*Article*

# Regulatory Focus and Conspiratorial Perceptions: The Importance of Personal Control

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**Abstract**

We examine when and why people subscribe to conspiratorial beliefs, suggesting that promotion focus reduces conspiratorial perceptions by activating a sense of personal control. Study 1 established that individuals primed with promotion focus are less likely to perceive conspiracies than those in a baseline condition. However, individuals primed with prevention focus and those in a baseline condition did not differ in their levels of conspiratorial beliefs. Study 2 demonstrated that soldiers higher in promotion focus were less likely to endorse conspiracy theories because of their heightened sense of control; this relationship did not emerge for soldiers higher in prevention focus. Study 3 found that conspiratorial beliefs increased when individuals primed with promotion focus recalled personal control loss, whereas those primed with prevention focus were unaffected by personal control loss. Using measures and manipulations of regulatory focus and personal control, we establish when and why promotion focus reduces conspiracy theories.

**Keywords**

conspiratorial beliefs, compensatory control, personal control, regulatory focus

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In 2014, people in Guinea, Liberia, and Sierra Leone faced the deadly Ebola virus. As they struggled to understand and respond to the crisis, conspiracy theories became as contagious as the disease itself. Some believed pharmaceutical companies created the virus to profit off the eventual sale of its cure (Feuer, 2014); others feared that those who arrived to help combat the virus were in fact part of a conspiracy to spread it (Broderick, 2014). These dubious but persuasive explanations caused people to mistrust the very organizations providing them with medical care, which made the epidemic especially difficult to control (Udell, 2014). While not all conspiracy theories are false—consider, for example, research published on conspiracy theories involving President Nixon being responsible for Watergate (Wright & Arbuthnot, 1974)—such beliefs are worthy of study because they can nonetheless shape people's narratives around events and their responses to them.

We suggest that regulatory focus shapes peoples' receptiveness to conspiratorial beliefs. Regulatory focus theory (Crowe & Higgins, 1997; Higgins, 1998) distinguishes between two contrasting motivational concerns that affect how people frame their goals and pursue them. Promotion focus "involves a concern with attaining growth and advancement through the pursuit of hopes and aspirations," while prevention focus "involves a concern with maintaining security through the fulfillment of duties and obligations" (Winterheld & Simpson, 2016, p. 277).

To link regulatory focus and conspiratorial beliefs, we draw from compensatory control theory to develop an argument that, due to elevated feelings of personal control, promotion-focused individuals will be less susceptible to conspiracy theories. In addition, we test whether personal control is a critical mechanism for the relationship between promotion focus and reduced conspiratorial beliefs by examining whether the effect disappears when people's feelings of personal control are compromised. Finally, we explore whether, given the tendency of prevention-focused individuals to be vigilant for threats in their environment,

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they will be more vulnerable to conspiratorial beliefs. This article contributes to research on regulatory focus by seeking to link specific forms of goal pursuit to perceptions of collective and organizational actors. It also furthers our understanding of compensatory control theory by testing an antecedent that may not only shape one's sense of control, but do so in a way that decreases, rather than heightens, conspiratorial perceptions.

## Conspiratorial Perceptions

People endorse conspiracy theories when they accept explanations that attribute causality to multiple actors secretly working together to achieve harmful, or even malevolent, goals (Bale, 2007; Kramer & Gavrieli, 2005; Zonis & Joseph, 1994). These powerful actors can range from diffuse social categories (e.g., entire religions and ethnicities) and global organizations and governments (as in the Ebola example), to actors on a smaller and more local scale, such as specific individuals and organizations (e.g., feeling personally targeted by members of one's own organization; Whitson & Galinsky, 2008).

Much of the work in this domain has focused on identifying individual-level antecedents of conspiratorial beliefs (for a review, see Bilewicz, Cichocka, & Soral, 2015). Some researchers suggest that certain sociodemographic characteristics, such as lower educational levels (van Prooijen, 2017) or age (Bilewicz, Winiewski, Kofta, & Wójcik, 2013), are associated with the endorsement of conspiracy theories. Other studies have outlined individual difference factors including certain big five personality traits (Charlton, 2014; Swami et al., 2011), self-esteem (Cichocka, Marchlewska, & de Zavala, 2016; Crocker, Luhtanen, Broadnax, & Blaine, 1999; Swami et al., 2011), narcissism (Cichocka et al., 2016), and boredom proneness (Brotherton & Eser, 2015). Furthermore, research suggests intergroup factors including relative deprivation and group polarization (Sunstein & Vermeule, 2009) may motivate individuals to perceive conspiracies.

An essential situational factor that has been found to enhance conspiratorial perceptions is when people lack personal control (van Prooijen & Acker, 2015; Whitson & Galinsky, 2008), or one's "perception regarding one's ability to act on the environment to obtain desired goals" (Thompson, 2002, p. 204). Unlike the many factors discussed above, personal control is more easily influenced by changes in one's situation or mind-set; this mutability both makes it all the more important to study as well as providing a potential key to reducing conspiratorial perceptions. Indeed, a lack of personal control can trigger perceptions of connections between stimuli in the environment to form a conspiratorial picture of maleficent and secretive actions (Friesen, Kay, Eibach, & Galinsky, 2014; Kay, Gaucher, Napier, Callan, & Laurin, 2008; Kay, Whitson, Gaucher, & Galinsky, 2009). Congruent to this, people who tend to believe that their outcomes are controlled by external forces, and not their own effort, also show higher belief in conspiracy theories (Hamsher, Geller, & Rotter, 1968). As such, after calamities such as a terrorist strike, a war, or a natural disaster (see Pipes, 1997; Robins & Post, 1997; Shermer, 2011), conspiracy theories often flourish (see also van Prooijen & Acker, 2015, for a review of this literature.

Compensatory control theory suggests that when people lack personal control, they seek out sources of epistemic structure in their environment (Kay et al., 2009; Landau, Kay, & Whitson, 2015; Wang, Whitson, & Menon, 2012; Whitson & Galinsky, 2008). Believing the social and physical environment possesses epistemic structure involves seeing it as stable as opposed to erratic, and marked by "a coherent relation of parts" (Landau et al., 2015, p. 694), and is necessary to feel a sense of personal control. Though ominous, conspiracy theories provide epistemic structure in that they explain outcomes and knit them systematically into the greater pattern of world events by tying them back to secret actors and plans. Conspiracies allow people to give "causes and motives to events that are more rationally seen as accidents . . . [to] gain control of the uncontrollable" (Pipes, 1997, p. 181).

If a sense of personal control is a key factor in these phenomena, then one would expect that increasing it would reduce endorsement of conspiracy beliefs. This is indeed the case—affirming a sense of personal control reduces conspiratorial beliefs (van Prooijen & Acker, 2015). This bolsters the idea that a sense of personal control is influential in the need to seek epistemic structure in the environment.

## Regulatory Focus and a Sense of Personal Control

Given the links between personal control and conspiratorial perceptions in one's environment, an unexplored question is how these factors are influenced by individual differences in goal pursuit. We consider how people's orientations to pursuing their goals might affect their perceptions of other actors in the environment. Researchers have distinguished between two strategies of goal pursuit: promotion focus, which involves pursuit of gains in the environment, and prevention focus, which involves sensitivity to losses (Crowe & Higgins, 1997; Higgins, 1998). Whether chronic traits or situational states, both have consistent psychological consequences (Higgins, 1990; Lisjak, Molden, & Lee, 2012). Individuals with a promotion focus seek opportunities to achieve their goals; they prefer strategies to approach gains and avoid nongains (Higgins, 1998). They are also more active, take more risks in pursuit of their goals (Crowe & Higgins, 1997), produce more (Wallace, Little, Hill, & Ridge, 2010), and set higher goals for themselves, persisting longer in their goals (Higgins & Spiegel, 2004).

Because promotion-focused individuals tend to prioritize goals that demand active navigation of the environment, personal control should be an important factor for them. Indeed,

making progress toward achieving one's goals enhances feelings of personal control (Thompson, 2002). Values of self-direction and stimulation are strongly associated with possessing a promotion focus (Van-Dijk & Kluger, 2004), and personal goals dominate obligations to other entities (e.g., organization, family; Crowe & Higgins, 1997). Furthermore, the behavioral signature described above (i.e., greater effort, sustained persistence and attention, and a tendency toward action) is directly associated with a high sense of personal control (Gollwitzer & Sheeran, 2006; Papies, Aarts, & de Vries, 2009; Skinner, 1996). There is evidence that this increased sense of personal control is further bolstered by the tendency of promotion-focused individuals to perceive stronger links between their own actions and desired outcomes than is warranted (Langens, 2007), creating an elevated sense of personal control that has been considered a biased "illusion of control." When people overattribute control to themselves in this way, they may enjoy a positive view of their own efficacy in the environment (Langer, 1975; Rotter, 1966, 1975).

Prevention focus is likewise goal directed, involving a desire to preserve the status quo and stability. The key point, however, is that personal control is less important for prevention-focused goals. Rather than actively exercising personal control in the environment to ensure stability, prevention-focused individuals pursue stability by employing a broad menu of strategies including increased vigilant assessment of the environment, adjusting to situations (Kitayama, 2002), performing dutiful behaviors, and maintaining group harmony (Lee, Aaker, & Gardner, 2000). Thus, whereas promotion focus should be associated with a sense of personal control, this relationship may not emerge for prevention-focused individuals because they are intent on adjusting to their groups and their environment. This suggests that promotion and prevention focus have distinct relationships with personal control.

### *Goal Orientation and Conspiratorial Beliefs*

The central question of the present research is how regulatory focus, that is, two distinctive approaches to goal pursuit, affects conspiratorial beliefs. Given the links between personal control and conspiratorial beliefs discussed above, we argue that promotion focus reduces conspiratorial beliefs because of an elevated sense of personal control. Our contention is that while this elevated sense of personal control experienced by promotion-focused individuals may sometimes manifest as a biased illusion of personal control (Langens, 2007), it also reduces the tendency to see other actors in the environment as operating in a conspiratorial manner. If promotion-focused individuals have an elevated sense of their own personal agency in the environment, they should not feel as great a need to compensate by structuring the environment around them via conspiratorial perceptions.

Personal control is important for those who act upon their environment in pursuit of their goals; it is less relevant for those whose focus lies in adjusting themselves to their groups and contexts and maintaining consistent duties (Kitayama, 2002). Given that prevention focus can be fostered with various strategies that do not necessarily implicate personal control, prevention focus may be less related to a sense of personal control. However, even without this link, prevention focus may lead to a susceptibility to conspiracy theories. Because prevention focus involves greater vigilance of the environment (Crowe & Higgins, 1997; Lee et al., 2000; Wallace et al., 2010), prevention-focused individuals may be attuned to potentially negative and conspiratorial behavior by other actors. Indeed, prevention-focused individuals are more likely to respond to negative signals or cues in the environment (Kirmani & Zhu, 2007) and they more easily process negative information (Yoon, Sarial-Abi, & Gürhan-Canli, 2012). This would suggest that, even without implicating control, prevention focus increases conspiratorial beliefs.

In sum, we hypothesize that promotion focus will reduce conspiratorial beliefs, and that personal control will be the mechanism which explains these results. We also suggest that prevention focus fosters a sense of vigilance within the environment that, regardless of control, will increase conspiratorial beliefs.

## Overview of Studies

Across three studies, we systematically test the links between regulatory focus and conspiratorial beliefs, establishing when and why conspiratorial beliefs are endorsed, using business, military, and political conspiracies that involve both global and local actors. Study 1 manipulated regulatory focus to establish its causal influence on conspiratorial beliefs; by comparing participants in promotion- and prevention-focus conditions to those in a baseline condition, we test whether those in the promotion-focus condition endorse fewer conspiratorial beliefs and whether those in the prevention-focus condition endorse more conspiratorial beliefs. Study 2 seeks to enhance the generalizability of our findings by studying these patterns in the context of a large organization, the U.S. military. Specifically, we attempted to demonstrate whether individuals with greater levels of promotion focus exhibit an enhanced sense of personal control which is then associated with lowered conspiratorial beliefs. To further isolate personal control as the mechanism, establish causality, and introduce a key boundary condition, Study 3 manipulated, rather than measured, personal control. We predicted that conspiratorial perceptions would increase when individuals in the promotion-focus condition recalled personal control loss; but because control is less relevant to the goal pursuit of individuals in the prevention-focus condition, they would be unaffected by personal control loss.

## Study 1. Regulatory Focus and Conspiratorial Beliefs

To establish causality, Study 1 manipulated regulatory focus and compared the conspiratorial beliefs of participants in the promotion-focus, prevention-focus, and baseline conditions. By including a baseline condition, we comprehensively tested our theoretical predictions that participants in the promotion-focus condition would show reduced conspiratorial beliefs and that participants in the prevention-focus condition would engage in greater conspiratorial beliefs.

### *Participants and Procedure*

Two hundred and seventy-eight working adults from the United States[1,2] (148 men and 130 women; 207 Caucasians, 24 African Americans, 18 Asians, 16 Hispanics, 13 other races/ethnicities; *M* age = 35.59 years, *SD* = 10.69, range = 19-73) were recruited via Amazon Mechanical Turk (M-Turk) and participated in this experiment in exchange for payment of $1.00. We used a 3 (Regulatory Focus: Promotion focus vs. Prevention focus vs. Baseline) × 2 (Conspiratorial Belief Type: Bankruptcy vs. Political) mixed-method design with Conspiratorial Belief Type as a within-subjects factor.

The promotion- and prevention-focus manipulations were derived from past research (e.g., Freitas & Higgins, 2002; Freitas, Liberman, & Higgins, 2002; Higgins, Roney, Crowe, & Hymes, 1994). Because few baseline conditions exist in the regulatory focus literature, we modeled our baseline condition off those used in the self-affirmation literature (e.g., Martens, Johns, Greenberg, & Schimel, 2006) wherein participants in the baseline condition, instead of writing about something self-relevant (e.g., a value important to them; self-affirmation), write about something not self-relevant but similar to the other conditions (e.g., a value unimportant to them and why it might be important to someone else, the baseline condition). Similarly, in our Study 1 manipulation, all participants completed writing tasks, with the baseline condition differentiated from promotion- and prevention-focus conditions via a lack of self-relevancy.

Participants in the promotion-focus condition were told to, "*Please think about something you ideally would like to do. In other words, think about a hope or aspiration that you currently have. Please write 2-3 sentences about the hope or aspiration below.*"

Participants in the prevention-focus condition were told to, "*Please think about something you ought to do. In other words, think about a duty or obligation that you currently have. Please write 2-3 sentences about the duty or obligation below.*"

In the baseline condition participants were told to, "*Please think about an action someone you know typically plans to do during the course of their day. In other words, think about an action that they currently intend to take. Please write 2-3 sentences about the action below.*"

Following the regulatory focus prime, participants completed a filler task in which they were asked to type as many English words as possible using the letters from the word "ENCYCLOPEDIA" for 30 s.

### *Measures*[3]

After completing the filler task, participants were presented with two established measures of conspiracies. One conspiracy measure asked participants to answer questions in response to a scenario regarding the circumstances of a bank filing for bankruptcy. The other measure asked participants to indicate their agreement with government or country-level conspiracies.

*Bankruptcy conspiratorial beliefs.* Participants were presented with a short scenario (adapted from Bost, Prunier, & Piper, 2010) that concerned the bankruptcy of a large bank, in which it was ambiguous whether company executives had conspired together to cover up financial losses:

*In 1985, a large banking corporation ceased operation and filed for bankruptcy. As a result, several thousand employees lost their jobs, and stockholders in the company lost their investments. A formal investigation by the government concluded that there were no signs of misconduct by company executives, and that the failure was caused by aggressive competition in the banking industry.*

*Some people dispute the government's findings, claiming that the failure was instead caused by financial mismanagement. According to this claim, company executives engaged in illegal accounting practices to mask the true financial state of the company. Supporters of this claim specifically point to evidence from an interview with a disgruntled former janitor, now unemployed, who described a vague recollection of overhearing company executives discussing accounting techniques used to mask financial losses.*

We measured conspiratorial beliefs by asking participants to indicate how much they felt the company executives were acting in a conspiratorial manner (four items; e.g., "How likely is it that the company executives engaged in illegal accounting practices to mask the true financial state of the company?"). Participants rated their agreement with each statement from 1 = *not at all* to 7 = *very much* ($\alpha = .93$).

*Political conspiratorial beliefs.* We utilized a 10-item measure of conspiratorial beliefs from the 2011 Cooperative Congressional Election Study (Ansolabehere, 2013; e.g., "The U.S. government is mandating the switch to compact fluorescent light bulbs because such lights make people more obedient and easier to control" and "Vapor trails left by aircrafts are actually chemical agents deliberately sprayed in a clandestine program directed by government officials"). Participants rated their agreement with each statement from 1 = *strongly disagree* to 5 = *strongly agree* ($\alpha = 89$).

**Table 1.** Descriptive Statistics and Variable Intercorrelations, Study 1 ($N$ = 278).

| Variables | *M* | *SD* | 1 | 1a | 1b | 1c | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|---|
| 1. Regulatory focus | | | 1.00 | | | | | | |
| a. Promotion focus (1) vs. prevention focus (−1) | | | — | 1.00 | | | | | |
| b. Promotion focus (1) vs. baseline (0) | | | — | — | 1.00 | | | | |
| c. Baseline (0) vs. prevention focus (−1) | | | — | — | — | 1.00 | | | |
| 2. Conspiratorial beliefs | 3.21 | 0.98 | −.06 | −.07 | −.18* | .11 | 1.00 | | |
| 3. Age | 35.59 | 10.69 | −.07 | −.09 | −.06 | −.15* | −.06 | 1.00 | |
| 4. Gender (1 = male; 2 = female) | | | .003 | .004 | .03 | −.02 | −.02 | .14* | 1.00 |

*Correlation is significant at $p \leq .05$.

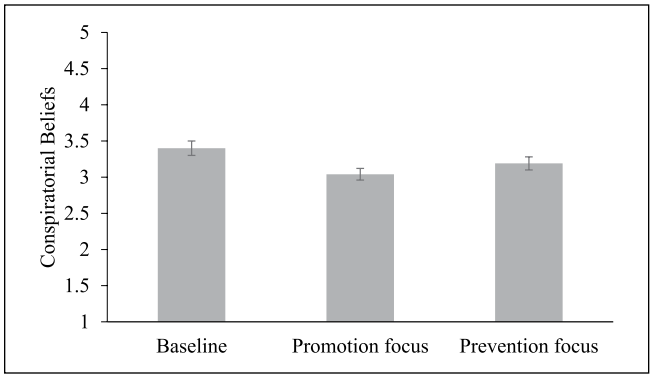


**Figure 1.** The effect of regulatory focus on conspiratorial beliefs, study 1.
*Note.* Error bars show standard errors of the mean.

### *Results*

See Table 1 for descriptive statistics and the correlation matrix. To rule out the possibility that the type of conspiracy measure differentially influenced our results, the type of conspiratorial belief was submitted to a Regulatory Focus × Conspiratorial Belief Type mixed-method analysis of variance (ANOVA) with Conspiratorial Belief Type as a within-subjects factor. No interaction effects emerged with the Conspiratorial Belief Type factor, $F(2, 275) = .22$, $p = .804$, $\eta_p^2 = .002$, suggesting that the type of conspiracy measure did not differentially influence our results.

More importantly, a significant main effect emerged for regulatory focus $F(2, 275) = 3.13$, $p = .045$, $\eta_p^2 = .022$. As shown in Figure 1, participants in the promotion-focus condition ($M = 3.04$, $SD = 1.03$) reported lower levels of conspiratorial beliefs than did those in the baseline condition ($M = 3.40$, $SD = .93$), $t(275) = -2.48$, $p = .014$, $d = .37$, 95% confidence interval (CI) = [−.64, −.07], while those in the prevention-focus condition ($M = 3.19$, $SD = .95$) were not significantly different from those in the baseline condition, $t(275) = 1.51$, $p = .132$, $d = .22$, 95% CI = [−.06, .49]. These results demonstrate that participants in the promotion-focus condition were less likely to endorse conspiracy theories than participants in the baseline condition. However, participants in the prevention-focus condition did not subscribe to higher levels of conspiratorial perceptions compared to participants in the baseline condition.

## Study 2. Regulatory Focus and Military Conspiratorial Beliefs

To increase the external validity of our findings, we next tested our theoretical model with field data collected from the U.S. Military. We measured regulatory focus, sense of personal control, and conspiratorial beliefs among active-duty military personnel. We focused specifically on conspiratorial beliefs relevant to enlisted soldiers' experiences of the military. Particularly, decisions made by officers or powerful command groups, such as the Department of Defense, behind change of duty (i.e., relocation orders that determined where the soldiers would be stationed next; which could vary in desirability from Hawaii to Afghanistan), and task assignments (i.e., job assignments which could vary in desirability from service roles such as a nursing specialist or construction engineer, to combat roles such as infantry or frontline medic). These questions tapped into the idea that, rather than being driven by rational decision-making, these assignments could be viewed as driven by darker intent (e.g., a soldier being "singled out" by superiors and sent into more dangerous conditions).

### *Participants and Procedures*

Two hundred and two soldiers at a large U.S. Army base (175 men and 27 women; 91 Caucasians, 44 African Americans, 35 Hispanics, 18 other races/ethnicities, and 14 Asians, $M$ age = 21.63 years, $SD$ = 3.23, range = 18-35) volunteered to complete our survey.

### *Measures*

*Regulatory focus.* We used the 11-item Regulatory Focus Questionnaire (RFQ; Higgins et al., 2001) consisting of two subscales: Promotion Focus and Prevention Focus. The six-item Promotion-Focus subscale included items such as, "I feel like I have made progress toward being successful in my life." The five-item Prevention-Focus subscale included

items such as, "Not being careful enough has gotten me into trouble at times." Participants were asked to indicate how frequently specific events in the statements occur or have occurred in their lives on a 5-point scale (1 = *never* to 5 = *very often*). Due to initial low reliability ($\alpha$ = .53 for Promotion Focus; $\alpha$ = .60 for Prevention Focus) and low interitem correlations within each subscale, we conformed to past guidance (DeVellis, 2006; Nunnally & Bernstein, 1994) and took a Cronbach's alpha lower than .65 to be beneath acceptable levels of reliability for the measurement of our variables (Tavakol & Dennick, 2011). Similar low reliabilities for this measure in nonuniversity populations have been documented in the past (Shepperd, Emanuel, Dodd, & Logan, 2016). We thus followed the methods suggested by Kim and Mueller (1978) to determine poor factor loadings and omitted three items from the Promotion-Focus subscale and one item from the Prevention-Focus subscale; this improved the reliability estimates for the Promotion-Focus and Prevention-Focus subscales substantively, to .75 and .73, respectively. The final item scores for each subscale were averaged to form composite scores, with higher scores reflecting higher levels of promotion focus and prevention focus.[4]

*Sense of personal control.* We measured participants' sense of personal control via Lachman and Weaver's (1998) 12-item Perceived Control Scale (e.g., "What happens to me in the future mostly depends on me," and "I have little control over the things that happen to me" [reversed]) on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*; $\alpha$ = .89). Item scores were averaged to form a composite score, with higher scores reflecting a higher sense of personal control.

*Conspiratorial beliefs.* We measured conspiratorial beliefs with seven items about changes of duty station and task assignments (e.g., "Soldiers are 'singled out' when assigned to job tasks," and "Powerful others determined my change of duty station to satisfy their own interests") on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*; $\alpha$ = .84). Item scores were averaged to form a composite score, with higher scores reflecting higher levels of conspiratorial beliefs.

*Social desirability.* Because there is evidence that military personnel are particularly sensitive to sharing information that may negatively affect their or the army's reputation (Joellenbeck, 2003), we controlled for social desirability by using Strahan and Gerbasi's (1972) scale. Sample items include "I'm always willing to admit it when I make a mistake," and "I have never been irked when people expressed ideas very different from my own." Participants indicated how much they agree with each of 10 statements on a 7-point Likert-type scale (1 = *strongly disagree* to 7 = *strongly agree*). Item scores were averaged to form a composite score, with higher numbers reflecting higher levels of responsiveness to social desirability ($\alpha$ = .73).

## Common Method Variance (CMV) Test

As we collected data from a single source at one time, we utilized Harman's one-factor test (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) to assess whether CMV was a concern with this data set. In this test, common method bias is said to be present if either a single factor emerges from the measurement model, or any dominant common factor emerges to account for the majority (50% or greater) of the covariance across the study variables. We submitted the study variables (five variables: prevention focus, promotion focus, sense of personal control, conspiratorial beliefs, and social desirability) to an unrotated principal component analysis. The results revealed that only 19.80% of the total variance was captured by the most dominant factor. Thus, it is unlikely that CMV confounds the true effects between the study variables.

## Results

See Table 2 for descriptive statistics and the correlation matrix. As individual differences in promotion focus and prevention focus are separate constructs rather than opposite ends of the same scale, we conducted a path analysis to simultaneously but separately estimate relationships between predictors (promotion focus and prevention focus) and the other variables of interest (see Figure 2 for path coefficients). The model fit was satisfactory (comparative fit index [CFI] = 1.00, Tucker–Lewis index (TLI) = .97, root mean square error approximation (RMSEA) = .03, 90% CI = [.00, .19]).

Soldiers' level of promotion focus was positively associated with a sense of personal control (95% CI = [.16, .57]), while soldiers' level of prevention focus was unrelated to a sense of personal control (95% CI = [−.04, .39]). In addition, a sense of personal control was negatively associated with conspiratorial beliefs (95% CI = [−.44, −.02]), confirming that a greater sense of personal control was associated with a lower likelihood of endorsing conspiracies.

To test whether a sense of personal control mediated the effects of soldiers' levels of promotion focus and prevention focus on conspiratorial beliefs, we utilized a bootstrap procedure suggested by MacKinnon, Lockwood, and Williams (2004) and Preacher and Hayes (2008). The results revealed that the indirect effect of soldiers' level of promotion focus on conspiratorial beliefs through a sense of personal control was negative and statistically significant (95% CI = [−.21, −.01]), as was the direct effect (95% CI = [−.60, −.04] and total effect (95% CI = [−.65, −.16]). When examining the effects of soldiers' level of prevention focus, both the direct (95% CI = [−.55, .000]) and the indirect effect (95% CI = [−.14, .003]) were not statistically significant. However, a significant total effect emerged (95% CI = [−.58, −.04]). The findings from Study 2 suggest that soldiers who reported greater levels of promotion focus were less likely to perceive conspiracies because they exhibit a heightened sense of

**Table 2.** Descriptive Statistics and Variable Intercorrelations, Study 2 ($N$ = 202).

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 1. Promotion focus | 3.71 | 0.88 | 1.00 | | | | | | |
| 2. Prevention focus | 3.04 | 0.83 | −.32** | 1.00 | | | | | |
| 3. Sense of personal control | 5.66 | 1.05 | .30** | .07 | 1.00 | | | | |
| 4. Conspiratorial beliefs | 3.76 | 1.31 | −.22** | −.12 | −.26** | 1.00 | | | |
| 5. Social desirability | 4.72 | 0.93 | .28** | .21** | .26** | −.21** | 1.00 | | |
| 6. Age | 21.63 | 3.23 | .04 | −.01 | .02 | −.02 | .10 | 1.00 | |
| 7. Gender (1 = male; 2 = female) | | | .02 | −.06 | .03 | .06 | −.09 | −.05 | 1.00 |

*Correlation is significant at $p \leq .05$. **Correlation is significant at $p \leq .01$.

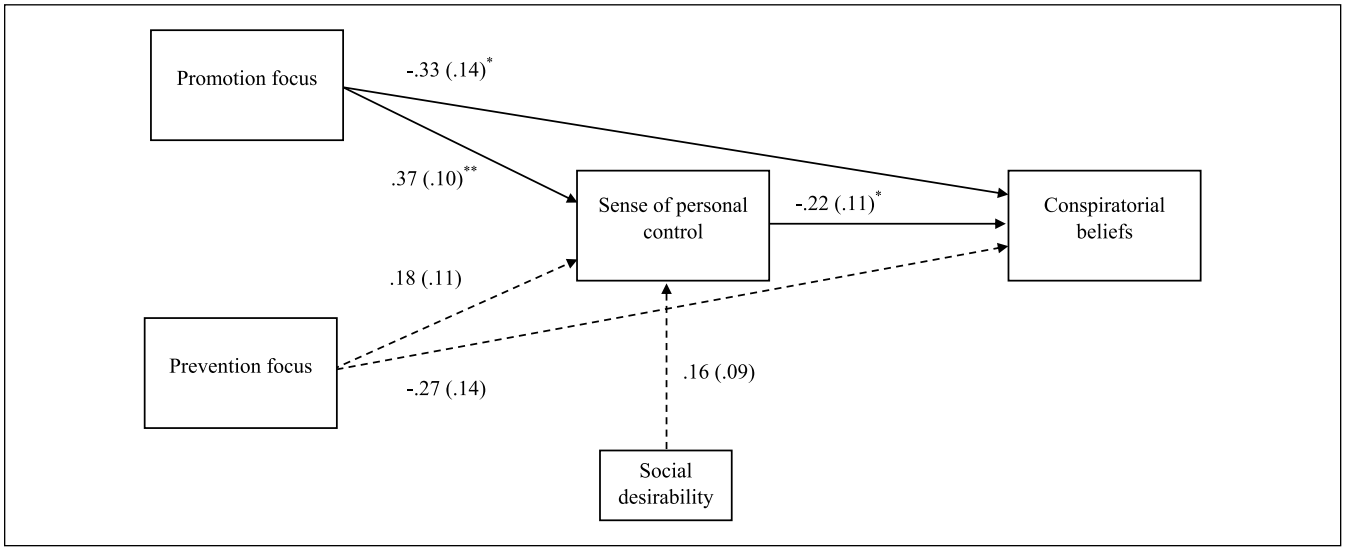


**Figure 2.** Unstandardized path coefficients and standard errors in parentheses, Study 2 ($N$ = 202).
*Note.* Nonsignificant lines are dashed.
*$p \leq .05$. **$p \leq .01$.

personal control, but not for soldiers who reported greater levels of prevention focus (although the significant total effect suggests some association may be in play).

## Study 3. Regulatory Focus, Control, and Conspiratorial Beliefs

Across an experimental (Study 1) and field setting (Study 2), we demonstrated support for the hypothesis that promotion focus would reduce conspiratorial perceptions, but not for the hypothesis that prevention focus would increase them.

While Study 2 measured personal control, Study 3 directly manipulated personal control to increase the validity of our findings. Both measuring and manipulating the mediator provides more confidence that it is a true causal mechanism for the theorized effects (Imai, Tingley, & Yamamoto, 2013; as in Loyd, Wang, Phillips, & Lount, 2013). Given our evidence that promotion-focused individuals demonstrate reduced conspiratorial beliefs because they exhibit a heightened sense of personal control, we expect that directly depriving promotion-focused individuals of personal control will increase conspiratorial perceptions. That is, participants in the promotion-focus condition will show greater conspiratorial perceptions when they recall personal control loss than when they recall possessing personal control. However, given the lower relevance of personal control to their experience, we expect that participants in the prevention-focus condition will not vary in their conspiratorial perceptions as a result of lacking personal control versus having personal control.

Thus, we manipulated both regulatory focus (promotion or prevention focus) and personal control loss (having control or lacking control). In addition, to rule out negative valence as a potential explanation for our effects, we asked participants to recall a positive experience in both the having and lacking control conditions (Cichocka et al., 2016; Kay et al., 2008).

### *Participants and Procedure*

Two hundred and fifteen undergraduate students in a large Southwestern university in the United States (110 women and 101 men, 4 participants not providing demographic

**Table 3.** Descriptive Statistics and Variable Intercorrelations, Study 3.

| Variables | *M* | *SD* | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| 1. Regulatory focus (0 = prevention focus; 1 = promotion focus) | | | 1.00 | | | | |
| 2. Control (0 = lacking control; 1 = having control) | | | −.07 | 1.00 | | | |
| 3. Conspiratorial beliefs | 3.01 | 0.81 | .05 | −.08 | 1.00 | | |
| 4. Age | 22.93 | 5.41 | .08 | .03 | .01 | 1.00 | |
| 5. Gender (1 = male; 2 = female) | | | −.05 | .01 | .13 | .05 | 1.00 |

*Note.* $N$ = 215 (four participants did not provide demographic information and so are not included in the age and gender correlations).

information; 147 Caucasians, 25 other races/ethnicities, 14 Hispanics, 13 Asians, and 12 African American; *M* age = 22.93 years, *SD* = 5.41, range = 19-51) participated in this study in exchange for course credit. The design was a 2 (Regulatory Focus: Promotion focus vs. Prevention focus) × 2 (Personal Control: Having vs. Lacking) × 2 (Conspiratorial Belief Type: Bankruptcy vs. Political) with Conspiratorial Belief Type as a within-subjects factor.

Participants were randomly assigned to a word fragment task (Gilbert & Hixon, 1991; Wan, Hong, & Sternthal, 2009) designed to prime promotion ($n$ = 102) or prevention focus ($n$ = 113). Participants were presented with seven word fragments, which they had to complete by providing one to two missing letters (e.g., "ac_omp_ish" needed a "c" and an "l" to make "accomplish"). The seven words contained in the *promotion-focus condition* were growth, develop, active, advance, risky, eager, and accomplish. The seven words contained in the *prevention-focus condition* were secure, calm, vigilant, safe, shelter, protect, and cautious.

Upon completion, participants were also randomly assigned to one of two conditions, *lacking control* versus *having control*, drawn from the work of Kay et al. (2008) and Cichocka et al. (2016). To manipulate control, we asked participants to recall an incident in which something positive happened that they had control over (having control condition, $n$ = 108) or had no control over (lacking control condition, $n$ = 107).

## Measures

*Bankruptcy conspiratorial beliefs.* Participants were asked to read the same bankruptcy scenario and four-item measure of conspiratorial beliefs as in Study 1 ($\alpha$ = .86).

*Political conspiratorial beliefs.* We utilized the same 10-item measure of political conspiratorial beliefs as in Study 1 ($\alpha$ = .87).

## Results

See Table 3 for descriptive statistics and correlation matrix. To rule out the possibility that the type of conspiracy measure differentially influenced our results, the type of conspiratorial belief was submitted to a Regulatory Focus × Personal Control Loss × Conspiratorial Belief Type mixed-method ANOVA with Conspiratorial Belief Type as a within-subjects factor.

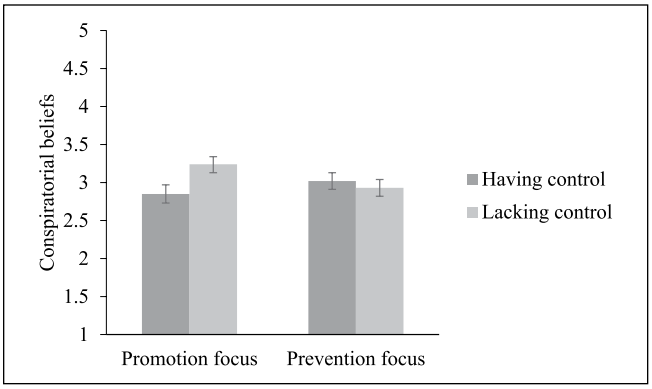


**Figure 3.** The interactive effect of regulatory focus and personal control on conspiratorial beliefs, Study 3.
*Note.* Error bars show standard errors of the mean.

No interaction effects emerged with the Conspiratorial Belief Type factor, all $F$s < .345, $p$s > .557, suggesting that the type of conspiracy measure did not differentially influence our results. Importantly, a significant interaction between regulatory focus and control emerged, $F(1, 211) = 4.71$, $p = .031$, $\eta_p^2 = .02$ (see Figure 3). Participants in the promotion-focus condition who lacked personal control ($M$ = 3.24, $SD$ = .77) were more likely than those in the promotion-focus condition who had personal control ($M$ = 2.85, $SD$ = .82) to perceive conspiracies, $t(211) = 2.40$, $SE$ = .16, $p$ = .017, 95% CI = [.07, .70], $d$ = .49. However, there was no statistically significant difference in conspiratorial beliefs between participants in the prevention-focus condition who lacked control ($M$ = 2.93, $SD$ = .77) and those who had control ($M$ = 3.02, $SD$ = .84), $t(211) = -.62$, $SE$ = .15, $p$ = .534, 95% CI = [−.39, .20], $d$ = .11. Thus, participants in the promotion-focus condition who lacked control exhibited increased conspiratorial beliefs as compared to participants in the promotion-focus condition who had control, while participants in the prevention-focus condition, for whom personal control was less central, showed no effects.[5]

## General Discussion

Across the three studies, two laboratory and one field, we measured or manipulated regulatory focus and personal control and employed multiple measures of conspiratorial beliefs (using business, military, and political conspiracies that involved both global and local actors) to comprehensively test the effects of regulatory focus on conspiratorial beliefs. In Study 1, we demonstrated that individuals in the promotion-focus condition were less likely than individuals in the baseline condition to endorse conspiracies, while individuals in the prevention-focus condition did not differ from individuals in the baseline condition. In Study 2, we widened our exploration to include personal control as a mediating mechanism of conspiratorial beliefs in an organizational setting, that is, the U.S. military. Our findings suggest that soldiers with greater levels of promotion focus exhibited an increased sense of personal control, which in turn was associated with decreased conspiratorial beliefs. In Study 3, we introduced an important boundary condition, personal control loss. We found that individuals in the promotion-focus condition who lacked control showed higher conspiratorial perceptions as compared to those who had control. By both measuring and manipulating personal control, we confirm the role it plays in the relationship between regulatory focus and conspiratorial perceptions.

In contrast, there is no evidence in any of these studies that links prevention focus to increased conspiratorial beliefs. In fact, in Study 1, while the $p$ value was not significant ($p = .132$), participants in the prevention-focus condition trended lower in their conspiratorial beliefs than those in the baseline condition. Similarly, in Study 2, while the direct and indirect effects of soldiers' levels of prevention focus upon their conspiratorial beliefs were not significant, the total effects of the model were, also suggesting that prevention focus may be associated with reduced conspiracy perceptions. In Study 3, participants in the prevention-focus condition did not differ in their conspiratorial perceptions regardless of whether they had or lacked control. Moreover, there were no significant differences between participants in the promotion-focus condition who had personal control and participants in the two prevention-focus conditions. These findings do not support the hypothesis that prevention focus is associated with increased conspiratorial beliefs, and in fact imply that there may be some similar effect at play as that of promotion focus, albeit much weaker. It is also notable that these milder effects likely do not run through sense of control as a mechanism (note the lack of relationship between prevention focus and a sense of personal control in Study 2, and the lack of difference between the two prevention-focus conditions [having vs. lacking control] in Study 3). Future research might explore this potential relationship further.

### *Theoretical Implications*

A key contribution of this research lies in identifying a motivational factor which reduces conspiratorial perceptions. Classic research regarding conspiratorial perceptions has generally examined how individual differences, such as age or educational levels, are associated with conspiratorial beliefs (Bilewicz et al., 2013; Groh, 1987; Hofstadter, 1965; McCauley & Jacques, 1979; van Prooijen, 2017). Alongside other recent work which connects the motivation to be unique to increased conspiratorial belief (Imhoff & Lamberty, 2017; Lantian, Muller, Nurra, & Douglas, 2017), these findings suggest promotion focus is a form of motivation that influences *who* is more or less likely to endorse conspiracy theories. We do not merely establish that promotion focus reduces conspiratorial beliefs, but also theoretically predict and empirically demonstrate *why* promotion focus does so. Promotion-focused individuals' inflated sense of personal control reduces the drive to see structure that can cause increases in conspiratorial beliefs.

This article also furthers our understanding of compensatory control theory in uncovering a key antecedent that influences one's sense of control, particularly in such way that conspiratorial perceptions are decreased rather than heightened. These findings reveal the link between how we pursue our own goals and how we see the environment within which we pursue those goals, and confirm a close relationship between promotion focus and a sense of personal control. When people are promotion focused, they exert personal control in their environment—which leads them to see their environment as controllable rather than controlling. Thus, this article is one of the first to link specific forms of goal pursuit to perceptions of collective and organizational actors.

Interestingly, these findings provide a nuanced contrast to research that suggests prevention-focused individuals may be more sensitive to negative information, and that their preference to avoid losses will go hand-in-hand with an alertness for potential dangers in a situation. Thus, though prevention-focused individuals may be accustomed to be "on the lookout" for negative information in their environment (Förster, Grant, Idson, & Higgins, 2001) and process that negative information more easily (Yoon et al., 2012), it does not mean that conspiracies—which are often negative and threatening—will be more easily adopted by them. Instead, our findings demonstrate that prevention focus does not elevate conspiratorial beliefs; rather it is promotion focus, and its concomitant sense of personal control, that acts to dampen these patterns of cognition.

### *Practical Implications*

From an applied standpoint, conspiratorial perceptions can also shape people's perceptions of the "negative networks" around them (Labianca & Brass, 2006). For instance, many workplaces are plagued by the perception that they are rife with sometimes-secretive political activity, and while at times these perceptions are accurate, they may also be artificially inflated. In network terms, people exhibit a biased perceptual tendency to inflate the density of their networks

(Smith, Menon, & Thompson, 2012). Reducing the tendency to perceive conspiracies should reduce or prevent the extent to which individuals in organizational contexts are likely to retaliate against those conspiracies, whether directly, via their own political strategies and aggression, or indirectly, by withdrawing their efforts from and identification with the organization, as when employees who endorse conspiratorial beliefs about their organization show higher turnover intent (van Prooijen & de Vries, 2016).

Another key implication of these findings may lie in corporate impression management and messaging following trigger events. Specifically, if a sense of personal control reduces conspiratorial beliefs, then organizations seeking to reduce conspiratorial perceptions should highlight it to employees or individuals when possible. For example, government organizations such as the Centers for Disease Control offer guidance about diseases such as Ebola. Messaging which emphasizes either personal control or promotion focus—for example, suggesting that individuals will be able to stay healthy by taking specific steps—may reduce the likelihood that it or other organizations become ensnared in webs of conspiratorial beliefs. Conversely, messaging which suggests that individuals have little control over the situation, perhaps by implying that others control their fate—particularly governments, health organizations, or top decision makers—may unintentionally weaken any conspiracy-reducing effects of promotion focus in the general population.

### *Limitations and Future Directions*

One important caveat is that the items used to measure conspiratorial beliefs in Study 2 could more explicitly tap into a harmful or nefarious intent on the part of the conspirators. For instance, "I believe an influential group looking after their own interests determined where I was stationed," only suggests but does not directly state that harm was an intentional part of the decision-making process. While some items imply more harm than others, for example, the item, "Soldiers are 'singled out' when assigned to job tasks," we suggest that future research might more methodically examine perceptions of harmful intent. In spite of its measurement limitations, we believe Study 2's evidence of our research's external validity compliments our Study 1's evidence of internal validity. In this sense, Study 2 can be thought of as a complimentary test of our causal findings of Study 1 using an externally valid sample. Indeed, the pattern of results found in Study 2 is consistent with the pattern of results found in Studies 1 and 3.

Another caveat worth noting is that we cannot establish whether promotion-focused individuals are "more accurate" than are prevention-focused people in gauging whether a conspiracy exists. When real conspiracies are involved, are promotion-focused individuals or prevention-focused individuals better at detecting them? Future research might consider the manner in which promotion- and prevention-focused individuals engage in hypothesis testing (Klayman & Ha, 1987) with respect to conspiracy theories, that is, searching for disconfirming evidence, soliciting opinions of others, and applying standards of falsifiability with regard to their conspiratorial perceptions.

In terms of understanding how regulatory focus influences the endorsement of conspiratorial perceptions, further studies should explore whether differences in the type and content of particular conspiracy theories influence which ones particular individuals may find more appealing. Moreover, the present research considers people's tendencies to perceive the potential for a conspiracy, rather than testing their willingness to spread established conspiracy theories. Although the present research suggests that promotion-focused individuals are less prone to form conspiratorial beliefs, it is an open question as to whether they are also more resistant to discarding these beliefs once they adopt them. Furthermore, while regulatory focus helps explain why individuals first endorse conspiracy theories, the decision to propagate conspiracy theories to others and aid in their spread may be subject to a different set of factors and forces. It may be that while promotion-focused individuals are less likely to personally endorse conspiratorial perceptions, they may be more active and agentic in spreading conspiracy theories if they come to endorse them.

Further research should also examine whether cultural factors influence conspiratorial perceptions. For instance, levels of mobility, or the extent to which individuals are provided opportunities to choose new relationships and terminate old ones, differ across cultures (Oishi, 2014; Oishi & Graham, 2010). Mobility difference across cultures alters perceptions (Schug, Yuki, & Maddux, 2010; Wang, Lee, Ku, & Leung, 2018), behaviors (Wang & Leung, 2010; Wang, Leung, See, & Gao, 2011; Whitson, Wang, Kim, Cao, & Scrimpshire, 2015), and, related to our work, even motivations such as regulatory focus (Li, Hamamura, & Adams, 2015). Whether these cultural differences extend to darker interpretations of networks, such as conspiracies, should be explored. It is possible that Westerners, who tend toward greater promotion focus than East Asians, exhibit reduced conspiratorial perceptions, and congruently show increased conspiratorial endorsement under economic or political conditions which cause widespread reductions in feelings of personal control.

## Conclusion

The findings reported here build on the foundational prior research on compensatory control (Kay et al., 2009; Landau et al., 2015; Wang et al., 2012; Whitson & Galinsky, 2008). We lay out promotion focus as a critical motivational antecedent which reduces conspiratorial perceptions.

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## Notes

1. In Studies 1 and 3, we excluded participants who spent less than or greater than 2.5 *SD*s from the mean of the overall completion time for each experiment. To normalize the distribution of the completion time variable, we used a logarithmic transformation in line with past work (e.g., Robinson & Tamir, 2005). In this regard, we minimize the impact to the results from outlier participants who spent too much or too little time in our experiments. As a result, seven participants from Study 1, and five participants from Study 3 were excluded. The results remain consistent when using the exclusions based on the 2.5 *SD* cutoff without the logarithmic transformation (e.g., Cave, 1997; DePrince & Freyd, 1999; Wagenmakers & Brown, 2007; Wynn, 1992). The analyses without data exclusions are reported in the supplemental materials.
2. For Studies 1 and 3, we conducted a priori power analyses and collected sample sizes sufficient to detect medium effects ($f$ =.25) at 90% power. For Study 2, which was a survey design, we conducted a post hoc power analysis and calculated the statistical power based on regression coefficients, finding the sample size was sufficient to detect a medium effect ($f^2$ = .15) at 99% power.
3. The verbatim manipulations and measures used in Studies 1 to 3 are reported in the supplemental materials.
4. The results remain largely unchanged when using the full regulatory focus scale (with low reliability) in Study 2. The analyses without item eliminations are reported in the supplemental materials.
5. The original submission of this manuscript contained earlier versions of Studies 1 and 3; we report those results in the supplementary materials.

## Supplemental Material

Supplementary material is available online with this article.

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