

# Can “Good” Stressors Spark “Bad” Behaviors? The Mediating Role of Emotions in Links of Challenge and Hindrance Stressors With Citizenship and Counterproductive Behaviors

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The authors combined affective events theory (H. M. Weiss & Cropanzano, 1996) and the transactional stress model (R. S. Lazarus & Folkman, 1984) to build and test a model specifying the dynamic, emotion-based relationships among challenge and hindrance stressors and citizenship and counterproductive behaviors. The study employed an experience sampling methodology. Results showed that challenge stressors had offsetting indirect links with citizenship behaviors through attentiveness and anxiety and a positive indirect effect on counterproductive behaviors through anxiety. Hindrance stressors had a negative indirect effect on citizenship behaviors through anxiety and a positive indirect effect on counterproductive behaviors through anxiety and anger. Finally, multilevel moderating effects showed that the relationship between hindrance stressors and anger varied according to employees' levels of neuroticism.

*Keywords:* stress, emotions, affective events theory

The topic of stress is one of the oldest in organizational psychology and one of the more enduring. Indeed, fascination with stress is apparent in the sheer number of business press articles attesting to the negative effects of stress on employees and the organizations that employ them (Stroud, 2008). Recently, stress researchers have begun to distinguish between two types of stressors: challenge stressors and hindrance stressors (see Cavanaugh, Boswell, Roehling, & Boudreau, 2000). *Challenge stressors* refer to job demands that are viewed by employees as rewarding work experiences that create opportunity for personal growth (Cavanaugh et al., 2000). Examples of challenge stressors include workload, time urgency, job responsibility, and job complexity. *Hindrance stressors*, on the other hand, refer to job demands viewed as obstacles to personal growth or demands that interfere with or hinder one's ability to achieve valued goals (Cavanaugh et al., 2000). Examples of hindrance stressors include red tape, role ambiguity, role conflict, and hassles.

Using this distinction between challenge and hindrance stressors, researchers are gaining a more complete understanding of the relationships among stressors and work outcomes. One discovery is that both challenge and hindrance stressors are positively related to psychological strains, such as emotional exhaustion, depression, and tension (Boswell, Olson-Buchanan, & LePine, 2004; LePine, LePine, & Jackson, 2004; LePine, Podsakoff, & LePine, 2005; Podsakoff, LePine, & LePine, 2007). Conversely, challenge and hindrance stressors are differentially related to a variety of

attitudes and behaviors, including job satisfaction, commitment, task performance, turnover intentions, turnover, and withdrawal (Boswell et al., 2004; Cavanaugh et al., 2000; LePine et al., 2004, 2005; Podsakoff et al., 2007). That is, challenge stressors tend to be positively related to beneficial attitudes and behaviors, whereas hindrance stressors tend to be positively associated with detrimental attitudes and behaviors.

Despite this progress, it remains unclear how challenge and hindrance stressors are related to discretionary behaviors, such as citizenship and counterproductive behaviors. Although a handful of studies have addressed relationships between specific work stressors and specific discretionary behaviors (e.g., Bolino & Turnley, 2005; Miles, Borman, Spector, & Fox, 2002; Penney & Spector, 2002), researchers have yet to explore this important connection on a broader level by pairing the challenge and hindrance stressor framework with citizenship and counterproductive behaviors. As a result, we still lack a firm understanding of the full performance-based consequences of challenge and hindrance stressors.

Our purpose in this study, therefore, was to build and test a model of the within-individual relationships among challenge and hindrance stressors and discretionary behaviors. Focusing on emotional explanations for these relationships, we built this model by integrating affective events theory (AET; Weiss & Cropanzano, 1996) and the transactional stress model (Lazarus & Folkman, 1984). AET provides an overarching framework that suggests that certain behaviors are emotional responses to workplace events (Weiss & Cropanzano, 1996). In order to study stressful events in particular, we paired AET with Lazarus and Folkman's (1984) transactional stress model. By focusing on the stress process, the transactional stress model provides a useful rationale for different emotional reactions to challenge and hindrance stressors. Combined, these theories offer an emotion-based explanation for the

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relationships among challenge and hindrance stressors and discretionary behaviors, as we argue below.

We employed a within-individual approach in building and testing this model, for several reasons. First, this approach is consistent with our theoretical framework, AET (Weiss & Cropanzano, 1996), which suggests that fluctuations in emotions are predictable and influence workplace behaviors. Second, this design allowed us to accurately capture emotions, which are commonly defined by their short-term or ephemeral nature (for a review, see Frijda, 2000). Third, our focus on dynamic relationships contributes to the literature on challenge and hindrance stressors as well as citizenship and counterproductive behaviors. We are not aware of any research that as yet has examined daily fluctuations in challenge and hindrance stressors or, with a few exceptions (e.g., Judge, Scott, & Ilies, 2006), citizenship and counterproductive behaviors. A within-individual approach allowed us to assess daily variation and the potential for covariation between different pairings of these stressors and discretionary behaviors.

### Theory and Hypotheses

Given the pattern of results in the (still young) literature of challenge and hindrance stressors, one might well argue that challenge stressors are positively related to citizenship behaviors and hindrance stressors are positively related to counterproductive behaviors. However, our goal is to show that this view is an oversimplification of these types of stressors and that if one considers the dynamic (time-variant, within-individual) nature involved in the experience of stressors, a more complex pattern may emerge. Most important, we argue that challenge stressors are capable of triggering both positive and negative emotional re-

sponses, the latter of which may have detrimental consequences for discretionary behaviors.

In particular, our model in Figure 1 suggests that challenge stressors exhibit offsetting indirect relationships with citizenship behaviors, as well as a positive indirect relationship with counterproductive behaviors, by fostering attentiveness and anxiety. Additionally, hindrance stressors exhibit a negative indirect relationship with citizenship behaviors and a positive indirect relationship with counterproductive behaviors by fostering anxiety and anger. Below we discuss and provide support for the hypothesized linkages in the model.

### Challenge and Hindrance Stressors and Emotional Reactions

At the core of AET is the focus on emotional reactions to workplace events (Weiss & Cropanzano, 1996). This theory recognizes that emotional responses fluctuate over time, creating patterns that can be predicted by work events. Workplace stressors, both challenge and hindrance, are prime examples of affective events that may generate emotional responses. According to the transactional stress model (Lazarus & Folkman, 1984), environmental demands that exceed an individual's resources are responsible for the experience of psychological stress. These demands include daily experiences or events, such as receiving conflicting requests from your superiors (i.e., role conflict), having to complete unnecessary paperwork (i.e., hassles), or even the vast number of projects on your desk that day (i.e., workload), which can be categorized as either challenge or hindrance stressors. A major component of the transactional stress model is the process of appraising such encounters (Lazarus & Folkman, 1984). By incorporating AET, our study focused less on the cognitive processes

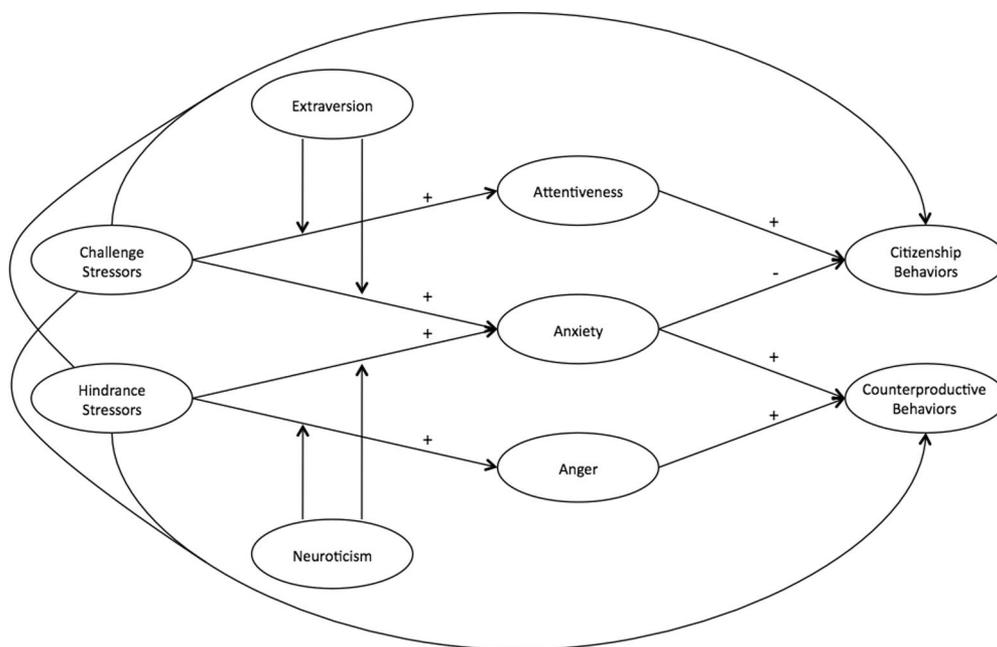


Figure 1. Conceptual model of relationships among stressors, emotions, and behaviors.

underlying stress appraisals (primary and secondary appraisals) and more on the affective states generated by the stressors or stress encounters.

As we have discussed, AET provides an overarching framework of the relationships among workplace events, emotions, and behaviors (Weiss & Cropanzano, 1996). However, beyond the general explanation that positive and negative goal-relevant events produce positive and negative emotions respectively, AET does not offer much guidance on the nature of these specific emotional reactions, nor does it refer directly to challenge and hindrance stressors. To address this, we turn to Lazarus's (1991) elaborations on the transactional stress model in which particular emotional reactions were specified to certain goal-relevant events. According to Lazarus (1991), emotions are a response to relational meaning. Challenge and hindrance stressors represent meaningful events because they provide information about progress or hindrance toward some valued outcome (Cavanaugh et al., 2000). Although Lazarus focused primarily on negative emotions, his theorizing—in combination with AET—provides the basis for modeling attentiveness, anxiety, and anger.

Challenge stressors, because they are appraised as opportunities for growth, learning, and goal attainment, should evoke pleasurable emotions (see Cavanaugh et al., 2000). Indeed, Lazarus (1991) suggested that positive emotions are reactions to encounters that indicate achievement and progress toward a valued outcome. The opportunities for growth, learning, and goal attainment inherent in challenge stressors offer a source of these indicators, and this suggests that challenge stressors should trigger positive emotions. As shown in Figure 1, this study focused on the relationship between challenge stressors and attentiveness. Attentiveness is a positively valenced emotion (Watson, 2000) that refers to feelings of alertness, concentration, and determination. We modeled this specific positive emotion because it is high in pleasantness and engagement (Watson & Tellegen, 1985) and has demonstrated task-related benefits (e.g., Weick & Roberts, 1993). People generally strive to achieve the opportunities available in challenge stressors (i.e., learning and goal attainment) because doing so ultimately generates feelings of self-worth (Lazarus, 1991). This goal is more likely to be accomplished if people focus their attention on the challenge stressor at hand, such as a new assignment or an impending deadline, and are determined to complete it successfully.

*Hypothesis 1:* Challenge stressors will be positively related to attentiveness.

Hindrance stressors should trigger negative emotions because they are appraised as hindering personal growth and goal attainment (see Cavanaugh et al., 2000). Indeed, Lazarus (1991) asserted that negative emotions should result from harms and threats to valued outcomes. As shown in Figure 1, we chose to concentrate on the negative emotions of anger and anxiety. Lazarus (1991) focused almost exclusively on these two negative emotions and offered key distinctions that allowed us to explore subtle differences in their relationships with challenge and hindrance stressors. Lazarus (1991) proposed that anger is a response to an obvious threat or a concrete offensive that injures one's basic values. Because they are viewed as deterrents to achieving valued outcomes (Cavanaugh et al., 2000), hindrance stressors represent the

very type of threats and offenses that Lazarus (1991) suggested would invoke anger. Supporting this claim, Chen and Spector (1991) found a positive relationship between anger and several stressors—role ambiguity, role conflict, and constraints—that can be considered hindrance stressors.

*Hypothesis 2:* Hindrance stressors will be positively related to anger.

In contrast to anger, anxiety—because it is a response to uncertainty (Lazarus, 1991)—may be a product of both hindrance and challenge stressors. Lazarus (1991) asserted that anxiety is an anticipatory emotion that may result from both concrete and potential threats to one's values. As previously noted, hindrance stressors represent a concrete threat because they are viewed as deterrents to achieving valued outcomes. We argue that challenge stressors represent a potential threat because they inherently include some level of uncertainty. For example, time urgency (a challenge stressor) evokes uncertainty over whether or not individuals can finish their work in time. In this way, uncertainty represents a potential threat that one may not succeed in conquering the challenge at hand. Therefore, we expected that anxiety might be associated with both challenge and hindrance stressors. Initial support for this hypothesis can be found in prior studies that have shown that challenge and hindrance stressors increased strain and emotional exhaustion, the measures of which may have implicitly contained an element of anxiety (Boswell et al., 2004; LePine et al., 2005).

*Hypothesis 3:* Challenge (H3a) and hindrance (H3b) stressors will be positively related to anxiety.

### *Challenge and Hindrance Stressors and Citizenship and Counterproductive Behaviors*

After specifying that events generate emotional reactions, AET (Weiss & Cropanzano, 1996) goes on to indicate that these emotions influence subsequent behaviors at work. The theory proposes that people engage in behaviors that are intended to deal with their particular emotional reactions (Weiss & Cropanzano, 1996). In addition to helping people deal with their emotions, these behaviors can either contribute to or detract from job performance (Weiss & Cropanzano, 1996), thereby hinting at the role of citizenship and counterproductive behaviors, respectively. These discretionary behaviors can be seen as outlets with which to respond to emotions (Spector & Fox, 2002) and serve as what Lazarus and Folkman would call emotion-focused coping (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). Emotion-focused coping refers to responses that are designed to manage emotional reactions to stressful experiences (Lazarus & Folkman, 1984). From this perspective, the emotions triggered by challenge and hindrance stressors motivate behaviors—here, citizenship and counterproductive—that help employees to cope with the experienced stressors.

As shown in Figure 1, we expected that attentiveness would be positively associated with citizenship behaviors. According to Isen (1984), it is likely that people in a positive state will choose to help others. Indeed, various prior studies have demonstrated that individuals experiencing positive emotions more actively engage in

citizenship behaviors (e.g., George, 1991; Ilies, Scott, & Judge, 2006; Miles et al., 2002). Although we are unaware of any studies that relate attentiveness, in particular, to citizenship behaviors, we expected to find a positive relationship. Attentiveness is high on both pleasantness and engagement (Watson & Tellegen, 1985), two states that are consistent with the nature of many citizenship behaviors (e.g., helping and keeping up with organizational developments). Individuals whose attention is piqued on a given day may be more likely to notice a coworker in need or to take the time to read about new company policies. Given the previously specified relationship between challenge stressors and attentiveness, we predicted that

*Hypothesis 4:* Challenge stressors will have a positive indirect relationship with citizenship behavior, as mediated by attentiveness.

In contrast, one may also engage in behaviors in an attempt to reduce negative feelings (Lazarus, 1991; Weiss & Cropanzano, 1996). Taking this idea a step further, Spector and Fox (2002) theorized that negative emotions should induce action tendencies designed to minimize negative feelings. Focusing on the negative emotion of anger, Lazarus (1991) suggested that retaliation and vengeance are ways of repairing the damage to one's self caused by harms and threats to personal values. In other words, these counterproductive behaviors may help individuals manage their anger by "evening the score" (Spector & Fox, 2002). Indeed, Chen and Spector (1992) found that anger was positively related to theft, sabotage, and absenteeism. Similarly, Judge et al. (2006) concluded that within-individual hostility was positively related to counterproductive behaviors on a daily basis. Pairing this expected relationship with our previously specified relationship between hindrance stressors and anger, we predicted that

*Hypothesis 5:* Hindrance stressors will have a positive indirect relationship with counterproductive behaviors, as mediated by anger.

Anxiety is another negative emotion that can induce behavior. In contrast with anger, however, the action tendency for anxiety is avoidance and escape (Lazarus, 1991). People respond to stimuli that make them anxious by orienting themselves away from the stimuli and related consequences (Roth & Cohen, 1986). Avoidance offers the opportunity to reduce stress and gradually recognize and deal with the threats that lead to the feelings of anxiety (Roth & Cohen, 1986). For example, an employee who experiences a great deal of complexity and responsibility could psychologically withdraw from his or her work unit due to feelings of anxiety. That avoidance response would necessarily limit prosocial action, as such behaviors demand more involvement and engagement in work activities. After all, helping coworkers, volunteering to attend organizational functions, and defending one's work unit require a more consistent presence on the part of employees (e.g., Organ, 1997). Coupling this with the previously specified relationship between challenge stressors and anxiety, we predicted that

*Hypothesis 6:* Challenge stressors will have a negative indirect relationship with citizenship behaviors, as mediated by anxiety.

Although curtailing one's work involvement in response to anxiety should reduce citizenship behaviors, it may also result in a more intense psychological and physical withdrawal from one's job. Withdrawal behaviors, such as tardiness, long breaks, leaving early, and missing meetings, can be found in most taxonomies of counterproductive behaviors (Bennett & Robinson, 2000; Rotundo & Sackett, 2002). For example, an employee who is experiencing administrative hassles and red tape could physically withdraw from the work context as a means of dealing with anxiety. This suggests that anxiety would be positively related to counterproductive behaviors. Pairing this prediction with the previously specified relationship between hindrance stressors and anxiety, we predicted that

*Hypothesis 7:* Hindrance stressors will have a positive indirect relationship with counterproductive behaviors, as mediated by anxiety.

The theorizing relied upon in the previous hypotheses (Lazarus, 1991; Lazarus & Folkman, 1984; Weiss & Cropanzano, 1996) points to two additional, less conventional predictions. As shown above, we expected that both challenge and hindrance stressors would exhibit positive relationships with anxiety (Boswell et al., 2004; Lazarus, 1991; LePine et al., 2005). Because anxiety is associated with avoidant action tendencies (Lazarus, 1991; Roth & Cohen, 1986), we further expected that anxiety would decrease citizenship behaviors and increase counterproductive behaviors. Therefore, rather than suggesting that challenge stressors are relevant only to "good" behaviors (Hypothesis 6) and hindrance stressors are relevant only to "bad behaviors" (Hypothesis 7), we believed that their links to anxiety would provide a conceptual rationale for other stressor-discretionary behavior relationships. That is, challenge stressors might indirectly increase counterproductive behaviors by increasing anxiety, and hindrance stressors might indirectly decrease citizenship behaviors by increasing anxiety. Modeling these additional predictions allowed us to examine the full spectrum of emotion-based responses to stressors.

*Hypothesis 8:* Challenge stressors will have a positive indirect relationship with counterproductive behaviors, as mediated by anxiety.

*Hypothesis 9:* Hindrance stressors will have a negative indirect relationship with citizenship behaviors, as mediated by anxiety.

#### *Moderating Effects of Extraversion and Neuroticism*

A third feature of AET captured in our model is the potential for individual dispositions to influence the impact that work events have on affective reactions (Weiss & Cropanzano, 1996). This feature is consistent with Bolger and Zuckerman's (1995) description of differential reactivity. Differential reactivity refers to "the extent to which a person is likely to show emotional or physical reactions to a stressful event" (Bolger & Zuckerman, 1995, p. 890). That is, people high on certain personality traits should react more severely (e.g., with stronger emotions) than do people low on those personality traits. Although personality may also influence selection into stressful situations (something Bolger and Zuckerman called "differential exposure"), other studies have found per-

sonality to more strongly influence reactions to stressors than exposure to stressors (e.g., Bolger & Schilling, 1991). We focus here on the reactivity effect, because, in addition to this finding, reactivity is more consistent with AET and with the traditional conceptualization of dispositions in the stress process (see Cohen & Edwards, 1989).

As shown in Figure 1, we modeled this reactivity effect for the personality traits of extraversion and neuroticism. We chose to include personality (and more specifically extraversion and neuroticism) for several reasons. Most important, these traits were specifically discussed in this role in the development of AET (Weiss & Cropanzano, 1996), and the majority of studies on differential reactivity have focused on these traits (e.g., Bolger & Schilling, 1991; Bolger & Zuckerman, 1995; Larsen & Ketelaar, 1991). As outlined in AET, extraverts are predisposed to react more positively to stimuli that generate positive emotions when they occur (Gray, 1981). Gray (1981) contended that this is true because extraversion relates to a behavioral activation system that is sensitive to signals of reward. Indeed, in a lab study that manipulated affect, Larsen and Ketelaar (1991) confirmed that extraverted participants exhibited heightened emotional reactions to positive affect induction. However, we are unaware of any study that has addressed this effect in response to stressors. Given our prediction that challenge stressors would generate positive emotions, we expected that people high in extraversion would be predisposed to respond more positively to challenge stressors. In particular, we expected that the influence of extraversion might be visible in two ways: either by amplifying the effect of challenge stressors on attentiveness or by mitigating the effect of challenge stressors on anxiety.

*Hypothesis 10:* Extraversion will moderate (a) the challenge stressor–attentiveness relationship (such that the relationship will be more positive when extraversion is high) and (b) the challenge stressor–anxiety relationship (such that the relationship will be less positive when extraversion is high).

In contrast to extraverts, neurotic individuals are predisposed to react more negatively to stimuli that generate negative emotions when they occur (Gray, 1981; Larsen & Ketelaar, 1991). Gray (1981) suggested that this differential reactivity emanates from the close link between neuroticism and a behavioral inhibition system that is sensitive to signals of punishment. Given our prediction that hindrance stressors would generate negative emotions, we expected that people high in neuroticism would be predisposed to respond more negatively to hindrance stressors. Indeed, several studies by Bolger and colleagues specifically support the impact of neuroticism on the emotional response to stressors, such that highly neurotic individuals displayed more negative emotions in response to stressful events (Bolger, 1990; Bolger & Schilling, 1991; Bolger & Zuckerman, 1995). Therefore, we expected that neuroticism would amplify the influence of hindrance stressors on anxiety and anger.

*Hypothesis 11:* Neuroticism will moderate (a) the hindrance stressor–anxiety relationship (such that the relationship will be more positive when neuroticism is high) and (b) the hindrance stressor–anger relationship (such that the relationship will be more positive when neuroticism is high).

## Method

### Participants

Participants were 100 full-time employees of various organizations throughout the United States. They represented a broad range of industries, ranging from health care to sales and retail to manufacturing. On average, participants were 32.5 years of age ( $SD = 10.7$ ), had been with their respective organizations for 2.87 years ( $SD = 3.33$ ), and worked 37.6 hours per week ( $SD = 9.32$ ). In terms of participants' racial background, 79% were Caucasian, 5% were African American, 6% were Hispanic, 5% were Asian, and 4% were listed as "other." In terms of participants' educational background, 7% had received either a master's degree or a doctorate, 7% had gone to graduate school, 28% had obtained a college degree, 38% had completed some college, 10% had received an associate's degree, and 10% had received a high school diploma. Additionally, the majority of participants were female (78%).

### Procedure

Participants were recruited through a posting in the online community Craigslist ([www.craigslist.org](http://www.craigslist.org)). A general advertisement listing the study requirements was posted in two cities in the southeastern United States. The posting directed interested individuals to a website that included more specific details about the study, the informed consent form, and a registration form. Once 125 individuals had completed the registration form, the registration was closed. Of those 125 individuals, 112 decided to participate in the study. Data collection took place over 3 weeks during November 2007, and participants were rewarded with up to \$50 for their full participation.

We used an experience sampling methodology and asked participants to complete one survey a day for 10 consecutive workdays (defined according to their work schedule). We assessed adherence to this requirement by manually recording the dates on which each participant completed the surveys and verifying any gaps. Each daily survey assessed challenge and hindrance stressors, positive and negative emotions, and citizenship and counterproductive behaviors. To maintain consistency, we sent an e-mail reminder to participants each day at 1:00 p.m. An analysis of the time stamps attached to each daily survey revealed that participants completed the surveys, on average, at 3:08 p.m. Furthermore, participants reported that their average workday ran from 6:00 a.m. ( $SD = 3.57$ ) to 3:30 p.m. ( $SD = 2.25$ ). To ensure anonymity, participants entered a six-digit number each time they completed a daily survey, and the connection between their names and mailing addresses and their six-digit codes was deleted as soon as participants were compensated. We limited our analyses to participants who completed at least six daily surveys, and this resulted in a sample of 100 participants. Eighty-seven percent of these participants completed all 10 of the requested daily responses. Because participants were given a window of 3 weeks in which to complete the study, there were several individuals who went above and beyond the study requirements and completed up to 15 daily surveys. In the end, we obtained a total of 1,035 daily observations, or approximately 10 daily responses per participant. Additionally, all participants completed an initial onetime survey that

assessed their personality traits (i.e., extraversion and neuroticism).

### Measures

Given the time constraints involved with asking participants to complete daily surveys, it was important to keep the scales as short as possible. Accordingly, we used reduced sets of items from validated scales for each of the variables included in the daily surveys and focused on items that were most likely to vary on a daily basis. This practice is consistent with other experience sampling studies in top-tier journals (e.g., Judge et al., 2006; Sonnentag, Binnewies, & Mojza, 2008). The scales used in the current study continued to exhibit high reliability, and this suggests that their psychometric quality remained acceptable.

**Challenge and hindrance stressors.** In order to assess challenge and hindrance stressors on a daily basis, we created two eight-item measures based on prior validated scales (Cavanaugh et al., 2000; Ivancevich & Matteson, 1980; LePine et al., 2004; Rizzo, House, & Lirtzman, 1970). The challenge stressor scale assessed perceived levels of workload, time urgency, job responsibility, and job complexity. These demands are conceptually categorized as challenge stressors because, although stressful, they are also associated with gains and growth. Sample items include “Today, my job has required me to work very hard,” “Today, I have experienced severe time pressures in my work,” “Today, I’ve felt the weight of the amount of responsibility I have at work,” and “Today, my job has required me to use a number of complex or high-level skills,” respectively. The hindrance stressor scale assessed perceived levels of red tape, role ambiguity, role conflict, and hassles. These demands are conceptually categorized as hindrance stressors because they are viewed as obstacles to gains and growth. Sample items include “Today, I have had to go through a lot of red tape to get my job done,” “Today, I have not fully understood what is expected of me,” “Today, I have received conflicting requests from two or more people,” and “Today, I have had many hassles to go through to get projects/assignments done,” respectively. Our classification of challenge and hindrance stressors is consistent with prior conceptualizations (see Cavanaugh et al., 2000; LePine et al., 2005; Podsakoff et al., 2007) and was verified in this sample using participants’ responses to open-ended questions about their “challenging” and “hindering” work events.<sup>1</sup> In accordance with previously constructed scales, participants were informed that the list of challenge and hindrance stressor items were “work-related items that may or may not influence your level of stress” and were instructed to “indicate how much you agree with the following statements today” using a 5-point scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. The mean coefficient alpha (across days) was .92 for challenge stressors and .83 for hindrance stressors.

**Emotions.** We assessed daily levels of three emotions: attentiveness, anxiety, and anger. We assessed attentiveness with three adjectives from the Positive and Negative Affect Schedule—Expanded Form (PANAS-X; Watson & Clark, 1994), specifically, *attentive*, *alert*, and *determined*. We selected adjectives with which to assess anxiety based on the PANAS-X (Watson & Clark, 1994) and the Job-Related Affective Well-Being Scale (Van Katwyk, Fox, Spector, & Kelloway, 2000), specifically, *nervous* and *anxious*. Similarly, we assessed anger with two adjectives from the

PANAS-X (Watson & Clark, 1994), *anger* and *hostility*. Following the instructions outlined in the PANAS-X, we gave participants the list of adjectives and instructed them to “indicate to what extent you experience the following states right now” on a 5-point scale ranging from 1 = *very slightly or not at all* to 5 = *very much*. The mean coefficient alpha was .92 for attentiveness (across days), .83 for anxiety (across days), and .85 for anger (across days).

**Citizenship behaviors.** We measured citizenship behaviors using 11 items from Lee and Allen’s (2002) measure. For the items included in the study, participants were instructed to “indicate how often you engaged in the behavior today” using a 5-point scale ranging from 1 = *never* to 5 = *often*. Sample items included “I assisted others with their duties today,” “Today I defended the organization when other employees criticized it,” and “I expressed loyalty toward the organization today.” The mean coefficient alpha (across days) was .91.

**Counterproductive behaviors.** We measured counterproductive behaviors with 11 items from Bennett and Robinson’s (2000) measure. For each of the items, we instructed participants to “indicate how often you engaged in the behavior today” using a 5-point scale ranging from 1 = *never* to 5 = *often*. Sample items included “Today I worked on a personal matter instead of working for my employer,” “I came in late to work without permission today,” and “Today I neglected to follow my boss’s instructions.” The mean coefficient alpha (across days) was .83.

**Personality.** The personality traits of extraversion and neuroticism were assessed with a scale developed by Saucier (1994). Participants were provided with a list of eight adjectives for each trait and were instructed to use a 9-point scale (1 = *extremely inaccurate* to 9 = *extremely accurate*) to “describe yourself as you see yourself at the present time, not as you wish to be in the future,” focusing on “yourself as you are generally or typically.” Sample adjectives for extraversion included *bold*, *energetic*, and *talkative*, and sample adjectives for neuroticism included *temperamental*, *touchy*, and *moody*. The coefficient alpha was .81 for extraversion and .84 for neuroticism.

<sup>1</sup> Participants were asked to respond to two open-ended questions about challenge and hindrance stressors. These questions asked participants to describe one to two work events that they found challenging and one to two work events that they found hindering each day. In general, participants’ responses corresponded with the a priori challenge and hindrance stressor categories. Examples of participant experiences with challenge stressors included “taking on additional projects plus what is already due” (workload), “trying to complete the work in the time allowed” (time urgency), “making sure all staff are on the same page for tomorrow’s performance” (job responsibility), and “compose and arrange a tune using 10 different variations and prepare a presentation to other musicians” (job complexity). Examples of participant experiences with hindrance stressors included “needed change for the client and I am not the vault teller, I had to get the relationship banker to get dual control to get into the vault to get change and I also had other people waiting, so I guess the ‘red tape’ of getting into the vault” (red tape); “this is a new position and there aren’t any previously written or established guidelines on how to do this job” (role ambiguity); “having to juggle two jobs” (role conflict); and “to work on a project without the resources readily available to me” (hassles).

### Analyses

We analyzed the data with hierarchical linear modeling (HLM 5.0; Bryk, Raudenbush, & Congdon, 2000), which allowed us to address variables at multiple levels of analysis. In the present study, the Level 1 variables (stressors, emotions, and behaviors) were within individual and the Level 2 variables (personality traits) were between individuals. In order to appropriately test and interpret within-individual relationships, we centered the Level 1 predictor variables (challenge stressors, hindrance stressors, attentiveness, anxiety, and anger) at each individual's mean value (Hofmann, Griffin, & Gavin, 2000) and the Level 2 predictor variables at the average mean value (i.e., the grand mean). Before testing the hypotheses, we investigated whether multilevel analyses were indeed appropriate by examining within- and between-individual variance in the variables. As shown in Table 1, the results indicated that a considerable proportion of the total variance in the variables (ranging from 38% to 65.3%) was within individual. This evidence of within-individual variance supported proceeding with HLM, as there was both within- and between-individual variance to explain.

### Results

The means, standard deviations, and zero-order correlations are presented in Table 2. Given the hierarchical nature of the data, we present both within-individual and between-individual correlations. We note one correlation in particular: Challenge and hindrance stressors are correlated at .46. Although moderately high, this correlation is within a reasonable range, given prior results (see LePine et al., 2005). This correlation is one of the reasons why, in addition to testing several of our hypotheses, we have modeled the effects of both stressors in each regression equation. Indeed, it has become common practice in this literature to model both stressors in order to assess their independent effects (e.g., LePine et al., 2005; Podsakoff et al., 2007). The HLM results testing the hypotheses are presented in Tables 3 and 4, and Figure 2 provides a cumulative representation of the standardized results for all of the hypotheses.

### Main Effects

To test the main effects predicted in Hypotheses 1, 2, and 3, we conducted a series of regressions in HLM with Level 1

variables that predicted (a) attentiveness, (b) anxiety, and (c) anger. The results from these regression analyses are provided in Table 3, with the direct effects of challenge and hindrance stressors displayed in the top portion. Hypothesis 1 predicted that challenge stressors would be positively related to attentiveness. The first column in Table 3 displays the direct effects of challenge stressors on attentiveness. As the results show, within individuals, perceptions of challenge stressors were significantly associated with attentiveness on a daily basis. Thus, Hypothesis 1 was supported.

Hypothesis 2 predicted that hindrance stressors would be positively related to anger. The regression results predicting anger are provided in the middle column of Table 3. As the results in the table show, hindrance stressors were positively related to feelings of anger. That is, within individuals, perceptions of hindrance stressors were associated with feelings of anger on a daily basis. Thus, Hypothesis 2 was also supported.

Hypothesis 3a predicted that challenge stressors would be positively related to anxiety, and Hypothesis 3b predicted that hindrance stressors would be positively related to anxiety. The regression results predicting anxiety are provided in the last column of Table 3. As the table shows, challenge stressors were positively related to anxiety and hindrance stressors were positively related to anxiety. Thus, within individuals, perceptions of challenge and hindrance stressors were associated with feelings of anxiety on a daily basis. These associations support Hypotheses 3a and 3b, respectively.

### Indirect Effects

We tested the predicted indirect effects by regressing the discretionary behaviors on stressors and emotions, as displayed in Figure 1. In particular, we regressed citizenship behaviors on challenge stressors, hindrance stressors, attentiveness, and anxiety; we also regressed counterproductive behaviors on challenge stressors, hindrance stressors, anxiety, and anger. Although we did not make predictions about the direct effects of stressors on discretionary behaviors, these effects were modeled in order to test the hypothesized indirect effects through emotions. Combined, the predictors explained 32% of the variance in citizenship behaviors ( $R^2 = .32$ ) and 29% of the variance in counterproductive behaviors ( $R^2 = .29$ ). The results from these regression analyses are provided in Figure 2. By combining these regression results with the results

Table 1  
Variance Components of Null Models for Challenge Stressors, Hindrance Stressors, Attentiveness, Anger, Anxiety, Citizenship Behaviors, and Counterproductive Behaviors

Variable	Within-individual variance	Between-individual variance	% variability within individual
Challenge stressors	0.506	0.409*	55.3
Hindrance stressors	0.296	0.346*	46.1
Attentiveness	0.622	0.596*	44.5
Anger	0.443	0.235*	65.3
Anxiety	0.604	0.592*	51.1
Citizenship behaviors	0.327	0.533*	38.0
Counterproductive behaviors	0.118	0.157*	42.9

Note. Percentage of variability within individual was computed by dividing the within-individual variance by the total (within- + between-individual) variance.

\*  $p < .05$ .

Table 2  
Means, Standard Deviations (SD), and Intercorrelations Between Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9
Within-individual correlations (Level 1)											
1. Challenge stressors	3.17	0.96	(.92)	.49*	.14	.28*	.16	.43*	-.01	-.20	.25*
2. Hindrance stressors	2.39	0.81	.46*	(.83)	-.11	.29*	.43*	.21*	.30*	-.03	.32*
3. Attentiveness	3.37	1.11	.17*	-.05	(.92)	-.09	-.08	.31*	-.29*	.26*	-.28*
4. Anxiety	1.99	1.09	.23*	.25*	-.04	(.83)	.54*	.20	.23*	-.09	.49*
5. Anger	1.42	0.82	.18*	.36*	-.07*	.44*	(.85)	.06	.38*	-.10	.45*
6. Citizenship behaviors	2.89	0.94	.35*	.17*	.32*	.08*	-.02	(.91)	-.12	.11	-.03
7. Counterproductive behaviors	1.47	0.52	-.03	.21*	-.23*	.19*	.33*	-.11*	(.83)	-.01	.38*
Between-individual correlations (Level 2)											
8. Extraversion	6.19	1.31								(.81)	-.11
9. Neuroticism	4.41	1.56									(.84)

Note. Correlations above the diagonal represent between-individual (aggregated) scores ( $n = 100$ ). Correlations below the diagonal represent within-individual scores ( $n = 1,035$ ). Parenthetical values are reliabilities.

\*  $p < .05$ .

from our tests of Hypotheses 1–3 (also displayed in Figure 2), we were able to test the hypothesized indirect effects. Following the “product of coefficients” approach advocated by MacKinnon, Lockwood, Hoffman, West, and Sheets (2002), mediation is demonstrated when an independent variable has a statistically significant indirect effect on a dependent variable when a direct effect is also modeled. Unlike Baron and Kenny’s (1986) approach, which requires a significant total effect in order to assess mediation, that of MacKinnon et al. (2002) recognizes that an overall effect may be concealed by conflicting indirect effects. Therefore, we conducted a series of Sobel (1982) tests to ascertain the significance of the indirect effects. The results from the Sobel tests are provided in Table 4.

Hypothesis 4 predicted that challenge stressors would have a positive indirect relationship with citizenship behaviors through attentiveness. Indirect effects can be produced by multiplying the relevant path coefficients provided in Figure 2. For example, the .06 indirect effect of challenge stressors on citizenship behaviors through attentiveness can be re-created by multiplying  $.22 \times .26$ ,

Table 3  
Results for Attentiveness, Anger, and Anxiety

Variable	Dependent variable		
	Attentiveness	Anger	Anxiety
Within-individual main effects			
Challenge stressors	0.22*	—	0.12*
Hindrance stressors	—	0.26*	0.14*
Between-individual main effects			
Extraversion	0.27*	—	-.05
Neuroticism	—	0.38*	0.50*
Interaction terms			
Extraversion $\times$ Challenge Stressors	0.06	—	-.06
Neuroticism $\times$ Hindrance Stressors	—	0.14*	-.04
$R^2$	.07	.24	.23

Note. Level 1,  $n = 1,035$ . Level 2,  $n = 100$ . The path coefficients are standardized. Level 1 predictor variables were individual-mean centered, and Level 2 predictor variables were grand-mean centered. Dashes represent paths not modeled in Figure 1.  $R^2$  = proportion of variance in criterion associated with the predictors (see Hoffmann et al., 2000).

\*  $p < .05$ .

with rounding error. The Sobel test of this indirect effect (shown in Table 4) confirmed that it was significant; thus, Hypothesis 4 was supported.

Hypothesis 5 predicted that hindrance stressors would have a positive indirect relationship with counterproductive behaviors through anger. As shown in Figure 2, there were significant relationships between hindrance stressors and anger and between anger and counterproductive behaviors. Confirming Hypothesis 5, the results of the Sobel test showed that this indirect relationship was significant.

Hypothesis 6 predicted a negative indirect relationship between challenge stressors and citizenship behaviors through anxiety. As shown in Figure 2, the relationship between challenge stressors and anxiety and that between anxiety and citizenship behaviors were significant. Supporting Hypothesis 6, the results from the Sobel test revealed a significant, negative indirect relationship

Table 4  
Total and Indirect Effects on Citizenship and Counterproductive Behaviors

Relationship	Mediator	Total effect	Indirect effect
Challenge stressors–citizenship behaviors	Attentiveness	0.24*	0.06*
Hindrance stressors–counterproductive behaviors	Anger	0.10*	0.05*
Challenge stressors–citizenship behaviors	Anxiety	0.24*	-.01*
Hindrance stressors–counterproductive behaviors	Anxiety	0.10*	0.01*
Challenge stressors–counterproductive behaviors	Anxiety	-.12*	0.01*
Hindrance stressors–citizenship behaviors	Anxiety	0.02	-.01*

Note. Level 1,  $n = 1,035$ . All predictor variables were individual-mean centered. Reported total and indirect effects are standardized coefficients. The indirect effect was calculated by multiplying the coefficient for the independent variable–mediator link by the coefficient for the mediator–dependent variable link. The significance of the indirect effect was evaluated with a Sobel test of mediation on unstandardized coefficients.

\*  $p < .05$ .

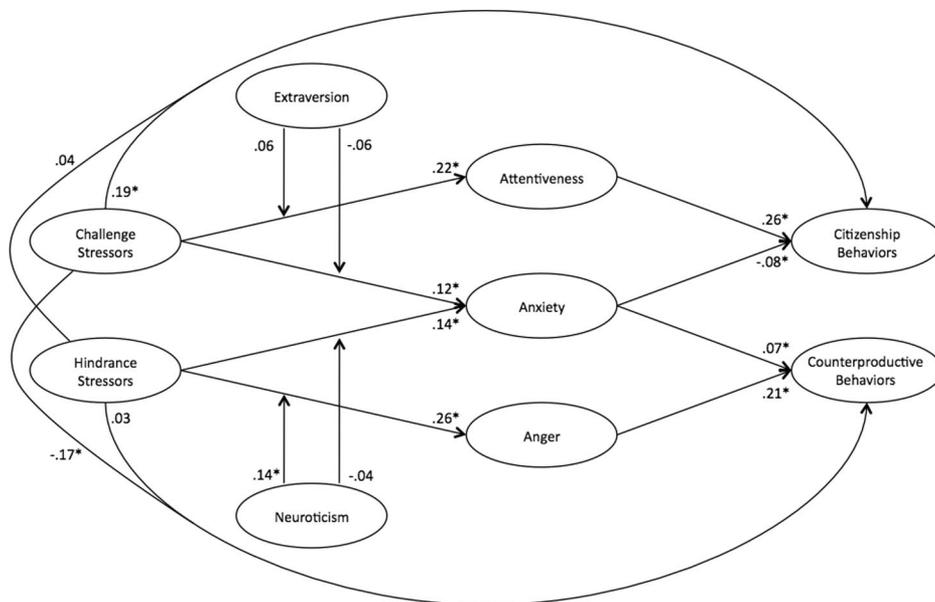


Figure 2. Summary of results. Results are standardized and were obtained from separate regressions that predicted attentiveness, anxiety, anger, citizenship behaviors, and counterproductive behaviors.  $p < .05$ .

between challenge stressors and citizenship behaviors through anxiety.

Hypothesis 7 predicted that hindrance stressors would have a positive indirect relationship with counterproductive behaviors through anxiety. The results in Figure 2 show that there was a significant association between hindrance stressors and anxiety and between anxiety and counterproductive behaviors. Supporting the hypothesis, a Sobel test revealed a significant, positive indirect relationship between hindrance stressors and counterproductive behaviors through anxiety.

Hypothesis 8 predicted a positive indirect relationship between challenge stressors and counterproductive behaviors through anxiety. As shown in Figure 2, challenge stressors were significantly related to anxiety and anxiety was significantly related to counterproductive behaviors. The results from the Sobel test showed that the positive indirect relationship between challenge stressors and counterproductive behaviors through anxiety was significant, supporting Hypothesis 8.

Hypothesis 9 predicted that hindrance stressors would have a negative indirect relationship with citizenship behaviors through anxiety. The results in Figure 2 show that hindrance stressors had a significant relationship with anxiety and that anxiety had a significant relationship with citizenship behaviors. Confirming the hypothesis, the Sobel test suggested that the negative indirect relationship between hindrance stressors and citizenship behaviors through anxiety was significant.

#### Analysis of Target Referenced Citizenship and Counterproductive Behaviors

As shown in Figure 1, we conceptualized citizenship and counterproductive behaviors as unidimensional behaviors. This decision was largely based on the movement of these literatures toward a more unidimensional view (see Berry, Ones, & Sackett, 2007;

Dalal, 2005; LePine, Erez, & Johnson, 2002). However, our measures of these behaviors were drawn from scales with a two-factor structure based on target (i.e., individually and organizationally targeted behaviors; Bennett & Robinson, 2000; Lee & Allen, 2002). Given this discrepancy, we investigated whether the target reference of citizenship and counterproductive behaviors would significantly affect the relationships in our model. To do this, we reestimated the hypothesized model after creating versions of the following dependent variables in our data: individually targeted citizenship behavior, organizationally targeted citizenship behavior, individually targeted counterproductive behavior, and organizationally targeted counterproductive behavior.

The results of these analyses are presented in Table 5. As shown in the table, the general pattern and significance of the results did not vary across target reference. The average difference in path coefficient magnitude from the unidimensional construct is as follows: .03 for individually targeted citizenship behaviors, .02 for organizationally targeted citizenship behaviors, .08 for individually targeted counterproductive behaviors, and .05 for organizationally targeted counterproductive behaviors. Among these results, there are two noteworthy differences. It appears that challenge stressors are more likely to decrease organizationally (rather than individually) targeted counterproductive behaviors, whereas anger is more likely to drive individually (rather than organizationally) targeted counterproductive behaviors.

#### Moderating Effects

Hypotheses 10 and 11 predicted that personality traits would moderate the within-individual relationships between stressors and emotions. In particular, Hypothesis 10 predicted that extraversion would moderate the challenge stressors–attentiveness relationship (Hypothesis 10a) and the challenge stressors–anxiety relationship (Hypothesis 10b). To test these effects, we included Level 2

Table 5  
Results for Target Referenced Citizenship and Counterproductive Behaviors

Variable	Dependent variable			
	Citizenship behavior (individual)	Citizenship behavior (organizational)	Counterproductive behavior (individual)	Counterproductive behavior (organizational)
Challenge stressors	0.15*	0.16*	0.07	-0.24*
Hindrance stressors	0.04	0.03	0.01	0.01
Attentiveness	0.20*	0.24*	—	—
Anger	—	—	0.22*	0.13
Anxiety	-0.05*	-0.08*	0.04	0.09*

Note. Level 1,  $n = 1,035$ . The path coefficients are standardized. Level 1 predictor variables were individual-mean centered. Dashes represent paths not modeled in Figure 1.

\*  $p < .05$ .

extraversion as a predictor of the Level 1 regression of the emotion in question (either attentiveness or anxiety) on challenge stressors. The interaction terms that test Hypothesis 10a and 10b are provided in Table 3. Neither the challenge stressor–extraversion product term predicting attentiveness (Hypothesis 10a) nor that predicting anxiety (Hypothesis 10b) was significant; thus, the hypothesis was not supported.

Hypothesis 11 predicted that neuroticism would moderate the hindrance stressors–anxiety relationship (Hypothesis 11a) and the hindrance stressors–anger relationship (Hypothesis 11b). We tested these hypotheses in a similar fashion, by adding Level 2 neuroticism as a predictor of Level 1 regression of the emotion in question (either anxiety or anger) on hindrance stressors. The results relevant to Hypothesis 11a and 11b are also provided in Table 3. Regarding Hypothesis 11a, the hindrance stressor–neuroticism product term predicting anxiety was not significant. Turning to Hypothesis 11b, the hindrance stressor–neuroticism product term predicting anger was statistically significant. The interaction graph created to assess the nature of the interaction is presented in Figure 3. Inspection of this interaction graphically revealed a steeper slope for neurotic individuals. In other words, neuroticism amplified the effects of hindrance stressors on anger.

#### Analysis of Gender Differences

Given that our sample was predominantly female (78%), we investigated whether controlling for gender significantly altered

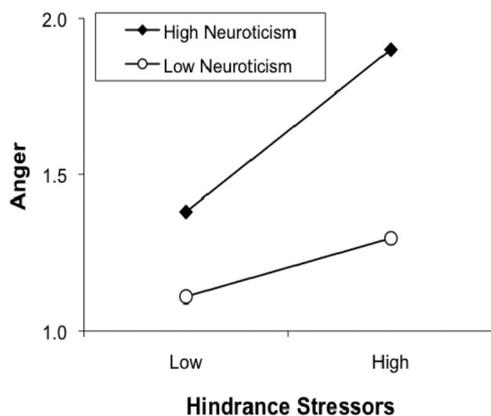


Figure 3. Moderating effect of neuroticism on the hindrance stressor–anger relationship.

the relationships in our model. Initially, we found that gender was significantly related to anxiety, neuroticism, and counterproductive behaviors. However, controlling for gender in the regression equations did not affect the relationships presented in the model. Indeed, the average difference in path coefficients between the model presented in Figure 1 and a model controlling for gender was merely .009 (the largest absolute difference was .02).

#### Discussion

It is hardly debatable that challenge and hindrance stressors are a part of everyday work life. Given this fact, it is important that organizations and researchers understand the nature and impact of such stressors on employee behaviors. Although the distinction between challenge and hindrance stressors has begun to explain their differing impact on work criteria (e.g., Boswell et al., 2004; Cavanaugh et al., 2000; LePine et al., 2005; Podsakoff et al., 2007), we still lack a firm understanding of the performance-based consequences of challenge and hindrance stressors. In addition to their impact on task performance, discretionary behaviors—such as citizenship and counterproductive behaviors—have important consequences for organizations (see Podsakoff, Ahearne, & MacKenzie, 1997; Robinson & Bennett, 1995). Furthermore, it is likely these stressors and discretionary behaviors fluctuate on a daily basis (a topic that researchers have yet to fully explore). With this in mind, we paired Weiss and Cropanzano's (1996) AET with Lazarus and Folkman's (1984) transactional stress model to build and test an emotion-based explanation for the relationships between challenge and hindrance stressors and these discretionary behaviors.

#### Challenge Stressors and Citizenship and Counterproductive Behaviors

Challenge stressors exhibited a positive total relationship with citizenship behaviors (see Table 4). One explanation for this relationship was found by modeling emotional reactions to challenge stressors. In fact, incorporating these emotional reactions revealed important nuances in the relationship between challenge stressors and citizenship behaviors. Despite the overall positive relationship, offsetting indirect effects on citizenship behaviors emerged through attentiveness and anxiety. That is, challenge stressors had a positive indirect effect on citizenship behaviors through attentiveness but a negative indirect effect on citizenship behaviors

through anxiety. Both of these effects are consistent with prior theorizing on action tendencies: People are likely to respond to positive emotions by engaging in positive behaviors (Isen, 1984) and avoiding situations that invoke feelings of anxiety (Lazarus, 1991). Taken together, these results suggest that the degree to which challenge stressors are “good” depends on the relative impact challenge stressors have on attentiveness and anxiety. We can envision that some challenge stressors, such as job responsibility, may promote attentiveness more than anxiety. In contrast, other challenge stressors—such as time urgency—may promote more anxiety than attentiveness.

In our model, challenge stressors also exhibited a negative total relationship with counterproductive behaviors. It would appear, therefore, that experiencing challenge stressors, such as increased job responsibility and complexity, would decrease acts of withdrawal, such as tardiness and cyber loafing. However, considering the role of anxiety, we predicted and found that challenge stressors actually had a positive indirect effect on counterproductive behaviors. The action tendency for anxiety is avoidance, which can include withdrawal from one’s job (a form of counterproductive behavior). Because challenge stressors induced this emotion, they displayed a positive relationship with counterproductive behaviors. This relationship provides further evidence of the potential downside to challenge stressors that is fostered by anxiety. Although it may be tempting to consider challenge stressors as “good,” employers should carefully weigh the potential for positive and negative influences of these stressors on discretionary behaviors.

Despite the significant indirect effects of challenge stressors on citizenship and counterproductive behaviors through emotions, there were also significant direct effects. One potential explanation for these direct effects may be found in the conservation of resources model (Hobfoll, 1988, 1989), which rests on the idea that people seek to obtain, retain, and protect valued resources. In our model, challenge stressors represent the opportunity for growth (Cavanaugh et al., 2000), a concept similar to Hobfoll’s (1988, 1989) idea of resource expansion. By experiencing challenge stressors (e.g., job tasks), employees gain certain resources, such as knowledge and abilities. According to the conservation of resources model, individuals would strive to obtain and protect these experiences, as they offer the potential to expand personal resources. Thus, individuals should be less likely to engage in certain behaviors, such as counterproductive behaviors, that put them at risk of losing opportunities to obtain these resources and more likely to engage in other behaviors, such as citizenship behaviors, that increase the potential for gaining future resources.

The remaining direct effects also suggest that there may be additional explanations for these relationships not captured in our model. Drawing on AET, we reasoned that these discretionary behaviors would stem from emotions (Weiss & Cropanzano, 1996). However, this may not entirely be the case. Instead, it may be that these discretionary behaviors are not purely driven by emotions but also by work attitudes. Podsakoff et al. (2007) and LePine et al. (2005) explored several cognitive outcomes of stressors, such as motivation and commitment, which could potentially account for the unexplained variance in our criteria. Future research may benefit from exploring cognitive and emotional explanations for behavioral reactions to stressors simultaneously.

### *Hindrance Stressors and Citizenship and Counterproductive Behaviors*

Hindrance stressors exhibited a positive total relationship with counterproductive behaviors but failed to exhibit a significant total relationship with citizenship behavior. As with challenge stressors, the emotional reactions to hindrance stressors shed more light on the nuances of these overall relationships. The positive relationship between hindrance stressors and counterproductive behaviors can be explained, at least in part, by indirect effects through anxiety and anger. People respond to hindrance stressors with anger because the stressors are perceived as a threat and with anxiety because they are unsure of whether or not they can cope with the stressors (Cavanaugh et al., 2000; Lazarus, 1991). This may be particularly true for neurotic individuals, who, as the results suggest, respond to hindrance stressors with more anger than do their more emotionally stable counterparts. Subsequently, these negative emotional reactions lead to increased counterproductive behaviors as an effort to manage the negative experiences (Lazarus, 1991; Spector & Fox, 2002).

Although the total effect of hindrance stressors on citizenship behaviors was nonsignificant, that result concealed a significant indirect effect on citizenship behaviors through anxiety. As we discuss above, people are likely to avoid anxiety-provoking situations (Lazarus, 1991)—particularly when they are voluntary, as is the case with citizenship behaviors—in order to reduce stress and cope with the situation. When combined, the results regarding hindrance stressors suggest that, unlike challenge stressors, they range from “bad” to “worse.” We can envision that some hindrance stressors (e.g., role ambiguity) invoke anxiety and thus decrease citizenship behaviors. This consequence worsens when hindrance stressors (e.g., red tape) also invoke anger, leading not only to a decline in citizenship behaviors but also to an increase in counterproductive behaviors.

When we take a look at the overall picture, the results suggest that challenge and hindrance stressors impact discretionary behaviors and can provide a more complete understanding of their performance-based consequences. Furthermore, some of the nuances in these relationships can be understood by assessing emotional reactions to stressors. Focus on the indirect effects through emotions revealed that it is an oversimplification to classify the distinction between challenge and hindrance stressors as “good” versus “bad.” Moreover, of the emotions studied, anxiety played a particularly central role. Given its positive relationship with both challenge and hindrance stressors, it was the foundation for the less conventional effects. In the future, researchers may benefit from exploring the role of anxiety in the relationships among challenge stressors and other important criteria. Although prior research has attested to positive overall relationships among challenge stressors and criteria such as commitment and job satisfaction (Cavanaugh et al., 2000; Podsakoff et al., 2007), negative indirect relationships may exist in these instances as well. Given the relatively limited support for the moderating roles of extraversion and neuroticism, future research may also evaluate the role of other individual differences, such as core self-evaluations. Perhaps individuals with a strong self-concept perceive challenges as more enjoyable and hassles as less worrisome.

In addition to providing insights into the nature of challenge and hindrance stressors, the results revealed theoretical contributions to

the literature. Namely, the integration of AET and the transactional stress model offers extensions to both theoretical frameworks. Although AET provides a general framework for the relationships among events, emotions, and behaviors, it does not go into detail about the types of events and their differential relationships with emotions. The transactional stress model expands AET by introducing stressors as a form of affect-inducing event and offers rationale regarding which types of stressors should impact which emotions. At the same time, the combination of these perspectives extends the transactional stress model to include behavioral consequences of the emotions generated by stressors.

### Limitations

We should note several potential limitations of the study. It is possible that our results could be inflated by common method variance, because our measures were assessed by the same source at the same time (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Given the time demands of an experience sampling design and the fact that the daily surveys assessed mainly internal perceptions (stressors and emotions), we felt that a self-report methodology was acceptable. That being said, self-reported citizenship and counterproductive behaviors could still be biased, inflating relationships. However, it is important to note that we centered all of the within-individual variables relative to each individual's personal mean score. In addition to focusing our study on within-individual variations in emotions and behaviors, this type of centering (group mean centering) removes several between-individual differences that can result in common method variance, such as general response bias and social desirability (Podsakoff et al., 2003).

Additionally, there are several concerns regarding the generalizability of our findings. First, our sample was a small convenience sample. However, our sample of 100 participants (resulting in 1,035 observations) is larger than average for a within-individual design and provides adequate power with which to test our relationships. Second, our sample was predominantly (78%) female. However, we provided supplemental analyses to confirm that gender did not significantly alter the relationships in our hypothesized model. Third, participants worked a relatively typical work schedule from 6:00 a.m. until 3:30 p.m. It may be that experiences of challenge and hindrance stressors would vary in a less traditional work schedule. That being said, we believe our findings exhibit some degree of generalizability in this area, as work schedules varied slightly and participants worked in a variety of industries and fields.

### Practical Implications

This study has practical implications for organizations and managers. The results showed that, within individuals, stressful work events trigger certain behaviors on a daily basis. Organizations that are concerned with reducing occurrences of counterproductive behaviors and increasing instances of citizenship behaviors would benefit from paying more attention to the level of challenging and hindering situations in the workplace. Fortunately, many of these events are within the organizations' control. For example, organizations could manage hindrance stressors by minimizing levels of unnecessary paperwork and processes (reducing red tape), provid-

ing clearer objectives and goals for employees (decreasing role ambiguity), or making sure there are adequate resources and materials for employee assignments (reducing hassles).

Managing challenge stressors deserves a bit more thought, because the results showed that these stressors had benefits and costs in terms of behaviors. Although the results suggest that the benefits outweigh the costs already, there may be ways for managers to reduce any potential negative effects even further. Because the harmful consequences of challenge stressors (a decrease in citizenship and an increase in counterproductive behaviors) were facilitated by anxiety, one approach would be for organizations to focus on employee management of this emotion. If employees could be trained to monitor and regulate their levels of anxiety in response to challenge stressors, they could perhaps prevent any subsequent decline in citizenship and increase in counterproductive behaviors. Indeed, prior research has shown that self-regulation strategies for improving mood can be effective and are relatively easy to train (Totterdell & Parkinson, 1999).

### Conclusion

The present study contributes to the building body of literature on the performance-based consequences of challenge and hindrance stressors through exploration of the impact of these stressors on citizenship and counterproductive behaviors. Although the influence of hindrance stressors through negative emotions is rather clear (negative on citizenship behaviors and positive on counterproductive behaviors), the influence of challenge stressors is more paradoxical. That is, challenge stressors have offsetting positive and negative effects on citizenship behaviors through attentiveness and anxiety, respectively, and can even increase counterproductive behaviors through anxiety.

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