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Conspiracy blaming in the aftermath of group relative deprivation: The moderating role of national narcissism

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Abstract

Conspiracy beliefs entail a scapegoating function by attributing the consequences of crises, such as economic downturns, to the secret action of outgroups. While conspiracy beliefs have been described as reactions to economic threats, we argue that this factor alone is not sufficient. Rather, perceiving one's ingroup as unfairly deprived compared to other groups (i.e., group relative deprivation) might be key to explaining the situation in terms of secret, intentional wrongdoings. Furthermore, individuals high in national narcissism (i.e., a perceived lack of recognition of the ingroup's greatness), may be especially sensitive to this dynamic. Three pilot studies ($N = 1237$) attested the robustness of the link between group relative deprivation and conspiracy beliefs. Then, Study 1 ($N = 812$) revealed that the effect of group relative deprivation on conspiracy beliefs was moderated by national narcissism. In Study 2 ($N = 728$), we found effects of induced national narcissism and group relative deprivation on conspiracy beliefs in a fictitious setting. Study 3 ($N = 846$) replicated the moderation of national narcissism on the link between group relative deprivation and conspiracy beliefs at the cross-sectional level. Overall, these studies provide evidence that conspiracy beliefs in reaction to group relative deprivation are especially likely among collective narcissists. We discuss the scapegoating function of conspiracy beliefs during crises.

KEYWORDS
conspiracy beliefs, economic crisis, group relative deprivation, national narcissism, scapegoating

1 | INTRODUCTION

> The psychology of conspiracy is the psychology of resentment. Whoever feels deprived of something instinctively looks for a cause of the deprivation. More precisely, they look for who deprived them. (Moscovici, 1987, p. 162).

Contemporary societies deal with a multitude of crises, such as climate change and pandemics. Despite being global and unspecific, these

threats elicit dynamics of outgroup blaming (Becker et al., 2011). These blaming dynamics frequently take the form of conspiracy theories, which are accusations that one or more groups are acting in secret to accomplish a goal that will directly or indirectly harm one or more groups (Bertin, 2024). For example, during the COVID-19 pandemic, Polish protesters accused Jews of orchestrating the pandemic to weaken the Polish economy (Tilles, 2021); Venezuelan official Elvis Méndez claimed that the virus was a bioweapon used by the United States to weaken Latin America (Somos Tu Voz, 2020); and an Indian hashtag accused Muslims of being 'Corona Jihadists', deliberately spreading the virus (Da Silva, 2020). Although an abundance of cross-sectional studies suggests the role of such crisis contexts in the emergence of conspiracy beliefs (e.g., Sternisko et al., 2021), the blaming function of conspiracy beliefs remains to be experimentally tested.

We address this gap within the context of economic downturns, arguing that it is not economic downturns per se that trigger blaming through conspiracy beliefs, but rather feelings of group relative deprivation (i.e., The feeling that one's ingroup is unfairly deprived of resources compared to outgroups; Pettigrew et al., 2008; Smith et al., 2012; Smith & Pettigrew, 2015). Indeed, perceiving an asymmetry in the financial loss experienced by the ingroup compared to other groups may lead to reframing such a broad event as intentional and targeted actions against the ingroup. Furthermore, we posit that national narcissism, a defensive national identification rooted in a perceived lack of recognition of the ingroup's value (Cichocka, 2016; Golec de Zavala et al., 2009), moderates the relationship between group relative deprivation and outgroup blaming. Indeed, national narcissism is characterized by an aversion to threats against the ingroup image and privileges (Golec de Zavala et al., 2013; Marchlewska et al., 2020). Therefore, individuals with high national narcissism may be especially prone to attribute responsibilities for their perceived state of deprivation to the secret action of outgroups.

1.1 | Conspiracy beliefs as a form of blaming

It is well-accepted within the conspiracy literature that perceiving and experiencing a state of threat is key to understanding the contextual rise of conspiracy beliefs (Biddlestone et al., 2021; Uscinski & Parent, 2014; van Prooijen, 2019; van Prooijen & Douglas, 2017). Building from the intergroup threat theory (Stephan & Stephan, 2017), a research line has investigated the social motives behind expressing conspiracy beliefs in reaction to an *intergroup* threat (i.e., 'when one group's actions, beliefs, or characteristics challenge the goal attainment or well-being of another group', Riek et al., 2006, p. 336). The effect of intergroup threats on increased conspiracy beliefs is robust and well-replicated (Bertin et al., 2022; Cichocka et al., 2016; Hebel-Sela et al., 2023; Jolley et al., 2020; Mashuri & Zaduqisti, 2015). However, less is known about conspiracy beliefs stemming from threats not attributable to groups.

Diffuse threats, stemming from 'social and political mechanisms that cannot be attributed to a specific agent' (Brambilla et al., 2013, p. 312), include climate change, pandemics and economic downturns. Although a link can be drawn between an intergroup threat and related intergroup conspiracy beliefs, the effect of diffuse threats on intergroup conspiracy beliefs is less clear. Why do conspiracy beliefs become a means to scapegoat certain outgroups in such crisis situations? Examples of conspiracy blaming during the COVID-19 pandemic, attributing malevolent intentions to outgroups, have been described as a means to externalize one's ingroup responsibilities over the consequences of the pandemic (Sternisko et al., 2020). This dynamic is congruent with the dual-motive model of scapegoating (Rothschild et al., 2012), which describes how scapegoating enables people to overcome the guilt of a negative outcome while restoring a sense of control.

Blaming outgroups as a reaction to a crisis situation has long been studied through the notion of scapegoating (i.e., 'attributing inordinate blame for a negative outcome to a target individual or group', Rothschild et al., 2012, p. 1148). Scapegoating is likely to occur when a cause of harm is out of range of a majority ingroup, such as diffuse threats, or threats involving some members of the majority ingroup (Želinský et al., 2023). Common targets of scapegoating by majority groups include national, political, ethnic and religious minorities (Allport, 1954; Girard, 1982). Notorious historical examples include blaming immigrants during economic crises (Bursztyn et al., 2022; Savun & Gineste, 2019) and women during witch-hunts (Chaudhuri, 2012). More recently, the COVID-19 pandemic led to scapegoating against immigrants in several European countries (Freitag & Hofstetter, 2022), Asians in the United States and the United Kingdom (Carr et al., 2022; Lantz & Wenger, 2023), and Black and Hispanic individuals in the United States (Wenger & Lantz, 2022). Interestingly, this pandemic-induced scapegoating seems equally prevalent across the political spectrum, with no difference of anti-Asian discrimination between liberals and conservatives in the United States (Zhao et al., 2022).

The terms 'conspiracy beliefs' and 'scapegoating' have often been used interchangeably (e.g., Berlet & Lyons, 2018; Giry, 2015). However, conspiracy beliefs represent a specific form of outgroup blaming characterized by the secrecy of the actions attributed to the blamed outgroup. Indeed, secrecy is central to conspiracy beliefs (Nera & Schöpfer, 2023), while it is not necessary to qualify for scapegoating. Consequently, conspiracy beliefs are more likely to target groups with the financial or influential capacity to remain hidden, such as powerful groups. In contrast, scapegoated groups often lack power and the capacity to hide and are rather characterized by their immorality and perceived differences with the majority group (Nelkin & Gilman, 1988; see Glick, 2005 for an exception). Furthermore, while conspirators are blamed for their alleged coordinated *actions*, outgroups need not be active to be scapegoated; they can be blamed merely for *being*. For example, the recurrent blaming of immigrants during economic crises is often grounded on their assumed impact on welfare and employment rate (Vogt Isaksen, 2019), which cannot be qualified as an intentional action.

In some cases, conspiracy beliefs and scapegoating co-occur when the blaming of a powerful outgroup is accompanied by the blaming of a minority. In this narrative, the scapegoated minority can

be qualified as an accomplice group of conspirators (Nera, 2022). Accomplice groups, as we view it, are not directly conspiring but are seen as being part of the plot. An example of such a hybrid form of outgroup blaming is the 'Great Replacement' theory, which states that Muslim immigrants coming to European countries are intended to demographically 'replace' the White majority and its culture, with the support of 'domestic elites' (Bergmann, 2021). Although coined as a conspiracy led by powerful conspirators (i.e., the domestic elites), the Great Replacement narrative includes an accomplice group that is clearly defined and constitutes a straightforward vulnerable target for scapegoating (i.e., Muslim immigrants; Nera et al., 2022). We will account for this distinction by testing whether conspiracy beliefs targeting different kinds of outgroups (powerful, minorities, both) similarly increase in contexts of diffuse threats.

Regarding the contextual effect of diffuse threats on conspiracy blaming, we argue that it is not the crisis context per se that matters most, but rather the perceived situation of the ingroup within this crisis. We will test this prediction by distinguishing the effect of an (economic) diffuse threat to the one of a situation of group relative deprivation, (i.e., the perception that the ingroup is unfairly deprived of resources compared to other groups).

1.2 | The effect of group relative deprivation on conspiracy blaming

Economic crises have been long identified as fertile grounds for intergroup hatred (Fritsche & Jugert, 2017; Qillian, 1995), including negative attitudes (Vogt Isaken, 2019), prejudice (Butz & Yogeeswaran, 2011), scapegoating towards immigrants (Becker et al., 2011) and conspiracy beliefs (Pica et al., 2024). However, crisis contexts are not systematically predictive of an increase in outgroup blaming. Although some studies found an effect of the COVID-19 pandemic on outgroup blaming (see above), other studies reported no or mixed support for the scapegoating of minorities during this pandemic (Auer et al., 2023; Daniels et al., 2021). The effect of a crisis context on outgroup blaming may therefore depend more on one's perception of the ingroup's situation than on macro-level indicators. In the economic context, we suspect that it may not solely be the crisis context per se that triggers conspiracy blaming, but rather the perceived consequences of the crisis at the ingroup level, specifically if the ingroup is perceived as unfairly deprived of resources compared to others.

This unfavourable asymmetry in comparing the ingroup's situation with that of relevant outgroups is typical of group relative deprivation (Pettigrew et al., 2008; Smith et al., 2012; Smith & Pettigrew, 2015). Recent research showed that group relative deprivation underpins the relationship between a range of economic indicators and the tendency to perceive some outgroups as threatening across 20 countries (Meuleman et al., 2020). Moreover, the cross-sectional relationship between group relative deprivation and specific conspiracy beliefs has been documented in Poland (Bilewicz & Krzeminski, 2010; Bilewicz et al., 2012, 2013) and the Netherlands (van Prooijen et al., 2018). These findings align with a recent meta-analysis confirming that feelings of deprivation (broadly defined) are related to conspiracy beliefs (Biddlestone et al., 2024). However, echoing experimental shortfalls in conspiracy research (Sassenberg et al., 2023), the causation behind the relationship between group relative deprivation and conspiracy beliefs remains to be tested.

Our study aims to bridge this gap by experimentally testing the effect of induced group relative deprivation on conspiracy beliefs. Furthermore, we hypothesize that the causal effect of contexts of group relative deprivation on these forms of outgroup blaming, if present, might not similarly apply to all people. Indeed, tendencies to blame outgroups for unfavourable situations experienced by the national ingroup may be more prevalent among those with a defensive identification, operationalized through national narcissism.

1.3 | The moderating role of national narcissism

National narcissism is a defensive national identification rooted in a perceived lack of recognition of the ingroup's greatness (Cichocka, 2016; Golec de Zavala et al., 2009). We suspected that contexts of group relative deprivation may trigger outgroup blaming especially among individuals with such a defensive national identification. Indeed, national narcissists tend to compensate for their frustrated individual needs through an inflated image of their ingroup (Cichocka et al., 2018: Golec de Zavala et al., 2019), which makes them particularly intolerant to threats to their ingroup's image and reputation (Golec de Zavala et al., 2013). Cross-sectional findings are congruent with this idea. For example, Golec de Zavala et al. (2009, Study 2) found that (ethnic) collective narcissism was related to increased perceptions that one's ingroup is being deprived compared to others in Great Britain. This association seems quite robust as it was also observed in Hungarian (Lantos & Forgas, 2021, Study 2) and Polish contexts (Gorska et al., 2024, Study 1).

Importantly for the present contribution, it has been proposed that national narcissists use conspiracy beliefs to externalize a threat to their ingroup's image by attributing responsibilities to external actors (Bertin et Delouvée, 2021; Sternisko et al., 2020). Although individuals experiencing group relative deprivation may not necessarily cope with this situation through external attributions, we expected individuals with a defensive ingroup positioning to rely on outgroup blaming to protect their image and seek redress. This prediction is supported by recent research showing that blaming attribution is related to social resentment (Abts & Baute, 2022).

Although the link between national narcissism and conspiracy beliefs has yet to be tested in the context of economic downturns, this relationship has been observed in other contexts of diffuse threats, such as pandemics (Bertin et Delouvée, 2021; Cislak et al., 2021; Gkinopoulos & Uysal, 2021; Marchlewska et al., 2022; Sternisko et al., 2021) and climate change (Bertin et al., 2021). Sternisko et al. (2021) replicated this relationship during the COVID-19 pandemic in most of the 56 countries included in their analysis, suggesting that a defensive national identification motivates conspiracy blaming out of a diffuse threat context, independently of the cultural context. Taken together, these findings suggest that national narcissism is a specific form of ingroup identification that may lead individuals to be more reactive

to contexts of group relative deprivation and more inclined to blame outgroups for the situation.

However, the above-mentioned literature relies almost exclusively on cross-sectional findings. Therefore, our present paper seeks to address this gap by experimentally testing our prediction that the effect of group relative deprivation on conspiracy beliefs will be moderated by national narcissism.

2 | THE CURRENT STUDIES

In the following studies, our goal was to test (1) the main effect of group relative deprivation on conspiracy beliefs and (2) the moderation effect of national narcissism. In three pilot studies, we replicated the cross-sectional relationship between group relative deprivation, national narcissism and conspiracy beliefs in Belgian and U.S. samples. These pilot studies also enabled us to calibrate experimental inductions of group relative deprivation and national narcissism, as these constructs have been rarely manipulated. In Study 1, we then tested our model by *manipulating* deprivation and *measuring* national narcissism within an ecological context. Study 2 extended Study 1 by relying on a factorial design to manipulate *both* group relative deprivation and national narcissism within a fictitious society. In Study 3, we conceptually replicated Study 2 to attest the robustness of the effects of group relative deprivation and national narcissism on conspiracy beliefs.

Throughout these studies, we used measures of conspiracy beliefs regarding an array of outgroups. Predicting which outgroups may be blamed in the context of a diffuse threat is challenging, as Allport (1954) noted: 'We cannot find a clear formula that will cover the selection of scapegoats' (p. 245). Therefore, we selected outgroups that may be relevant based on one's ingroup's current and historical situation and conflicts (Adler et al., 2022). Additionally, we included a measure of scapegoating to compare the effects of group relative deprivation and national narcissism on conspiracy beliefs with a non-conspiratorial form of blaming.

Finally, to further delineate the nature of conspiracy blaming, we also included a measure of conspiracy mentality (i.e., one's general propensity to endorse conspiracy beliefs; Bruder et al., 2013; Enders et al., 2021; Imhoff & Lamberty, 2017; Uscinski et al., 2016). According to Sternisko et al. (2020), conspiracy beliefs motivated at an intergroup level are content-dependent and based on their relevance as an ingroup member. Therefore, we distinguished intergroup conspiracy beliefs from the conspiracy mentality, typically considered as a stable, individual trait (Imhoff et al., 2022). Although both measures tap into conspiratorial accusations, we anticipate that conspiracy beliefs about specific outgroups, but not conspiracy mentality, will increase in the context of group relative deprivation, especially among high national narcissists.

3 | PILOT STUDIES

In this section, we present an overview of the pilot studies. We report the main conclusions in the main document and leave the detailed methodology (i.e., procedure, measures, participants) and result sections in the Supporting Information.

3.1 | Pilot Study 1

The initial pilot study aimed to replicate the documented cross-sectional link between group relative deprivation and conspiracy beliefs (Bilewicz & Krzeminski, 2010; Bilewicz et al., 2012, 2013; van Prooijen et al., 2018). We expected perceived group relative deprivation to be correlated with conspiracy beliefs about immigrants in a representative sample of the Belgian electorate ($N = 758$). To ensure that the effect was specific to group relative deprivation, we additionally controlled for participants' social class and political orientation. We found that group relative deprivation positively predicted conspiracy beliefs about immigrants (see Supporting Information).

3.2 | Pilot Study 2

The second pilot study was the first attempt to experimentally test the effect of group relative deprivation on conspiracy beliefs. This study was conducted online with United States participants ($N = 219$). Participants had to write a few words on how the COVID-19 pandemic has caused people like them to be more disadvantaged economically than others. In the control condition, participants wrote on how the pandemic affected the American economy in general (i.e., without making salient the group relative deprivation feature). Then, we measured conspiracy beliefs about two antagonistic outgroups in the United States context, namely China and immigrants.

The manipulation of group relative deprivation was not successful, according to the manipulation checks. Cross-sectional analyses showed that both measured group relative deprivation and national narcissism predicted increased conspiracy beliefs about China and immigrants. Moreover, an interaction effect showed that the relationship between group relative deprivation and conspiracy beliefs was stronger at higher levels of national narcissism (controlling for ingroup satisfaction; see Table S3 the Supporting Information).

By contrast, group relative deprivation, but not national narcissism, positively predicted conspiracy mentality. Group relative deprivation did not interact with national narcissism but with group satisfaction, such that the relationship between group relative deprivation and conspiracy mentality was weaker as participants' ingroup satisfaction increased. The framing of the experiment in the COVID-19 context, providing participants with a target to blame for the economic crisis, was acknowledged as a limitation and addressed in the main studies.

3.3 | Pilot Study 3

Pilot Study 3 focused on testing an induction of national narcissism. With limited published studies manipulating national narcissism (for an exception, see Bertin et al., 2022), we conducted this study among students from Université libre de Bruxelles (Belgium; $N = 260$). After

describing in a few words what made them proud of their national group, participants had to imagine a world where these valuable elements would not be recognized by others (vs. acknowledged in the control condition). They then were to imagine that a global economic downturn would occur and that it would be more severe in their country compared to the rest of the world. Participants rated how responsible for the situation were six groups, related to the national ingroup (e.g., the politicians of your country), and outgroups (e.g., foreign powers).

The experimental manipulation of national narcissism was not effective (see Supporting Information) At the cross-sectional level, national narcissism was positively associated with outgroup, but not ingroup, conspiratorial accusations, consistent with Cichocka et al. (2016; Study 2). In the following main studies, we built on these pilot studies to further test our hypotheses.

4 | STUDY 1

In Study 1, we relied on four experimental conditions: group relative deprivation, economic threat, non-threatening control and group relative gratification. We added this latter condition because previous work showed that intergroup prejudice may also be fostered in times of economic prosperity (Guimond & Dambrun, 2002; Jetten, 2019). Coupled with a non-threatening control condition, the group relative gratification condition enabled us to test whether the 'wealth paradox' (the idea that economic crises *and* prosperity lead to hardening of attitudes towards minorities) applies to conspiracy beliefs, which would falsify our conceptualization of conspiracy blaming as an identity management process. Indeed, we instead argue that the presence of an economic threat – not prosperity – is a prerequisite for conspiracy blaming.

Because it is difficult to predict which outgroup will be blamed for a crisis situation (Allport, 1954), we measured conspiracy beliefs about a range of potential antagonistic outgroups. Specifically, we measured conspiracy beliefs about China given its centrality in conspiracy theories about the recent COVID-19 pandemic, and conspiracy beliefs about the European Union (EU), which is also central to widespread conspiracy theories (Önnerfors & Krouwel, 2021). We also measured the hybrid form between conspiracy beliefs and scapegoating, called conspiratorial scapegoating. This latter measure portrayed the EU colluding with immigrants, which reflects the Great Replacement conspiracy theory (see Bergmann, 2021). Finally, we included measures of conspiracy mentality and scapegoating about immigrants to compare the effects on conspiracy beliefs to those of non-specific conspiratorial and specific non-conspiratorial forms of blaming, respectively.

This study received approval from the ethics committee of the University of Kent (ID: 202216433756687603). Hypotheses,[1] materials and analytical strategy were pre-registered on the Open Science Framework: https://osf.io/ucz89.

[1] The effect of conditions on conspiracy mentality were pre-registered as exploratory. This study also involved measures of collective action intentions and (non)normative political engagement which were not included in this project.

4.1 | Method

4.1.1 | Participants

We estimated our sample size based on an a priori power analysis conducted on G*Power (Faul et al., 2007; version 3.1.9.4). Given the lack of experimental evidence in the literature, we aimed to achieve sufficient statistical power to detect a small effect size (i.e., Cohen's $f = .10$). With an alpha level of .05 and a power of .80, our four independent conditions design required at least 1096 participants. A sensitivity analysis suggested that a sample size of $N = 900$ (analysis of variance [ANOVA] design, fixed effects, omnibus, one-way, given $\alpha < .05$, $1\text{-}\beta = .80$, and four groups) would still enable us to detect an effect size of $f = .11$ while being more conservative of resources. Therefore, anticipating potential exclusions, we sought to recruit around $N = 1000$.

We recruited participants using the French crowdsourcing platform *Foule Factory*. A total of 1085 participants completed the experiment. Following the pre-registration, we excluded participants for failing the attention check ($n = 40$), the seriousness check ($n = 2$), reporting not being French ($n = 2$), participated more than one ($n = 97$), below 18 years old ($n = 1$) and with completion time outside of a 3 MAD[2] (Leys et al., 2013; $n = 131$). Our final sample comprised 812[3] participants (423 female, one unknown, $M_{age} = 39.86$, $SD_{age} = 12.12$, $min = 18$, max = 80).

4.1.2 | Experimental procedure

This study comprised a first task focusing on imagination capacities and a second independent part on topical issues. Participants were randomly assigned to one of four experimental conditions: group relative deprivation (GRD), threat, control, and group relative gratification (GRG). In all conditions, participants had to imagine the economic future of France and to describe how this future would make them feel. Across conditions, we varied the instructions regarding the economic scenario.

Specifically, in the *GRD* condition, participants had to imagine a future in which the French would be disadvantaged economically compared to other countries. In the *threat* condition, we asked participants to imagine a future in which the economy of all countries around the world is collapsing. In the *control* condition, participants imagined a future in which the economy of all countries around the world is good. Finally, in the *GRG* condition, participants imagined a future in which the French would be advantaged economically compared to the other countries.

All participants had to write around 50 words about this imagined future. Then, they completed the second part of the survey which included the following measures: conspiracy beliefs about China,

[2] Given a median of 705 s and a MAD of 203.5 s, we excluded participants with a completion time below 94.5 s and above 1315.5 s.

[3] A sensitivity analysis revealed that this sample size was sufficient to detect effect sizes as small as $f = .11$ in a four groups one-way ANOVA design with 80% statistical power and $\alpha = .05$ (two-tailed).

conspiracy beliefs about the European Union (EU), conspiratorial scapegoating, scapegoating about immigrants and conspiracy mentality, national narcissism and ingroup satisfaction. Finally, participants answered manipulation checks (i.e., group relative deprivation, group relative gratification and perceived threat) and demographic questions, before being debriefed, thanked and paid.

4.1.3 | Measures

Unless stated otherwise, participants had to indicate their level of agreement with the statements using a 5-point scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*).

Manipulation checks. We used one item to measure the level of group relative deprivation experienced by participants in the situation they imagined (i.e., 'French people were unfairly deprived compared to people from other countries'). Similarly, one item assessed the level of group relative gratification experienced (i.e., 'French people were advantaged compared to people from other countries'). Last, one item captured the level of economic threat (i.e., 'The economic situation was threatening').

Conspiracy beliefs about China. We translated and adapted three items from van Prooijen and Song (2021) to the French context (e.g., 'Companies in China are trying to take over France's economy').

Conspiracy beliefs about the EU. We created three items to assess beliefs in conspiracy theories about the European Union (e.g., 'The European treaties are in fact aimed at establishing German domination over the other member countries').

Scapegoating. We adapted three items from Rothschild et al. (2012) to measure scapegoating of immigrants (e.g., 'In general, to what extent do you think that immigrants are responsible for the economic situation in France').

Conspiratorial scapegoating. We adapted three items from previous research (i.e., Marchlewska et al., 2018; Swami et al., 2018) to measure conspiratorial scapegoating, that is conspiracy blaming with a scapegoating component (e.g., 'The European Union welcomes immigrants to France to destroy French culture').

Conspiracy mentality. We used the French version (Lantian et al., 2016) of the Conspiracy Mentality Questionnaire (Bruder et al., 2013; e.g., 'I think that there are secret organizations that greatly influence political decisions').

National narcissism. We used the French version (Bertin et al., 2021) of the 5-item version of the Collective Narcissism Questionnaire (Golec de Zavala et al., 2009, e.g., 'The true worth of France is often misunderstood').

Ingroup satisfaction. We used the French version (Bertin et al., 2022) of Leach et al.'s (2008) ingroup satisfaction subscale (e.g., 'I think that French people have a lot to be proud of').

4.2 | Results

Means, standard deviations and internal reliability coefficients are displayed in Table 1.

4.2.1 | Manipulation checks

We first created three orthogonal contrasts (see Table 2 for the coding).

To check if our experimental manipulations were successful, we conducted multiple regression analyses using the three contrasts as predictors and each of the manipulation check items as the outcome (see Table 3).

Overall, the results suggest that our manipulation was successful: Participants in the GRD condition reported significantly higher levels of group relative deprivation and perceived economic threat and lower levels of group relative gratification than those in the other conditions. Means and standard deviations per condition are displayed in Table 4.

4.2.2 | Main analyses

We relied on hierarchical regression analyses to test our hypotheses. In Step 1, we included the three orthogonal contrasts to examine the effect of group relative deprivation on our outcomes. In Step 2, we included the centred national narcissism score (our moderator) and additionally controlled for ingroup satisfaction (operationalizing secure ingroup identification; see Golec de Zavala et al., 2019). To examine if the effect of group relative deprivation on forms of outgroup blaming was stronger among participants who scored high in national narcissism (our interaction hypothesis), we included the interaction between each of the contrasts and national narcissism in a third step. Finally, we controlled for the interaction between the contrasts and ingroup satisfaction in a final step, as recommended by Yzerbyt et al. (2004). We probed a significant interaction with a simple effect analysis, at low (−1SD), medium (mean) and high (+1SD) levels of national narcissism. Results are displayed in Table 5 (for illustrations of the interaction effects, see Figures S1–S4 in the Supporting Information, pp. 36–38).

Conspiracy beliefs about China. In Step 1, none of the contrasts proved significant. In Step 2, the effects of national narcissism and ingroup satisfaction were significant (positive and negative, respectively). In Step 3, the interaction between C1 (GRD vs. the other conditions) and national narcissism was significant, as well as the interaction between C2 (threat vs. control and gratification conditions) and national narcissism.

Simple effects analysis for the C1*Narcissism interaction showed that the effect of group relative deprivation (vs. other conditions) was non-significant at medium (mean) and high levels (+1*SD*) of national narcissism (*ps* > .21) but was significant at low levels of national narcissism (−1*SD*: $b = -.24$, $SE = 0.10$, 95% CI [−0.43, −0.04], $t(803) = -2.40$, $p = .017$). This suggests that low-narcissism participants in the group relative deprivation condition (vs. other conditions) reported lower levels of conspiracy beliefs about China.

For the C2*Narcissism interaction, the difference between the threat condition versus the control and gratification conditions was significant and negative at low levels of national narcissism (−1*SD*: $b = -.24$, $SE = 0.10$, 95% confidence interval (CI) [−0.44, −0.04], $t(803) = -2.41$, $p = .016$), significant and positive for those who scored high on national narcissism (+1*SD*: $b = .23$, $SE = 0.10$, 95% CI [0.03, 0.42],

TABLE 1 Means, standard deviations, internal reliability coefficients and Pearson's correlation coefficients (Study 1).

	M	*SD*	α	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Group relative deprivation	2.34	1.25	–	–								
2. Economic threat	3.29	1.27	–	.37***	–							
3. Group relative gratification	3.05	1.25	–	−.30***	−.12***	–						
4. Conspiracy beliefs about China	3.12	0.85	.79	.15***	.06	.01	–					
5. Conspiracy beliefs about the EU	2.56	1.01	.82	.26***	.26***	.04	.37***	–				
6. Conspiratorial scapegoating	2.01	1.00	.85	.36***	.20***	−.05	.30***	.61***	–			
7. Scapegoating	1.98	1.03	.93	.37***	.14***	−.09*	.23***	.39***	.68***	–		
8. Conspiracy mentality	7.03	2.09	.87	.18***	.22***	−.02	.31***	.49***	.45***	.28***	–	
9. National narcissism	2.95	0.83	.85	.29***	.09**	.01	.24***	.25***	.43***	.45***	.14***	
10. Ingroup satisfaction	3.93	0.80	.90	.03	−.02	.07*	.03	−.16***	−.04	.05	−.14***	.45***

Note: $N = 812$. All variables were measured using a 5-point Likert scale, except for conspiracy mentality (11 points).
*$p < .05$,
**$p < .01$,
***$p < .001$.

TABLE 2 Coding for the orthogonal contrasts (Study 1).

	Group relative deprivation	Threat	Control	Group relative gratification
C1	0.75	−0.25	−0.25	−0.25
C2	0	0.667	−0.333	−0.333
C3	0	0	0.5	−0.5

TABLE 3 Regression analyses on the manipulation checks (Study 1).

	Group relative deprivation			Perceived economic threat			Group relative gratification		
	β	95% CI	*t*	β	95% CI	*t*	β	95% CI	*t*
C1	.47	[0.41, 0.54]	15.42***	.21	[0.15, 0.28]	6.53***	−.21	[−0.28, −0.15]	−6.40***
C2	.06	[0.01, 0.12]	2.08*	.30	[0.23, 0.36]	9.14***	−.12	[−0.19, −0.06]	3.78***
C3	.07	[0.01, 0.13]	2.24*	−.02	[−0.09, 0.04]	−0.70	−.25	[−0.32, −0.19]	−7.74***
R^2	.23***			.13***			.13***		

Note: β is the standardized coefficient. C1 opposes the GRD condition to the others; C2 opposes the Threat condition to the control and GRG conditions; C3 opposes the control to the GRG condition.Abbreviations: CI, confidence interval; GRD, group relative deprivation; GRG, group relative gratification.
*$p < .05$;
**$p < .01$;
***$p < .001$.

TABLE 4 Means and standard deviations of the manipulation checks per condition (Study 1).

	Conditions			
	Group relative deprivation	Threat	Control	Group relative gratification
Measured group relative deprivation	3.40 (1.24)	2.14 (1.07)	2.07 (1.11)	1.82 (0.97)
Measured economic threat	3.77 (1.04)	3.75 (1.07)	2.79 (1.36)	2.87 (1.24)
Measured group relative gratification	2.58 (1.22)	2.95 (1.16)	2.87 (1.20)	3.78 (1.12)

Note: The values outside the parenthesis represent the mean, and the values within the parenthesis represent the standard deviation.

TABLE 5 Conspiracy beliefs, scapegoating and conspiratorial scapegoating as a function of experimental conditions, national narcissism and ingroup satisfaction (Study 1).

	Conspiracy beliefs – China				Conspiracy beliefs – EU				Scapegoating				Conspiratorial scapegoating				Conspiracy mentality			
Step 1	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***
C1 (GRD vs. Others)	−.03	[−0.10, 0.04]	−0.94	.346	.01	[−0.06, 0.08]	0.34	.734	.08	[0.01, 0.15]	2.36	.019	.04	[−0.03, 0.11]	1.14	.254	−.03	[−0.10, 0.04]	−0.86	.391
C2 (Threat vs. Control and GRG)	.00	[−0.07, 0.07]	0.09	.926	.05	[−0.02, 0.12]	1.37	.172	−.04	[−0.11, 0.03]	−1.16	.248	.00	[−0.07, 0.07]	−0.03	.975	.08	[0.02, 0.15]	2.42	.016
C3 (Control vs. GRG)	.02	[−0.05, 0.09]	0.55	.581	.02	[−0.05, 0.09]	0.57	.567	.07	[0.001, 0.14]	1.98	.048	.05	[−0.02, 0.12]	1.48	.139	.06	[−0.01, 0.13]	1.79	.073
R^2	.00				.00				.01*				.00				.01*			
Step 2	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***
C1 (GRD vs. Others)	−.04	[−0.11, 0.03]	−1.20	.232	.01	[−0.05, 0.07]	0.28	.779	.07	[0.01, 0.13]	2.22	.027	.03	[−0.03, 0.09]	0.95	.343	−.03	[−0.10, 0.04]	−0.90	.369
C2 (Threat vs. Control and GRG)	−.00	[−0.07, 0.06]	−0.10	.919	.04	[−0.02, 0.11]	1.37	.172	−.05	[−0.11, 0.01]	−1.73	.085	−.01	[−0.07, 0.05]	−0.38	.701	.08	[0.02, 0.15]	2.46	.014
C3 (Control vs. GRG)	.01	[−0.06, 0.07]	0.15	.882	−.01	[−0.07, 0.05]	−0.28	.780	.04	[−0.02, 0.10]	1.37	.171	.02	[−0.04, 0.08]	0.63	.528	.04	[−0.02, 0.11]	1.27	.204
National Narcissism (centred)	.28	[0.21, 0.36]	7.41	< .001	.40	[0.33, 0.47]	11.01	< .001	.53	[0.46, 0.60]	15.48	< .001	.56	[0.49, 0.63]	16.49	< .001	.25	[0.17, 0.32]	6.54	< .001
Ingroup Satisfaction (centred)	−.10	[−0.17, −0.02]	−2.53	.011	−.34	[−0.42, −0.27]	−9.50	< .001	−.19	[−0.25, −0.12]	−5.41	< .001	−.29	[−0.36, −0.23]	−8.62	< .001	−.25	[−0.32, −0.18]	−6.59	< .001
ΔR^2	.06***				.15***				.23***				.25***				.07***			
Step 3	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***	***β***	**95% CI**	***t***	***p***
C1 (GRD vs. Others)	−.04	[−0.11, 0.02]	−1.25	.211	.01	[−0.06, 0.07]	0.18	.854	.06	[0.001, 0.13]	2.11	.035	.03	[−0.03, 0.09]	0.84	.402	−.03	[−0.10, 0.04]	−0.85	.393
C2 (Threat vs. Control and GRG)	−.00	[−0.07, 0.06]	−0.08	.939	.05	[−0.02, 0.11]	1.40	.160	−.05	[−0.11, 0.01]	−1.68	.093	−.01	[−0.07, 0.05]	−0.34	.731	.08	[0.02, 0.15]	2.46	.014
C3 (Control vs. GRG)	.01	[−0.06, 0.08]	0.28	.780	−.01	[−0.07, 0.06]	−0.19	.851	.04	[−0.02, 0.10]	1.40	.163	.02	[−0.04, 0.08]	0.68	.496	.04	[−0.02, 0.11]	1.31	.190
National Narcissism (centred)	.29	[0.22, 0.36]	7.64	< .001	.40	[0.33, 0.47]	11.20	< .001	.53	[0.47, 0.60]	15.54	< .001	.56	[0.50, 0.63]	16.59	< .001	.25	[0.17, 0.32]	6.55	< .001
Ingroup Satisfaction (centred)	−.10	[−0.18, −0.03]	−2.67	.008	−.35	[−0.42, −0.28]	−9.62	< .001	−.19	[−0.25, −0.12]	−5.43	< .001	−.29	[−0.36, −0.23]	−8.67	< .001	−.25	[−0.33, −0.18]	−6.61	< .001
C1 * Narcissism	.08	[0.01, 0.14]	2.22	.027	.09	[0.02, 0.15]	2.63	.009	.06	[0.001, 0.12]	2.05	.040	.07	[0.01, 0.13]	2.32	.021	−.01	[−0.08, 0.06]	−0.27	.786
C2 * Narcissism	.11	[0.05, 0.18]	3.32	< .001	.07	[0.001, 0.13]	2.00	.046	−.02	[−0.08, 0.04]	−0.71	.479	.01	[−0.05, 0.07]	0.33	.744	.04	[−0.03, 0.10]	1.05	.295
C3 * Narcissism	−.00	[−0.07, 0.06]	−0.02	.988	−.01	[−0.07, 0.05]	−0.24	.814	.00	[−0.05, 0.06]	0.16	.874	.00	[−0.06, 0.06]	−0.05	.962	.01	[−0.05, 0.08]	0.44	.658
ΔR^2	.02**				.01*				.00				.01				.00			

(Continues)

TABLE 5 (Continued)

Step 4	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*
C1 (GRD vs. Others)	−.04	[−0.11, 0.02]	−1.26	.207	.01	[−0.06, 0.07]	0.16	.869	.07	[0.001, 0.13]	2.12	.035	.03	[−0.03, 0.09]	0.84	.401	−.03	[−0.10, 0.04]	−0.85	.395
C2 (Threat vs. Control and GRG)	−.00	[−0.07, 0.07]	−0.04	.965	.05	[−0.02, 0.11]	1.43	.154	−.05	[−0.11, 0.01]	−1.64	.102	−.01	[−0.07, 0.05]	−0.31	.757	.08	[0.02, 0.15]	2.42	.016
C3 (Control vs. GRG)	.01	[−0.06, 0.07]	0.22	.822	−.00	[−0.07, 0.06]	−0.15	.884	.04	[−0.02, 0.10]	1.41	.160	.02	[−0.04, 0.08]	0.69	.492	.04	[−0.02, 0.11]	1.30	.195
National Narcissism (centred)	0.29	[0.22, 0.37]	7.64	< .001	.41	[0.34, 0.48]	11.27	< .001	.53	[0.47, 0.60]	15.57	< .001	.57	[0.50, 0.63]	16.60	< .001	.25	[0.17, 0.32]	6.49	< .001
Ingroup Satisfaction (centred)	−.10	[−0.18, −0.03]	−2.70	.007	−.35	[−0.42, −0.28]	−9.71	< .001	−.19	[−0.26, −0.12]	−5.46	< .001	−.30	[−0.36, −0.23]	−8.70	< .001	−.25	[−0.32, −0.17]	−6.55	< .001
C1 * Narcissism	.05	[−0.02, 0.13]	1.42	.155	.07	[0.00, 0.14]	1.90	.058	.06	[−0.01, 0.13]	1.66	.097	.06	[−0.01, 0.13]	1.81	.070	.00	[−0.07, 0.08]	0.10	.918
C2 * Narcissism	.12	[0.04, 0.19]	2.98	.003	.10	[0.02, 0.17]	2.60	.010	−.01	[−0.08, 0.06]	−0.18	.858	.02	[−0.04, 0.09]	0.71	.478	.02	[−0.06, 0.09]	0.42	.677
C3 * Narcissism	.01	[−0.07, 0.08]	0.18	.855	−.00	[−0.07, 0.07]	−0.05	.956	.01	[−0.05, 0.08]	0.44	.659	.01	[−0.06, 0.07]	0.22	.828	.01	[−0.07, 0.08]	0.15	.883
C1 * Satisfaction	.05	[−0.03, 0.12]	1.24	.217	.03	[−0.04, 0.10]	0.96	.337	.01	[−0.05, 0.08]	0.34	.736	.02	[−0.05, 0.08]	0.53	.593	−.03	[−0.10, 0.05]	−0.73	.468
C2 * Satisfaction	−.00	[−0.08, 0.07]	−0.09	.929	−.07	[−0.14, 0.01]	−1.75	.080	−.03	[−0.10, 0.04]	−0.97	.332	−.03	[−0.10, 0.04]	−0.91	.362	.04	[−0.03, 0.12]	1.09	.275
C3 * Satisfaction	−.02	[−0.09, 0.06]	−0.42	.675	−.01	[−0.09, 0.06]	−0.41	.681	−.02	[−0.09, 0.04]	−0.73	.468	−.02	[−0.09, 0.05]	−0.63	.530	.02	[−0.05, 0.10]	0.61	.542
ΔR^2	.00				.00				.00				.00				.00			

Note: *β* is the standardized coefficient. GRD = group relative deprivation, GRG = group relative gratification..

†$p < .10$;

*$p < .05$;

**$p < .01$;

***$p < .001$.

TABLE 6 Means, standard deviations, internal reliability coefficients and Pearson's correlation coefficients (Study 2).

	M	*SD*	α	1.	2.	3.	4.	5.	6.	7.
1. National narcissism	3.44	0.74	.77	–						
2. Ingroup satisfaction	4.04	0.87	.92	.12**	–					
3. Group relative deprivation	2.94	1.55	–	.36***	−.35***	–				
4. Group relative gratification	3.00	1.45	–	−.27***	.38***	−.77***	–			
5. Conspiracy blaming	2.86	1.09	.90	.44***	−.10**	.36***	−.20***	–		
6. Conspiratorial scapegoating	2.48	1.08	.89	.40***	−.06	.26***	−.08*	.69***	–	
7. Scapegoating	2.03	0.93	.87	.24***	−.09*	.14***	.00	.35***	.53***	–
8. Conspiracy mentality	6.98	2.19	.90	.24***	.07	.09*	.03	.43***	.45***	.25***

Note: $N = 728$. All variables were measured using a 5-point Likert scale, except for conspiracy mentality (11 points).
*$p < .05$;
***$p < .001$.

$t(803) = 2.31$, $p = .021$), but non-significant at medium levels of national narcissism ($p = .939$). Thus, in the threat condition (vs. control and gratification conditions), low-national narcissists reported lower levels of conspiracy beliefs about China, while high-national narcissists reported higher levels of conspiracy beliefs about China.

In the last step of the analysis (i.e., when controlling for the interaction between the contrasts and ingroup satisfaction), the C2*Narcissism interaction held while the C1*Narcissism interaction became non-significant.

Conspiracy beliefs about the EU. Step 1 did not show any significant effect of the contrasts. In Step 2, both national narcissism and ingroup satisfaction predicted conspiracy beliefs about the European Union (positively and negatively, respectively). In Step 3, the interaction between C1 (GRD vs. other conditions) and national narcissism was significant and so was the interaction between C2 (threat vs. control and gratification conditions) and national narcissism.

Simple effect analyses regarding the C1*Narcissism interaction indicated that the effect of group relative deprivation condition (vs. other conditions) was marginal and negative at lower-levels of national narcissism (−1*SD*: $b = -.19$, $SE = 0.11$, 95% CI [−0.40, 0.03], $t(803) = -1.80$, $p = .089$), significant and positive at higher levels of national narcissism (+1*SD*: $b = .22$, $SE = 0.10$, 95% CI [0.01, 0.42], $t(803) = 2.06$, $p = .04$), but not significant at medium levels of national narcissism ($p = .97$). Thus, high-national narcissists in the group relative deprivation condition reported higher levels of conspiracy beliefs about the European Union than those in the other conditions.

Regarding the C2*Narcissism interaction, the results showed that the effect of threat (vs. control and gratification conditions) was only significant for those who scored high on national narcissism (+1*SD*: $b = .27$, $SE = 0.11$, 95% CI [0.05, 0.49], $t(803) = 2.42$, $p = .016$), but not for those who displayed low and medium levels of national narcissism ($ps > .15$); suggesting that high-national narcissist participants in the threat condition reported higher levels of conspiracy beliefs about the European Union than those in the control and gratification conditions.

In the last step of the analysis, C1*Narcissism interaction became marginal ($p = .058$) while the C2*Narcissism interaction remained significant.

Scapegoating. In Step 1, C1 (group relative deprivation vs. the other conditions) significantly predicted scapegoating, indicating that participants in the group relative deprivation condition considered immigrants to be more responsible for the economic situation of France than those in the other conditions. Step 1 also showed a significant and positive effect of C3, indicating higher scapegoating of immigrants in the control versus gratification condition. However, this effect became non-significant in Step 2, which also highlighted a positive effect of national narcissism and a negative effect of ingroup satisfaction. In Step 3, the interaction between C1 (group relative deprivation vs. the other conditions) and national narcissism was significant.

Simple effect analysis revealed that the effect of group relative deprivation condition (vs. other conditions) was significant and positive at medium and high levels of national narcissism ($b = .15$, $SE = 0.07$, 95% CI [0.01, 0.30], $t(803) = 2.11$, $p = .035$ and $b = .31$, $SE = 0.10$, 95% CI [0.11, 0.51], $t(802) = 3.02$, $p = .003$, respectively), but not at lower levels of national narcissism ($p = .98$). Hence, medium and high-national narcissists in the group relative deprivation condition reported higher levels of scapegoating than those in the other conditions. In the last step, this interaction became marginal ($p = .097$).

Conspiratorial scapegoating. Step 1 did not show any significant effect of the contrasts. In Step 2, national narcissism positively predicted conspiratorial scapegoating while the effect of ingroup satisfaction was negative. In Step 3, the interaction between C1 (group relative deprivation vs. the other conditions) and national narcissism was significant. Simple effect analysis revealed that the effect of the group relative deprivation condition (vs. the other conditions) was only significant for those who scored high in national narcissism (+1*SD*: $b = .23$, $SE = 0.10$, 95% CI [0.03, 0.42], $t(803) = 2.30$, $p = .022$) but not for those who displayed low and medium levels of national narcissism ($ps > .30$). Therefore, high-national narcissists in the group relative deprivation condition reported higher levels of conspiratorial scapegoating than those in the other conditions. This interaction became marginal in the last step of the analysis ($p = .07$), while none of the interactions between the contrasts and ingroup satisfaction were significant.

Conspiracy mentality. In Step 1, C2 (threat vs. control and gratification) significantly and positively predicted conspiracy mentality,

TABLE 7 Regression analyses on the manipulation checks (Study 2).

	Deprivation			Gratification			Narcissism			Satisfaction		
	β	95% CI	*t*	*β*	95% CI	*t*	*β*	95% CI	*t*	*β*	95% CI	*t*
GRD vs. GRG	.74	[0.69, 0.79]	30.22***	−.74	[−0.79, −0.69]	−29.99***	.21	[0.14, 0.28]	6.03***	−.42	[−0.48, −0.35]	−12.34***
High NN vs. Low NN	.14	[0.09, 0.19]	5.70***	−.09	[−0.13, −.04]	−3.44***	.21	[0.14, 0.28]	6.03***	−.07	[−0.14, −0.01]	−2.20*
Interaction	−.04	[−0.09, 0.00]	−1.82†	.02	[−0.03, 0.07]	0.72	.00	[−0.07, 0.07]	0.08	−.01	[−0.07, 0.06]	−0.20
R^2	.57***			.56***			.09***			.18***		

Note: *β* is the standardized coefficient. GRD (= group relative deprivation) is coded +0.5, GRG (= group relative gratification) is coded −0.5; High NN (= national narcissism) is coded +0.5, Low NN (= national narcissism) is coded −0.5.

†$p < .10$;
*$p < .05$;
**$p < .01$;
***$p < .001$.

suggesting that participants in the threat condition reported higher levels of conspiracy mentality ($M = 7.35$, $SD = 1.89$) than those in the control ($M = 7.11$, $SD = 2.14$) and gratification conditions ($M = 6.74$, $SD = 2.13$). C3 (control vs. gratification) was marginal in Step 1 but became non-significant in Step 2 of the analysis, in which national narcissism and ingroup satisfaction both significantly predicted conspiracy mentality (positively and negatively, respectively). In Steps 3 and 4, none of the interactions were significant.

4.3 | Discussion

Study 1 examined the effect of group relative deprivation on various forms of conspiracy beliefs and the moderating role of national narcissism within a French sample. Overall, we found mixed evidence for the causal effect of group relative deprivation on conspiracy beliefs and conspiratorial scapegoating. Contrasting with the rather robust correlational link documented in the literature (Bilewicz & Krzeminski, 2010; Bilewicz et al., 2012, 2013; Van Prooijen et al., 2018), we found no main effects of group relative deprivation on conspiracy variables. However, we observed this experimental effect among participants high in national narcissism. Hence, the dynamics of conspiracy blaming may be specific to individuals with a defensive identification with the ingroup perceived as unfairly deprived.

Note that most of these relationships were no longer significant when accounting for ingroup satisfaction and its interaction with the conditions, which may have been a consequence of considering overlapping predictors. Indeed, the overlap between national narcissism and ingroup satisfaction may have led to a reduction in the unique variance available to test their respective interaction effects. Although we pre-registered this control of ingroup satisfaction in line with previous cross-sectional studies (e.g., Golec de Zavala et al., 2020), it seems important to limit the use of covariates when testing experimental manipulations of constructs that have to be systematically induced (i.e., relative deprivation), or new relationships (i.e., the moderating role of national narcissism). Therefore, future experimental research might want to test these effects alone without controlling for other variables, since the overuse of covariates can lead to inappropriate inferences regarding the core effect of interest (Rohrer, 2018).

We also found an effect of induced group relative deprivation on scapegoating of immigrants. This finding is consistent with previous correlational data showing that group relative deprivation is related to the perception that immigrants are a threat to the economy and culture of one's country (Meuleman et al., 2020). Moreover, this effect replicates – albeit in a more ecological context – the experimental effect of group relative deprivation on prejudice against immigrants found using fictitious society paradigms (Jetten et al., 2015).

Finally, regarding conspiracy mentality, we found the classic differential pattern of relationships (Bertin & Delouvée, 2021; Cichocka et al., 2016; Cislak et al., 2021; Marchlewska et al., 2022), with a positive association with national narcissism and a negative one with ingroup satisfaction. As expected, we found no effect of group relative deprivation nor interaction with national narcissism. However,

TABLE 8 Means and standard deviations of the manipulation checks per condition (Study 2).

	Deprivation conditions		Narcissism conditions	
	Group deprivation	Group gratification	High narcissism	Low narcissism
Measured group relative Deprivation	4.13 (0.99)	1.84 (1.08)	3.20 (1.50)	2.71 (1.56)
Measured group relative Gratification	1.87 (0.96)	4.03 (0.99)	2.84 (1.44)	3.14 (1.46)
Measured collective Narcissism	3.61 (0.70)	3.29 (0.75)	3.61 (0.72)	3.29 (0.74)
Measured ingroup Satisfaction	3.66 (0.93)	4.39 (0.64)	3.96 (0.86)	4.11 (0.88)

Note: The values outside the parentheses represent the mean, and the values within the parentheses represent the standard deviation.

there was a small main effect of global threat on conspiracy mentality. Whereas conspiracy mentality has been theorized as a rather stable trait (Bruder et al., 2013; Imhoff & Lamberty, 2017), our results suggest that it may sometimes be sensitive to threatening contexts occurring at a global level.

Because of the importance of replication to build robust research lines (e.g., Świątkowski & Dompnier, 2017), we sought to replicate Study 1's hypotheses by using a fictitious society paradigm. This context enabled us to attempt manipulating national narcissism to causally test the interactions found in Study 1. This fictitious context also has the advantage to rule out potential limitations regarding the context-dependency of Study 1's findings. Indeed, we collected data in France a few weeks before the presidential elections, a time during which anti-immigrant discourses (Onishi, 2021) and conspiratorial scapegoating (i.e., the Great Replacement conspiracy; Carretero, 2022) were rampant.

5 | STUDY 2

In Study 2, we replicated Study 1 using a fictitious society setting. Again, we aimed to test the effect of group relative deprivation on conspiracy beliefs. However, we restricted our comparison group to group relative gratification, embedded in a two-by-two factorial design. We crossed these two conditions with two other experimental conditions aiming to make high national narcissism (vs. low national narcissism[4]) salient. This design allowed us to test the effect of national narcissism on conspiracy beliefs, which would be as far as we know the first experimental evidence for this otherwise well-documented correlational link (e.g., Bertin & Delouvée, 2021; Bertin et al., 2021; 2022; Cichocka et al., 2016; Cislak et al., 2021; Marchlewska et al., 2019, 2022; Sternisko et al., 2021; Van Prooijen & Song, 2021). We also aimed at increasing statistical power to address the drop-out from the planned sample size of Study 1.

Study 2 received approval from the ethics committee of the University of Kent (ID: 202216445862647650). Hypotheses[5], materials and analytical strategy were pre-registered on the Open Science Framework: https://osf.io/6ysw9.

5.1 | Method

5.1.1 | Participants

We estimated our sample size based on an a priori power analysis conducted on G*Power (Faul et al., 2007; version 3.1.9.4). Studies using fictitious scenarios often show large effect sizes (e.g., Casara et al., 2022). Therefore, we thought reasonable to be able to detect minimum effect sizes close to medium (i.e., Cohen's $f = .20$). Based on a G*Power analysis, for an ANOVA design (fixed effects, special, main effects and interactions) given an effect size of $f = .20$, $\alpha < .05$, $1\text{-}\beta = .80$, four groups and one numerator degree of freedom (df), we needed $N = 199$ participants. Based on guidelines by Simonsohn (2014) and Giner-Sorolla (2018), and considering Study 1's results showing a knockout effect (effects of group relative deprivation that were only significant at high, but not low, levels of national narcissism), we followed the rule of thumb of multiplying this number by four to detect interactions, which gives $N = 796$. We planned on recruiting around $N = 900$ to anticipate potential exclusions.

We recruited participants using *Foule Factory*. In total, 897 participants completed the experiment. As pre-registered, we excluded participants who failed the attention check ($n = 28$), failed the seriousness check ($n = 1$), participated more than once ($n = 47$) and fell outside of a 3MAD range on their completion time ($n = 93$).[6] Our final sample comprised $N = 728$[7] participants (380 female, one not known, $M_{age} = 41.49$, $SD = 13.22$, min = 18, max = 80).

5.1.2 | Experimental procedure

The experiment was presented as investigating imagination capacities. We built our experimental material following previous experiments using fictitious society settings, such as the Bimbola paradigm (e.g.,

[4] We preregistered this control condition under the name "ingroup satisfaction". However, we decided to label it "low national narcissism" throughout the manuscript to better reflect the content of the experimental material used in Studies 2 and 3.

[5] The effect of conditions on conspiracy mentality were pre-registered as exploratory. This study also included a measure of collective action intentions not included in this project.

[6] Given a median of 620 s and a MAD of 179 s, we excluded participants with a completion time above 1157 s.

[7] A sensitivity analysis revealed that this sample size was sufficient to detect effect sizes as small as $f = .10$ in an ANOVA design (main effects and interactions) with four groups, 80% statistical power and $\alpha = .05$ (two-tailed).

TABLE 9 Conspiracy blaming, scapegoating and conspiratorial scapegoating as a function of experimental conditions (Study 2).

	Conspiracy blaming				Scapegoating				Conspiratorial scapegoating				Conspiracy mentality			
	β	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*
GRD vs. GRG	.21	[0.14, 0.28]	5.82	< .001	.02	[−0.06, 0.09]	0.46	.649	.11	[0.03, 0.18]	2.95	.003	.02	[−0.06, 0.09]	0.47	.641
High NN vs. Low NN	.17	[0.10, 0.24]	4.75	< .001	.00	[−0.07, 0.07]	0.08	.940	.08	[0.01, 0.16]	2.34	.020	.06	[−0.01, 0.13]	1.66	.098
Interaction	.04	[−0.03, 0.11]	1.18	.239	.03	[−0.04, 0.10]	0.78	.434	.05	[−0.03, 0.12]	1.26	.207	−.01	[−0.08, 0.06]	−0.24	.813
R^2	.07***				.00				.02**				.00			

Note: *β* is the standardized coefficient. GRD (= group relative deprivation) is coded +0.5, GRG (= group relative gratification) is coded −0.5; High NN (= national narcissism) is coded +0.5, Low NN (= national narcissism) is coded −0.5.

**$p < .01$;

***$p < .001$.

Jetten et al., 2015). Participants were randomly assigned to the high national narcissism saliency condition or the control condition (i.e., low national narcissism saliency), and then to the induced group relative deprivation or the control condition (i.e., induced group relative gratification). Our study therefore adopted a two (narcissism vs. satisfaction) by two (deprivation vs. gratification) between-subjects design.

Participants were first introduced to the fictitious country of Vlurland before reading a text about Vlurland's rich history, highlighting that Vlurlanders contributed to an important technological innovation: the hyper-speed train. In the high national narcissism condition, participants learned that the contribution of Vlurland to the success of this discovery had been downplayed by other countries and that Vlurland's history, influence and culture regularly suffer from a lack of recognition. They were then invited to take a moment to experience the anger this situation would make them feel as a citizen of Vlurland. By contrast, participants in the low national narcissism were informed that the contribution of Vlurland to the success of this project had been properly recognized by other countries. They were then invited to take a moment to experience the satisfaction that this recognition would make them feel.

Next, participants were presented with either the group relative deprivation or the group relative gratification scenario. The materials used for these conditions were almost identical to those used for the deprivation and gratification conditions in Study 1, with the exception that the scenarios were referring to the current situation in Vlurland (and not the future situation in France). Finally, participants answered dependent variables similar to Study 1 (i.e., conspiracy beliefs, conspiratorial scapegoating, scapegoating), manipulation checks (i.e., national narcissism, ingroup satisfaction, group relative deprivation, group relative gratification) and demographic questions, before being debriefed, thanked and paid.

5.1.3 | Measures

We operationalized conspiracy beliefs about China and the EU as conspiracy blaming about foreign powers (three items, e.g., 'Foreign countries are secretly trying to take over Vlurland'). Conspiratorial scapegoating about immigrants and the EU was operationalized as conspiratorial scapegoating about immigrants and foreign powers (three items, e.g., 'A secret plan exists between some foreign countries and the immigrants in Vlurland to share the Vlurlandic resources'). Scapegoating about immigrants remained operationalized as such (three items, e.g., 'Immigrants are responsible for the economic situation in Vlurland'). Finally, we adapted the manipulation checks (i.e., national narcissism, ingroup satisfaction, group relative deprivation and group relative gratification), to the Vlurland context (see Supporting Information).

5.2 | Results

Means, standard deviations and internal reliability coefficients are displayed in Table 6.

TABLE 10 Means, standard deviations, internal reliability coefficients and Pearson's correlation coefficients (Study 3).

	M	*SD*	α	1.	2.	3.	4.	5.	6.	7.
1. National narcissism	3.46	0.83	.83	–						
2. Ingroup satisfaction	4.00	0.86	.92	.20***	–					
3. Group relative deprivation	3.29	1.30	–	.45***	−.13***	–				
4. Threat	4.09	0.90	–	.16***	−.02	.27***	–			
5. Conspiracy blaming	2.86	1.13	.90	.40***	−.03	.41***	.13***	–		
6. Conspiratorial scapegoating	2.57	1.14	.90	.45***	−.04	.39***	.07	.71***	–	
7. Scapegoating	2.29	1.13	.93	.33***	−.05	.33***	.02	.45***	.64***	–
8. Conspiracy mentality	7.21	2.19	.89	.24***	.02	.20***	.14***	.49***	.48***	.27***

Note: $N = 846$. All variables were measured using a 5-point Likert scale, except for conspiracy mentality (11 points).
***$p < .001$.

We conducted regression analyses on each of our manipulation check scores and dependent variables. We included group economic condition (group relative deprivation coded +0.5 vs. group relative gratification coded −0.5), identification saliency (high national narcissism saliency coded +0.5 vs. low national narcissism saliency coded −0.5) and the interaction term as predictors.

5.2.1 | Manipulation check

The group relative deprivation and the national narcissism manipulations were successful (see Table 7). Both manipulations influenced the intended manipulation checks but also to some extent the other manipulation checks. Participants in the group relative deprivation condition reported significantly stronger group relative and lower group relative gratification. There was also an effect of national narcissism, albeit weaker, on both the deprivation and gratification manipulation checks.

As expected, participants in the high national narcissism condition reported significantly higher national narcissism and lower ingroup satisfaction than those in the low national narcissism condition. There were also significant effects of group relative deprivation on both narcissism and satisfaction scores. These co-influences appear to be natural confounds. Means and standard deviations per condition are reported in Table 8.

5.2.2 | Main analyses

Table 9 shows the results of the group relative deprivation and national narcissism manipulations on our dependent variables.

Conspiracy beliefs. As predicted, participants in the group relative deprivation condition reported significantly stronger conspiracy beliefs ($M = 3.10$, $SD = 1.07$) than those in the group relative gratification condition ($M = 2.64$, $SD = 1.06$). The analysis also showed the expected main effect of national narcissism, indicating that participants in the high national narcissism condition reported significantly higher levels of conspiracy beliefs ($M = 3.05$, $SD = 1.06$) than those in the low national narcissism condition ($M = 2.68$, $SD = 1.09$). However, the expected interaction was not significant. That is, conspiracy beliefs were not significantly higher when participants in the group relative deprivation were also exposed to the high national narcissism induction.

Scapegoating. Contrary to expectations, we found no significant main effect of group relative deprivation or national narcissism nor any significant interaction.

Conspiratorial scapegoating. As predicted, participants in the group relative deprivation condition reported significantly stronger conspiratorial scapegoating ($M = 2.60$, $SD = 1.12$) than those in the group relative gratification condition ($M = 2.37$, $SD = 1.02$). The main effect of national narcissism was also significant, indicating that participants in the high national narcissism condition reported significantly higher levels of conspiratorial scapegoating ($M = 2.58$, $SD = 1.08$) than those in the low national narcissism condition ($M = 2.39$, $SD = 1.07$). Finally, the interaction was not significant.

Conspiracy mentality. There was no significant main effect of group relative deprivation or national narcissism, nor any significant interaction.

5.3 | Discussion

In Study 2, we found effects of induced group relative deprivation and national narcissism on conspiracy beliefs and conspiratorial scapegoating in a fictitious society. However, contrary to our predictions derived from Study 1, induced group relative deprivation and national narcissism did not interact. It is possible that these two manipulated variables are closely related, making it difficult to engender interactive effects. Indeed, Marchlewska et al. (2018, Study 2) found that induced long-term deprivation has on effect on national narcissism. Participants may also have felt more disinhibited (e.g., less driven by social desirability concerns) in Study 2's fictitious context than in Study 1's ecological setting (Majnemer & Meibauer, 2023), leading to increased effects of group relative deprivation not only among national narcissists. Another explanation might rely on the topic through which we induced national

TABLE 11 Regression analyses on the manipulation checks (Study 3).

	Deprivation			Threat			Narcissism			Satisfaction		
	β	95% CI	*t*	*β*	95% CI	*t*	*β*	95% CI	*t*	*β*	95% CI	*t*
GRD vs. Threat	.44	[0.38, 0.50]	14.53***	.02	[−0.05, 0.09]	0.64	.09	[0.02, 0.16]	2.63**	−.18	[−0.25, −0.11]	−5.29***
High NN vs. Low NN	.12	[0.06, 0.18]	4.01***	.08	[0.01, 0.14]	2.24*	.10	[0.04, 0.17]	3.11**	−.04	[−0.11, 0.03]	1.14
Interaction	−.06	[−0.12, 0.002]	−1.89†	−.04	[−0.10, 0.03]	−1.04	−.08	[−0.15, −0.02]	−2.41*	−.04	[−0.10, 0.03]	−1.08
R^2	.21***			.01†			.03***			.04***		

Note: *β* is the standardized coefficient. GRD (= group relative deprivation) is coded +0.5, Threat is coded −0.5; High NN (= national narcissism) is coded +0.5, Low NN (= national narcissism) is coded −0.5.

†$p < .09$;
*$p < .05$;
**$p < .01$;
***$p < .001$.

narcissism. Indeed, our economy-focus manipulation might have led to an accentuated overlap between national narcissism and group relative deprivation, preventing the detection of interaction effects. Lastly, we cannot rule out the possibility that our sample was not large enough to detect the hypothesized interaction effect, especially because we relied on a rule of thumb to determine our sample size (Giner-Sorolla, 2018). We address these limitations in Study 3 through a refined and indeed highly powered experimental manipulation of national narcissism. Importantly, we modified our control condition, switching from group relative gratification to global economic threat, allowing us to compare the effects of a global economic downturn more directly against the one of a situation of deprivation targeting the ingroup.

6 | STUDY 3

Study 3 sought to replicate Study 2 using slightly different materials. This study was pre-registered: https://osf.io/ahw8b.

6.1 | Method

6.1.1 | Participants

To estimate our sample size, we relied on an a priori power analysis conducted on G*Power (Faul et al., 2007; version 3.1.9.4). Using the same parameters as in Study 2, we needed $N = 199$ participants. As per Study 2, we multiplied this estimated sample size by 4 (e.g., Giner-Sorolla, 2018; i.e., $N = 796$). We planned on recruiting 1000 participants to anticipate exclusions and maximize our statistical power.

We recruited participants using *Foule Factory*. Overall, 1104 participants completed the experiment. We excluded participants who did not fully complete the experiment ($n = 198$), participated more than once ($n = 16$) and failed the attention check ($n = 43$) or the seriousness check ($n = 1$). The final sample comprised $N = 846$ participants (475 female, one other; $M_{age} = 40.1$; $SD = 12.3$, min = 18, max = 82).

6.1.2 | Experimental procedure

The procedure was identical to that of Study 2 with a few changes. First, we changed the induction of national narcissism and ingroup satisfaction so that they no longer mentioned any economic features (i.e., the technological innovation of the hyper-speed train). We did so to distinguish more clearly the induction of national narcissism from that of group relative deprivation. The revised high national narcissism induction focused more on identity-based issues and highlighted that the richness of Vlurland's culture lacked recognition around the world (vs. was recognized in the low national narcissism condition), without mentioning any potential economic factor such as a technological innovation.

Second, we compared the group relative deprivation condition to a global economic threat condition. This change aimed to compare more

TABLE 12 Means and standard deviations of the manipulation checks per condition (Study 3).

	Deprivation conditions		Narcissism conditions	
	Group deprivation	Threat	High	Low
Measured group relative deprivation	3.86 (1.08)	2.71 (1.25)	3.44 (1.27)	3.13 (1.31)
Measured perceived threat	4.11 (0.81)	4.07 (0.99)	4.16 (0.89)	4.02 (0.91)
Measured collective narcissism	3.53 (0.82)	3.39 (0.84)	3.55 (0.81)	3.37 (0.84)
Measured ingroup satisfaction	3.85 (0.93)	4.16 (0.75)	3.97 (0.92)	4.03 (0.79)

Note: The values outside the parenthesis represent the mean, and the values within the parenthesis represent the standard deviation.

directly the effect of group relative deprivation to that of a global, non-specific economic threat. These participants read that Vlurland, like other countries in the world, was facing an economic downturn.

6.1.3 | Measures

We used the same measures as in Study 2. We also measured the level of perceived threat with the single-item manipulation check from Study 1 (i.e., 'The economic situation was threatening').

6.2 | Results

Means, standard deviations and internal reliability coefficients are displayed in Table 10.

6.2.1 | Manipulation checks

We first conducted regression analyses on each of our manipulation check scores, including the economic condition (group relative deprivation coded +0.5 vs. global threat coded −0.5), the identification condition (high national narcissism coded +0.5 vs. low national narcissism coded −0.5) and their interaction as predictors (see Table 11).

As expected, participants in the group relative deprivation condition reported significantly stronger group relative deprivation than those in the global threat condition but did not significantly differ in terms of perceived economic threat. We also found a main effect of the national narcissism induction, albeit weaker, on the deprivation and the threat manipulation checks. That is, participants reported significantly stronger group relative deprivation and perceived the economic situation as more threatening in the high national narcissism than in the low national narcissism condition.

Regarding measured national narcissism, we found the expected main effect of our manipulation of national narcissism but also a main effect of group relative deprivation. There was also an interaction effect between the two. Specifically, simple effect analyses showed that the difference between the high and low national narcissism conditions was significant and in the expected direction for participants in the global threat condition ($\beta = -.37$, $t(842) = -3.87$, $p < .001$) but not for those in the group relative deprivation condition ($p = .619$). For the ingroup satisfaction measure, the expected main effect of the identification condition (high vs. low national narcissism) was not significant, indicating that participants in the low national narcissism condition did not report stronger ingroup satisfaction than those in the high national narcissism condition. However, there was a main effect of group relative deprivation. Participants in the group relative deprivation reported less ingroup satisfaction than those in the global threat condition. Means and standard deviations are reported in Table 12.

With regard to these results – and especially the pattern of results for the national narcissism manipulation check (i.e., the interaction between our two independent variables) which suggests that the narcissism manipulation did not work as expected – we decided to focus on the measured scores of narcissism and deprivation to conduct the main analyses. The main analyses using our manipulated variables as predictors can be found in the Supporting Information (Table S5).

6.2.2 | Main analyses with the measured scores

We conducted regression analyses on each of our dependent variables, using our measures of national narcissism and group relative deprivation as predictors.[8] We pre-registered this use of the manipulation checks as continuous predictors. In the first step, we included the two centred scores and the interaction term. In a second step, we added the ingroup satisfaction and threat scores to check if the effects of interest would hold when controlling for these variables (this step was not pre-registered). For significant deprivation and narcissism interactions, we conducted simple effects analyses to examine the effect of group deprivation on the outcome at low (−1SD), medium (mean) and high levels (+1SD) of national narcissism. Results are displayed in Table 13 (for illustrations of the interaction effects, see Figures S5–S7 in the Supporting Information, pp. 39–40).

Conspiracy beliefs. The first step showed positive and significant effects of deprivation and narcissism (i.e., stronger conspiracy blaming as participants' levels of group relative deprivation and narcissism increased) as well as a significant interaction. Simple effects analyses revealed that the relationship between group relative deprivation and conspiracy blaming was significant at all levels of national narcissism

[8] A sensitivity analysis indicated that this design (i.e., linear multiple regression, $N = 846$, given $\alpha < .05$, $1 - \beta = .80$ and five predictors) enabled us to detect effects as small as $f^2 = .015$, which is well below the small effect size threshold derived from the literature (Lovakov & Agadullina, 2021).

TABLE 13 Conspiracy blaming, scapegoating and conspiratorial scapegoating as a function of measured narcissism and group relative deprivation (Study 3).

	Conspiracy blaming				Scapegoating				Conspiratorial scapegoating				Conspiracy mentality			
Step 1	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*
Group relative deprivation (GRD)	.30	[0.23, 0.36]	8.71	< .001	.23	[0.16, 0.30]	6.49	< .001	.25	[0.18, 0.31]	7.34	< .001	.13	[0.05, 0.20]	3.38	< .001
National narcissism (NN)	.27	[0.21, 0.34]	8.06	< .001	.24	[0.17, 0.31]	6.78	< .001	.35	[0.28, 0.42]	10.45	< .001	.20	[0.13, 0.27]	5.37	< .001
GRD*NN	.06	[0.002, 0.11]	2.02	.044	.07	[0.01, 0.13]	2.40	.016	.07	[0.02, 0.13]	2.63	.009	.07	[0.01, 0.14]	2.39	.017
R^2	.23***				.16***				.25***				.08***			
Step 2	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*	*β*	95% CI	*t*	*p*
Group relative deprivation (GRD)	.28	[0.21, 0.35]	7.82	< .001	.23	[0.16, 0.31]	6.24	< .001	.24	[0.17, 0.31]	6.82	< .001	.10	[0.03, 0.18]	2.62	.009
National narcissism (NN)	.29	[0.22, 0.36]	8.26	< .001	.28	[0.20, 0.35]	7.48	< .001	.38	[0.32, 0.45]	11.03	< .001	.20	[0.12, 0.28]	5.11	< .001
GRD*NN	.06	[0.01, 0.12]	2.17	.030	.09	[0.03, 0.15]	3.00	.003	.09	[0.03, 0.14]	3.15	.002	.07	[0.005, 0.13]	2.11	.035
Ingroup satisfaction	−.06	[−0.12, 0.002]	−1.90	.058	−.09	[−0.16, −0.03]	−2.71	.007	−.09	[−0.15, −0.03]	−2.95	.003	−.01	[−0.08, 0.06]	−0.36	.722
Perceived economic threat	−.01	[−0.07, 0.06]	−0.16	.871	−.10	[−0.16, −0.03]	−2.99	.003	−.07	[−0.13, −0.01]	−2.31	.021	.07	[0.01, 0.14]	2.14	.033
ΔR^2	.003				.02***				.01**				.01†			
Simple Effects	*b*	95% CI of *b*	*t*	*p*	*b*	95% CI of *b*	*t*	*p*	*b*	95% CI of *b*	*t*	*p*	*b*	95% CI of *b*	*t*	*p*
Low narcissism (−1SD)	.19	[0.12, 0.27]	4.96	< .001	.12	[0.05, 0.20]	3.13	.002	.13	[0.06, 0.21]	3.50	< .001	.06	[−0.10, 0.22]	0.75	.452
Medium narcissism (mean)	.24	[0.18, 0.31]	7.82	< .001	.20	[0.14, 0.27]	6.24	< .001	.21	[0.15, 0.27]	6.82	< .001	.17	[0.04, 0.30]	2.62	.009
High narcissism (+1SD)	.30	[0.22, 0.38]	7.15	< .001	.28	[0.19, 0.37]	6.46	< .001	.29	[0.21, 0.37]	6.99	< .001	.29	[0.11, 0.46]	3.23	.001

Note: *β* is the standardized coefficient. The scores were mean-centred.
†$p < .10$;
*$p < .05$;
**$p < .01$;
***$p < .001$.

but was stronger as the level of narcissism increased. In Step 2, these effects held while ingroup satisfaction and perceived economic threat did not significantly predict conspiracy blaming.

Scapegoating. Step 1 showed positive and significant effects of deprivation and narcissism (i.e., stronger scapegoating as participants' levels of group relative deprivation and narcissism increased) and a significant interaction. Simple effects analyses revealed the same pattern as for conspiracy blaming: The relationship between group relative deprivation and scapegoating was significant at all levels of national narcissism but was stronger as the level of narcissism increased. In Step 2, these effects held whereas ingroup satisfaction and perceived economic threat significantly and negatively predicted scapegoating.

Conspiratorial scapegoating. The pattern of results was identical to that of scapegoating. Step 1 highlighted positive and significant effects of deprivation and narcissism (i.e., stronger conspiratorial scapegoating as participants' levels of group relative deprivation and narcissism increased) and a significant interaction. Simple effects analyses showed that the relationship between group relative deprivation and conspiratorial scapegoating was significant at all levels of national narcissism but was stronger as the level of narcissism increased. In Step 2, these effects held and ingroup satisfaction and perceived economic threat significantly and negatively predicted conspiratorial scapegoating.

Conspiracy mentality. In Step 1, there were positive and significant effects (albeit weaker than for the other outcomes) of deprivation and narcissism (i.e., stronger conspiracy mentality as participants' levels of group relative deprivation and narcissism increased) and a significant interaction. Simple effects analyses showed that group relative deprivation did not predict conspiracy mentality among participants with low levels of national narcissism (−1SD), but that the relationship was significant for participants displaying medium (mean) and high levels (+1SD) of national narcissism. In Step 2, these effects held while perceived economic threat (but not ingroup satisfaction) significantly and positively predicted conspiracy mentality.

7 | GENERAL DISCUSSION

Are conspiracy beliefs a form of scapegoating? Although the effect of intergroup threats on intergroup conspiracy beliefs is well known (i.e., Bertin et al., 2022; Cichocka et al., 2016; Jolley et al., 2020; Mashuri & Zaduqisti, 2015), less is known about the effect of diffuse threats (e.g., economic downturn, pandemic) on intergroup conspiracy beliefs. Here, we addressed this question by investigating intergroup conspiracy beliefs in the context of diffuse threats, a process we coined conspiracy blaming. We focused on the context of economic crises, examining across three pilots ($N = 1237$) and three main studies ($N = 2386$) the effect of group relative deprivation on conspiracy beliefs. Overall, we found robust evidence for the link between group relative deprivation and conspiracy beliefs at the cross-sectional level (all studies), and at the causal level (Studies 1 and 2). Furthermore, we found that this relationship was stronger at higher levels of national narcissism (Pilot Studies 2 and 3, Studies 1 and 3). The intergroup nature of this conspiracy-blaming process was further supported by the absence of effects on generic conspiracy beliefs, operationalized through conspiracy mentality (except cross-sectionally in Study 3). Finally, our findings were generally equivalent regarding scapegoating (except that we found no main effects in Study 2), and conspiratorial scapegoating, a form of blaming targeting both an elite and a minority outgroup.

The relationship between diffuse threats and conspiracy beliefs is robust at the correlational level (Bertin et al., 2023; Bilewicz & Krzeminski, 2010; Bilewicz et al., 2012, 2013; Sternisko et al., 2021; van Prooijen et al., 2018), and we replicated this across our studies by focusing on group relative deprivation. Interestingly, this relationship appeared distinct from the one of economic threat when predicting outgroup blaming (Study 3), which may indicate distinct underlying motives. For example, one may speculate that global economic threats trigger conspiracy beliefs through existential motives (Douglas et al., 2017), while group relative deprivation is more directly related to intergroup motives. Moreover, we provided causal evidence for the effect of group relative deprivation in Study 2, further documenting a potential cause of conspiracy beliefs that the available research has overlooked (Sassenberg et al., 2023). Future research may want to further investigate the effect of relative deprivation on conspiracy beliefs, the experimental level of evidence remaining less consistent than the correlational one.

Beyond the potential effect of group relative deprivation, our findings support two main ideas: Conspiracy beliefs are appealing as a form of blaming, especially for high national narcissists. Indeed, the null findings we observed in Study 2 regarding scapegoating may indicate that blaming a powerful, agentic outgroup acting in secret is more appealing than blaming a defenceless outgroup whose status does not allow secret actions (e.g., immigrants). As coined by Girard (1982) about blaming Jews during the Great Plague (they were accused of poisoning water), if accusations are impossible to prove 'there is no need to prove them' (p. 47). That is, accusing an outgroup of *secret* actions has both a powerful explanatory power while being unfalsifiable, which may constitute appealing qualities for justifying one's ingroup situation.

These qualities of conspiracy blaming seem appealing to defensive national identifiers facing contexts of economic deprivation. Indeed, national narcissism was a moderator of the relationship between group relative deprivation and conspiracy beliefs in Study 3 (and in Study 1 before controlling for ingroup satisfaction). These findings align with recent research demonstrating that national narcissism moderates the effect of threat to the ingroup image due to climate change on scapegoating of a powerful outgroup (i.e., China; Rothschild & Keefer, 2023). Externally attributing the causes of the economic unfavourable position of the ingroup may be a way to protect one's defensive ingroup identification. However, it remains unclear whether blaming outgroups, be it through scapegoating or conspiracy beliefs, has an actual effect on restoring the positive value of one's identification.

According to the compensatory approach, conspiracy beliefs, irrespectively of their content, enable restoring some control over one's personal life and existence (e.g., Kay et al., 2009; Simchon et al., 2021; Stojanov et al., 2021, 2022). However, this approach seems insufficient to account for the intergroup determinants of conspiracy beliefs. Indeed, throughout our studies, neither group relative deprivation nor

national narcissism increased conspiracy mentality. Under threatening circumstances, blaming outgroups through conspiracy accusations might be more appealing than conspiratorial, albeit non-specific, explanations (e.g., as captured by conspiracy mentality). Sullivan et al. (2010, Study 2) also highlighted that low control increased conspiracy beliefs about a specific antagonistic outgroup (such as a political enemy), but not conspiracy beliefs about political elections or attitudes about the outgroup. This null finding is also in line with previous studies suggesting that national narcissism is related to specific rather than generic conspiracy beliefs (Bertin et al., 2021, 2022), and contrasting with theoretical propositions about the link between collective narcissism and conspiracy mentality (Golec de Zavala, 2021; Golec de Zavala et al., 2022). Of importance, our findings regarding conspiracy mentality are exploratory, and further confirmatory research is required to attest the stability of this construct.

It appears important to investigate the potential consequences of conspiracy blaming on intergroup relations and prejudice. For example, conspiratorial scapegoating, while being an appealing explanation for the situation of the ingroup, might be a powerful driver of prejudice, just like scapegoating (Obaidi et al., 2022). Conspiracy blaming may also increase support for populist leaders, as previous research showed that populists use this form of outgroup blaming (Christner et al., 2022; Hameleers, 2021; Shayegh et al., 2021).

This contribution has some limitations. First, although we found convergent effects across countries (i.e., Belgium, France and the United States), our studies were based on Western samples, calling for replications in other cultural contexts. This replication effort seems especially important because the effect of group relative deprivation seems to be contingent upon cultural values (Smith et al., 2018). Second, although we conceptualized national narcissism as moderating the effect of group relative deprivation on conspiracy beliefs, one could argue for a mediating relationship instead. Indeed, in one of the rare contributions that previously linked these variables, Marchlewska et al. (2018) suggested that national narcissism mediated the relationship between group relative deprivation and support for Brexit (Study 2) and Donal Trump (Study 3). Although the moderation hypothesis appeared supported in Study 1, where group relative deprivation was only related to the outcome variables at higher levels of national narcissism (and prior to controlling for ingroup satisfaction), the main effects observed in Study 2 did not support this perspective. Future research could therefore manipulate group relative deprivation and national narcissism through a double randomization to test this alternative mediation hypothesis (Pirlott & MacKinnon, 2016).

At a methodological level, despite our multiple attempts to manipulate national narcissism, the induction of this construct remains far from ideal. Although our manipulation of national narcissism in Study 2 is, as far as we know, the first reporting the causal influence of national narcissism on conspiracy beliefs, its effect seems closely linked to that of group relative deprivation. Indeed, the group relative deprivation manipulation influenced the national narcissism check, and the national narcissism manipulation affected the group relative deprivation check, suggesting an overlap between the two constructs. Furthermore, the effect of the manipulation checks of national narcissism interacted with the ones of group relative deprivation in Study 3. Although research on national narcissism is growing, the present attempts in inducing national narcissism are only the second to appear after Bertin et al. (2022). There is a clear need for more experimental work on national narcissism to develop this promising research area. Such efforts would allow evaluation of the robustness of this body of literature, which is currently almost exclusively grounded on correlational evidence.

8 | CONCLUSION

Previous research showed some form of continuity between perceptions that one's ingroup is threatened by an outgroup and an increase in conspiracy beliefs about this outgroup. In the present contribution, we provide evidence that perceptions that the ingroup is deprived increase conspiracy beliefs about outgroups, even though no antagonistic outgroup is salient. We found some evidence that national narcissism, a defensive identification rooted in a perceived lack of recognition of the national ingroup's greatness, moderated the link between group relative deprivation and conspiracy beliefs. These findings also emerged for conspiratorial scapegoating, a form of outgroup blaming targeting both elites and minorities. It is crucial to further document the consequences of conspiracy blaming on intergroup relations and prejudice.

AUTHOR CONTRIBUTIONS

Individual contribution: P.B. conceptualized the project. P.B., O.I., K.A., J.R., V.Y., P.V., and O.K created the materials. P.B., O.I., O.K., K.A., V.Y., and S.D. conducted the data collection. P.B. and O.I. conducted the analysis. P.B., O.I., R.G., O.K., K.A., and V.Y. wrote the manuscript, and P.B. did the project administration and supervision.

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CONFLICT OF INTEREST STATEMENT

The authors declare that there are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

ETHICS STATEMENT

This research is in line with the 1964 Helsinki Declaration and its later amendments (2001), the ethical principles of the French Code of Ethics for Psychologists (2012), and the American Psychological Association Ethical Principles of Psychologists and Code of Conduct (2017). Participants were informed about the purpose of the studies in a cover

letter and were assured that their data would remain confidential. Participants had to give explicit written consent to access the study.

TRANSPARENCY STATEMENT

All studies, material, data and analyses are openly available on the Open Science Framework repository of the project: https://osf.io/8ku2f/.

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