suggests that the two types of conspiracy theories provide different “causes” to explain the “unexpected” occurrence of the pandemic, and these “causes” may be differentially endorsed by people who hold different attributional beliefs about responsibility for the pandemic. Our question thus became, How would different types of conspiracy theories help to validate the hypothesized attributional bias associated with national identification and national collective narcissism?

Mediational model

We proposed that in-group attribution would promote a belief in conspiracy theories that reject the risk of COVID-19 (i.e., “it’s our doing, so it’s not so bad”), while out-group attribution would promote belief in conspiracy theories that accept the risk of COVID-19 (i.e., “it’s their fault, so it’s bad”) because these two types of conspiracy beliefs help to validate the corresponding responsibility attributions. The tendency to attribute the COVID-19 pandemic to in-groups may give rise to conspiracy beliefs that dismiss the risk of COVID-19. If people believe that their in-group agencies should take responsibility for the pandemic, underestimating its harms and negative consequences helps to protect the in-group’s positive image (Bandura, 1999; Baumeister & Hastings, 1997; Branscombe & Miron, 2004). Prior literature has found that participants downplay the suffering of victims and forget the details of harm when perpetrators are framed as in-group members, as opposed to out-group members (Rotella & Richeson, 2013a). They also become blunted to the guilty feelings elicited by the information (Cehajić-Clancy et al., 2011; Rotella & Richeson, 2013b). In other words, people generally underestimate the severity of disaster or deny/downplay the harm when confronted with evidence of their own in-group’s wrongdoing. As such, Chinese participants with strong
national identification would be less motivated to attribute responsibility for the pandemic to their in-group, which in turn would make believing risk-rejection conspiracy theories less necessary.

By the same token, risk-acceptance conspiracy theories contend that there are evil schemes behind the pandemic, for example that COVID-19 was invented as a bioweapon or was intentionally “leaked.” Without explicitly specifying who the conspirators are, admitting the risk of COVID-19 increases the liability and fault of the unnamed conspirators (Bilali et al., 2012). Thus, out-group attribution may positively predict risk-acceptance conspiracy beliefs, which serve to validate out-group blame and maintain a favorable in-group image. For example, Chinese participants with strong national collective narcissism would be motivated to attribute responsibility for the pandemic to an out-group, such as the US government and its agents, which in turn increases belief in the aligned risk-acceptance conspiracy theories, such as, “The outbreak of the novel coronavirus was caused by some organizations and countries on purpose in order to fulfill their secret plans.”

Therefore, we made the following predictions:

H3: National identification negatively predicts risk-rejection conspiracy beliefs via a low tendency toward in-group attribution.

H4: National collective narcissism positively predicts risk-acceptance conspiracy beliefs via a high tendency toward out-group attribution.

It is noteworthy that H3 and H4 do not preclude direct links from national identification and national collective narcissism to the two types of conspiracy theories because there could be other mediators beyond responsibility attributions. However, in the current study, we focused on examining the mediational role of responsibility attributions because they have implications for how Chinese people would respond to demands that China offer compensation for the losses incurred by the pandemic.

The current research

To test our hypotheses, we recruited Chinese participants using an online survey app on mobile phones, assessed their national identification, national collective narcissism, beliefs in the two types of conspiracy theories, and how they felt China (the in-group) and the USA (the out-group) should respectively take responsibility for the pandemic. We chose the USA as the out-group target because a trade war between China and the USA has been ongoing since 2018 and the USA is regarded as a contentious out-group for China.

Method

Participants

We recruited 1,200 participants (637 males; aged 16–70, $M_{age} = 31.25, SD_{age} = 8.48$) from mainland China from April 22 to 30, 2020, via an online survey platform in China (https://survey.surveybaby.com; Hong et al., 2019). The sample covers all 32 provinces in mainland China. The data collection materials and procedures were approved by the Committee on Research Practices of the university affiliated with the corresponding authors (reference number SBRE-19-294). All participants gave their consent at the beginning of the survey and received RMB 8 in compensation.

Data availability

The data and analysis code of the present study are available in open science framework (https://osf.io/p8xmu/?view_only=c61087853b3f4cf2bc7230c2e5e9a0). All the original items were in Chinese.

Measures

Belief in COVID-19 conspiracy theories. We collected frequently mentioned conspiracy-theory narratives from news reports (e.g., Sina News), social media (e.g., Webo, Wechat), and fact-checking sites (e.g., Snopes.com, Fackcheck.org) in January 2020 to create the items to measure risk-rejection and risk-acceptance conspiracy beliefs. Based on the conspiracy theories that have been widely disseminated, we used two items to measure the risk-rejection conspiracy beliefs: “In reality, the novel coronavirus is similar to influenza; it is just that some organizations and people purposely exaggerate its severity” (Risk-Rejection Conspiracy Belief 1, or RRCB1) and “The novel coronavirus actually does not spread easily among humans; it is being used as an excuse to control the influx of Chinese people by foreign countries” (RRCB2). Participants reported on an 11-point scale (from 1 = not true at all to 11 = completely true) to indicate the extent to which they believed each statement (RACB: $z = .90$; RRCB: $r = .59$). We used three items to measure risk-acceptance conspiracy beliefs: “The outbreak of the novel coronavirus was caused by some organizations and countries on purpose in order to fulfill their secret plans” (Risk-Acceptance Conspiracy Belief 1, or RACB1), “The spread of the novel coronavirus was caused by some people intentionally” (RACB2), and “The novel coronavirus...
is a man-made virus that was created in a laboratory” (RACB3).

We conducted an exploratory factor analysis and a confirmatory factor analysis to validate the proposed types of conspiracy beliefs. Using SPSS, exploratory factor analysis showed that the five items were loaded on two factors. The first factor comprised three RACB items that explained 57.11% variance with factor loadings ranging from .849 to .866. The second factor comprised two RRCB items that explained 24.38% variance with factor loadings of .731 and .643. With the Lavaan Package of R (Rosseel, 2012), confirmatory factor analysis found that a two-factor solution (CFI=1.000, TLI=1.000, RMSEA=.002, SRMR=.008, BIC=25218.211, AIC=25162.220) is a better model fit than a one-factor solution (CFI=.856, TLI=.713, RMSEA=.261, SRMR=.122, BIC=25619.718, AIC=25568.817). These results validate the risk-rejection versus risk-acceptance conspiracy beliefs.

Responsibility attributions to China vs. the USA. We designed four items to measure responsibility attributions to China: “Government officials of Wuhan” (Responsibility of China 1, or RBC1), “Government officials of Hubei Province” (RBC2), “Chinese scientists” (RBC3), and “Chinese Centers for Disease Control and Prevention” (RBC4). We designed three items to measure responsibility attributions to the United States: “U.S. Centers for Disease Control and Prevention” (Responsibility of the USA 1, or RBUS1), “American scientists” (RBUS2), and “the US government” (RBUS3). Participants rated on a 7-point scale (from 1=not at all to 7=very much) the extent to which they believed each of the above agencies to be responsible for the COVID-19 pandemic (RBC: \( \alpha = .86 \); RBUS: \( \alpha = .90 \).

As above, we conducted an exploratory factor analysis and a confirmatory factor analysis to validate the created measure of two types of attributions with R. Exploratory factor analysis showed that the seven items were loaded on two factors. The first factor comprised four RBC items that explained 54.77% variance with factor loadings ranging from .748 to .882. The second factor comprised three RBUS items that explained 21.38% variance with factor loadings of .846 and .906. Confirmatory factor analysis found that a two-factor solution (CFI=.884, TLI=.813, RMSEA=.211, SRMR=.106, BIC=26338.076, AIC=26261.725) is a better model fit than a one-factor solution (CFI=.565, TLI=.347, RMSEA=.395, SRMR=.216, BIC=28258.162, AIC=28186.901). These results validate the two types of attribution.

National identification. We adopted an existing 4-item private collective esteem scale to measure national identification (Luhtanen & Crocker, 1992): “I often feel sorry for being a Chinese” (reverse) (National identification 1, or NI1), “In general, I am proud to be a Chinese” (NI2), “Overall, I often feel that being a Chinese is insignificant” (reverse) (NI3), and “I feel good about being a Chinese” (NI4). Participants rated their agreement with these items on a 6-point scale (from 1=strongly disagree to 6=strongly agree). The first and the third items were reverse-coded, with higher scores indicating more identification with being Chinese (\( \alpha = .62 \)).

National collective narcissism. We adopted an existing 5-item scale to measure participants’ national collective narcissism (Golec de Zavala et al., 2009): “China deserves special treatment” (Collective narcissism 1, or CN1), “Not many people seem to fully understand the importance of China” (CN2), “It really makes me angry when others criticize China” (CN3), “If China had a major say in the world, the world would be a much better place” (CN4), and “I will never be satisfied until China gets all it deserves” (CN5). Participants rated their agreement with these items on a 6-point scale (from 1=strongly disagree to 6=strongly agree) (\( \alpha = .63 \)).

Covariates

To test the robustness of our findings, we included perceived risk and demographics as covariates. Our results remained consistent with or without controlling for these covariates.

Perceived risk. Because participants’ perceived risk of the pandemic may predict their beliefs in risk-acceptance and risk-rejection conspiracy theories (Imhoff & Lambert, 2020), we measured perceived risk as a covariate with three items adapted from prior research (Georgiou et al., 2020). Participants reported the likelihood that someone in their local community, someone in their family, and/or they themselves would become infected with COVID-19 on a 7-point scale (from 1=not likely at all to 7=very likely). We calculated the average score (\( \alpha = .86 \)) and included it as a covariate.

Demographic information. We also included demographic variables as covariates. Participants reported their gender (1=male, 0=female), age, education level (1=junior high school or below, 2=senior high school, 3=technical secondary school/vocational high school, 4=junior college, 5=bachelor’s degree, 6=master’s degree, and 7=PhD), and average
Results

We computed a mean score for each variable and presented the descriptive statistics in Table 1. It is noteworthy that the mean score for the risk-rejection conspiracy theories was low, suggesting that few participants believed in those theories. In comparison, the mean score for the risk-acceptance conspiracy theories was higher and had more variation. In addition, the mean score of perceived risk was low, which is reasonable because the pandemic was largely contained in China by late April 2020.

We used Structural Equation Modeling (SEM) with the Lavaan Package of R (Rosseel, 2012) to analyze the data. The variables were included in the model as latent variables. We used different statistics to assess the fit of the model, including Root Mean Square Error of Approximation (RMSEA; values between 0.05 and 0.10 indicate a good fit), Comparative Fit Index (CFI; values > 0.90 indicate a good fit), and the Tucker–Lewis Index (TLI; values > 0.90 indicate a good fit).

### National identification, national collective narcissism, and conspiracy beliefs

We used national identification and national collective narcissism to predict conspiracy beliefs without including two types of attributions. The results revealed that national identification negatively predicted both risk-acceptance conspiracy beliefs ($\beta = -0.25, b = -1.40, SE = 0.43, p = .001, 95\% CI = [-2.32, -0.67]$) and risk-rejection conspiracy beliefs ($\beta = -0.30, b = -1.10, SE = 0.32, p = .001, 95\% CI = [-1.80, -0.51]$). In contrast, collective narcissism only positively predicted risk-acceptance conspiracy beliefs ($\beta = 0.27, b = 1.83, SE = 0.51, p < .001, 95\% CI = [0.95, 2.94]$) and its prediction on risk-rejection conspiracy beliefs was nonsignificant ($p = .961$). The proposed model fit the data well (RMSEA = 0.069; SRMR = 0.067; CFI = 0.938; TLI = 0.920; BIC = 55610.843, AIC = 55366.519).

These findings suggest that Chinese participants with higher national identification tended to distrust conspiracy theories regardless of whether these theories
accept or reject the pandemic’s risk. In contrast, those with higher national collective narcissism tended to believe in conspiracy theories, but only the risk-acceptance type. These findings thus replicate past findings that national identification and collective narcissism have opposite predictions on conspiracy beliefs (Cichocka, Golec de Zavala et al., 2016; Cichocka et al. 2016).

The mediation of responsibility attributions

We then tested whether national identification and collective narcissism predicted two types of attributions (H1 and H2), which further predicted two types of conspiracy beliefs (H3 and H4). We did not include any covariates in the analysis reported below. The full mediational model is shown in Figure 1. It is noteworthy that we added a correlation between “Government officials of Hubei Province” (RBC1) and “Government officials of Wuhan” (RBC2) to increase model fit. Conceptually, these two items were closely related as well.

The proposed model fit the data well (RMSEA = 0.061; SRMR = 0.059; CFI = 0.941; TLI = 0.928; BIC = 81322.514, AIC = 80920.398).

We first tested the prediction of national identification on conspiracy beliefs, finding that national identification negatively predicted risk-rejection conspiracy beliefs via a low tendency toward in-group attribution (indirect effect: completely standardized indirect effect $= -0.04$, $ab = -0.14$, $SE = 0.07$, $p = .043$, 95% CI $= [-0.30, -0.03]$). Specifically, Chinese participants with higher national identification attributed responsibility for the pandemic to China less ($b = -0.28$, $SE = 0.16$, $p < .001$, 95% CI $= [-0.92, -0.27]$), supporting H1. This attribution further predicted their belief in conspiracy theories that reject the risk of COVID-19 ($b = 0.13$, $SE = 0.09$, $p = .012$, 95% CI $= [0.07, 0.44]$), supporting H3.

Notably, the direct effect of national identification on risk-rejection conspiracy beliefs ($b = -0.26$, $SE = 0.33$, $p = .003$, 95% CI $= [-1.70, -0.37]$) and that on risk-acceptance conspiracy beliefs were both significant and in the negative direction ($b = -0.22$, $SE = 0.42$, $p = .003$, 95% CI $= [-2.16, -0.54]$), again replicating previous findings that a higher in-group identification predicts less endorsement of conspiracy beliefs (Cichocka et al. 2016).

We next tested the prediction of national collective narcissism on conspiracy beliefs, finding that collective

Figure 1 Results of the mediational model (without covariates)
Note: RACB = risk-acceptance conspiracy belief; RRCB = risk-rejection conspiracy belief; RBUS = responsibility attributed to the USA; RBC = responsibility attributed to China; NI = national identification; CN = collective narcissism. We reported standardized coefficients. NI1 and NI3 used reversed scores.
* $p < .05$, ** $p < .01$, *** $p < .001$. 

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narcissism positively predicted risk-acceptance conspiracy beliefs via a high attribution to the USA (indirect effect: completely standardized indirect effect = 0.07, ab = 0.44, SE = 0.16, p = .005, 95% CI = [0.19, 0.81]). Specifically, Chinese participants with higher national collective narcissism attributed the pandemic to the USA more (β = 0.27, t = 1.22, SE = 0.37, p = .001, 95% CI = [0.56, 2.02]), supporting H2; this attribution in turn predicted their beliefs in conspiracy theories that acknowledge the risk of COVID-19 (β = 0.24, t = 0.07, p < .001, 95% CI = [0.23, 0.50]), supporting H4. Interestingly, the direct effect of collective narcissism on risk-acceptance conspiracy beliefs was also significant (β = 0.21, t = 1.38, SE = 0.49, p = .005, 95% CI = [0.52, 2.41]). However, the direct effect of collective narcissism on risk-rejection conspiracy beliefs was not significant (ps > .952), nor were any other indirect effects (ps > .188).

In sum, as predicted, national identification negatively predicted risk-rejection conspiracy beliefs via low in-group attribution, and collective narcissism positively predicted risk-acceptance conspiracy beliefs via high out-group attribution. In terms of direct effects, national identification negatively predicted both types of conspiracy beliefs and collective narcissism positively predicted risk-acceptance conspiracy beliefs. These direct effects suggest that there are alternative mechanisms underlying the link between national identification, collective narcissism, and conspiracy beliefs. We will offer our speculation in the Discussion.

To check the robustness of the findings, we performed all of the above analysis again and included perceived threat, gender, age, education level, and average monthly income as covariates. The results remained consistent after adding the covariates. See Supplemental materials for a detailed report.

**Discussion**

Using national data collected during the COVID-19 outbreak in China, we examined the relationships between national identification, national collective narcissism, responsibility attributions, and conspiracy beliefs. The findings revealed two paths associated with a secure (national identification) and defensive (national collective narcissism) in-group positivity. In particular, national identification negatively predicted the tendency to attribute responsibility for the pandemic to the in-group (China), which in turn predicted a lower belief in conspiracy theories that accept the risk of COVID-19. In contrast, national collective narcissism positively predicted the tendency to attribute responsibility for the pandemic to a contentious out-group (the USA), which further positively predicted belief in conspiracy theories that accept the risk.

As such, national identification negatively predicted risk-rejection conspiracy beliefs via a low tendency toward in-group attribution, while collective narcissism positively predicted risk-acceptance conspiracy beliefs via a high tendency toward out-group attribution.

These findings have several theoretical implications. First, while much research has examined the relationships between national identification, collective narcissism, and conspiracy beliefs, our findings concerning the mediational roles of in-group versus out-group attributions are novel. Prior research has consistently documented the predictive power of collective narcissism on out-group hostility (Golec de Zavala & Lantos, 2020). It is thus not surprising to find a positive prediction of collective narcissism on out-group attribution of the pandemic. However, we also found that national identification, a secure and non-defensive in-group positivity, negatively predicted the tendency to attribute the pandemic to one's own country, suggesting an in-group-serving bias. These findings imply that both national identification and collective narcissism are associated with a basic need to maintain a positive self-image, but they predict distinct ways to satisfy this need: people with high national identification resort to reducing in-group responsibility, while people with high collective narcissism tend to blame an out-group. Future research may explore whether such difference can be observed in other contexts, such as how people construct major historical events, especially those related to intergroup conflicts and wars.

Second, our findings bridge the literature of attribution and conspiracy beliefs. Prior literature has found that an inclination to make internal, dispositional attributions (or "fundamental attribution error"; Jones & Harris, 1967) predicts the tendency to believe in conspiracy theories (Clarke, 2002) because conspiracy theories typically attribute the “cause” of events to conspirators. Nevertheless, this literature has not differentiated dispositional attributions toward distinct targets. Our results show that in-group versus out-group responsibility attributions predict different conspiracy beliefs about the COVID-19 pandemic. Future research can examine how attributions contribute to the meaning-making processes integral to conspiracy beliefs. For example, how are in-group versus out-group attributions linked to different contents of conspiracy theories (i.e., would out-group attributions be more likely to be associated with conspiracy theories that portray the conspirators as more malicious than not?).

Third, we found that in-group versus out-group attributions respectively mediate the relationships between national identification, collective narcissism, and conspiracy beliefs. As noted, existing research has consistently revealed that national identification
and collective narcissism have opposite predictions on conspiracy beliefs, but researchers have seldom tested the underlying mechanism, except for Cichocka et al. (2016), who found that a general intergroup threat perception mediated the prediction of Poles’ national identification and national collective narcissism on conspiracy beliefs about Russia, an out-group. Adding to this literature, our findings suggest that people’s attributions matter, which may further account for differential effects of collective narcissism, such as intergroup hostility and retaliation (Golec de Zavala & Lantos, 2020). These ideas can be tested in further research.

Furthermore, we found that national identification has negative direct predictions on both types of conspiracy beliefs, implying that our Chinese participants with higher national identification tended not to believe in conspiracy theories in general. We speculate possible reasons for this relationship. Conspiracy theories, whether they depict COVID-19 as a hoax or a biological weapon, are contradictory to the official narratives employed by the Chinese government and may cause social turmoil. Analyses of public discourse have revealed that the Chinese government attempted to construct a positive national image by highlighting China’s success in curbing the disease outbreak (e.g., Yang & Chen, 2021). Also, not spreading any pandemic-related conspiracy theories has been advocated as a patriotic action to help fight the pandemic. It thus appears that Chinese people with higher national identification are more likely to buy into these pro-China narratives and reject conspiracy theories in general. Future research can further explore how political contexts moderate the relationship between national identification and conspiracy theory beliefs.

Our findings may also shed light on the future development of international relations and politics pertaining to the pandemic. Given their associated responsibility attributions and conspiracy beliefs, Chinese people with secure versus defensive in-group positivity may respond differently to demands that China compensate for the losses incurred by the pandemic. These responses may further provoke hatred toward the Chinese, which unfortunately is happening already given the rapid increase in hate crimes toward Asians in many parts of the world since the pandemic began (e.g., Kambhampaty, 2020; Mulvaney, 2020).

The current study has several limitations. First, because of its correlational design, this study was unable to establish causal relationships among secure versus defensive in-group positivity, attribution, and conspiracy beliefs, which limits the implications of the findings. Second, we have only tested the mediational model in China. The results of the present study—which demonstrate that national identification and collective narcissism predict different types of conspiracy beliefs via responsibility attribution to either the national in-group or out-group—may be unique to China. For example, past research has found that in the USA, national collective narcissism was linked to beliefs in both risk-rejection and risk-acceptance conspiracy theories (Sternisko et al., 2020). We believe that the differences in our findings are due to differences in political landscapes and the COVID-19 discourse. Unlike China, where the COVID-19 discourse was heavily controlled by the Chinese government, the US COVID-19 discourse was driven by hyper-partisanship. The Trump Administration actively deflected blame onto China by repeatedly calling the virus “the China virus.” More importantly, while Democrats called for stringent measures against COVID-19, the Trump Administration downplayed the virus’ threat by comparing it to the flu, at least in early stages. Thus, we expect that in the USA, high collective narcissism would predispose participants to prefer Trump’s rhetoric and lead to simultaneous beliefs in both risk-rejection and risk-acceptance conspiracy theories. Additionally, we expect that partisanship and attribution of responsibility to a political in-group versus out-group would be linked to differential beliefs in COVID-19 conspiracy theories in the United States. Future research can test these ideas.

To conclude, our results underscore the importance of studying conspiracy theory beliefs in non-WEIRD countries. Different types of conspiracy beliefs may be endorsed by people in different countries for different reasons, but ultimately with the same function: to protect one’s in-group image.

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ORCID iDs
Xue Wang https://orcid.org/0000-0002-5597-051X
Hoi-Wing Chan https://orcid.org/0000-0002-6884-394X
Supplemental material

Supplemental material for this article is available online.

Notes

1. Notably, this item downplays the risk of the pandemic and also implicates out-groups as conspirators. This item was created based on online conspiracy theories widely spread in China. We kept the original narratives to increase the ecological validity. The results of EFA and CFA supported that this item indicates risk-rejection conspiracy belief.

2. The reliability of the measure improved to .69 only when we removed the item with the lowest factor loading (CN2). Our findings remained consistent with or without this item. Therefore, we kept all five items.

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