When threat matters: Self-regulation, threat salience, and stereotyping

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HIGHLIGHTS

- Perceived threat interacted with motivational state to affect stereotype use.
- Motivation-based increases in stereotyping replicated across three social contexts.
- Threat/prevention focus increased support for policies perceived to address threat.
- Threat effects depended upon motivational concerns.

ABSTRACT

Four experiments examined whether information implying imminent threat to safety would interact with regulatory focus (Higgins, 1997) to affect the utilization of threat-relevant stereotypes. Because information suggesting imminent danger is more relevant to the safety goals of prevention-focused individuals than the advancement goals of promotion-focused individuals, utilization of threat-relevant stereotypes was expected to increase under such conditions only under prevention focus. Support for this prediction was obtained in four distinct and socially important domains. Using scenarios describing a violent crime committed by an African-American male (Experiment 1) or a petty crime committed by an undocumented immigrant (Experiment 2), prevention-focused individuals made judgments consistent with stereotypes when threat was perceived to be high rather than low. In studies that manipulated the stereotypicality of the target in a terrorism scenario (Experiments 3 & 4), prevention-focused individuals were more likely to endorse scrutinizing a stereotypical compared with a non-stereotypical target when terrorism was described as an increasing problem. Implications for models of stereotyping, self-regulation, and responding to threat are discussed.

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"I'm not a bigot. You know the kind of books I've written about the civil rights movement in this country. But when I get on a plane, I got to tell you, if I see people who are in Muslim garb and I think, you know, they are identifying themselves first and foremost as Muslims, I get worried. I get nervous." Juan Williams, Political Commentator, October 18, 2010

People regularly encounter information that threatens their sense of safety and security, even though the nature of the threat is often ambiguous or vague. This is particularly true when established stereotypes suggest that an individual might be potentially dangerous. Is that lone African American man on the late-night subway threatening or benign? Is that Arab man boarding the airplane a terrorist? Despite the prevalence of such stereotypes, people often resist making stereotypic judgments. Blatantly using overgeneralized stereotypes and behaving in a prejudiced manner is generally seen as socially undesirable, and people are typically

motivated to avoid prejudice both to maintain a personal sense of fairness and to be seen favorably by others (Plant & Devine, 1998). However, there are times when people might feel it necessary to use stereotypes to maintain a sense of safety, even if doing so leads them to be seen as bigoted or prejudiced. As the quote above illustrates, when people encounter an individual strongly associated with danger in a particular social context, stereotyping might be seen as unavoidable or even necessary. When a strong signal of threat to safety is encountered, the willingness to utilize threat-relevant stereotypes might be expected to increase, especially if doing so allows dominant self-regulatory concerns to be addressed (i.e., the maintenance of safety and security).

Responses to perceived threat might be expected to vary across persons and contexts. In particular, the motivational state of the perceiver when encountering potentially threatening information should play a critical role in determining subsequent responses. When an individual's dominant motivational concern is the preservation of safety and security, threat-relevant information should be seen as especially informative and valuable. In other words, when focused on maintaining

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safety, the perceiver's response to information, in large part, will be determined by the perceived threat to safety represented by that information. An individual who is focused on another common motivational concern – growth and advancement – should show less sensitivity in responding to threats to safety and security. Perceivers whose dominant motivational concern is growth might take note of threat or danger, but their response to such a signal should be muted given the low relevance of threat to their dominant motivational concerns. Of course, threats to growth and advancement might require a response even for these individuals, although this is not tested the studies we present here (we will return to this issue in the General discussion).

In this paper, we provide an initial exploration of the consequences of exposure to threat to safety and security in the domain of stereotyping. Threat and danger are central components of many stereotypes of ethnic and racial groups (e.g., Cottrell & Neuberg, 2005; Fiske, Cuddy, Glick, & Xu, 2002), which is understandable given that the preservation of safety and security is considered a fundamental motivational goal (e.g., Kenrick, Griskevicius, Neuberg, & Schaller, 2010b; Tay & Diener, 2011). However, little research has examined how people vary in their utilization of threat-relevant stereotypes as a function of their motives and perceptions of threat. The current studies were designed to identify the conditions under which motivational states and threat might combine to affect the utilization of threat-relevant stereotypes in judging outgroup members and in affecting support for social policies directed toward stereotyped social groups.

Motivational factors and responding to threat

Maintaining safety has long been recognized as a fundamental human need (Bowlby, 1970; Maslow, 1943; see Pittman & Zeigler, 2007 for a review), yet research from several subfields in psychology shows that responses to information that threatens safety can be highly variable. Threatening information can both capture attention (e.g., Öhman, Flykt, & Esteves, 2001) and produce avoidance (e.g., Nielsen & Shapiro, 2009). It can generate risk-averse (Sacco, Galletto, & Blanzieri, 2003) but also risk-seeking behavior (Ben-Zur & Zeidner, 2009). We propose that part of this variability in responding to threat reflects the existence of different motivational concerns that differ in the degree that they focus on issues of safety and security compared with other important needs.

The co-existence of multiple motives within individuals has been a central feature of regulatory focus theory (Higgins, 1997). This theory posits the co-existence of two regulatory systems – the *promotion* and *prevention* systems – that serve critically important but different survival needs. Whereas the promotion system is concerned with achieving growth and advancement, the prevention system is concerned with maintaining safety and security. When people are operating under a promotion focus, they are primarily concerned with the presence and absence of gains versus non-gains. In contrast, prevention-focused individuals are mostly concerned with the presence and absence of losses versus non-losses. Both systems exist within all individuals, although in any given moment one system is likely to dominate based on one's life experiences or the current situation.

The systems differ not only in their motivational foci, but also in the means by which goals are typically pursued. The promotion system focuses on ideals, wishes, and aspirations. Generally, individuals pursue goals within a promotion framework by utilizing *eager* means, utilizing any available resources to achieve advancement even at the risk of wasting effort or committing errors of commission (e.g., Crowe & Higgins, 1997). The prevention system, with its concern for maintaining safety and security, typically prompts individuals to fulfill duties, obligations, and responsibilities to ensure the avoidance of danger. Generally, prevention-focused individuals pursue their goals by maintaining *vigilant* means characterized by attentiveness and a tendency to err on the side of caution. Doing so ensures thoroughness even while increasing the likelihood of committing errors of omission (e.g., Crowe & Higgins, 1997).

How does regulatory focus theory characterize the processing of threat-relevant information? Until recently, it was argued that a prevention state would produce a vigilant form of information processing in which individuals would err on the side of caution to guard against mistakes. More recent research (Scholer & Higgins, 2008; Scholer, Stroessner, & Higgins, 2008; Scholer, Zou, Fujita, Stroessner, & Higgins, 2010), however, shows that different tactics are preferred by prevention-focused individuals when, instead of processing neutral or positive information, they are processing threat-related information. In the first set of studies (Scholer et al., 2008), participants were presented with stimuli that differed in valence within a signal detection recognition memory paradigm. It was found that individuals induced into a prevention focus adopted a lenient criterion (a risky bias) for deciding whether they had seen negative stimuli, a reversal of the traditional finding (Crowe & Higgins, 1997; Friedman & Förster, 2001).

A second set of studies (Scholer et al., 2010) focused on tactical shifts where individuals had to make a conservative or risky choice after they had experienced financial loss. Participants in these studies believed that they had lost money based on their choice of stock options but could earn it back through subsequent investment choices. In the subsequent pairs of stocks, one stock was always riskier than the other even though they offered the same expected average return. Prevention focus, when manipulated or measured, uniquely predicted the riskiness of choice under loss. Specifically, a prevention focus led individuals to consistently choose the riskier stock option, so long as only the risky stock allowed the possible elimination of the loss that had been experienced (i.e., it offered a possible return of all the money that had been lost). Promotion focus was unrelated to the riskiness of choice across conditions.

This research shows that prevention-focused individuals confronted with negative information often do not err on the side of caution. Instead, they *engage* with negative information, including a willingness to increase errors of commission in order to minimize errors of omission. In other words, the tactics that typically ensure safety in the absence of threat are not the same tactics that best ensure safety under real or even perceived threat. To the degree that a stimulus suggests a challenge to the primary concern of an individual under prevention focus – maintaining safety and security – prevention-focused individuals should be especially motivated not to "miss" this threatening information. In such a context, making an error of omission (i.e., missing a negative signal) would undermine the effective pursuit of the primary goal under prevention (i.e., ensuring safety). When faced with a threat, vigilance is best realized by doing whatever is necessary to ensure safety. Thus, these data show in two very different domains a shift in tactics in response to threat under prevention focus. When faced with a threat to their dominant motivational concern, prevention-focused individuals engage in atypical, non-preferred tactics to eliminate it.

Although these recent studies have led to a modification of regulatory focus theory, the implication of this work for stereotyping has not yet been developed. Prior work on regulatory focus and intergroup relations did provide some evidence that regulatory focus is relevant for understanding intergroup dynamics (e.g., Shah, Brazy, & Higgins, 2004). For instance, while promotion-focused individuals express positive ingroup bias in intergroup interactions, prevention-focused individuals are more likely to express negative outgroup bias. However, this earlier work did not directly test how threat and regulatory focus interaction to predict the use of stereotypes.

Given that stereotypes often contain threat-relevant information, it seems plausible to assume that motivational concerns focused on safety and security might influence how threat-relevant stereotypes are utilized. However, it is also plausible that threats in the social domain will lead all individuals, regardless of regulatory focus, to engage in greater stereotyping. The focus of this current research is to explore how perceived threat and regulatory focus motivation interact to predict the use of stereotypes.

Responding to stereotype-based threats

Stereotyping is both used and avoided by social perceivers, depending on several cognitive and motivational factors. Stereotypes can be useful in disambiguating complex or vague information, allowing effective functioning in complex social environments (Macrae, Milne, & Bodenhausen, 1994; Sherman, Lee, Bessenoff, & Frost, 1998). However, people often avoid stereotyping to avoid error, minimize bias, and maintain egalitarian ideals (Glaser & Knowles, 2008; Monteith, Ashburn-Nardo, Voils, & Czopp, 2002; Moskowitz, Salomon, & Taylor, 2000; Stroessner & Scholer, 2007). Thus, the inclination to utilize stereotypes because of their usefulness is typically accompanied by a reluctance to use them because of their general inaccuracy and the unfairness that might arise in doing so.

Prior research on stereotype utilization has often focused on individual difference factors (e.g., external motivation to avoid prejudice) *or* situational factors (e.g., threat) that increase or decrease the likelihood that stereotypes will be used. One relatively unexplored basis of variability in stereotyping is the extent to which self-regulatory and situational factors dynamically combine to affect stereotype use. We suggest that the interplay of self-regulatory motivational states and perceived threat are of both theoretical and practical importance. We speculate that stereotypes related to threat and danger might be more likely to be used by individuals operating under a prevention, but not promotion, focus. Moreover, we expect this to be true only when threats are perceived as psychologically proximal rather than distant.

Why do we hypothesize that the psychological proximity of perceived threat will interact with motivational states to influence stereotyping? Wouldn't one expect that stereotypes would always be used to a greater degree when safety is threatened? Ample research shows that individuals are generally motivated to avoid stereotyping, given personal and cultural norms prohibiting bias (Devine, 1989; Monteith, 1993; Moskowitz & Li, 2011; Pearson, Dovidio, & Gaertner, 2009; Monteith, 1993). Because people are reluctant to utilize stereotypes, stereotype use will often be resisted in positive or benign environments. When threats to the self or ingroup are seen as particularly close, imminent, or large in magnitude, however, individuals are more likely to utilize stereotypes (e.g., Collange, Fiske, & Sanitioso, 2009; Fein & Spencer, 1997; Govorun, Fuegen, & Payne, 2006; Spencer, Fein, Wolfe, Fong, & Dunn, 1998). We argue, however, that threat will not lead to increased stereotype utilization for all individuals; rather, it depends on the relevance of the threat to a perceiver's dominant motivational concern.

We predict that only some individuals will respond to perceived threats by increasing their reliance on stereotypes for subsequent judgments. Specifically, we propose that the utilization of threat-relevant stereotypes under a prevention, not promotion, focus will vary as a function of perceived threat. Individuals in a prevention focus are fundamentally motivated to maintain safety and avoid danger, but also, typically, err on the side of caution with regard to judgments. Thus, when threat is low, we predict that prevention motivation will be unrelated or negatively related to stereotype use; concerns with being egalitarian or unbiased remain salient and the benefits of using stereotypes in judgment will not be obvious. However, when threat is high, we predict that prevention motivation will shift to a more aggressive information-processing tactics by utilizing stereotypical information relevant to the imminent threat, even when doing so might violate standards of egalitarianism and fairness. Under high threat, the use of stereotypes may seem necessary or even obligatory to maintain safety. Thus, unlike in the previous signal detection research in which target and threat were inseparable (Scholer et al., 2008), we can directly test how the responses of prevention-focused individuals to the *same* target (a social sensitive stereotype) change depending on the perceived threat encountered in a social context. They will be more willing to incur the error of utilizing a stereotype that *might* be accurate (is this Arab man a terrorist?) even though this would violate egalitarian standards. In sum, people concerned with safety who are confronted with imminent

threat might choose to be *biased* in order to *decrease* the risk of danger. Under high threat, the failure to detect and utilize a threatening stereotype under a prevention state would represent a serious self-regulatory failure. In contrast, when threat is perceived to be low, even prevention-focused individuals might prefer to be *egalitarian* even though doing so might *increase the risk of danger*.

Comparison with evolutionary approaches

Our theorizing parallels and contributes to similar arguments that have emerged in recent years from functional and evolutionary social psychology (see Neuberg & Schaller, 2014 for a review). Zebrowitz and Montepare's (2006, 2008; Zebrowitz, 2003; see also Gibson, 1979) *ecological approach* argues that social perception considers the *affordances* of others, thereby guiding perceivers' judgments and behaviors across social contexts and in response to specific motives and goals. Differing social contexts are assumed to vary considerably, to change dynamically, and to trigger different goals. Perceivers respond to situational affordances that signal the opportunity or need for action. This approach to social perception resonates with our view that stereotypes can be used strategically and dynamically to adapt to changes in the social situation to meet fundamental motives (e.g., selectively using threat-relevant stereotypes when a sense of safety is perceived to be threatened).

Haselton and colleague's error management theory (EMT; Haselton & Buss, 2000; Haselton & Nettle, 2006; Johnson, Blumstein, Fowler, & Haselton, 2013) considers how mistakes in judgments and/or actions can have distinct consequences depending on perceivers' motives. When individuals act under uncertainty, they must balance the costs of "false-positive" (judging something to be true that is false) and "false-negative" (judging something to be not false that is in fact true) errors. The relative costs of these distinct errors can vary across contexts, leading perceivers to favor one error over another. For example, assuming that all objects on the ground are snakes when walking through a shopping mall will produce undesired costs of time and attentional resources compared with when walking through a rain forest.

Schaller and Neuberg (2012) applied similar logic to stereotype utilization, arguing that perceivers confronted with threats take into account the ratio of benefits versus costs of any particular response across differing ecological contexts. When perceived vulnerability to threat is high, a person will typically favor actions that might keep the threat at bay because doing so outweighs any potential costs. Consequently, the person will engage in threat-mitigating behavior. However, when perceived vulnerability to threat is low, the perceived costs of a protective action might outweigh the costs of inaction.

Moreover, circumstances that imply vulnerability lead to greater accessibility of threatening stereotypes, thereby facilitating adaptive responses to threat and danger. In one series of experiments, for example, participants who reported that the world is dangerous exhibited greater activation of danger-relevant stereotypes when they were in an environment that incidentally signaled danger, a darkened room (Schaller, Park, & Faulkner, 2003; Schaller, Park, & Mueller, 2003).

Our approach complements and adds to these perspectives in several respects. We echo the emphasis of the ecological approach emphasizing the dynamic interplay between motives and social context. We incorporate the logic of EMT by applying it to stereotype utilization. We build upon the work applying evolutionary approaches to stereotyping by specifying how specific motivations yield dramatically different outcomes in social perception and judgment. Collectively, we do so using both correlational and experimental methods.

Overview of studies

In four studies we test the novel prediction that perceived threat and regulatory focus orientation will interact to predict utilization of threat-related stereotypes in judgments. We hypothesize that the motivational relevance of threat for prevention focus will lead to tactical flexibility in

stereotype utilization in order to maintain safety and security. We predict that prevention-focused individuals will utilize stereotypes to a lesser degree when the world is perceived as safe rather than threatening. Increases in the perceived imminence of threat to safety will lead to greater utilization of danger-related stereotypes in prevention-focused individuals. In contrast, given that threats to safety are unrelated to the core concerns of the promotion system, we hypothesize that the extent to which promotion-focused individuals utilize threat-relevant stereotypes will be unaffected by the presence or absence of threats to safety.

Study 1

Study 1 was designed to provide an initial test regarding the relevance of prevention focus and perceived threat to safety in the domain of intergroup judgment. In this first study, we solicited citizens' perspectives on a hypothetical criminal case involving an African-American man. Given the association between African-American men and crime (Dixon & Linz, 2000; Dixon & Maddox, 2005), we sought to determine whether differences in chronic regulatory focus would predict individuals' willingness to find an African-American man guilty of a crime in which he was weakly implicated. In addition, we varied the subjective threat posed by the crime by characterizing criminal behavior as either an increasing or a decreasing societal problem. We argue that judging an African-American man to be guilty of a crime in which he is only weakly implicated is an instance of utilizing the stereotype that African Americans are dangerous, and thus, should be avoided by anyone ascribes to egalitarian principles or wants to appear unbiased. We expected that prevention focus would interact with the level of threat to influence the perceived guilt of the target. Specifically, we predicted that increased prevention focus would be associated with higher judgments of guilt, but this should only be the case when crime was increasing (high threat) as opposed to decreasing (low threat). In other words, under threat, prevention-focused individuals should utilize the danger stereotype because it addresses their fundamental need of preserving safety and security.

Method

Participants

A total of 141 US residents (105 female, 35 male, 1 did not report gender; $M_{Age} = 35.2$ years, SD = 13.5; White 86.5%, Black 4.3%, Latino 4.3%, Asian/Pacific Islander 2.8%, Other 2.1%) participated in this online study for monetary compensation through the Amazon Mechanical Turk (MTurk) website (Buhrmester, Kwang, & Gosling, 2011).[1]

Procedure

Participants were told that the study involved "getting a citizen's perspective on crime to give those who work in the courts and legal system a better sense of how ordinary citizens size up the characters of criminal defendants and reach conclusions about appropriate punishment." Following this introduction, a manipulation that has been shown effective in increasing perceived threat was presented (Rucker, Polifroni, Tetlock, & Scott, 2004, Experiment 4):

"In part, we are interested in this issue because in recent years, crimes of this sort have been (occurring much more frequently/decreasing). State and local authorities have been (unable/able) to reduce the occurrence of this crime, and there (is no sign/are signs) of reducing the problem in the near future. Recently, an official in the Justice Department, stated, 'This type of crime puts the public at great risk, and I (regret/am pleased) to report that it looks like incidents of this crime will (continue to worsen/decrease) in the years to come.'"

Participants then read a scenario about a defendant who was ambiguously implicated in a felony burglary. Participants were given the name of the defendant (T. J. Williams) and were shown a picture of an African-American man with a neutral emotional expression alongside the following description:

"Recently, there have been a series of robberies in homes and businesses in the local community. The police believe these may be linked, but they do not yet have conclusive evidence. The defendant in this case is charged in the felony burglary of Kingman's electronics store in which merchandise totaling $10,000 was stolen. In addition, the store's surveillance system incurred severe damage. Two witnesses independently identified Williams in a police line-up as being near the scene of the crime on the night of August 16, though an expert in eyewitness testimony has suggested that the lighting conditions may have been too poor for accurate identification. Three other witnesses reported that a blue van was parked outside the store on the night of August 16. Williams owns a dark blue van. Williams was familiar with the store and its security systems because he frequently delivered merchandise to the store from a large electronics warehouse. Williams maintains that fingerprints that were found in the store that match his own were because of his delivery job, not because of the crime. Williams has no alibi for the night of the crime, nor has he been able to adequately explain a significant sum of cash found in his home three days after the incident."

After reading about the case, participants answered four questions regarding their judgments of defendant's guilt and involvement in other unsolved burglaries ("I believe that Williams is guilty," "The evidence suggests that Williams was involved in the burglary at the electronics store," "Williams is probably innocent" (reverse-scored), "Williams is likely involved in the unsolved burglaries also") using a scale ranging from 1 (strongly disagree) to 9 (strongly agree).

Participants then completed a 4-item questionnaire to measure, on two separate subscales, their strength of promotion focus (e.g., "I focus on opportunities that will enhance my life") and prevention focus (e.g., "I focus on ensuring that I will avoid potential mishaps or negative events") (Cunningham, Raye, & Johnson, 2005). At the end of the study, participants received a debriefing about the goals of the study and were assured that the defendant and the crime were fictitious.

Results and discussion

Data reduction

The guilt items were submitted to principle components analysis with varimax rotation. This analysis showed that all four items loaded strongly on one factor (all factor loadings > .58; as a single scale, $\alpha = .82$). Therefore, the average of these four items was calculated for each participant and used in subsequent analyses.[2]

Guilt judgments

These average guilt scores were then regressed on promotion focus, prevention focus, threat, all 2-way interactions, and the 3-way

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[1] To be eligible for inclusion in these studies, participants had to respond correctly to an item designed to ensure that they were comprehending and following instructions. Participants viewed an item stating, "Before you start, we are interested in determining if people read directions. Please select the 'none' option below and then select 'next.'" The response options were: i) I am using a desktop computer to complete this survey, ii) I am using a laptop computer to complete this survey, iii) I am using a mobile device to complete this survey, and iv) None. In each study, participants were included in analyses only if they chose the fourth option as instructed. The percentage of participants who responded correctly to this item across the four studies was 71.4%, 66.4%, 65.8%, and 66.6%, respectively. These rates of inclusion are typical for other studies that have used similar instructional manipulation checks in online studies (e.g., Paolacci, Chandler, & Ipeirotis, 2010). These checks have been shown as effective for improving the quality of data while avoiding systematic bias (Oppenheimer, Meyvis, & Davidenko, 2009).

[2] Results from univariate analyses can be obtained from the first author.
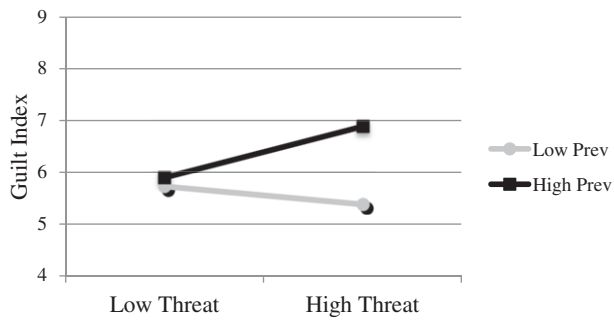
Fig. 1. Effect of prevention focus and threat on perceptions of guilt (Study 1). Predicted perceptions on average of guilt items for individuals low (-1 SD) and high ($+1$ SD) in prevention focus.

interaction. Promotion- and prevention-focus were mean-centered, and threat was effect coded ($-.5$ = low threat, $.5$ = high threat). There was no significant effect of Promotion Focus ($\beta = .07$, $(se = .07)$, $t(133) =$ 1.029, $p = .31$, partial $\eta^2 = .008$) and no significant Promotion Focus $\times$ Threat Level interaction on perceptions of guilt ($\beta = -.17$, $(se = .14)$, $t(133) = 1.19$, $p = .24$, partial $\eta^2 = .01$).[3] In contrast, Prevention Focus was positively related to increased perceptions of guilt, $\beta = .26$, $(se = .07)$, $t(133) = 3.66$, $p < .001$, partial $\eta^2 = .09$. This effect was qualified by a significant, predicted Prevention Focus $\times$ Threat Level interaction, $\beta = .42$, $(se = .14)$, $t(133) = 2.93$, $p = .004$, partial $\eta^2 = .06$ (see Fig. 1).

Simple slope analyses confirmed that in the low threat condition, there was no difference between individuals high and low in prevention focus on ratings of guilt, $\beta = .05$, $(se = .10)$, $t(133) = .53$, $p = .60$, partial $\eta^2 = .002$. However, in the high threat condition, high prevention-focused individuals were more likely than low prevention-focused individuals to judge the defendant as guilty, $\beta = .47$, $(se = .10)$, $t(133) = 4.56$, $p < .001$, partial $\eta^2 = .14$.[4]

These results provide the first demonstration that the regulatory state of the perceiver and the level of threat combine to affect the utilization of a stereotype implying danger. Participants high in promotion focus were unaffected by the manipulation of threat. For these participants whose chronic motivational concern is the presence or absence of growth and advancement, information about the increasing or decreasing risk of crime did not affect whether they judged the defendant consistent with a stereotype. For participants whose chronic motivational concern is safety and security, their judgments were affected by the imminence of threat. When crimes were characterized as decreasing in frequency (i.e., low threat), participants who were high in prevention focus were just as likely as individuals low in prevention focus to judge the defendant as guilty of the crime. However, when crime was described as an increasing problem (i.e., high threat), prevention-focused individuals were significantly more likely to judge the defendant as guilty of the crime. In sum, prevention-focused individuals who were exposed to high threat showed a willingness to make stereotype-consistent judgments, even though these judgments could be viewed as biased and non-egalitarian.

Study 2

Study 2 was designed to determine if increased threat would lead prevention-focused individuals to make similarly harsh intergroup judgments in another domain of contemporary relevance and contention. In this study, we focused on responses to a minor crime committed by a man who was discovered to lack proper immigration documentation. Participants were asked how this specific man should be treated in light of the charges against him and about a broader set of policy preferences involving this immigrant and other immigrants. There were two additional methodological changes. First, regulatory focus was manipulated rather than measured to provide a stronger test of the causal role of regulatory states in responding to social threat. Second, participants were asked to report their general political orientation since it was expected that attitudes about immigrants and immigration would correlate with political beliefs. We wanted to assess the impact of our manipulated variables above and beyond any differences due to political orientation.[5]

Method

Participants

A total of 89 US residents ($M_{Age} = 34.9$ years, SD = 13.5; White 85.4%, Latino 2.2%, Asian/Pacific Islander 7.9%, Other 4.5%) took part in an MTurk survey in exchange for monetary payment.[6]

Procedure

Participants were informed that they would be taking part in two unrelated tasks. In fact, the first task served as the manipulation of regulatory focus. In this task, participants were instructed to write a brief, 5–7-sentence essay on how they had developed over time. They were either instructed to focus on how their "duties and obligations" (prevention focus) or how their "hopes and aspirations" (promotion focus) had changed since they were young (Higgins, Roney, Crowe, & Hymes, 1994).

Participants were informed that the second task was being conducted to obtain "a citizen's perspective on illegal immigration to give those who work in government a better sense of how ordinary citizens feel about this issue." In the high threat condition, a passage described illegal immigration as an increasing problem in the United States (e.g., "State and local authorities have not been able to reduce the occurrence of illegal immigration, and there is no sign of reducing the problem in the near future"). In the low threat condition, the passage described illegal immigration as a decreasing problem (e.g., "State and local authorities have been able to reduce the occurrence of illegal immigration, and there are signs that it will be even less of a problem in the near future").

Participants were then presented with the following scenario:

"The defendant in this case was pulled over by police for speeding on a local freeway. The police officer, parked on the side of the highway,

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[3] There was also a significant Promotion Focus $\times$ Prevention Focus interaction, $\beta = .20$, $(se = .07)$, $t(133) = 2.93$, $p = .004$ that was difficult to interpret.

[4] In this study, regulatory state was measured after the threat manipulation. This might raise concerns that the manipulation of threat might have inadvertently affected participants' regulatory states as well. To test this, we correlated codes corresponding to the threat manipulation with promotion and prevention scores. Promotion scores were uncorrelated with threat ($r = .13$, $p > .14$) whereas prevention was negatively correlated with threat ($r = -.30$, $p < .05$). However, this correlation is opposite the direction that could account for the findings (i.e., that threat produced greater prevention strength and increased stereotype use). This concern is also attenuated given the consistency of the findings from this study with subsequent studies presented here in which regulatory focus was manipulated rather than measured.

[5] Given measurement order, it was possible that our manipulations affected the political orientation scores. To check this possibility, we used participants' political orientation scores as a dependent variable and re-ran the same analyses from Experiments 2–4. Across all three experiments, *none* of the interactions of interest were significant when using participants' political orientation score as a dependent variable, indicating that our manipulation did not serve to modify political orientation. We also considered whether political orientation interacted with our manipulated variables to affect the dependent variables. To check this possibility we interacted participants' political orientation scores with all of the manipulated variables and examined possible interactive effects for each dependent variable in Experiments 2–4. These analyses revealed no significant interaction involving regulatory focus and political orientation. As a final check, we re-ran all the analyses from Experiment 2–4 without controlling for participants' political orientation scores. Across all analyses the effects were nearly identical to when we used political orientation as a covariate. Nonetheless, we included political orientation as a covariate in our analyses to preclude the alternate interpretation that our effects were driven by pre-existing political attitudes.

[6] Because of experimenter oversight, gender information was not collected in Studies 2 and 4.

clocked the defendant's vehicle driving approximately 90 miles an hour in a 65 mile an hour zone. The defendant was not able to present a driver's license or proof of insurance to the officer. The officer arrested the defendant. Once at the station, the defendant was determined to be an illegal immigrant. The defendant has been living in the United States illegally for about 10 years, but has recently begun the process of obtaining a green card. He has a wife and 3 children (all of his children were born in the United States). He has worked for the same construction company for the entirety of his time in the United States. He has never been in trouble with the law before this incident. The defendant is charged with 3 crimes: driving without a driver's license, driving without auto insurance, and, the most serious charge, reckless driving (NB: driving at least 25 mph over the posted speed limit can qualify as reckless driving in the state). The defendant claims to have a state-issued driver's privilege card, but did not have it on his person at the time of the incident. Also, the officer's radar gun is somewhat in question. The last time the arresting officer officially calibrated his radar gun there was evidence to suggest that there was a margin of error of about 6 miles an hour."

Participants then answered three questions about the guilt of the defendant and three additional items about the general treatment of the defendant and other undocumented residents. The guilt questions were "I believe the defendant is guilty of (driving without a license) (reckless driving) (driving without insurance)." The other items were "I believe the defendant (should be deported without standing trial for his charges) (has drained resources that could have benefitted American citizens) (is reflective of how America's national security is vulnerable to outside threats)" (1 = strongly disagree to 7 = strongly agree). To assess the views of the suspect's employer, who might be viewed as assisting a stereotypically dangerous person, we asked two questions ("Relative to the average punishment for this type of offense, what type of punishment should the owner of the construction company receive?" (1 = much less than average, 7 = much more than average), and "How severe do you think the owner of the construction company's crime was?" (1 = not at all severe, 7 = very severe)). Three questions were then asked about the threat posed by illegal immigration "The illegal immigration situation in our current society is threatening," "Illegal immigration is dangerous for our society," and "The current illegal immigration situation is problematic for our society" (1 = strongly disagree, 7 = strongly agree). Finally, participants were asked to characterize their political beliefs (1 = liberal, 7 = conservative) and were debriefed.

Results and discussion

Data reduction

The six items pertaining to the undocumented immigrant were submitted to principle components analysis with varimax rotation. Two factors emerged from this analysis, one focusing on the defendant's guilt (with the first two items listed above loading >.80) and one on views of his treatment as an undocumented immigrant (with the latter three items loading >.79). The item regarding driving without insurance did not load highly on either factor (both < .45), and inclusion of this item in a guilt scale would have lowered Cronbach's α from .63 to .55. Accordingly, a guilt composite was created by averaging responses to the questions about driving without a license and reckless driving. Given the high reliability of the latter three items (α = .82), a composite reflecting views of the man as an immigrant was created by averaging responses to these questions. Responses to the two items pertaining to the guilt of the employer were highly correlated (r = .79), so a measure of employer culpability was created by averaging these responses. A factor analysis of the items measuring the perceived threat of immigration all loaded on a single factor. These items were also averaged for further analysis (α = .93).

Guilt judgments

We submitted the average guilt scores to a 2 (Regulatory Focus) × 2 (Threat Level) between-participants Analysis of Covariance (ANCOVA), entering political beliefs as a covariate. This analysis yielded an effect for political orientation, $F(1, 84) = 5.13$, $p = .03$, partial $\eta^2 = .06$, a main effect for regulatory focus, $F(1, 84) = 4.10$, $p < .05$, partial $\eta^2 = .05$, and the predicted Regulatory Focus × Threat Level interaction, $F(1, 84) = 5.61$, $p = .02$, partial $\eta^2 = .06$. Within the prevention focus condition, participants were more likely to judge the man as guilty in the high threat ($M = 6.0$) than in the low threat ($M = 5.5$) condition, $F(1, 84) = 4.63$, $p = .03$, partial $\eta^2 = .06$. In the promotion focus condition, however, guilt scores were higher under low threat than high threat ($Ms = 5.5$ versus 4.9, respectively), $F(1, 84) = 4.86$, $p = .03$, partial $\eta^2 = .05$. In addition, a comparison of the prevention versus promotion focused participants in the high threat condition was significant—with prevention-focused participants having significantly higher guilt scores than promotion-focused participants, $F(1, 84) = 7.54$, $p < .01$, partial $\eta^2 = .10$. This same comparison under low threat was not significant, $F < 1$.

Negative views of an immigrant

We assessed participants' views of the man in light of his immigration status by submitting an average of the latter three judgments to a 2 (Regulatory Focus) × 2 (Threat Level) between-participants ANCOVA, entering political beliefs as a covariate. Political beliefs had a significant effect on these judgments, $F(1, 84) = 16.65$, $p < .001$, partial $\eta^2 = .17$. The only other effect that emerged was a significant Regulatory Focus × Threat Level interaction, $F(1, 84) = 5.22$, $p = .03$, partial $\eta^2 = .06$.

Mirroring the results on guilt judgments, participants' views of illegal immigrants were marginally more negative under high ($M = 4.3$) than low threat ($M = 3.5$) only when they were under a prevention focus, $F(1, 84) = 3.45$, $p < .07$, partial $\eta^2 = .04$. Under promotion focus, in contrast, participants had marginally less negative views of immigrants in the high versus low threat condition, ($Ms = 3.2$ versus 4.1), $F(1, 84) = 3.05$, $p = .08$, partial $\eta^2 = .04$. In sum, threat had opposing effects on individuals operating under a prevention compared with a promotion focus. Only for those individuals whose dominant motivation system was concerned with safety and security did attitudes toward immigrants tend to become more negative under high-perceived threat.

Culpability of employer

A similar analysis of the average of the two items focusing on sanctions of the employer produced an effect for political beliefs, $F(1, 84) = 10.63$, $p < .01$, partial $\eta^2 = .11$, and a significant Regulatory Focus × Threat Level interaction, $F(1, 84) = 10.87$, $p < .01$, partial $\eta^2 = .12$. Participants under a prevention focus viewed the employer's behavior much more negatively and more deserving of punishment when threat from illegal immigration was seen as increasing ($M = 4.1$) rather than decreasing ($M = 3.1$), $F(1, 84) = 6.79$, $p = .01$, partial $\eta^2 = .09$. Under a promotion focus, participants were less likely to view the employer's behavior negatively and deserving of sanction under high versus low threat ($Ms = 2.7$ & 3.6, respectively), $F(1, 84) = 4.84$, $p = .03$, partial $\eta^2 = .05$. A comparison of prevention versus promotion means under high threat was significant, $F(1, 84) = 7.36$, $p < .01$, partial $\eta^2 = .10$, and under low threat was marginally significant in the opposite direction, $F(1, 84) = 3.34$, $p = .07$.

Threat of immigration

The analysis of beliefs about the threat of immigration yielded a significant effect for political beliefs, $F(1, 84) = 11.59$, $p < .01$, partial $\eta^2 = .12$, and a significant Regulatory Focus × Threat Level interaction,

$F(1, 84) = 6.04$, $p = .02$, partial $\eta^2 = .07$. Participants under a prevention focus who were told that illegal immigration was an increasing problem were more likely to view it as threatening ($M = 5.1$) than were participants told that immigration was a decreasing problem ($M = 4.0$), $F(1, 84) = 5.18$, $p = .03$, partial $\eta^2 = .07$. Judgments of the threat of immigration did not differ between high threat ($M = 4.1$) and low threat ($M = 4.7$) under promotion focus, $F(1, 84) = 2.19$, $p < .15$. Under high threat, prevention-focused participants expressed marginally higher levels of concern about immigration than did promotion-focused individuals, $F(1, 84) = 3.48$, $p < .07$, partial $\eta^2 = .04$. Under low threat, this pattern was marginal and reversed, $F(1, 84) = 3.50$, $p < .07$, partial $\eta^2 = .04$.

Results from Study 2 provide a conceptual replication of Study 1 using a manipulation of regulatory focus and a different stereotyped group and domain. In both studies, participants in a prevention focus showed evidence of stereotype utilization only when perceived threat was high. Study 2 extended the findings by including measures to assess support for broader policies and about views of political issues. On both types of measures, individuals operating under a prevention focus who had been told that immigration represented an increasing problem (i.e., high threat) were more supportive of depriving an immigrant accused of a minor crime of due process. Moreover, illegal immigration itself was judged as more threatening and an employer who sheltered an illegal immigrant was perceived more negatively. Thus, consistent with Study 1, these findings indicate the prevention-focused individuals, when threatened, made potentially biased and non-egalitarian judgments about a negatively stereotyped target. Prevention-focused individuals, when threatened, again showed an increased willingness to utilize danger-related stereotypes in intergroup judgments.

Interestingly, in Study 2, promotion focus interacted with threat to yield effects in a direction opposite to those observed under prevention focus. On judgments of guilt, negative perceptions of the immigrant target, and culpability of the employer, individuals in a promotion focus were less negative under high versus low threat. Although we had initially predicted that the judgments of promotion-focused individuals would be unaffected by our threat manipulation, this finding instead suggests that, at least in some circumstances, threat may lead to different consequences under promotion focus. We discuss more fully in the General discussion this intriguing reversal under promotion focus.

Study 3

The first two studies asked participants to make judgments about a social target for which a threat-relevant stereotype exists. In each case, participants showed a greater reliance on these stereotypes in making judgments of a group or a group member based on the perceived imminence of threat to safety and the regulatory state of the participants. We focused on groups for which there are threat-relevant stereotypes because we believed that our variables of interest – a prevention-focused regulatory state and the perceived imminence of threat – would most likely affect judgments of social targets for whom such stereotypes exist. However, we have not yet demonstrated the specificity of these effects. Would similar effects emerge for social targets not associated with threat or danger in a particular social context? This question was the focus of Studies 3 and 4.

In Study 3, we presented people with descriptions of an episode that is regularly experienced by air travelers. Participants were told about a person undergoing normal security checks at an airport. During these procedures, a Transportation Security Agency (TSA) representative discovers a substance in the traveler's bag. The name of the traveler was varied so that it was either stereotypically Arab or European American. Given prevailing stereotypes linking Arabs with terrorism (Oswald, 2005; Park, Felix, & Lee, 2007), we expected that the combination of a prevention focus and a high sense of threat from terrorism would produce greater willingness to scrutinize the Arab passenger.

Given the absence of a strong association between European Americans and terrorism, we did not expect that these variables would affect scrutiny of the European American target.

Method

Participants

A total of 241 US residents ($M_{Age} = 33.0$ years, $SD = 12.6$; White 71.8%, Black 10%, Latino 7.1%, Asian/Pacific Islander 7.9%, Other 2.5%) completed the study through MTurk for monetary payment.

Procedure

Participants were told that they would complete two unrelated tasks. After they completed the first task (i.e., the manipulation of regulatory focus used in Study 2), they were provided with information about the second task that "involves getting a citizen's perspective on issues related to terrorism and national security to assess how ordinary citizens feel about this issue." In the high-threat condition, participants were told that terrorism is an increasing problem according to a "senior official from the Department of Homeland Security." This official, they were told, had recently stated, "America is more vulnerable to terrorist attacks than most people realize and I regret to inform you that we still do not have a good handle on how to curb this problem. We receive countless reports of potential threats of terrorism on a daily basis and unfortunately we have been unable to develop an effective strategy for dealing with the reports of terrorist activities that are deemed credible." In the low-threat condition, this same official characterized terrorism as a decreasing problem and said, "I am proud to inform you that America is becoming less vulnerable to terrorist attacks due to the concerted efforts of our homeland security agents. Through these efforts we now have a good handle on how to curb this problem. We receive countless reports of potential threats of terrorism on a daily basis and fortunately we have now developed an effective strategy for dealing with the reports of terrorist activities that are deemed credible."

Participants were then provided with the following scenario in which passenger ethnicity was manipulated:

"(Bradley Mathews/Abdul-Hakim Faraj) was traveling from Los Angeles international airport to Boston on a business trip. Following Transportation Security Administration (TSA) regulations requiring that the baggage of every seventh passenger on the line be searched, a TSA agent searched (Mathews's/Faraj's) carry-on. During this random search, the agent found a small vial of clear fluid and a Ziploc bag filled with white powder in (Mathew's/Faraj's) backpack. The agent was understandably concerned because these items could be used to make an explosive. When questioned, (Mathews/Faraj) claimed that he had forgotten to take these items out of his backpack after a recent camping trip with his teenage son. He was unsure about the type of fluid in the bottle, but thought it might be hydrogen peroxide, which he often brings camping because it is a biodegradable cleaner. When it was explained to (Mathews/Faraj) that the TSA was going to be doing tests on the substances, he asked "Am I not allowed to bring these items on the plane?" The agent replied, "It is under the legal limit, but we can conduct any tests we feel are appropriate." Initial tests conducted to determine the identity of the white powder were inconclusive, though (Mathews/Faraj) claimed that it was powdered lemonade. (Mathews/Faraj) was generally cooperative during questioning but appeared impatient and slightly fidgety as the questioning progressed. When pressed about his behavior he claimed he was worried that if questioning took any longer he would miss his flight."

Participants were then asked to indicate the degree that they endorsed each of ten possible responses that the TSA agent could pursue

toward the passenger (1 = *strongly disagree*, 7 = *strongly agree*). These options ranged from apologizing to the passenger and allowing him to proceed to conducting a full strip search. Participants reported their demographic characteristics and their general political orientation as in the previous studies and were then debriefed.

Results and discussion

Data reduction

Responses to nine items assessing how the traveler should be treated were submitted to principle components analysis with varimax rotation.[7] This analysis produced two significant factors. The first factor had four items with loadings > .64 (α = .80). These four items reflected the belief that the passenger should receive additional scrutiny ("The passenger should be taken for further questioning by Homeland Security agents, even if he misses his flight," "The TSA should confiscate the passenger's phone so he cannot contact anyone during the investigation," "The passenger should be flagged in TSA screening systems as someone who should always undergo additional scrutiny," "The passenger should be subjected to a full strip search"). A second factor appeared to reflect the belief that the passenger should be treated with respect. Three items loaded on this factor (all loadings > .75, α = .76). These items were "The passenger should be allowed to proceed without further questioning or investigation," "The TSA unreasonably inconvenienced the passenger," and "The TSA agent should apologize to the passenger." Averages for these two sets of items were created to assess measures of Scrutiny and Respect directed toward the passenger. Neither of the remaining two items ("The TSA should confiscate these items and allow the passenger to board the plane," "The passenger should be compensated if the questioning caused him to miss his flight") loaded on either factor (all loadings < .49).

Scrutiny

Average scores on the Scrutiny items were submitted to a 2 (Regulatory Focus) × 2 (Threat Level) × 2 (Passenger Ethnicity) between-participant ANCOVA, with political orientation entered as a covariate. The analysis produced a marginal effect of the covariate, $F(1, 232) = 3.68$, $p = .06$, partial $\eta^2 = .02$, a marginal effect involving ethnicity, $F(1, 232) = 3.36$, $p = .07$, partial $\eta^2 = .01$, and the predicted interaction involving all three independent variables, $F(1, 232) = 7.35$, $p < .01$, partial $\eta^2 = .03$. Fig. 2 displays the means from the interaction separately for low and high threat conditions.

The top panel shows the results from the low threat condition. Simple effect analyses in this condition showed that promotion-focused individuals endorsed scrutinizing the Arab passenger more closely than the White passenger ($Ms = 3.7 \& 3.1$), $F(1, 232) = 4.01$, $p < .05$, partial $\eta^2 = .02$, and more than prevention-focused individuals, ($M = 3.0$), $F(1, 232) = 4.49$, $p < .04$, partial $\eta^2 = .02$. Analyses in the high threat condition (bottom panel, Fig. 2) produced a markedly different pattern. Under high threat, prevention-focused individuals were more likely to endorse scrutinizing the Arab ($M = 3.7$) than the White passenger, ($M = 2.6$), $F(1, 232) = 9.78$, $p < .01$, partial $\eta^2 = .04$, and more than promotion-focused individuals ($M = 3.1$), $F(1, 232) = 6.23$, $p = .01$, partial $\eta^2 = .03$. With regard to the White passenger, prevention-focused individuals were less inclined to scrutinize him then were promotion-focused individuals ($Ms = 2.6 \& 3.3$), $F(1, 232) = 5.37$, $p = .02$, partial $\eta^2 = .02$. In sum, under low concern with terrorism it was unexpectedly found that promotion-focused individuals were more likely to respond stereotypically to an Arab
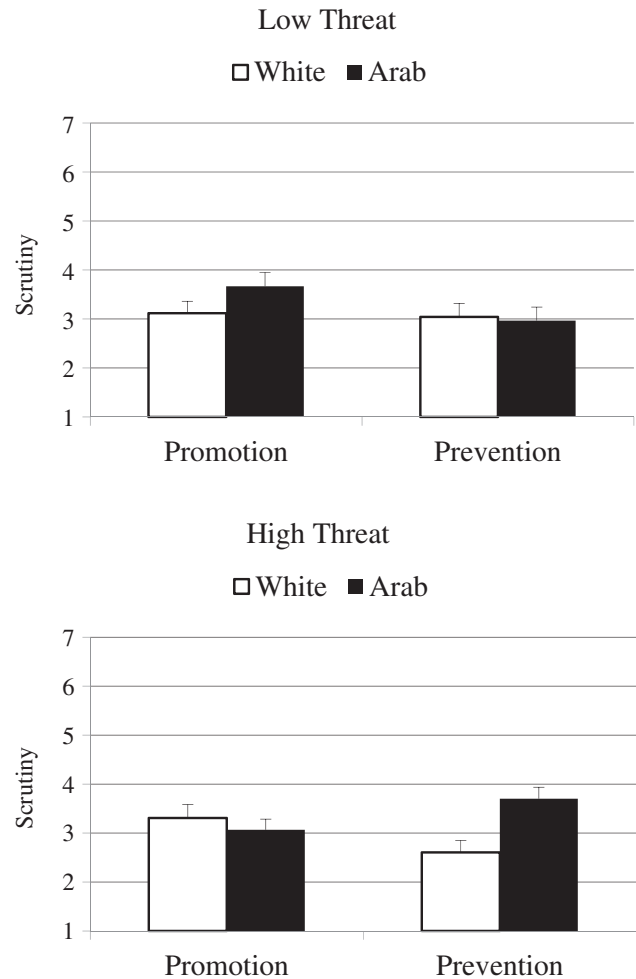
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[7] One item ("The TSA should explain the importance of random searches to the passenger and continue to randomly search every seventh passenger") was omitted from the factor analysis since it contained two distinct elements that complicated interpretation of factors.

Fig. 2. Support for additional scrutiny (controlling for political orientation) for low threat (top panel) and high threat (bottom panel) conditions as a function of regulatory state and passenger ethnicity (Study 3).

passenger. Under high threat, however, it was the prevention-focused individuals who wanted to scrutinize the passenger stereotypically associated with terrorism while neglecting the passenger who was not, even though the implicating evidence was identical for both.

Respect

Analysis of the respect composite produced no significant differences. Although prevention- and promotion-focused participants preferred different levels of scrutiny based on threat levels and the race of the passenger, they did not vary in their willingness to recognize the negative impact imposed by such additional scrutiny for the passenger in those differing conditions (all $Fs < 1.1$).

These results provide the first evidence that the availability of a stereotype that strongly associates one group, but not another, with a threat-relevant behavior can determine whether active forms of vigilance are initiated. The first two studies showed that prevention-focused individuals tend to make judgments and advocate actions consistent with stereotypes when threat-relevant stereotypes were available and the context suggested that threat was psychologically close or imminent. This study shows that increased vigilant actions are not always pursued in response to imminent threat. When stereotypes suggest that an individual does not constitute a threat – such as when a White passenger is found with a questionable item in his baggage – then he or she might receive even less vigilance-based attention than he or she would in a benign environment. Prevention focused individuals

appear to be using stereotypes to determine where their attentional resources might be most valuable when the social context places a premium on the accurate identification of dangerous objects in the environment. The strong motivation to maintain safety that prevails in high threat environments might direct attention toward individuals who seem dangerous, based on stereotypes, but lead people to disengage from individuals who might constitute an equal threat to safety and security.

Study 4

Study 3 showed that members of groups stereotypically associated with threat in a given social context receive scrutiny when threat is high and safety concerns are paramount. However, the use of White versus Arab targets in Study 3 leaves room for several alternate interpretations. Specifically, while increased scrutiny might reflect increased utilization of the stereotype linking Arabs and terrorism, it also remains possible that it might instead reflect other concerns. One possibility is that high threat, prevention conditions lead perceivers to scrutinize members of all outgroups so that our mostly White sample would scrutinize all non-White targets. A second possibility is that these conditions lead to scrutiny of all targets that are seen as dangerous. Any group for which there exists a stereotype of possible threat might receive particular scrutiny. A third possibility is that social groups have to be associated with danger in a particular context before they receive extra examination and investigation. Although the last of these possibilities was our preferred interpretation, we wanted to empirically address the possibility that scrutiny arose because of these other concerns.

Study 4 was designed to address these alternate interpretations and, in addition, to provide an opportunity for replication. To do so, we followed the general procedures from Study 3 but provided names of two travelers who both would be seen as members of ethnic outgroups by a predominantly White sample but who should be differentiated in their degree of association with airline terrorism. We therefore described to half of the participants the actions of a passenger with the same Arabic name used in Study 3, Abdul-Hakim Faraj. The other participants read about a passenger named Javier Rodriguez. We selected a Latino name because this ethnic group is stereotypically associated with illegal immigration (Study 2) but not with terrorism. Therefore, if our results emerged because of suspicion of all outgroups or all groups that are potentially seen as generally threatening, both targets should be judged similarly. If, however, perceivers take into account the particular relevance of a threat-relevant stereotype based on the social context, the Arab but not the Latino passenger should receive greater scrutiny under prevention, high threat conditions.

Method

Participants

A total of 152 US residents ($M_{Age} = 32.9$ years, $SD = 12.9$; White 81.6%, Black 4.6%, Latino 7.9%, Asian/Pacific Islander 3.9%, Other 2.0%) completed the study through MTurk for monetary payment.[8]

Procedure

Participants completed the identical procedures used in Study 3, except that the passenger's name was either Arabic (Abdul-Hakim Faraj) or Latino (Javier Rodriguez).

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[8] An analysis excluding self-identified Latino participants produced similar, but slightly stronger, results. We chose to report here results from the entire sample, but a dataset excluding Latino participants can be obtained from the corresponding author.

Results and discussion

Data reduction

Responses to the items regarding treatment of the passenger were submitted to principle components analysis with varimax rotation. This analysis produced the same two factors that emerged from Study 3. The first factor contained the same four Scrutiny items identified in Study 3, all loadings >.62 ($\alpha = .77$), and the second factor again contained the three items related to conveying respect from Study 3 and one additional item ("The passenger should be compensated if the questioning caused him to miss his flight"; all loadings >.60, $\alpha = .75$).[9]

Scrutiny

The average Scrutiny items were submitted to a 2 (Regulatory Focus) × 2 (Threat Level) × 2 (Passenger Ethnicity) between-participant ANCOVA, with political orientation as a covariate. The analysis produced an effect for the covariate, $F(1, 143) = 7.35, p < .01$, partial $\eta^2 = .05$, and a regulatory focus by Threat Level interaction, $F(1, 143) = 4.73, p = .03$, partial $\eta^2 = .03$, indicating that prevention-focused participants had higher scrutiny scores in the high than low threat condition, while the reverse was true for promotion-focused participants. Importantly, we also found the predicted interaction involving all three independent variables, $F(1, 143) = 4.01, p < .05$, partial $\eta^2 = .03$. Fig. 3 displays the means from the interaction separately for low and high threat conditions.

Simple effect analyses for the low threat condition (top panel) showed no significant effects. Promotion-focused individuals did not endorse scrutinizing the Arab passenger more closely than the Latino passenger ($Ms = 3.1 \& 2.9$), $F(1, 143) = 0.49, p > .48$, partial $\eta^2 = .00$, nor did they endorse scrutinizing the Arab passenger more than prevention-focused individuals, ($M = 2.6$), $F(1, 143) = 1.71, p > .19$, partial $\eta^2 = .01$. Analyses in the high threat condition (bottom panel, Fig. 3) produced a markedly different pattern. Replicating the findings of Study 3, prevention-focused individuals under high threat endorsed scrutinizing the Arab ($M = 3.4$) more closely than the Latino passenger, ($M = 2.3$), $F(1, 143) = 7.93, p < .01$, partial $\eta^2 = .05$, and more than promotion-focused individuals ($M = 2.5$), $F(1, 143) = 5.45, p = .02$, partial $\eta^2 = .04$. With regard to the Latino passenger, prevention-focused individuals were no more inclined to scrutinize him then were promotion-focused individuals ($Ms = 2.3 \& 2.5$), $F(1, 143) = 0.31, p > .57$, partial $\eta^2 = .00$. Under prevention focus, scrutiny of the Latino passenger did not vary as a function of threat level, although the willingness to scrutinize an Arab passenger did.

Respect

Analysis of the respect composite produced no significant effects.

The results of Experiment 4 are important for several reasons. First, they provided a replication of the effects of regulatory focus and threat

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[9] A third factor containing a single item also emerged in this analysis, "The TSA should confiscate these items and allow the passenger to board the plane" (loading = .95). Although this action does involve a heightened level of scrutiny, it also involves releasing the passenger without taking additional actions beyond confiscating the items in question. Analysis of this item produced a significant Regulatory Focus × Threat Level interaction, $F(1, 143) = 8.96, p < .01$, partial $\eta^2 = .06$. Under prevention focus, participants had higher "confiscate and board" scores when threat level was high ($M = 5.5$) than low ($M = 4.6$), $F(1, 143) = 4.41, p < .04$, partial $\eta^2 = .03$. Under promotion focus, the opposite pattern emerged, such that participants had higher "confiscate and board" scores when threat level was low ($M = 5.2$) than high ($M = 4.3$), $F(1, 143) = 4.65, p = .03$, partial $\eta^2 = .03$. There also emerged a Threat Level × Ethnicity interaction, $F(1, 143) = 4.71, p = .03$, partial $\eta^2 = .03$. Under high threat, scores were higher for the Latino ($M = 5.4$) than the Arab passenger ($M = 4.4$), $F(1, 143) = 6.13, p = .01$, partial $\eta^2 = .04$, but no such difference emerged under low threat, ($Ms = 5.0 \& 4.8$, respectively), $F(1, 143) = .44, p > .50$, partial $\eta^2 = .00$.

Low Threat

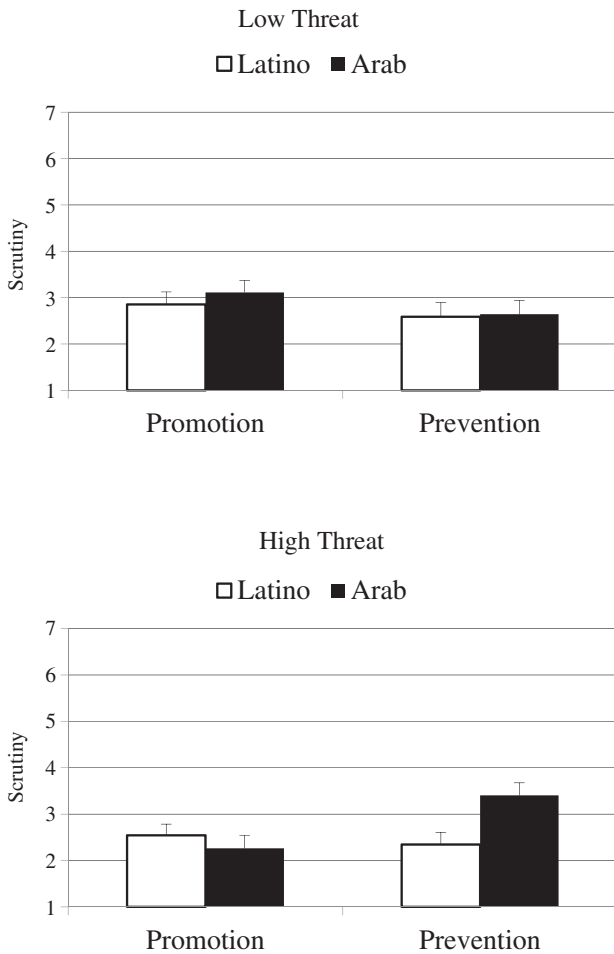□ Latino ■ Arab

High Threat

□ Latino ■ Arab

Fig. 3. Support for additional scrutiny (controlling for political orientation) for low threat (top panel) and high threat (bottom panel) conditions as a function of regulatory state and passenger ethnicity (Study 4).

shown in Study 3 regarding scrutiny of Arabs in a context associated with terrorism. When individuals were operating under a prevention focus and were told that terrorism was an increasing threat, participants were most willing to endorse active forms of vigilance that might embarrass, inconvenience, and possibly violate the civil rights of an Arab passenger. Second, the increased scrutiny under high threat and prevention focus did not extend to a member of another outgroup, a Latino, even though Latinos are associated with different kinds of social threats (e.g., illegal immigration). This discrepancy in the treatment of Arabs versus Latinos shows that the effects do not arise for members of all outgroups; these effects appear to emerge when there exists a specific threatening stereotype that would be expected to manifest itself within a particular social context. Third, although participants recommended that the Latino passenger be treated quite differently compared with the Arab passenger in some conditions, treatment recommendations did not perfectly parallel those advocated for the White passenger in Study 3. The White passenger in Study 3 received lowered scrutiny under high threat by prevention-focused participants, but that effect did not emerge here for the Latino target (even though the means trended in the same direction). This might indicate that Whites receive higher levels of trust from their ingroup (given our predominantly White sample) when terrorism is involved, leading to intentional disengagement from White passengers under high threat. Latinos still receive a modicum of scrutiny, even when threat levels are high.

General discussion

These studies were conducted to explore how motives regarding the preservation of safety affect the utilization of stereotypes. Across four different studies involving three different social contexts, we found that people who are chronically strong in prevention focus or who undergo a manipulation to temporarily increase the accessibility of the prevention system display increased sensitivity to signals in the environment that signaled a possible threat to safety and security. When threat is high, these people become more willing to utilize threat-based stereotypes when making judgments in intergroup contexts, even though these responses could be seen as biased and non-egalitarian. They are more likely to find a stereotypical defendant guilty of a crime, they are more likely to want to deport an undocumented immigrant who committed a minor crime, and they are more likely to endorse scrutinizing a stereotyped traveler with an unexplained item in his luggage.

People operating under a promotion focus showed a different pattern of responding to signals of threat to safety. Although we originally expected that promotion-focused individuals would be unaffected by the level of perceived threat, there emerged at least some evidence in Studies 2 and 3 that threat did affect judgments. However, the effect of threat under promotion focus was diametrically opposed to its effect under prevention focus. Whereas prevention-focused individuals responded more stereotypically under high threat, promotion-focused individuals generally demonstrated *reduced* stereotyping under threat. Further research will be needed to clarify exactly why threat interacts differently with prevention and promotion states, but we do offer two possible explanations that could be pursued in subsequent research. One possibility is that encountering information that is incompatible with one's regulatory state can produce a sense of disfluency, wrongness, or error (i.e., they experience "regulatory nonfit;" Higgins, 2005). These responses can trigger systematic processing (Koenig, Cesario, Molden, Kosloff, & Higgins, 2009) and attempts to remove bias from judgments (Vaughn et al., 2006). Threatening information might have provided a feeling of nonfit for promotion-focused individuals, given their emphasis on growth and advancement. When they encountered information indicating that they could not realistically expect progress in achieving their dominant goal, they may have scrutinized information more thoroughly and reduce reliance on stored beliefs (e.g., stereotypes). A second possibility is that signals of safety threat might have led promotion-focused individuals to use approach tactics (keeping thy enemies even closer) to deal with potentially dangerous targets. For example, promotion focus might lead perceivers to attempt to enhance the quality of interrelationships with individuals stereotyped as violent, threatening, or aggressive. If they did, it might account for why promotion-focused participants sometimes were less likely to make stereotypical judgments under high versus low threat. Testing these two accounts for the reduced stereotyping of promotion-focused individuals under high threat should be a goal of further research.

Although the results for promotion-focused individuals await further elaboration, the consistent findings regarding prevention-focused individuals have potential implications for several different areas of research. We briefly turn to a discussion of how the current results extend current theorizing with regard to both stereotyping and the role of regulatory focus in social information processing.

Implications for research on stereotyping

These studies add to the growing literature examining motivation and stereotype use (Stroessner & Scholer, 2007). While many studies have examined the motivation to avoid stereotype use and the means by which stereotyping is avoided and down-regulated (e.g., Kawakami, Dovidio, Moll, Hermsen, & Russin, 2000; Monteith et al., 2002; Moskowitz et al., 2000; Plant & Devine, 1998), a growing body of research has identified conditions under which motives lead to increased

stereotyping (e.g., Collange et al., 2009; Fein & Spencer, 1997; Govorun et al., 2006; Spencer et al., 1998). The present studies add to this literature to illustrate how specific stereotypical information is utilized to meet immediate self-regulatory goals and needs.

Stereotype utilization appears to increase when there is a match between the self-regulatory needs of the individual, the content of an available stereotype, and the applicability of that content to a particular social context. In the current studies, under high levels of threat, we found that individuals in a prevention focus were more likely to utilize threat-relevant stereotypes. We believe that prevention-focused participants relaxed their normal information-processing strategy of erring on the side of caution (i.e., avoiding stereotyping) in the service of prioritizing safety. They did so because, under high threat, the cost of resisting an available, seemingly relevant stereotype would be seen as exceeding the cost of ignoring that stereotype.

Other research has demonstrated links between perceived threat and increased stereotyping, but our approach is unique in several respects. First, the current studies highlight the dynamic interplay between motivational orientation and threat in modulating stereotyping. There have been numerous examinations of how motivational factors alone (e.g., Fein, von Hippel, & Spencer, 1999) and perceptions of threat alone (e.g., Spears, Doosje, & Ellemers, 1997) affect stereotype use (e.g., Spears, Doosje, & Ellemers, 1997). Our results show, however, that both motivational concerns and the social context must be understood to predict whether stereotype use will increase or decrease in any given situation. It is not enough to simply know that perceived threat is high; not everyone will respond to perceived threats with increased stereotyping. It is also not enough to know an individual's motivational orientation (promotion or prevention); prevention motivation will not always lead to increased stereotyping. Rather, it is the interaction between the two factors that is necessary to predict increased likelihood of relevant stereotype use. The fact that motivations, social contexts, and encountered stereotypes can change across time and situations suggests the need to think of stereotyping in dynamic terms rather than as an individual difference that is expected to be chronic and stable (e.g., high versus low prejudiced individuals).

Second, the current studies illustrate the ways in which the self-regulation of a very broad, fundamental motivational orientation (itself not directly related to intergroup motives) can lead to increased stereotyping. Research that has examined the relation between motives and increased stereotyping has often focused on the strength of specific intergroup motives that moderate the likelihood of stereotype use. For example, research examining internal and external motivations to control prejudice has shown that individuals who are high on the former but low on the latter are least likely to engage in stereotyping (Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002; Plant & Devine, 1998). Both Social Dominance Theory and System Justification Theory (see Jost & Sidanius, 2004) share the assumption that motivations to defend the legitimacy of power differences between groups can serve to justify stereotyping and rationalize prejudice. In contrast to these approaches that examine how intergroup motives affect stereotyping, the current research reveals that very basic and broad self-regulatory goals (the preservation of safety and security) can influence stereotyping utilization. As such, our studies portray stereotype utilization as a specific and targeted tactic for addressing a very basic motivational concern.

We are certainly not the first to suggest that fundamental and broad motives can increase stereotyping. However, much of the work in this tradition has focused on how specific motives to enhance or protect the self (Collange et al., 2009; Fein & Spencer, 1997; Govorun et al., 2006; Spencer et al., 1998) or one's groups (e.g., Keller, Hurst, & Uskul, 2008; Saqib & Chan, 2010) can produce stereotype use and derogation of outgroups. For example, Terror Management Theory (TMT; Greenberg, Landau, Kosloff, & Solomon, 2009) views stereotyping as a defense mechanism that people employ when they are concerned about their own mortality and inevitable demise (e.g., Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992). In this view, stereotyping represents an

attempt for individuals who have been threatened with reminders of their own mortality to increase their bonds with meaningful and enduring social symbols by invoking cultural norms such as stereotypes. Although studies from this perspective have produced results similar to those we report here, we argue that these two approaches provide complementary rather than competing perspectives. We believe that our approach offers a framework that recognizes many different kinds of threats to safety and security, not just threats of death. In addition and in contrast to TMT, we suspect that threats to safety and security will not give rise to stereotyping in toto. Stereotyping under threat to the prevention system, we suspect, will focus on the utilization of specific aspects of stereotypes – those relevant to the maintenance of safety – and not aspects of stereotypes that are *un*related to security.

Indeed, this argument is the third major way in which the current work highlights a new way of thinking about stereotyping; our approach highlights the strategic nature of stereotyping in meeting active goals. Study 4 provides the clearest evidence for this idea. Under high threat, individuals in a prevention focus did not show increased scrutiny of all outgroup targets. Rather, under high threat of airline terrorism, individuals in a prevention focus changed the way they responded to a threat-relevant outgroup member (Arab), but not a contextually threat-irrelevant outgroup member (Latino). We similarly predict that under threat, prevention motivation will lead individuals to be concerned with threat-relevant, but not threat-irrelevant stereotypic attributes. For example, we predict that encountering an African-American male in the threatening context would lead prevention-focused individuals to be concerned with his stereotypical aggressiveness and not his stereotypical laziness.

By recognizing stereotype utilization as dynamic and sensitive to the immediate social context, our work is consilient with recent discussions of "fundamental motives" that produce specific responses under particular motivational states to meet psychological needs in a given context (Kenrick, Neuberg, Griskevicius, Becker, & Schaller, 2010a; Kenrick, Griskevicius, et al., 2010; Neuberg & Schaller, 2014; Schaller & Neuberg, 2012). That work stresses the role of fundamental motivations that meet evolutionary needs. In their framework, self-protection and identification of mates are two such fundamental goals. These theorists argue that individuals meet these fundamental goals by using an array of cognitive and behavioral tactics that are differentially useful across specific social contexts. The responses that are utilized vary as a function of the motivation that has been activated and the information that is encountered while operating under a given motive. Therefore, it is argued, humans are more flexible than traditional approaches to motivation often imply. We agree with this perspective, although we would argue that advancement and growth are no less important than ensuring safety and identifying mates.

Another way that our position builds upon the fundamental motivations framework is our recognition that specific motivations need not be directly activated for general motivational concerns to affect judgment and behavior. In our research, we highlighted safety and security concerns indirectly by activating the prevention system whose dominant focus is the preservation of safety. Our prevention manipulation asked people to elaborate on their duties, obligations, and responsibilities, with no reference to safety or self-protection. Even though safety was never mentioned in our manipulation, we found that the mere activation of the prevention system was sufficient to produce responses that appear to be aimed at keeping danger at bay. Therefore, our work shows that motivations that are activated indirectly and subtly can still have consistent and somewhat dramatic effects on judgments.

Finally, our work also highlights how motivations can play a central role in determining support for public policies that affect members of stereotyped groups. Our account highlights conditions under which threats increase stereotyping, even if those threats do not directly endanger a positive self-image, and conditions under which core motivations drive stereotype utilization, even when those motivations are not directly tied to intergroup dynamics. Prevention-focused

individuals under threat appear to engage in stereotype utilization as a *means* for serving a higher-order goal of maintaining safety; the stereotyped group member is collateral damage, in some ways. If the underlying goal of maintaining safety and security is driving the prevention-focused response, it will be interesting in future work to examine if stereotyping can be reduced if alternative means for achieving safety are available and salient (e.g., Scholer et al., 2010).

Future directions

As discussed earlier, there is some evidence from these studies showing that promotion-focused individuals are avoiding stereotype use, perhaps as they engage in systematic processing in response to disfluency. What is still needed is more direct evidence regarding the processes underlying these effects, an issue that we are currently pursuing empirically. One question relates to how stereotyping is being avoided to a greater degree in some conditions (high threat, promotion focus and low threat, prevention focus) while regularly coloring judgments in other conditions (i.e., high threat, prevention focus and low threat, promotion focus). One possibility is that stereotypes are less accessible in the former conditions than the latter condition so they are not available in memory to affect judgments. A second possibility is that stereotypes are equally accessible across the conditions but are more efficiently being down-regulated when stereotyping might seem inappropriate or likely to produce error. This analysis highlights the important distinction between the activation versus the application of stereotypes (Gilbert & Hixon, 1991; Kunda & Spencer, 2003), and methods are now available for determining whether stereotypes are not being used because they are not activated or because they are activated but actively resisted so they do not affect judgments (Conrey, Sherman, Gawronski, Hugenberg, & Groom, 2005). Differentiating these possibilities will be important in gaining a further understanding of how stereotyping intersects with self-regulation.

The current studies provide insight into the kinds of responses that can be expected when people feel threatened or challenged. Building on earlier work that finds that exposure to threatening stimuli can produce varying responses (e.g., avoidance versus direct confrontation), we propose that an individual's motivational orientation plays a critical role in accounting for some of the variability in the adoption and use of stereotypes under threat. Although the message of this paper is in some ways somber, we also believe that a self-regulatory approach to thinking about stereotype use suggests promising new directions, given the work on means substitutability (Kruglanski et al., 2002). If stereotype utilization is one means that can be adopted in order to manage and regulate core motivational needs, it may be possible to help individuals adopt alternative means that have less pernicious societal consequences.

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