Journal of Management
Vol. 44 No. 8, November 2018 3011–3037
DOI: 10.1177/0149206316658349

Realizing Challenges and Guarding Against Threats: Interactive Effects of Regulatory Focus and Stress on Performance

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Self-regulation seems crucial to understanding how employees perform under stress because employees must regulate their thoughts, feelings, and behavior to deal effectively with work stress. Integrating regulatory focus theory and the challenge–hindrance stressor framework, we theorized that the effects of regulatory focus on job performance would vary as a function of the level of stress employees experience. Specifically, we contend that employees are more efficacious and motivated (and thus perform better) when they have established goal and coping strategies that allow them to cope with the stress they face; those lacking in these strategies are likely to find the stress overwhelming and taxing (and perform worse). Using multisource data of 160 salespersons, we investigated this relationship with two measures of job performance. We found that challenge stress moderates the relationship between promotion focus and job performance: When challenge stress is high, promotion focus is positively related to job performance; when low, promotion focus is negatively or not significantly related to job performance. We also found that hindrance stress moderates the relationship between prevention focus and job performance: When hindrance stress is low, prevention focus is negatively related to job performance, but when high, prevention focus is positively related to job performance. Moreover, we find some support for three-way interactions suggesting that using

Acknowledgments: This article was accepted under the editorship of Patrick M. Wright. We would like to acknowledge the support and guidance we received from associate editor Brian Hoffman and two anonymous reviewers. We would also like to thank Batia Wiesenfeld and Ronald S. Friedman for providing comments on an earlier draft.

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mismatched goal and coping strategies is especially harmful. Our results explain performance differences in high-stress situations and highlight the important role of self-regulation when employees are in stressful conditions.

Keywords: *stress; regulatory focus; challenge stressors; hindrance stressors; self-regulation; job performance*

Inevitably, employees face stress-inducing situations at work: They have to meet looming deadlines, navigate politically charged situations, take responsibility for important outcomes, and deal with conflicting expectations. Some employees find ways to cope and handle high-stress situations; others give up or resist dealing with them. Self-regulation—the management of one's thoughts, feelings, and behavior to deal with demands from the environment—seems particularly relevant in contexts that significantly tax personal resources. Unfortunately, our understanding of reactions to stress is limited insofar as it has not been considered through the lens of self-regulation. How individuals self-regulate is especially relevant in high-stress situations because "differences in coping strategies and abilities to self-regulate emerge most clearly when individuals are placed in stressful situations" (Scholer & Higgins, 2010: 295). When experiencing stress, individuals are likely to rely on preferred goal and coping strategies—and when favored goal choices and coping styles allow them to deal with the stress they face, they are likely to experience increased self-efficacy and to be more motivated. Alternately, lacking goal and coping strategies to deal with the stress they experience is likely to be overwhelming and to put significant strain on their self-regulatory system.

Because dispositional regulatory focus involves preferences in terms of goal and coping strategies, we turn to regulatory focus theory (Higgins, 1997, 1998) to understand how employees' preferred goal and coping strategies may explain performance differences when employees experience high levels of stress (as compared to low levels of stress). Dispositional regulatory focus—employees' tendencies toward promotion-focused and prevention-focused self-regulatory orientations—has been shown to have important performance implications (e.g., Wallace & Chen, 2006; Wallace, Chen, & Kanfer, 2005; Wallace, Little, & Shull, 2008). We argue that when employees experience high degrees of stress due to challenges at work (i.e., challenge stress) or stress due to looming obstacles (i.e., hindrance stress), performance differences associated with regulatory focus will be more evident. Specifically, with a sample of 160 medical device salespersons, we examine whether challenge stress and hindrance stress moderate the relationship between employees' dispositional self-regulatory tendencies and their subsequent job performance (in terms of manager-rated performance and percentage of their sales quota met).

Through our integration of regulatory focus theory and the challenge–hindrance stressor framework, this study is likely to have several important theoretical and practical implications. We extend past research that has predominantly focused on the direct or mediated effects of regulatory focus on work performance and identify the conditions (in terms of stress-inducing work situations) that may be more (or less) motivating to employees who are higher or lower in promotion focus and prevention focus. With few exceptions (cf. Sacramento, Fay, &

West, 2013; Wallace et al., 2008), previous research has not investigated the work conditions that may explain the differential effects of regulatory focus on work performance. Most relevant to the present study, Sacramento and her colleagues (2013) found that regulatory focus interacts with challenge stressors (specifically, work or job demands) in relation to creativity. We extend these findings by examining stress from both challenge and hindrance stressors and a different type of job performance (i.e., routine job performance). Thus we answer the call for research that moves "beyond bivariate relations of promotion and prevention foci with their outcomes" (Lanaj, Chang, & Johnson, 2012: 1026) and that examines the interactions between regulatory focus and the conditions employees experience at work (Gorman et al., 2012). By examining possible moderators of the relationship between employee regulatory focus and job performance, we contribute to what is known about how employees' regulatory focus affects work behavior and outcomes. Identifying potential moderators of the regulatory focus–performance relationship is important because it suggests that neither work stress nor regulatory focus has uniform effects on performance. Because work inevitably involves exposure to stressors and the experience of stress, we explore how some employees find ways to survive—and even thrive—under these conditions.

Theoretical Framework and Hypotheses

Regulatory Focus Theory

In the present study, we are concerned with employees' chronic regulatory focus—their enduring tendency to self-regulate and align themselves with their standards and goals (Higgins, 1997, 1998). As relevant to the present study, regulatory focus theory proposes two independent modes of self-regulation with distinct preferences for goal attainment and strategically different ways of coping: (a) a *promotion focus* and (b) a *prevention focus* (Crowe & Higgins, 1997; Scholer & Higgins, 2010). Promotion-focused individuals are concerned with goals related to accomplishment and aspirations, are motivated to ensure gains and to ensure against nongains, and prefer eager approach strategies, such as being enthusiastic, taking risks, and considering multiple alternatives (Crowe & Higgins, 1997; Molden, Lee, & Higgins, 2008). Prevention-focused individuals are concerned with goals related to maintenance and keeping the status quo, are motivated to ensure nonlosses and to ensure against losses, and prefer vigilant avoidance strategies, such as being cautious and focusing on details and careful planning (Crowe & Higgins, 1997; Molden et al., 2008). It is important to note that promotion focus and prevention focus are not two ends of a continuum but are rather independent dimensions. One person could have high levels in one dimension, both, or neither (Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2001; Wallace & Chen, 2006).

The Challenge–Hindrance Stressor Framework

In this study, we are interested in examining how employees' regulatory focus relates to their performance under stress-inducing work conditions. Although employees vary somewhat in terms of how they appraise stressors, some stressors are likely to be appraised similarly because these stressors are likely to be commonly interpreted as challenges or threats and because their likely effects on the work context are commonly known (Brief & George, 1995). On the basis of this argument and rooted in appraisal models of stress (Folkman &

Lazarus, 1991), Cavanaugh, Boswell, Roehling, and Boudreau (2000) proposed the challenge–hindrance stressor framework. According to this framework, some stressors (in reasonable amounts), such as time pressure, cognitive demands, and long work hours, tend to be viewed as challenges—they tend to be seen as controllable and as providing the opportunity for personal growth—and thus can be associated with positive outcomes. Conversely, other stressors, such as organizational politics, job insecurity, and role ambiguity tend to be viewed as hindrances—as less controllable and as obstacles to valued goals—and thus are often associated with negative outcomes. In support of this framework, research has found that these stressors tend to be evaluated as described above and has found consistent support for a two-factor structure (Boswell, Olson-Buchanan, & LePine, 2004; Cavanaugh et al., 2000; cf. Webster, Beehr, & Love, 2011). Moreover, research suggests that challenge stressors tend to be positively associated with job performance, whereas hindrance stressors tend to be negatively associated with job performance (Cavanaugh et al., 2000; Chang, Rosen, & Levy, 2009; LePine, Podsakoff, & LePine, 2005).

Theoretical Bases Linking Regulatory Focus and Challenge–Hindrance Stress

Our basic premise—that individuals experiencing high degrees of stress are likely to use their preferred goal and coping strategies and that these goal and coping strategies will be particularly well suited for some situations (and particularly poorly suited to other situations)—is consistent with several theoretical frames. First, and most generally, several models of stress acknowledge that individuals vary in the personal resources they bring to a situation and that these personal resources directly affect individuals' appraisals of the extent to which they can cope with the situation and hence their subsequent behavioral outcomes (e.g., Folkman & Lazarus, 1991). More specifically, personality traits combine with situational demands to determine how the situation is appraised (e.g., in terms of its personal significance and expected outcomes), which, in turn, influence how efficacious and motivated individuals will be and whether they can cope with the possible challenges or threats (e.g., Park & Folkman, 1997). Second, and more specifically, the competency-demand hypothesis states that situations that are both psychologically demanding and have high competency requirements are likely to prompt individuals' preferred coping styles and that when individuals lack the needed competency for the situation, they are likely to continue to pursue their preferred coping styles even when those styles are misaligned with the situation (Wright & Mischel, 1987). Last, and particularly relevant here, an extension of regulatory focus theory to high-demand conditions (Scholer & Higgins, 2010) suggests that high-demand situations are especially likely to prompt well-learned coping and goal strategies that may or may not be adequate to the situation. In sum, these theoretical frames suggest that stress-inducing work demands tax employees' regulatory system, prompting preferred means of coping and goal pursuit, which vary in their suitability to the situation—thus giving rise to differing outcomes.

Employees' Promotion Focus and Challenge Stress

Employees higher in promotion focus are likely to have higher job performance. According to Wallace and Chen (2006), promotion-focused employees tend to be focused on accomplishing more tasks and doing so more quickly, thus allowing them to have higher

productivity. This contention is supported by meta-analytic evidence, which has found that a promotion focus tends be associated with higher job performance (Gorman et al., 2012; Lanaj et al., 2012).

Although promotion focus may be generally related to job performance, challenge stress (i.e., stress arising from challenge stressors) may moderate this relationship, such that when experiencing high challenge stress (as opposed to low challenge stress), employee promotion focus will be more strongly related to job performance. First, promotion-focused employees are likely to use strategies that allow them to maximize the positive performance outcomes associated with challenge stress. Promotion-focused individuals are inclined to use eager approach strategies to meet goals and cope with stressful situations (Higgins & Spiegel, 2004; Molden et al., 2008). Eager approach strategies entail behaviors aimed at making good things happen, such as being flexible, enthusiastic, and creative; taking risks; considering multiple alternatives; and seeking to maximize gains. Promotion-focused individuals' preference for using eager approach strategies seems well suited to challenge stress. For example, an employee responsible for an important project who approaches the project with enthusiasm and vigor and who finds creative ways to finish the project is likely to successfully meet this challenge. Although there is no direct evidence that promotion-focused individuals perform better in situations when they can use eager approach strategies, Grant and her colleagues found that promotion-focused individuals experienced less distress when they used eager coping strategies to deal with daily stressors (Grant, Higgins, Baer, & Bolger, 2007).

Second, promotion-focused employees are more likely to accept and be committed to goals with the potential for positive outcomes. Challenge stressors, such as time pressure and cognitive demands, may increase the difficulty of meeting goals but are demands that, through effort, may result in greater achievement. Because promotion-focused individuals are concerned with goal accomplishment, strivings, hopes, advancement, and aspirations and are energized by situations that potentially result in positive gains (Higgins, 1997, 1998), a work environment that causes high challenge stress may provide an ideal context for these employees to realize their goals. The idea that those who are oriented toward growth and achievement (i.e., high in growth-need strength) will be particularly motivated by jobs that provide for growth and achievement is consistent with job characteristics theory (Hackman & Oldham, 1980). Brockner and Higgins (2001) similarly argued that promotion-focused employees are likely to be more motivated by organizational conditions that present potential gains. For example, promotion-focused employees faced with performance expectations to work fast and hard, a challenge stressor, may be especially motivated because high performance expectations are aligned with their achievement and strivings goals and provide the opportunity of a positive outcome. Indeed, research supports the idea that promotion-focused individuals are more motivated by and perform better in situations with positive outcome potential (e.g., Higgins, Idson, Freitas, Spiegel, & Molden, 2003; Shah, Higgins, & Friedman, 1998). Shah and others (1998) found that when individuals were presented with the opportunity to gain money—the "approach a gain" condition—chronic promotion focus was positively related to their motivation on an anagram task. Similarly, Hazlett, Molden, and Sackett (2011) found that promotion-focused individuals were more engaged and persistent on an anagram task when presented with a positive outcome condition.

In contrast, for those lower in promotion focus, challenge stressors are likely to be perceived as daunting challenges. Thus, those lower in promotion focus are less likely be motivated when experiencing high challenge stress. Less promotion-focused employees are ill

equipped to deal with challenge stress because they lack the strategic inclinations suited to these opportunities. Therefore, we expect that employees' promotion focus is more strongly related to job performance when they perceive high challenge stress (as opposed to low challenge stress).

Hypothesis 1: Employees higher in promotion focus have higher job performance.

Hypothesis 2: Challenge stress moderates the relationship between employee promotion focus and job performance such that employee promotion focus is more strongly positively related to job performance when challenge stress is high (as compared to low).

Employees' Prevention Focus and Hindrance Stress

Meta-analyses have found that although employee prevention focus tends to have a near-zero relationship to job performance, unexplained variance exists in this relationship, leading to speculation that task conditions may moderate the prevention focus–job performance relationship (e.g., Gorman et al., 2012; Lanaj et al., 2012). By creating conditions that are more (or less) compatible with employees' strengths and more (or less) motivating, we argue that hindrance stress (i.e., stress caused by hindrance stressors) may account for variation in the prevention focus–job performance relationship. Specifically, we argue that more (less) prevention-focused employees will be better suited (worse suited) to meet and be more (less) energized to action by hindrance stress. As such, in conditions of high hindrance stress, we anticipate a positive relationship between employee prevention focus and job performance, because those lower in prevention focus will be harmed by hindrance stress and those higher in prevention focus will be equipped and motivated to forestall hindrance stress's negative effects. In contrast, in conditions of low hindrance stress, we anticipate a weaker positive or even negative relationship between employee prevention focus and job performance, because a prevention focus may be maladaptive in this condition.

First, prevention-focused employees are likely to use strategies that allow them to prevent the negative performance outcomes often associated with hindrance stressors. Prevention-focused individuals are inclined to use vigilant avoidance strategies to meet goals and cope with stressful situations (Higgins & Spiegel, 2004; Molden et al., 2008). Vigilant avoidance strategies entail behaviors aimed at preventing bad things from happening, such as being cautious and careful, staying out of harm's way, focusing on details, and seeking to avoid losses—strategies that seem well suited to dealing with hindrance stressors and the stress they cause. Consider a situation in which employees experience job insecurity—a hindrance stressor. Brockner and Higgins (2001: 38) argued that "when prevention-focused, the person strategically tries to avoid behaviors that mismatch a goal or standard (e.g., an employee in a downsized organization who is careful to do what is necessary to be retained in a subsequent downsizing)." Such vigilance is likely to help the employee cope with threats. In contrast, less prevention-focused employees are less equipped to deal with hindrance stress because they lack the strategic inclinations (i.e., vigilant avoidance strategies) to help them cope with these obstacles.

Some evidence suggests that prevention-focused individuals successfully deal with threats when they can use vigilant avoidance strategies. Grant and her colleagues (2007) found that prevention-focused individuals experienced less distress when they used vigilant coping strategies to deal with daily stressors. Similarly, prevention-focused individuals performed better when they generated pessimistic thoughts prior to the task (Hazlett et al., 2011).

Second, prevention-focused employees are more likely to accept and be committed to goals associated with avoiding obstacles. Hindrance stressors represent potential losses and threats to prevention-focused employees' goals of conserving the status quo. Because prevention-focused individuals are highly vigilant to avoid losses (Higgins, 1997, 1998), hindrance stress may induce effort from prevention-focused employees and motivate them to strive to secure their positions. For example, when experiencing stress caused by a highly political work environment (a hindrance stressor), prevention-focused employees may be motivated to be cautious and to take actions to secure their job, position, and reputation. Brockner and Higgins (2001) similarly argued that prevention-focused employees are more likely to be motivated by organizational conditions that present potential losses, such as negative incentive systems. For prevention-focused employees, the potential for loss associated with hindrance stress may increase their vigilance and strengthen their resolve to meet their goals (to prevent losses). Because prevention-focused employees are energized by situations that potentially result in negative or unfavorable outcomes in their environment (Higgins, 1997, 1998), they may work harder to forestall the potentially negative performance outcomes typically associated with hindrance stress. In contrast, those low in prevention focus are likely to see hindrance stressors as formidable obstacles—and thus are likely to have lower goal acceptance and commitment when experiencing high hindrance stress.

Previous research supports the idea that prevention-focused individuals are more motivated in situations that may result in negative outcomes (e.g., Förster, Grant, Idson, & Higgins, 2001; Higgins et al., 2003; Liberman, Idson, Camacho, & Higgins, 1999; Oyserman, Uskul, Yoder, Nesse, & Williams, 2007; Shah et al., 1998). After receiving failure feedback, prevention-focused individuals increased their level of strategic avoidance and improved their job performance (Idson & Higgins, 2000; Van-Dijk & Kluger, 2004). As another example, when study participants were presented with the possibility of losing money—that is, the "avoid a loss" condition—chronic prevention focus was positively related to their motivation on an anagram task (Shah et al., 1998). Last, in an unfair and highly political work situation, prevention-focused study participants were more likely to increase vigilance and to take accordant situation-focused actions, such as confronting the supervisor (Oyserman et al., 2007).

In considering the contrast between conditions of high versus low hindrance stress, we should note that we are not arguing that high hindrance stress represents a desirable state. Rather, we expect that, consistent with past research, greater stress caused by hindrance stressors, such as organizational politics or role conflict, is generally associated with lower job performance (e.g., Chang, Rosen, & Levy, 2009; LePine et al., 2005). However, we argue that in conditions of high hindrance stress, the relationship between employees' prevention focus and job performance is positive, because those lower in prevention focus are less motivated by and poorly suited to meet these demands (and those higher in prevention focus are more motivated by and better suited to meet these demands—and prevent negative outcomes and losses). In contrast, in conditions of low hindrance stress, the relationship between employees' prevention focus and job performance is more weakly positive (or even negative), given prevention focus's typical relationship to job performance.

Hypothesis 3: Hindrance stress moderates the relationship between employee prevention focus and job performance such that employee prevention focus has a stronger positive relationship to job performance when hindrance stress is high than when hindrance stress is low.

A Three-Way Interaction Between Promotion and Prevention Focus and Challenge Stress

Earlier, we hypothesized that challenge stress would moderate the promotion focus–job performance relationship. Here we predict a three-way interaction such that the relationship between employees' promotion focus and their performance is most strongly positive when employees face high (rather than low) challenge stress *and* when they are low (rather than high) in prevention focus. Following our earlier logic for those low in promotion focus, those high in prevention focus are also likely to be *less* motivated by and *less* suited to cope with high challenge stress. Specifically, due to their concerns with security, safety, and protection, and tendency to engage in vigilant avoidance strategies aimed at preventing losses, employees high in prevention focus seem more likely to choose strategies that are ill suited to dealing with challenge stress. For example, when employees have more responsibility at work, excessive concern with being cautious may stymie employees from meeting the challenge of increased responsibility. Related research suggests those in a prevention focus demonstrate a conservative bias for saying no (e.g., Crowe & Higgins, 1997), and such a bias is likely to be an inappropriate way of dealing with work-related challenges, such as more responsibility or new projects. Additionally, research suggests that environments that present gains are less motivating to those high in prevention focus. For example, when presented with the opportunity to gain money, chronic prevention focus was negatively related to task motivation (Shah et al., 1998).

To summarize, we predict that the promotion focus–job performance relationship is most strongly positive when employees face high challenge stress and are low in prevention focus due to their being especially motivated by and well suited to cope with this stress. In contrast, the promotion focus–job performance relationship is weaker (a) when employees are high in prevention focus and experience high challenge stress, because they may choose some ill-suited strategies to cope with challenge stress, or (b) when they experience low challenge stress, because this condition is likely less motivating and less suited to those higher in promotion focus.

Hypothesis 4: There is a three-way interaction between employee promotion focus, prevention focus, and challenge stress such that the promotion focus–job performance relationship is most strongly positive when employees are low in prevention focus and face high challenge stress.

A Three-Way Interaction Between Prevention and Promotion Focus and Hindrance Stress

Earlier, we also hypothesized that hindrance stress would moderate the prevention focus–job performance relationship. Here we also predict a three-way interaction such that the prevention focus–job performance relationship is most strongly positive when employees face high (rather than low) hindrance stress *and* when they are low (rather than high) in promotion focus. Following our earlier logic for those low in prevention focus, those high in promotion focus are also likely to be *less* motivated by and *less* suited to cope with hindrance stress. Specifically, due to their concerns with accomplishment and strivings and their tendency to rely on eager approach strategies aimed at making good things happen (Higgins, 1997), employees high in promotion focus are more likely to choose strategies that are ill

suited to coping with hindrance stress. For example, when experiencing stress due to role ambiguity, employees who are inclined to eagerly charge ahead are likely to encounter problems when they inadvertently overstep their role. Additionally, research suggests that environments that present losses are less motivating to those high in promotion focus. When individuals were presented with the possibility of losing money, chronic promotion focus was negatively related to task motivation (Shah et al., 1998). Similarly, Idson and Higgins (2000) found that promotion-focused individuals performed worse after they received failure feedback (as opposed to success feedback), suggesting that situations that may result in loss—such as those causing hindrance stress—may decrease motivation for those high in promotion focus.

To summarize, we predict that the employee prevention focus–job performance relationship is most strongly positive when employees face high hindrance stress and are low in promotion focus due to their being especially motivated by and well suited to prevent losses. The prevention focus–job performance relationship is weakly positive or negative (a) when individuals are high in promotion focus and face high hindrance stress, because they may choose some ill-suited strategies to cope with hindrance stress, or (b) when they face low hindrance stress, because the strategic inclinations associated with prevention focus may be maladaptive in a work environment that contains few threats.

Hypothesis 5: There is a three-way interaction between employee prevention focus, promotion focus, and hindrance stress such that the prevention focus–job performance relationship is most strongly positive when employees are low in promotion focus and face high hindrance stress.

Pilot Study

The purpose of the pilot study is to investigate whether, consistent with our theoretical contentions, those higher in promotion focus are more motivated by challenge stress and whether those higher in prevention focus are more motivated by hindrance stress. To do so, we presented study participants with a series of situations reflecting either challenge stressors or hindrance stressors and asked them to report how motivating each situation would be.

Method

Sample. We invited workers from an online labor market to complete an anonymous web-based survey on workplace stress based on research providing support for conducting social science research with these large and varied participant pools (e.g., Buhrmester, Kwang, & Gosling, 2011). Among the criteria for survey participation, workers had to live in the United States and be currently employed. Sixty-four workers began the survey; 60 completed the survey (94% response rate). Most respondents were female (60%). In terms of occupations, the most frequent responses were from office management or administrative support (25%), education personnel (13%), managerial or professional employees (8%), and those in sales (8%). In terms of education, 47% had a 4-year college degree, 33% had some college or a 2-year college degree, 12% had a graduate degree, and the remaining 8% had a high school diploma. Their work experience ranged from 1 to 48 years ($M = 11.03$, $SD = 10.59$), and their age ranged from 19 to 65 ($M = 32.48$, $SD = 10.92$). In terms of race/ethnicity,

respondents mostly indicated that they were White (80%), although some of these respondents chose other categories as well.

Procedure and measures. We measured respondents' regulatory focus using Higgin's Regulatory Focus Questionnaire (RFQ; Higgins et al., 2001). The RFQ consists of six items that measure promotion focus and five items that measure prevention focus. Sample items include "How often have you accomplished things that got you 'psyched' to work even harder?" (promotion focus) and "Not being careful enough has gotten me into trouble at times" (prevention focus, reverse scored). We averaged the respective scale items to create scale scores such that higher scores indicate higher promotion focus ($\alpha = .67$) or prevention focus ($\alpha = .75$).

Then, we presented respondents with the 11 stressful situations representing the six challenge stressors and five hindrance stressors in Cavanaugh et al.'s (2000) measure, including "You are faced with a pressing deadline—you need to work quickly to finish in time" (challenge stressor) and "You feel like your career has 'stalled'—you see few opportunities for advancement" (hindrance stressor). Survey respondents were asked to "take a moment to imagine yourself experiencing each of the situations" and indicate how motivating each of the situations is by responding to a 5-point scale anchored by *This situation would be demotivating* (coded 1) and *This situation would be highly motivating* (coded 5). Motivation from challenge stressors is the extent to which employees indicated that the challenge stressors would be motivating (i.e., the average of the six challenge items), and motivation from hindrance stressors is the extent to which employees indicated that the hindrance stressors would be motivating (i.e., the average of the five hindrance items).

Results

As expected, the more promotion-focused employees are, the more motivated they reported being in response to challenge stressors at work ($r = .31$, $p < .05$). Also, as expected, the more prevention-focused employees are, the more motivated they reported being in response to hindrance stressors at work ($r = .33$, $p < .05$). Employees' prevention focus was not significantly related to anticipated motivation from challenge stressors ($r = .05$, *ns*), and employees' promotion focus was not significantly related to anticipated motivation from hindrance stressors ($r = .08$, *ns*). Having found support for the idea that more promotion-focused employees find challenge stressors more motivating and that more prevention-focused employees find hindrance stressors more motivating, we now proceed to test our study hypotheses.

Main Study

Method

Sample and procedures. We collected data for this study in the sales western division of a large medical device firm headquartered in the eastern United States. We collected data from three sources at two points in time. At Time 1, we invited 206 sales representatives to respond to a web-based survey that included measures of regulatory focus, felt stress, and demographic characteristics. They were informed that their participation was voluntary. At the end of the

survey, they entered their unique employee ID. During the same time period, we invited the managers of the sales representatives to respond to a short paper-and-pencil survey that listed each of their employees' names and included measures of the sales representatives' job performance to which the manager was asked to respond. At Time 2, we collected a second measure of the sales representatives' job performance (i.e., the percentage of their sales quota obtained for the quarter after the survey) from company records (which included employee name and IDs). Although this method did not provide anonymity, sales representatives and managers were assured confidentiality. Once we matched the sales representatives to the data provided by their managers and by the company records, we removed any identifying information and shared only aggregated results with the company.

All sales representatives have similarly sized regional sales territories and similar job scopes though each representative's territory varies in sometimes significant ways (e.g., due to differences in competition, managers, workgroup members, clients, and the possibility for sales growth or decline). Of the 206 representatives surveyed, 160 provided complete data (78% response rate). They were mostly White (87%), mostly male (62%), and all college educated (100%). On average, they had been in their current role for 4.7 years and had been with this organization for 5.3 years. Managers supervised between four to seven sales representatives and, on average, supervised 5.3 sales representatives. Managers were also mostly White (91%), were predominantly male (67%), and were all college educated. On average, they had been in a managerial role with the company for 3.8 years and had been with this organization for 7.2 years.

Measures. We assessed employees' dispositional promotion focus using the nine-item Promotion Focus scale of Neubert, Kacmar, Carlson, Chonko, and Roberts's (2008) Work Regulatory Focus Scale. Participants indicated the extent to which they agreed with each item using a 5-point scale (1 = *strongly disagree* and 5 = *strongly agree*). Sample items include "I tend to take risks at work in order to achieve success" and "If my job did not allow for advancement, I would likely find a new one." We averaged the items to create a scale score such that higher scores indicate higher promotion focus ($\alpha = .93$).

We assessed employees' dispositional prevention focus using the nine-item Prevention Focus scale from the Work Regulatory Focus Scale described above (Neubert et al., 2008). Sample items include "I concentrate on completing my work tasks correctly to increase my job security" and "I do everything I can to avoid loss at work." We averaged the items to create a scale score such that higher scores indicate higher prevention focus ($\alpha = .94$).

We used Cavanaugh et al.'s (2000) six-item measure of challenge stress and five-item measure of hindrance stress. Challenge stress items, including "I have a large number of projects and/or assignments" and "My position entails a large scope of responsibility," were averaged to create a scale score ($\alpha = .89$). Hindrance stress items, including "The degree to which politics rather than performance affects organizational decisions is high" and "I do not have job security," were averaged to create a scale score ($\alpha = .89$). As in Cavanaugh et al. (2000), participants indicated the extent to which each challenge or hindrance stressor produces stress on a scale ranging from 1 (*produces no stress at all*) to 5 (*produces a great deal of stress*). This measure is rooted in the idea that stressors in the environment are initially appraised as to the degree to which they cause the individual to feel stressed or the sense that personal resources and capabilities are being taxed—a foundational tenet of the challenge–hindrance stressor framework. Our theory rests on the idea that people will respond rigidly in

terms of preferred goal and coping strategies when they experience stress (Scholer & Higgins, 2010). Thus, we measure felt stress from the focal stressors (i.e., challenge or hindrance stressors).

We obtained two measures of employee routine job performance: manager-rated performance and percentage of sales quota met. According to the company's senior leaders, these two measures are considered the primary indicators of job performance for these employees and serve as the primary basis for promotion. Using a 5-point scale (1 = *strongly disagree* and 5 = *strongly agree*), managers responded to a three-item measure regarding the routine job performance of each of their employees: "meets performance expectations," "performs the tasks that are asked of him or her," and "fulfills the responsibilities specified in his or her job description." The items were averaged to create a scale score such that higher scores indicate better performance ($\alpha = .93$).

From the company records, we also obtained sales quota data for the quarter following the administration of the employee survey. Each sales representative was assigned by the company a monthly sales quota. This measure of job performance indicates the percentage of their quarterly sales quota (3-month quota) that employees met. It ranged from a low of 56% of quota met to a high of 150% of quota met (with a mean of 93%), such that numbers over 100% indicate that employees exceeded their quota. We expected high convergence between the objective and subjective measures of performance because managers establish quotas for their representatives, and according to the managers, the extent to which representatives meet or exceed their quota represents their routine job performance. We included both measures in the event that the objective data were affected by seasonality or other external factors.

We controlled for the sex of the employee (0 = male; 1 = female) because it may influence performance ratings and felt stress (e.g., Martocchio & O'Leary, 1989). Further, because individuals' core self-evaluations (CSE) can influence how well they cope with demands (e.g., Kammeyer-Mueller, Judge, & Scott, 2009), we controlled for CSE using Judge, Erez, Bono, and Thoresen's (2003) 12-item scale ($\alpha = .91$). (We note that our results remain substantively similar regardless of whether these control variables are included.)

Analysis. Because employees are nested within managers, we examined the two outcome measures with one-way analysis of variance for possible nonindependence. The F test on manager-rated performance was not significant, $F(34, 125) = 1.48$ ($p > .05$). Similarly, the F test on percentage of sales quota met was not significant either, $F(34, 125) = 1.04$ ($p > .05$). Based on these results, we expect that nonindependence does not impose a threat to the analysis. Nevertheless, we performed all analyses accounting for potential nonindependence using robust standard errors (Huber, 1981). The results and conclusions remained identical if single-level analyses were used.

Results

The means and standard deviations for and the zero-order correlations among all variables are reported in Table 1. As shown in Table 1, employees' promotion focus is positively related to both performance measures ($r = .24$, $p < .001$, and $r = .39$, $p < .001$, for manager-rated performance and percentage of quota met, respectively). In contrast, employees' prevention focus is not significantly related to either measure of job performance ($r = .09$, *ns*,

Table 1
Means and Standard Deviations for and Correlations Between Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Manager-rated performance	3.71	0.96										
2. Quota (percentage met)	93.24	15.53	.80***									
3. Core self-evaluation	3.70	0.57	.02	.22**								
4. Female (= 1, male = 0)	0.38	0.49	.09	.02	−.05							
5. Promotion focus	3.53	0.85	.24***	.39***	.08	−.08						
6. Prevention focus	3.68	0.87	.09	−.06	−.32***	.16*	−.16*					
7. Challenge stress	3.34	1.16	.30***	.34***	.20*	−.01	.17*	−.15				
8. Hindrance stress	3.09	1.11	−.27***	−.31***	−.16*	.07	−.42***	−.04	.06			
9. Problem-solving demands	3.33	0.88	.18*	.26**	.35***	−.03	.31***	−.08	.40***	−.30***		
10. Job insecurity	2.87	0.64	−.28***	−.32***	−.10	.08	−.27**	.16*	−.25**	.59***	−.29***	
11. Organizational politics	2.84	0.76	−.19*	−.36***	−.54***	−.02	−.29***	.11	−.53***	.35***	−.33***	.34***

Note: $N = 160$.
*$p < .05$.
**$p < .01$.
***$p < .001$.

and $r = -.06$, *ns*, for manager-rated performance and percentage of quota met, respectively). Challenge stress is positively related to both performance measures ($r = .30$, $p < .001$, and $r = .34$, $p < .001$, for manager-rated performance and percentage of quota met, respectively). In contrast, hindrance stress is negatively related to both performance measures ($r = -.27$, $p < .001$, and $r = -.31$, $p < .001$, for manager-rated performance and percentage of quota met, respectively).

Before proceeding, we conducted a confirmatory factor analysis (CFA) on the challenge and hindrance stress measures. To achieve a satisfactory ratio of sample size to number of estimated parameters (Little, Cunningham, Shahar, & Widaman, 2002; Williams, Vandenberg, & Edwards, 2009), we conducted a CFA with parcels. We should note that the CFA at the item level indicated poor data-model fit, $\chi^2(43, N = 160) = 297.16$, $p < .001$, comparative fit index (CFI) = .90, Tucker-Lewis index (TLI) = .88, root mean square error of approximation (RMSEA) = .192, standardized root mean square residual (SRMR) = .071; and the ratio of sample size to number of estimated parameters is 4.7 (160/34). With three randomly generated parcels as indicators for challenge stress and two randomly generated parcels for hindrance stress, the ratio of sample size to number of estimated parameters increased to 10 (160/16). The fit indices for parcel-based CFA show good fit for the proposed two-factor model, $\chi^2(4, N = 160) = 7.27$, $p > .10$, CFI = 1.00, TLI = .99, RMSEA = .071, SRMR = .013. A single-factor model had significantly worse fit, $\chi^2(5, N = 160) = 370.45$, $p < .001$, CFI = .62, TLI = .24, RMSEA = .68, SRMR = .21. On the basis of these results, we proceeded to analyze challenge and hindrance stress as distinct constructs.

Hypothesis testing. To test our hypotheses, we fitted two sets of hierarchical regressions, one for each measure of job performance, that is, manager-rated performance and percentage of quota met. We used this regression-based approach (with robust standard errors) for moderation testing because it can easily show the incremental contributions (in terms of R^2) by the main effects and the interactive terms. Table 2 includes the unstandardized regression coefficients and associated robust standard errors for each step of the two-way and three-way interaction analyses. In the first step, we entered the control variables, that is, CSE and employee sex. In the second step, we entered the mean-centered independent variables: employees' promotion focus and prevention focus and challenge stress and hindrance stress. In the third step, we entered the interaction terms representing the two hypothesized interaction effects (Promotion Focus × Challenge Stress and Prevention Focus × Hindrance Stress). In the last step, we entered all relevant interactive terms for the hypothesized three-way interactions. We used the Dawson (2014) method and the related spreadsheets to interpret and plot all interactions.

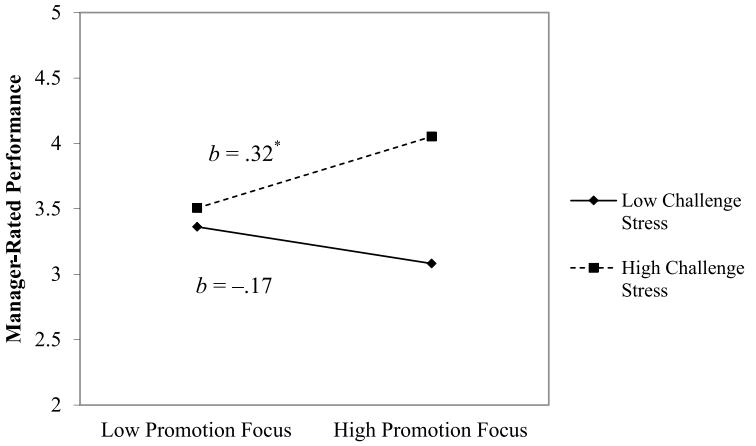
Hypothesis 1 predicted that employee promotion focus is positively related to job performance. Examining the coefficients associated with promotion focus in Step 2, we found partial support for Hypothesis 1. Specifically, employee promotion focus is positively related to the percentage quota met ($b = 4.77$, $SE_b = 1.59$, $p < .01$) but is not significantly related to manager-rated performance ($b = .11$, $SE_b = .11$, *ns*). Hypothesis 2 predicted that challenge stress moderates the relationship between employees' promotion focus and their job performance. The interaction term (Promotion Focus × Challenge Stress) was statistically significant for manager-rated performance ($b = .21$, $SE_b = .09$, $p < .05$) and for percentage of quota met ($b = 3.77$, $SE_b = 1.32$, $p < .01$). To explicate these interactions, we calculated the simple

Table 2
Regression Models Examining Employee Regulatory Focus, Stress, and Job Performance

	Manager-Rated Performance		Quota (Percentage Met)	
Variable	*b*	SE_b	*b*	SE_b
Step 1				
Core self-evaluation	.04	.13	6.16**	2.14
Sex (female = 1)	.17	.15	1.00	2.59
ΔR^2	.01		.05*	
Step 2				
Core self-evaluation	−.09	.11	3.64*	1.62
Sex (female = 1)	.18	.13	1.78	2.35
Promotion focus	.11	.11	4.77**	1.59
Prevention focus	.13	.08	0.85	1.32
Challenge stress (CS)	.27***	.05	3.85***	0.74
Hindrance stress (HS)	−.23**	.07	−2.73*	1.03
ΔR^2	.20***		.24***	
Step 3				
Core self-evaluation	−.28*	.12	−0.29	1. 81
Sex (female = 1)	.10	.11	−0.05	1.67
Promotion focus	.08	.08	3.95**	1.11
Prevention focus	.09	.07	−0.10	1.06
CS	.24***	.06	3.18***	0.74
HS	−.26***	.06	−3.30***	0.80
Promotion Focus × CS	.21*	.09	3.77**	1.32
Prevention Focus × HS	.26**	.08	5.60***	1.12
ΔR^2	.17***		.27***	
Step 4				
Core self-evaluation	−.15	.10	1.06	1.49
Sex (female = 1)	.12	.11	0.62	1.55
Promotion focus	.00	.07	4.05***	1.02
Prevention focus	.02	.10	0.23	1.30
CS	.29***	.07	3.70***	0.78
HS	−.20**	.07	−1.43	0.99
Promotion Focus × CS	.16†	.08	2.43*	1.19
Prevention Focus × HS	.26**	.07	5.02***	1.00
Prevention Focus × CS	−.09	.09	−0.53	1.02
Promotion Focus × HS	−.04	.07	−2.77**	0.90
Promotion Focus × Prevention Focus	−.04	.10	−3.16†	1.61
Promotion Focus × Prevention Focus × CS	−.19†	.10	−3.11†	1.58
Promotion Focus × Prevention Focus × HS	−.30**	.09	−3.06*	1.14
ΔR^2	.07*		.07***	

Note: $N = 160$. Unstandardized regression coefficients and their robust standard errors are reported. Total $R^2 = .45$ and $R^2_{adj} = .40$ for manager-rated performance; total $R^2 = .63$ and $R^2_{adj} = .60$ for quota (percentage met).
†$p < .10$.
*$p < .05$.
**$p < .01$.
***$p < .001$.

Figure 1
Manager-Rated Performance: Interaction of Employee Promotion Focus and Challenge Stress



slopes of promotion focus in predicting job performance when employees experienced high (mean plus one standard deviation) and low (mean minus one standard deviation) challenge stress. As shown in Figures 1 and 2, employees' promotion focus is positively related to job performance (simple slopes $b = .32$, $p < .05$, and $b = 8.32$, $p < .001$, for manager-rated performance and percentage of quota met, respectively) in conditions of high challenge stress. In contrast, in conditions of low challenge stress, employees' promotion focus is not significantly related to the two measures of job performance (simple slopes $b = -.17$, *ns*, and $b = -.42$, *ns*, for manager-rated performance and percentage of quota met, respectively). Thus, we found support for Hypothesis 2.

Consistent with meta-analytic evidence (Gorman et al., 2012; Lanaj et al., 2012), we found that prevention focus is not significantly related to manager-rated performance ($b = .13$, $SE_b = .08$, *ns*) or percentage of quota met ($b = .85$, $SE_b = 1.32$, *ns*; as shown in Step 2 of Table 2). Hypothesis 3 predicted that hindrance stress moderates the relationship between employees' prevention focus and their job performance. The interaction term (Prevention Focus × Hindrance Stress) was statistically significant for manager-rated performance ($b = .26$, $SE_b = .08$, $p < .01$) and for percentage of quota met ($b = 5.60$, $SE_b = 1.12$, $p < .001$). To explicate these interactions, we calculated the simple slopes of prevention focus in predicting job performance when employees experienced high (mean plus one standard deviation) and low (mean minus one standard deviation) hindrance stress. As shown in Figures 3 and 4, employees' prevention focus is positively related to job performance (simple slopes $b = .37$, $p < .01$, and $b = 6.12$, $p < .01$, for manager-rated performance and percentage of quota met, respectively) in conditions of high hindrance stress. In contrast, in conditions of low hindrance stress, employees' prevention focus is not significantly related to manager-rated performance (simple slope $b = -.20$, *ns*) and is negatively related to percentage of quota met (simple slope $b = -6.32$, $p < .001$). Thus, we found support for Hypothesis 3.

Figure 2
Percentage Quota Met: Interaction of Employee Promotion Focus and Challenge Stress

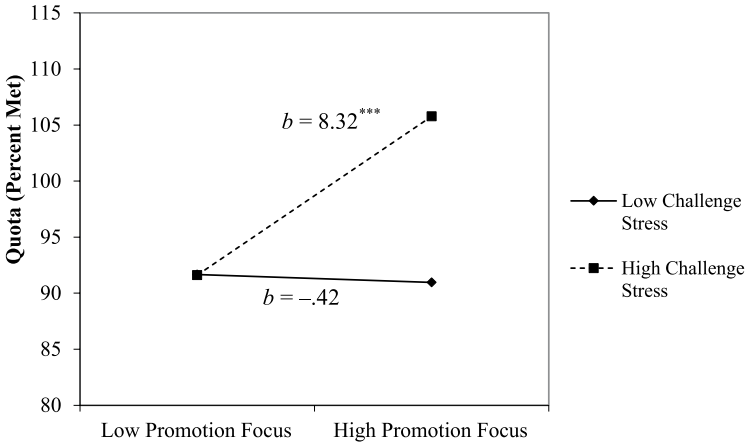
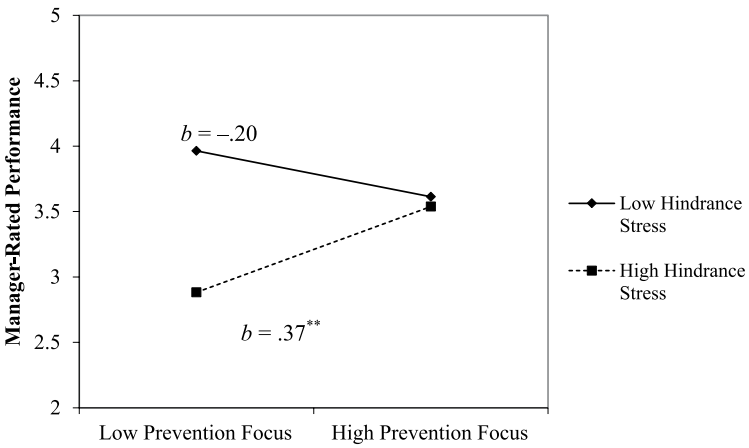


Figure 3
Manager-Rated Performance: Interaction of Employee Prevention Focus and Hindrance Stress



Hypothesis 4 proposed a three-way interaction such that the promotion focus–job performance relationship is stronger when prevention focus is low and challenge stress is high. Although nonsignificant by conventional standards, there was a modest effect associated with the three-way interaction term (Promotion Focus × Prevention Focus × Challenge Stress) for manager-rated performance ($b = -.19$, $SE_b = .10$, $p < .10$) and for percentage of quota met ($b = -3.11$, $SE_b = 1.58$, $p < .10$). To explicate these three-way interactions, we calculated the simple slopes of promotion focus in predicting job performance under four

Figure 4
Percentage Quota Met: Interaction of Employee Prevention Focus and Hindrance Stress

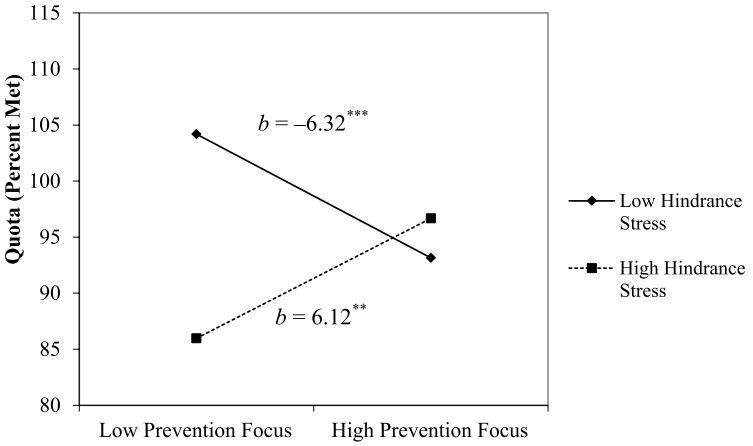
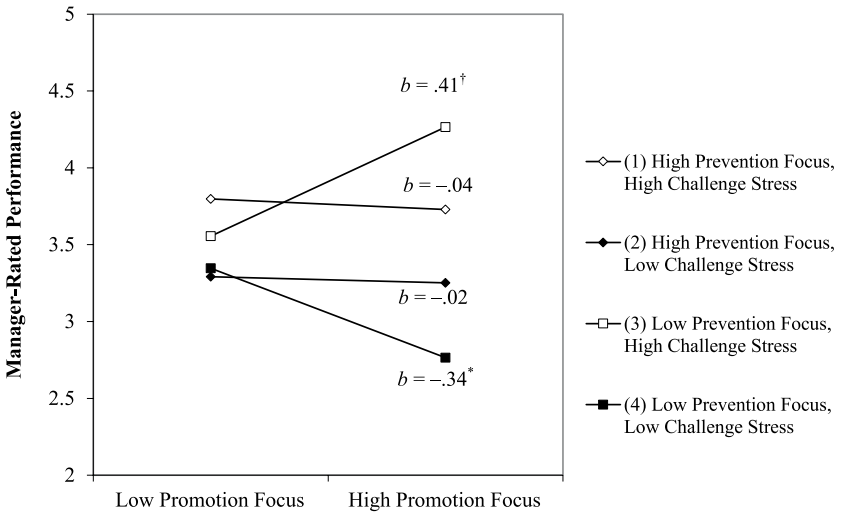
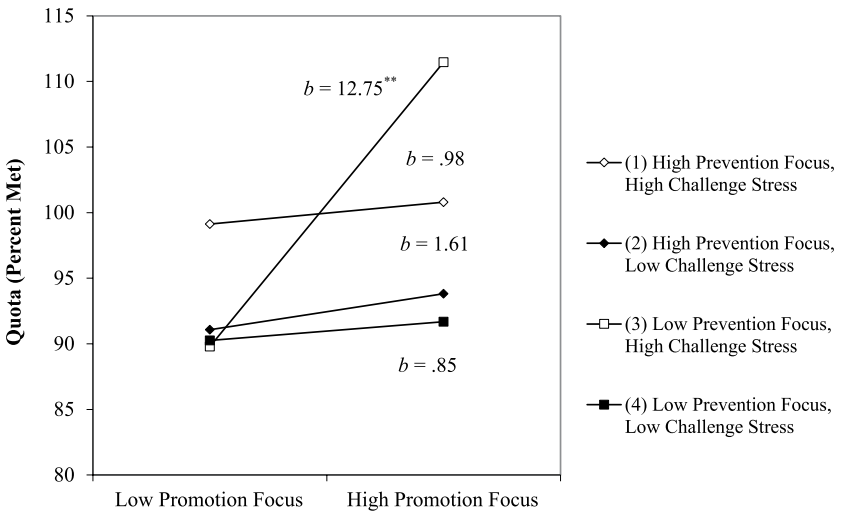


Figure 5
Manager-Rated Performance: Three-Way Interaction for Promotion Focus



conditions (two moderators taking high and low values). As shown in Figures 5 and 6, employees' promotion focus and manager-rated performance has a positive slope that is not significant by conventional standards ($b = .41$, $p < .10$) and employees' promotion focus and percentage of quota met has a significantly positive slope ($b = 12.75$, $p < .01$) in the condition of low prevention focus and high challenge stress (i.e., low/high condition).

Figure 6
Percentage Quota Met: Three-Way Interaction for Promotion Focus



In contrast, in the other three conditions, employees' promotion focus is not significantly or is negatively related to the two job performance measures. When comparing our hypothesized positive slope with each of the slopes for other conditions, for manager-rated performance, we found that the low/high condition slope is not more strongly positive than that of high/high and high/low but is more strongly positive than the low/low slope (difference = .75, $p < .05$). For percentage of quota met, the low/high slope is more strongly positive than the other three slopes (for all differences, $p < .05$). Thus, we found partial support for Hypothesis 4.

Hypothesis 5 suggested a three-way interaction such that the prevention focus–job performance relationship is positive when promotion focus is low and hindrance stress is high. The three-way interaction terms (Prevention Focus × Promotion Focus × Hindrance Stress) were significant for both manager-rated performance ($b = –.30$, $SE_b = .09$, $p < .01$) and percentage of quota met ($b = –3.06$, $SE_b = 1.14$, $p < .05$). To explicate these three-way interactions, we calculated the simple slopes of prevention focus in predicting job performance under four conditions (two moderators taking high and low values). As shown in Figures 7 and 8, employees' prevention focus is positively related to manager-rated performance (simple slope $b = .63$, $p < .001$) and percentage of quota met ($b = 11.37$, $p < .001$) in the condition of low promotion focus and high hindrance stress (i.e., low/high condition). In contrast, in the other three conditions, employees' prevention focus is not significantly or is negatively related to the two job performance measures. When comparing our hypothesized low/high slope with each of the slopes for other conditions, for manager-rated performance, we found that the low/high condition is more strongly positive than the three other conditions (for all differences, $p < .01$). For percentage of quota met, the low/high slope is also more strongly positive than the other three slopes (for all differences, $p < .01$). Thus, we found full support for Hypothesis 5.

Figure 7
Manager-Rated Performance: Three-Way Interaction for Prevention Focus

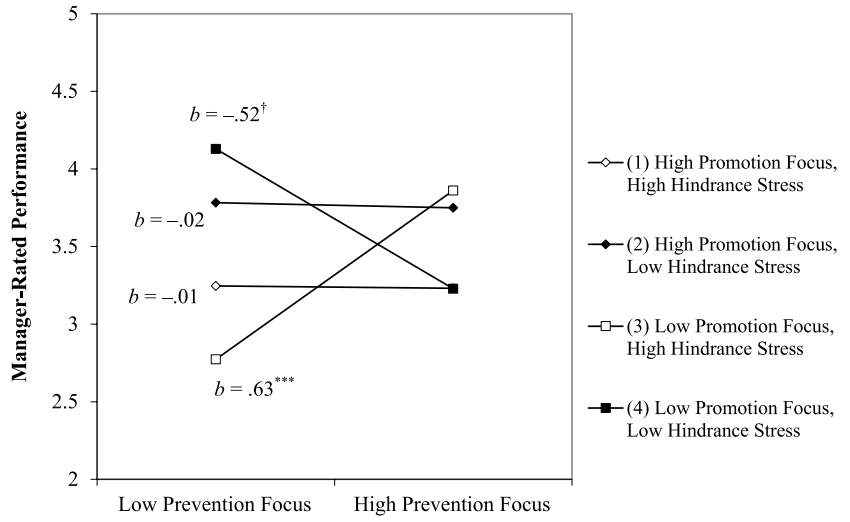
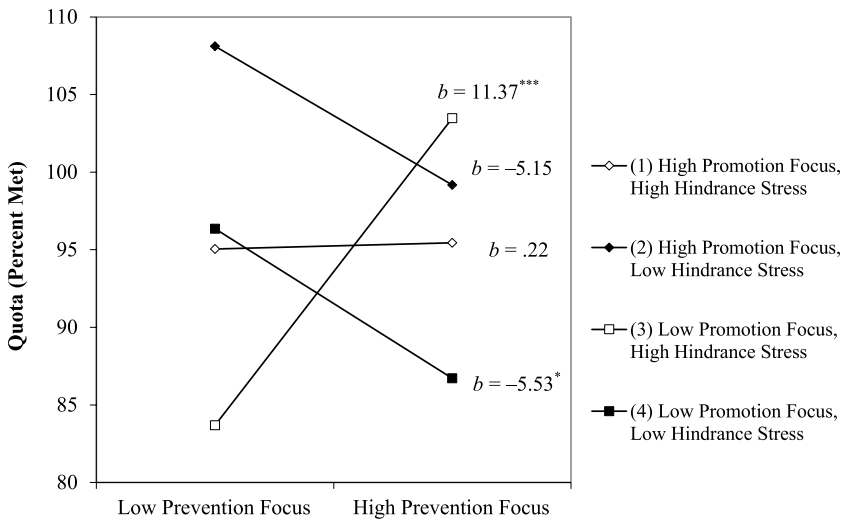


Figure 8
Percentage Quota Met: Three-Way Interaction for Prevention Focus



Supplemental analyses. We also investigated whether the results replicated with measures of specific challenge (i.e., problem-solving demands) or hindrance (i.e., job insecurity) stressors. For problem-solving demands, study participants responded to the three-item Problem-Solving Demands Scale (Jackson, Wall, Martin, & Davids, 1993) by indicating

the extent to which their job carries these demands; a sample item is "Do you come across problems in your job you have not met before?" ($\alpha = .83$). For job insecurity, participants responded to the 11-item Job Permanence Scale (Kuhnert & Vance, 1992) by indicating their agreement; a sample item is "I'm not really sure of how long my job will last" ($\alpha = .89$). These items were reverse scored such that higher scores indicate more job insecurity. In two models, one for each dependent variable (i.e., manager-rated performance and percentage of quota met), we regressed the two control variables (i.e., employee sex and CSE), promotion focus, prevention focus, problem-solving demands, job insecurity, and all relevant two-way and three-way interaction terms (results not shown). We examined these findings in relation to the two two-way interactions, Hypothesis 2 (regarding Promotion Focus × Problem-Solving Demands) and Hypothesis 3 (Prevention Focus × Job Insecurity), and the two three-way interactions, Hypothesis 4 (Promotion Focus × Prevention Focus × Problem-Solving Demands) and Hypothesis 5 (Promotion Focus × Prevention Focus × Job Insecurity). In addition, because an anonymous reviewer rightly pointed out that the prevention focus measure we used contains three items that refer to job security, we conducted the same analyses with organizational politics (Kacmar & Ferris, 1991) substituting for job insecurity.

Supporting Hypothesis 2, the interaction term Promotion Focus × Problem-Solving Demands was significant for both manager-rated performance ($b = .34$, $SE_b = .08$, $p < .001$) and percentage quota met ($b = 5.15$, $SE_b = 1.03$, $p < .001$). Specifically, we found that the promotion focus–job performance relationship was more strongly positive for both manager-rated performance and quota met when problem-solving demands was high ($b = .47$, $SE_b = .15$, $p < .01$, and $b = 9.50$, $SE_b = 1.84$, $p < .001$, respectively) as compared to low ($b = -.13$, $SE_b = .10$, *ns*, and $b = .44$, $SE_b = 1.28$, *ns*, respectively). Supporting Hypothesis 3, the interaction term Prevention Focus × Job Insecurity was significant for both manager-rated performance ($b = .35$, $SE_b = .14$, $p < .05$) and percentage quota met ($b = 9.95$, $SE_b = 2.18$, $p < .001$). Specifically, we found that the prevention focus–job performance relationship was positive when job insecurity was high ($b = .27$, $SE_b = .13$, $p < .05$, and $b = 5.04$, $SE_b = 1.81$, $p < .01$, for both manager-rated performance and quota met, respectively) but was negative or not significant when job insecurity was low ($b = -.17$, $SE_b = .15$, *ns*, and $b = -7.69$, $SE_b = 2.14$, $p < .01$, respectively). In addition, in our second models with organizational politics, we found similar results: The interaction term Prevention Focus × Organizational Politics was significant for both manager-rated performance ($b = .46$, $SE_b = .14$, $p < .01$) and percentage quota met ($b = 8.84$, $SE_b = 2.25$, $p < .001$), and the prevention focus–job performance relationship was positive when organizational politics was high ($b = .43$, $SE_b = .18$, $p < .05$, and $b = 5.72$, $SE_b = 2.62$, $p < .05$, for both manager-rated performance and quota met, respectively) but was negative when organizational politics was low ($b = -.27$, $SE_b = .10$, $p < .05$, and $b = -7.72$, $SE_b = 1.70$, $p < .001$, respectively).

Partially supporting Hypothesis 4, the three-way interaction term Promotion Focus × Prevention Focus × Problem-Solving Demands was statistically significant for manager-rated performance ($b = -.27$, $SE_b = .10$, $p < .05$) but not for percentage quota met ($b = -2.23$, $SE_b = 1.50$, *ns*). We calculated the simple slopes for the different conditions. When prevention focus is low and problem-solving demand is high, the slope between promotion and manager-rated performance was positive ($b = 1.07$, $p < .001$). The slopes for the other three conditions were not significant. The differences in slopes between low/high and other

conditions were all significant (for all differences, $p < .001$). Thus, Hypothesis 4 was partially supported for manager-rated performance. Failing to support Hypothesis 5, the three-way interaction term Promotion Focus × Prevention Focus × Job Insecurity was not statistically significant for either manager-rated performance ($b = -.19$, $SE_b = .15$, *ns*) or percentage quota met ($b = .37$, $SE_b = 2.44$, *ns*). These results were replicated in the models with organizational politics: The three-way interaction term Promotion Focus × Prevention Focus × Organizational Politics was not statistically significant for either manager-rated performance ($b = -.31$, $SE_b = .22$, *ns*) or percentage quota met ($b = -1.31$, $SE_b = 3.27$, *ns*).

Discussion

The aim of the present study was to examine whether employees' regulatory focus may be associated with performance differences when employees experience high (as compared to low) degrees of work-related stress. Our findings are consistent with our theoretical contention that when experiencing high (as compared to low) degrees of stress, individuals are especially likely to rely on their preferred goal and coping strategies (Scholer & Higgins, 2010). As suggested by the results of both our pilot and main studies, when the goals presented by and the coping strategies needed for dealing with high-stress situations are aligned with these tendencies and preferences (in terms of goals and coping strategies), employees are more efficacious and motivated. Consequently, they are able to either meet challenges (as for promotion-focused employees facing high challenge stress) or avoid obstacles (as for prevention-focused employees facing high hindrance stress). In contrast, when the goals presented by and the coping strategies needed for dealing with high-stress conditions are not aligned, employees may be overwhelmed by the demands—straining their self-regulatory system and undermining their self-efficacy and motivation.

Theoretical Implications

Through our integration of regulatory focus theory and the challenge–hindrance stressor framework, this study makes several contributions to theory. First, the results of this study highlight the important role that self-regulation plays in high-stress situations. When faced with challenge stress, self-regulating with a promotion focus helps to realize the benefits associated with those challenges. When faced with hindrance stress, self-regulating with a prevention focus helps to prevent harm associated with those obstacles and threats. Our findings suggest that vulnerability to depletion depends on the individual and the conditions he or she faces. It appears that prevention-focused employees are better able to weather potentially harmful conditions, whereas promotion-focused employees are better able to realize gains from potentially beneficial conditions.

Second, whereas past research that has predominantly focused on the direct or mediated effects of regulatory focus on work performance, we identified the conditions (in terms of the experience of work stress) that were more (or less) motivating to employees who are higher or lower in promotion focus and prevention focus. Thus we answered the call for research that examines how regulatory focus interacts with work conditions that employees experience (Gorman et al., 2012; Lanaj et al., 2012). Our results are consistent with both the competency-demand hypothesis (Wright & Mischel, 1987) and Scholer and Higgins's (2010) contention that high-stress situations prompt preferred means of coping and goal pursuit that

vary in their suitability to the situation and thus give rise to differing outcomes. Another theoretical frame with which our results can be viewed is the balance principle of the demand-induced strain compensation model (e.g., de Jonge & Dormann, 2006), which suggests that optimal conditions for employees exist when the work environment offers a mix of both high job demands and when employees have the corresponding resources to cope with them. From this frame, work conditions that induce high challenge stress (hindrance stress) appear to be job demands that correspond to the coping resources of those high in promotion focus (prevention focus).

The (albeit limited) support we found for the two three-way interactions can be attributed to strong personality (Dalal, Meyer, Bradshaw, Green, Kelly, & Zhu, 2015), whereby a "strong personality theoretically reduces variability across situations within persons, thereby inoculating one's behavior from the impact of the situation" (p. 263). Seen through this lens, a strong personality is characterized by being high in promotion (prevention) focus *and* low in prevention (promotion) focus, thus strengthening the relationship between promotion (prevention) focus and job performance in conditions of high challenge (hindrance) stress. That is, rather than adapting to the situation, employees are exhibiting their preferred behaviors regardless of the situation such that performance increases or decreases depending on the relative match of the situation to the person. Future research should explore this possibility—with a larger sample size—because, as one of the reviewers rightly pointed out, we may have lacked sufficient statistical power to detect the three-way interactions.

Third, our results extend the stress literature more generally. Past research on stress has largely focused on personal resources that are likely to have uniform effects across all demands (e.g., self-efficacy, psychological hardiness). In contrast, the present study suggests that personal resources need to be matched to the situation, a notion consistent with the compensation principle proposed by de Jonge and Dormann (2003; demand-induced strain compensation model).

Practical Implications

The results of the present study also offer several practical implications. First, whereas hindrance stress is generally associated with lower job performance, it appears especially harmful to employees who are low in prevention focus. Some employees can find ways to cope with hindrance stress; other employees appear to be especially harmed by hindrance stress. Therefore, our study results suggest that managers with limited resources of time or energy may wish to focus their efforts on helping employees who are low in prevention focus cope with hindrance stress, which employees inevitably experience at work. For example, managers may help them to find ways to navigate politically charged situations perhaps by informing them of different contingents' goals. Second, our results suggest that managers should help to ensure that employees deal with work stress in a way that suits the given stress. Employees can learn goal and coping strategies that may help them to better cope with challenge stress or hindrance stress. One way that employees may learn these new goal and coping strategies is by seeing their managers model these strategies. Managers may be able to help employees realize the benefits of challenge stress by modeling eager approach strategies. For example, when work teams are facing time pressure (a challenge stressor), leaders could point out how joyful they will feel when they finish the project on time, speak enthusiastically about

the confidence in their being able to do so, and ponder out loud the different ways that they could eagerly accomplish their goals. As another example, when a work group has to deal with bureaucratic "red tape" (a hindrance stressor), leaders could point out how content group members will feel when they maneuver around it, suggest ways that they can carefully avoid it (and its negative implications), and point out that careful adherence to rules and focusing on details can help to keep the project from being ensnared in red tape.

Limitations and Future Research Directions

Although this study has notable strengths, such as its use of multisource data and multiple performance measures, it also has limitations. First, the results of the present study do not allow us to determine the extent to which challenge or hindrance stressors actually exist in the employees' work environment. Consistent with other nonexperimental studies, we measured challenge and hindrance stress using self-reported survey data. Some would argue that this is not a limitation as it is one's perception of the situation rather than any objective reality of the situation that likely determines its effect. Indeed, our results suggest that this is the case, as it is the experience of stress from the work environment that was our focus. However, future research that either experimentally manipulates stressful conditions or that uses other more "objective" measures of stressors (such as using observer ratings of stressors in the work environment) may help to further explicate the relationship between employees' regulatory focus and work stress—and their performance implications. Moreover, we also acknowledge that although challenge stress tends to be associated with positive outcomes, challenge stress in excess may be performance detracting. The challenge–hindrance stressor framework to some degree reflects this. For example, whereas time pressure and long work hours are considered a challenge stressor, role overload is considered a hindrance stressor. Similarly, whereas cognitive demands are considered a challenge stressor, other cognitively demanding situations, such as role ambiguity and role conflict, are considered hindrance stressors.

Second, the present study considered only employees' dispositional regulatory focus. Some research has suggested that regulatory focus can be both a disposition (as we have conceptualized it here) and a psychological state that can be primed or evoked by situation cues (e.g., Friedman & Förster, 2001; Keller & Bless, 2006; Liberman et al., 1999). For example, leaders may be able to trigger state regulatory foci in their employees by using different leadership styles (Kark & Van Dijk, 2007). As an anonymous reviewer rightly pointed out, the sales context itself may have induced a promotion focus, thus potentially limiting the generalizability of our results. Future research should examine what contextual factors—including even challenge or hindrance stressors—prime employees' regulatory focus states and to what effect.

Third, and relatedly, the present study focused on regulatory focus rather than approach and avoidance motivation. Although approach and avoidance motivations are considered conceptually distinct from promotion and prevention motivations (see Molden et al., 2008, for a review), these constructs do overlap. For example, when employees are approaching desired end states (e.g., approach motivation to meet a performance quota), they can do so with either promotion concerns (e.g., to be recognized as a star performer) or prevention concerns (e.g., to assure job security). Because of their conceptual overlap, future research should examine whether the results of this study extend to approach and avoidance motivation. Recent research

finding that avoidance motivation (relative to approach motivation) under conditions of time pressure—a challenge stressor—undermines performance appears to be consistent with our theoretical frame (Roskes, Elliot, Nijstad, & De Dreu, 2013).

Last, we acknowledge that our sample and setting have several distinctive characteristics, not the least of which is the independent nature of employees' work and the degree to which their job performance ratings likely emphasize task performance elements. We urge researchers to explore how our findings might generalize to samples and settings where other characteristics are present. Perhaps most important, research could be conducted in settings where employees are interdependent and where job performance ratings include contextually relevant behaviors, such as citizenship behaviors.

Conclusion

Our study suggests that the way in which employees chronically self-regulate interacts with their experience of work stress to determine subsequent job performance. Our findings suggest that the experience of psychologically demanding work conditions may prompt employees' preferred coping styles and goal strategies that can increase the potential benefits of some stressors and decrease the harmful effects of others. These findings highlight the need for organizations to consider the conditions that may maximize the positive effects (and minimize the harmful effects) of both regulatory focus and workplace stress.

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