

The Role of Core Self-Evaluations in the Coping Process

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In 2 studies, the authors investigated whether core self-evaluations (CSE) serve as an integrative framework for understanding individual differences in coping processes. A meta-analytic review demonstrated that CSEs were associated with fewer perceived stressors, lower strain, less avoidance coping, more problem-solving coping, and were not strongly related to emotion-focused coping. Consistent with the meta-analytic results, a daily diary study demonstrated that individuals with high CSE perceived fewer stressors, experienced less strain after controlling for stressors, and engaged in less avoidance coping. However, both studies demonstrated that emotional stability was uniquely related to the stress and coping process and that emotional stability moderated the relationship between stressors and strain. The discussion focuses on the distinction between depressive self-concept represented by CSE and the anxiety and worry represented by emotional stability.

Keywords: core self-evaluations, personality, stress, coping

Longitudinal studies of subjective well-being show that some individuals consistently see life more positively and that these differences can be explained by dispositional traits (e.g., DeNeve & Cooper, 1998; B. W. Roberts & DelVecchio, 2000). There are many studies in organizational psychology also demonstrating individual differences in psychological strain (e.g., Cohen & Edwards, 1989; Parkes, 1990; Spector & Jex, 1991; Zellars, Perrewe, Hochwarter, & Anderson, 2006). These studies do not, however, explain why some people experience less psychological strain than others. There is a need for research that examines the day-to-day processes that lead some people to consistently experience well-being (Aspinwall & Taylor, 1997; Ryan, Kuhl, & Deci, 1997; Watson, 2002). For organizations, there is a financial and ethical impetus to reduce strain, given the voluminous evidence showing that occupational stress can lead to physical and psychological disorders that reduce job performance and drive up health insurance costs (e.g., Danna & Griffin, 1999; Schat, Kelloway, & Desmarais, 2005). Learning about individual differences in propensity to experience stress processes, and learning how individual differences influence coping styles, can also help employers select individuals who will be best suited to stressful working conditions.

Although diverse explanations have been offered for why some people successfully adapt to potentially stressful situations, many organizational behavior researchers have focused on the role of self-esteem, locus of control, and emotional stability in coping (Cohen & Edwards, 1989; Ganster & Schaubroeck, 1995; Spector, Zapf, Chen, & Frese, 2000). The selection of these traits as an object for study is hardly surprising, given the frequency with which they have been studied in organizational behavior (Judge,

Erez, Bono, & Thoresen, 2002). Unfortunately, the present body of research on dispositions and the stress process is not well integrated, with studies typically examining only one of the above variables as a predictor of well-being (e.g., Anderson, 1977; Bowman & Stern, 1995; Elangovan & Xie, 1999; Elliott, Chartrand, & Harkins, 1994; Fortunato, Jex, & Heinisch, 1999; Grandey & Cropanzano, 1999; Ingledew, Hardy, & Cooper, 1997; Klag & Bradley, 2004; Ormel & Schaufeli, 1991; Saks & Ashforth, 1997; Terry, Tonge, & Callan, 1995; Tougas, Rinfret, Beaton, & de la Sablonniere, 2005).

This segregation of studies may be unnecessarily complicating our picture of the role of dispositions in the stress process. Unifying research under a single empirical and theoretical framework could aid in the accumulation of knowledge across perspectives. Self-esteem, locus of control, and emotional stability are so closely related on conceptual and empirical grounds that they have been described as reflections of a dispositional *core self-evaluation* (CSE) factor that is obtained by summing scores across these personality measures into a single score (Judge et al., 2002; Judge, Locke, & Durham, 1997).¹ It has been noted that “individuals with positive core self-evaluations appraise themselves in a consistently positive manner across situations; such individuals see themselves as capable, worthy, and in control of their lives” (Judge, Van Vianen, & De Pater, 2004, pp. 326–327). Indeed, individuals who are higher in CSE are more motivated (Erez & Judge, 2001),

¹ Although most conceptualizations of CSEs have included generalized self-efficacy, we did not locate any theory or studies specifically linking generalized self-efficacy with the stress and coping process. As a result, even though it is part of the CSE taxonomy, and some measures of self-esteem do have considerable overlap with efficacy (e.g., Rosenberg’s (1965) Self-Esteem scale has an item “I am able to do things as well as most other people” that is clearly similar to generalized self-efficacy, and other items like “I certainly feel useless at times” border very closely on being self-efficacy), we omit discussion of generalized self-efficacy from this point forward in the present article, as it is not possible for us to review theory or meta-analyze other research that would be relevant to this construct.

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perform their work more effectively (Judge, Erez, Bono, & Thoresen, 2003), and are more satisfied with their work and lives (Judge & Bono, 2001; Judge, Locke, Durham, & Kluger, 1998).

On the basis of existing theory and research, it appears that CSE could be a useful organizing framework for understanding individual differences in the stressor appraisal and response process. For example, researchers have suggested that,

chronic beliefs about the self, control, and outcomes reflect key components of an individual's view of the world and of his or her ability to function successfully in that world, and thus should be especially potent in shaping reactions to stressful life events. (Cozzarelli, 1993, p. 1224)

However, to our knowledge, there has not been an integrative effort to examine how CSE influences the coping process. Taken from another angle, the integrated CSE construct has not been specifically investigated in the context of stress processes and coping to date, so investigating CSE and stress processes can also contribute to the broader research on the construct validity and practical importance of CSE across multiple domains.

To address the question of how CSE affects the stress-coping process, we evaluated the relationship between CSE and coping through a two-pronged approach. We first conducted a quantitative review of the correlations among self-esteem, locus of control, and emotional stability; multiple aspects of coping (avoidance, emotion focused, and problem solving); and the outcome variable of psychological strain. Cohen and Edwards (1989) concluded that relationships between traits and strain varied considerably from study to study, which strongly suggests a need for integrative meta-analyses. To date, there has been no meta-analytic review of the literature relating these traits to coping strategies in occupational settings. Although meta-analytic correlations can uncover some information about the relationships among these constructs, many researchers have noted that studies that do not explore stress reactions as a process may be deficient or even misleading, given the tendency for levels of stressors, strain, and coping strategies to vary in response to one another (Bolger & Zuckerman, 1995;

Folkman & Lazarus, 1985; Höge & Büssing, 2004; Lazarus, 1991). Accordingly, we supplemented our meta-analysis with a daily diary study that examined the role of CSE in the day-to-day relationships among stressors, strain, and coping strategies. As a combined investigation, the meta-analysis and longitudinal study demonstrate areas of convergence in the established body of research on CSE and provide a better understanding of how CSE influences coping processes.

In the present research, we propose and test an integrative model shown in Figure 1 (Bolger & Zuckerman, 1995), which shows how individual dispositions affect the stress process on the basis of both perceptions of and reactions to the work environment. The core model for the present article proceeds from the transactional model of stress, in which individuals perceive a threat from certain aspects of their environment (*stressors*), which causes negative psychological and physiological responses (*strain*); the behavioral response directed to reducing these stressors and strain is *coping* (Baglioni, Cooper, & Hingley, 1990; Cooper, Dewe, & O'Driscoll, 2001; Folkman & Lazarus, 1985). To summarize, this article contributes to the literature by (a) proposing that CSE can serve as an integrative individual-differences variable in stress and coping studies; (b) providing a quantitative summary of the literature that supports the use of CSE as a unifying construct for explaining stress and coping, albeit with a unique role for emotional stability relative to the other subtraits of CSE; and (c) investigating whether CSE and emotional stability have their effects on aggregated strain and coping measures because they influence perception of stressors, the relationship between stressors and strain, the selection of coping strategies, or the efficacy of coping strategies within individuals over time.

A Framework for the Role of CSEs in the Stress Process

The role of traits in the stress process can be decomposed into four key subprocesses: exposure, reactivity, choice, and effectiveness (Bolger & Schilling, 1991; Bolger & Zuckerman, 1995). The stress process begins with exposure to events that are construed as

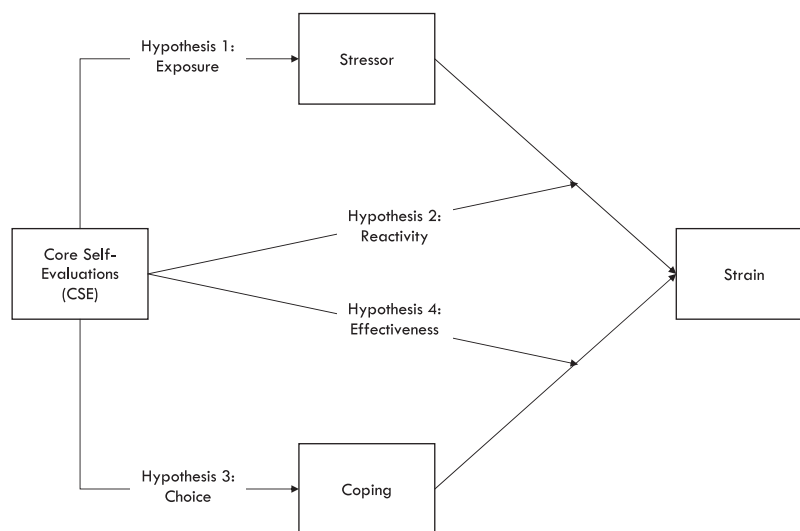


Figure 1. Core self-evaluations in the stress and coping process.

threatening. After individuals appraise stressors, they determine how they can best respond. Coping is motivated behavior directed toward the goal of engaging in situationally appropriate behavioral, emotional, and social strategies to reduce strain levels.

Differential Exposure

Turning to the first process in Figure 1, traits can affect the manner in which individuals experience stressors. Individuals with higher CSE may experience fewer situations that result in strain, which is termed the *differential exposure hypothesis*. In terms of Figure 1, CSEs are hypothesized to decrease the likelihood of encountering stressors, which should result in lower levels of strain. Because stressors are “in the eye of the beholder,” the differential exposure applies whether CSEs influence the presence of objective stressors at work, or if CSEs simply influence whether a person will interpret more situations as stressors. There are several reasons why CSEs influence perceived stressor levels. A control-based perspective is offered by the conservation of resources theory, which proposes that stress processes begin when individuals perceive that they are losing control over resources that they value (Hobfoll, 1989). As such, it is likely that those individuals with high CSE, who are dispositionally prone to feeling like they can successfully exert control over their work environments, will report fewer stressors at work. Individuals who are dispositionally low in emotional stability experience high levels of negative affective states (Watson, 2000), and negative affectivity can lead individuals to perceive that their jobs have more stressors (Brief, Burke, George, Robinson, & Webster, 1988; Spector, Jex, & Chen, 1995; Spector et al., 2000; Watson & Clark, 1984).

There is evidence that the emotional stability component of CSE is related to stressor levels on the basis of the perceptual frame it induces. Individuals low in emotional stability report that they encounter more stressful life situations (Bolger & Schilling, 1991; Ormel & Wohlfarth, 1991), which directly addresses the issue of dispositional negativity and perceived stressors. Laboratory research has also shown that individuals who are dispositionally anxious are more likely to attend to threatening stimuli (Bar-Haim, Lamy, Pergamin, Bakermans-Kranenburg, & van IJzendoorn, 2007). Taken together, the existing literature suggests that high levels of perceived control, confidence, and emotional stability are related to lower levels of perceived stressors. If the hypothesis that the components of CSE are closely related to common outcomes is correct, then CSE should be related to fewer stressors.

Hypothesis 1: CSEs Are Associated With Fewer Reported Stressors, Such That Individuals With High or Positive CSE Report Fewer Stressors Than Those With Low or Negative CSE.

Differential Reactivity

Individuals with higher CSE may also experience less strain following exposure to stressors, which is termed the *differential reactivity hypothesis*. In terms of Figure 1, CSE would act as a moderator: High CSE should reduce (i.e., make less positive) the relationship between stressors and strain, whereas low CSE should increase (i.e., make more positive) the stressor–strain relationship. The importance of subjective self-appraisals in the stress process is highlighted by researchers who propose that stress reactions are

likely to be more profound when individuals believe they do not have sufficient personal resources to cope with threats (Fleishman, 1984; Kobasa, 1979; Lee & Ashforth, 1996). Karasek and Theorell (1990) proposed that psychological strain results when individuals are faced with demands they cannot control; because a sense of personal agency and control are central components of CSE, those who are lower in CSE should therefore perceive stressors as more overwhelming. Conversely, a positive sense of self-worth should lead to improved mood in the face of threats and greater confidence that one can exert control over potential stressors (Greenberg et al., 1992; Taylor & Brown, 1988). CSE should make individuals more confident that they can respond successfully to challenging situations, resulting in fewer negative emotional and behavioral reactions to stressors. Individuals with higher CSE may also experience less strain when confronted with stressors because they will believe they are of value in general (Judge et al., 2004), so their positive sense of self-worth and well-being can serve as a buffer against any specific threat.

Some support for the relationship between CSE and coping can be built from research on the subtraits. In Ganster and Schaubroeck's (1995) review of the research on self-esteem and coping, they described several studies that showed the negative relationship between stressors and job satisfaction was greater among those lower in self-esteem than among those higher in self-esteem. In addition, individuals higher in emotional stability are less likely to experience strain due to job demands, relative to individuals lower in emotional stability (Parkes, 1990). Other research suggests that dispositional tendencies similar to CSE may affect stress and coping processes. An active approach to one's life, an interpretation of events as opportunities rather than as threats, and a tendency to see the world as controllable are all tendencies that should result in lower levels of strain for a given situation (Kobasa, 1985; Maddi, 1999). Thus, there is broad evidence that CSE should moderate the relationship between stressors and strain.

Hypothesis 2: CSEs Moderate the Relationship Between Stressors and Strain, Such That the Relationship Between Stressors and Strain Is More Positive for Those With Low or Negative CSE and Less Positive For Those With High or Positive CSE.

Coping Strategies

As goal-directed behavior, there is an element of personal choice and motivation in the selection of the desired end states for coping, selection of responses, and the degree to which one engages effort toward the selected responses. Stress researchers have differentiated several strategies of coping, with most results converging around three dimensions (Folkman & Lazarus, 1980; Long, 1990; Parkes, 1990; Pearlin & Schooler, 1978). *Problem-solving coping* involves an effort to reduce strain by reducing the level of stressors. Problem-solving coping involves determining effective strategies for reducing strain levels, establishing specific behavioral targets, and engaging in the behavior that will help solve problems. Researchers in the stress literature usually describe problem-solving coping in positive terms, and there is evidence that frequent problem-solving coping can reduce long-term strain levels (Folkman, 1984; Higgins & Endler, 1995). *Emotion-focused coping* involves direct efforts to reduce one's

strain level without affecting the actual presence of stressors and includes activities like reappraising the situation, receiving reassurance from friends, and focusing on one's strengths. *Avoidance coping* consists of not thinking about the problem, distracting oneself, drinking or using drugs, or removing oneself from situations that instigate the stress process (e.g., Billings & Moos, 1981). For chronic workplace stressors, avoidance coping is considered maladaptive and may lead to considerably higher levels of strain in the long term (e.g., de Jong & Emmelkamp, 2000; Parasuraman & Cleek, 1984).²

Differential Choice

Traits also can affect the manner in which individuals cope with stressors in two distinct ways. Individuals with higher CSE may select more adaptive coping responses, which is termed the *differential choice hypothesis* (e.g., Chang, 1998; Ganster & Schaubroeck, 1995). In terms of Figure 1, differential choice is represented by selection of more problem-solving coping and less avoidance coping, either of which would result in lower levels of strain. Fleishman (1984) suggested that individuals who are higher in self-esteem are more likely to approach problems and attempt to resolve them, meaning they will engage in more problem-solving coping strategies and less avoidance. Individuals who believe that they are capable, worthwhile, and in control of their lives will likely believe that their efforts to actively cope with stressors will meet with success. Along these lines, researchers have proposed that CSEs represent a motivational trait that leads to more goal setting, expectancy that one can complete difficult tasks, and a belief that successful performance will be instrumental in improving one's life situation (Erez & Judge, 2001; Judge & Ilies, 2002). Similarly, individuals with high CSE select activities that increase their control over their work environments (Judge, Bono, & Locke, 2000). Other researchers note that individuals who are prone to negative emotions have less hope that they can solve problems effectively, and this lack of hope may reduce efforts to combat stressors (Bolger, 1990; Bolger & Schilling, 1991). This should translate into greater levels of problem-solving coping and lower levels of avoidance coping for those higher in CSE.

As with other traits, prior research proposes consistent effects for the components of CSE on coping, but researchers have approached each component separately. There is evidence that individuals with low self-esteem overgeneralize the likelihood of future success after a single failure (J. D. Brown & Dutton, 1995), which may make them less likely to put forth effort toward coping strategies when many threatening stressors arise. Other research has shown a similar link between emotional stability and lower levels of defensive coping (Penley & Tomaka, 2002) and greater seeking of emotional support (Bolger & Eckenrode, 1991). Ganster and Schaubroeck (1995) provided evidence that low-self-esteem persons adopt more passive coping strategies because they are not confident that they can influence their environment. Consistent with this reasoning, individuals who believe that they are in control of their lives are more likely to adopt active coping strategies (Hahn, 2000; Parkes, 1984; Wanberg, 1997). Thus, both theory and empirical evidence suggest

that the CSE subtraits will be consistently related to coping choices.

Hypothesis 3: CSEs Are Associated With Higher Levels of Problem-Solving Coping and Lower Levels of Avoidance Coping, Such That Individuals With High or Positive CSE Engage in More Problem-Solving Coping and Less Avoidance Coping.

Differential Effectiveness

Individuals with certain traits also might benefit more from coping, which is termed the *differential effectiveness hypothesis*. In terms of Figure 1, differential effectiveness arises if CSEs act as a moderator by increasing the negative relationship between coping and strain (i.e., if high CSE makes coping more effective in reducing strain). Although comparatively few studies have investigated the moderating influence of traits on coping effectiveness, the possibility that individuals are differentially effective in coping is a key component of the model of individual differences and stress reactions (Bolger & Zuckerman, 1995). Campbell (1990) found that individuals who have a negative self-image were less confident in their ability to cope with life problems. This lack of confidence might inhibit their ability to implement coping strategies effectively. Bolger and Zuckerman (1995) found that the relationship between coping and alleviation of depression was stronger for individuals higher in emotional stability—in short, those who were higher in emotional stability were more effective at coping. There is also research not directly related to coping that suggests there might be a relationship between CSE subtraits and coping effectiveness. Individuals higher in CSE are more effective at setting goals and remaining motivated to pursue goals (Erez & Judge, 2001). This suggests that individuals who are higher in CSE will be more able to use coping strategies like problem solving effectively. Because there are so few studies that relate CSE or its components to differential effectiveness, it is difficult to make more specific predictions for emotion-focused or avoidance coping. However, these results suggest that CSE will moderate the relationship between problem-solving coping and strain.

² Although social support is sometimes differentiated from other coping strategies, social support is difficult to classify in the transactional model because social interactions can accomplish multiple ends. For example, if one talks to friends to learn about alternative solutions to a difficult situation or gather resources for reducing the level of stressors, then social interactions are a problem-solving strategy. If one talks to friends to emote and receive encouragement, however, then social interactions are an emotion-focused strategy. Frequently, social interactions will involve elements of both problem- and emotion-focused coping. Moreover, many social support researchers conceptualize the construct of social support as a resource (e.g., "Do you feel like others around you support you?") rather than as a coping strategy (e.g., "To what extent have you sought out others to discuss your problems?"). Therefore, we did not include general measures of social support in the present meta-analysis as a specific category. We did perform a separate analysis of results that was focused on social support as a coping strategy; results are available from John Kammeyer-Mueller upon request.

Hypothesis 4: CSEs Moderate The Relationship Between Problem-Solving Coping and Strain, Such That the Relationship Between Problem-Solving Coping and Strain Is Stronger (More Negative) For Those With High or Positive CSE.

Study 1: Meta-Analysis

Method

Literature Search

A search was conducted via the PsycINFO database (1887–2006) for studies that referenced coping and at least one of the following search terms: *locus of control*, *self-esteem*, *general self-efficacy*, *generalized self-efficacy*, and *emotional stability*. This search was supplemented by contacting authors of published coping articles or conference presentations via e-mail to see whether they had any additional data relevant to the present analyses. Because neuroticism is a reverse coding of emotional stability, this was included in the present search as well, and any relationships associated with neuroticism were reversed. The terms *emotional adjustment*, *optimism*, and *hardiness* were also included, which are close correlates of CSE, in the present search. These terms were included to ensure that all relevant studies were captured, but the actual analysis only concentrated on the identified elements of CSE. For example, Kobasa's (1986) Hardiness scale includes a subscale that specifically and exclusively refers to personal control; this was included in the present meta-analysis as an indicator of locus of control given its similarity to other measures of locus of control. The search was limited to peer-reviewed studies and to studies containing adult samples. *Work* or *job* was not included as specific search strings because of a concern that this might eliminate some potentially relevant studies. For the sake of simplicity, the search was limited to only studies in which coping was measured, which excluded a large number of studies in which CSE and stressor-strain relationships but not coping were included.

Search efforts resulted in the identification of 2,344 studies. Because the focus of the present article was on the role of CSE in coping with stressors and strain at work, 2,141 studies in which clinical populations or student samples were used or focused on specific life stressors like chronic pain or romantic relationships were eliminated; 43 additional studies were eliminated because they had no empirical data (e.g., literature reviews or theoretical expositions). From the 160 remaining studies that were hand inspected, 20 studies were excluded because there was no stressor, strain, or coping measure; 13 because there was no personality measure; 6 because of an inappropriate (nonwork) sample; 3 because the samples duplicated samples used in another study included in the present set; 7 that included nonquantitative data sources like interviews; and 27 studies that presented data in a form that could not be used (i.e., reporting percentages or proportions of means without variance, no measure of association between the present variables of interest, or only *F* statistics without indication of direction of effects). For articles that required a conversion of means, standard deviations, or *t* or *F* statistics into correlations, the authors collaborated to ensure accurate translation. In total, 100 unique samples from 81 distinct publications met the above criteria for inclusion in the database.

Meta-Analytic Procedures

The meta-analytic methods of Hunter and Schmidt (1990) were used. Each primary correlation was corrected individually for attenuation due to unreliability in both the predictor and the criterion and then the sample-weighted mean of the corrected correlations was computed. In the majority of studies, authors reported the internal consistency reliabilities for the measures used to compute the primary correlations. For the 22 studies in which reliabilities were not reported, a sample-size weighted average of the reliabilities reported in the studies that did provide such estimates was created, and these reliability values were used to correct the primary correlations. Both the unadjusted (\bar{r}) and reliability-corrected ($\hat{\rho}$) correlations are presented throughout the present article.

In addition to reporting point estimates for corrected correlations, it also is important to describe variability in those estimates to determine the generalizability of observed effects after artifacts such as sampling error variance and measurement unreliability are taken into account. Accordingly, the standard deviation of the corrected correlation ($SD_{\hat{\rho}}$) is reported, as well as the standard error ($SE_{\hat{\rho}}$). The standard deviation of the corrected correlation ($SD_{\hat{\rho}}$) describes the variability of the individually corrected correlations across the population of studies, whereas the standard error of the corrected correlation ($SE_{\hat{\rho}}$) provides an estimate of the variability around the estimated mean-corrected correlation that is due to sampling error.

An important assumption in meta-analysis is that the correlations included in any given set are independent (i.e., not from the same sample; Hunter & Schmidt, 1990). Accordingly, in the meta-analyses performed in this study, care was taken to ensure that each correlation included in the analysis was independent. In cases in which multiple measures of CSE were included in the same study, the average of the presented effect sizes was used.

Classification Procedures

Definition and dimensions of CSEs. Because we were interested in the relationships of the subtraits that indicate the CSE concept, we examined locus of control, self-esteem, and emotional stability. Generalized self-efficacy was not included in the present analyses because only two studies in coping and stress research were located in which generalized self-efficacy was used. Examples of measures used to assess each trait are Rotter's (1966) scale for locus of control, Rosenberg's (1965) measure for self-esteem, and the NEO Personality Inventory (Costa & McCrae, 1992) for emotional stability. The measures of locus of control had $\bar{\alpha} = .70$, self-esteem had $\bar{\alpha} = .82$, and emotional stability had $\bar{\alpha} = .83$. Analyses for CSEs were performed by aggregating correlations across all of the individual core trait measures; when multiple CSE subtraits were assessed in a single study, the average of the correlations was used as the measure for that sample. Because some studies included multiple CSE measures covering a single sample, the *k* and *N* in the aggregated CSE analysis will not equal the sum of the *k* and *N* from the locus of control, self-esteem, and emotional stability subanalyses.

Definition and dimensions of stressors and strain. Because the differentiation between sources and effects of the stress process is a critical component of the transactional model and of our own

questions about stress and coping, we coded stressors and strain separately. We looked to the content of the scales in each study to determine exactly what was measured. If a scale measured characteristics of the work environment, such as job demands or interpersonal conflicts, we coded it as a measure of stressors, and if a scale measured physical symptoms or emotional reactions, we coded it as a measure of strain. The measures of stressors had $\bar{\alpha} = .87$, and the measures of strain had $\bar{\alpha} = .87$.

Definition and dimensions of coping. Measures of coping were classified into three major categories (avoidance, emotion focused, and problem solving). Examples of avoidance coping included distancing or escaping from the situation, denial, and using drugs or alcohol. Examples of emotion-focused coping included expressing anger or sadness and reappraising or reinterpreting the situation. Examples of problem-solving coping included taking instrumental action, attempting to control the situation, and engaging in problem solving. Commonly used measures of coping included Long's (1990) modification of Lazarus and Folkman's (1984) Ways of Coping Checklist, Folkman and Lazarus's (1988) Ways of Coping Questionnaire, and Carver, Scheier, and Weintraub's (1989) COPE inventory. The measures of avoidance coping had $\bar{\alpha} = .70$, emotion-focused coping had $\bar{\alpha} = .73$, and problem-solving coping had $\bar{\alpha} = .76$.

Results

Table 1 presents the meta-analytic estimates of the zero-order correlations among CSE, coping, and strain. Two separate measures of the distribution of these estimates are presented (Whitener, 1990). First, the 90% credibility intervals based on the standard

deviation of $\hat{\rho}$ are shown in brackets, which indicate the range of (corrected) correlations observed in individual samples. Second, the 95% confidence intervals based on the standard error of $\hat{\rho}$ are shown in brackets, which indicate the range of possible true population correlations that could be expected to generate the observed estimate of $\hat{\rho}$.

We only assess the main effects hypotheses (Hypotheses 1 and 3) through the meta-analysis; we do not test moderating effects hypotheses (Hypotheses 2 and 4) here. As a whole, CSE was related to stressors ($\hat{\rho} = -.25$), consistent with the prediction from Hypothesis 1 that CSE would be negatively related to exposure to stressors. Looking at the individual CSE subtraits, emotional stability had a larger relationship with stressors ($\hat{\rho} = -.39$) compared with the relationships between locus of control and stressors ($\hat{\rho} = -.22$) and self-esteem and stressors ($\hat{\rho} = -.21$), although the confidence intervals around these estimates overlapped. CSE was also negatively related to perceived strain ($\hat{\rho} = -.30$), which is potentially consistent with Hypothesis 2, although with bivariate correlations, it is not possible to assess accurately whether the increased relationship between CSE and strain is due to the main effect of CSE on stressors or due to CSE moderating the relationship between stressors and strain. Looking at the subcomponents of CSE, emotional stability had a larger relationship with levels of strain ($\hat{\rho} = -.40$) compared with the relationships between locus of control and strain ($\hat{\rho} = -.30$) and self-esteem and strain ($\hat{\rho} = -.12$), although the confidence intervals around these estimates overlapped.

The next set of results is based on Hypothesis 3 and involves the relationship between the three main forms of coping and the CSE

Table 1
Meta-Analysis Results

Variable	<i>k</i>	<i>N</i>	\bar{r}	$\hat{\rho}$	<i>SD</i> $\hat{\rho}$	90% credibility interval	<i>SE</i> $\hat{\rho}$	95% confidence interval
Stressors and personality								
CSE	53	12,371	-.20	-.25	.16	-.45, -.05	.02	-.30, -.21
Locus of control	39	10,142	-.16	-.22	.15	-.41, -.03	.03	-.27, -.17
Self-esteem	9	1,722	-.18	-.21	.17	-.43, .01	.06	-.33, -.09
Emotional stability	16	2,613	-.33	-.39	.10	-.52, -.25	.03	-.45, -.33
Strain and personality								
CSE	25	8,748	-.24	-.30	.28	-.66, .06	.06	-.41, -.19
Locus of control	15	6,667	-.23	-.30	.26	-.63, .03	.07	-.43, -.17
Self-esteem	6	1,305	-.09	-.12	.29	-.49, .25	.12	-.36, .12
Emotional stability	14	2,657	-.31	-.40	.31	-.80, .01	.09	-.56, -.23
Problem-solving coping								
CSE	50	11,310	.11	.15	.15	-.05, .35	.02	.10, .20
Locus of control	26	6,779	.17	.22	.13	.06, .38	.03	.17, .28
Self-esteem	14	2,506	.17	.22	.12	.07, .37	.04	.15, .29
Emotional stability	22	4,375	.03	.04	.19	-.21, .29	.04	-.04, .13
Avoidance coping								
CSE	34	6,867	-.17	-.23	.13	-.40, -.06	.03	-.28, -.18
Locus of control	17	3,749	-.18	-.26	.13	-.43, -.09	.04	-.33, -.19
Self-esteem	10	1,693	-.16	-.20	.23	-.50, .09	.08	-.36, -.07
Emotional stability	20	4,022	-.17	-.22	.15	-.42, -.02	.04	-.30, -.15
Emotion-focused coping								
CSE	33	6,822	-.06	-.09	.34	-.52, .34	.06	-.21, .02
Locus of control	15	3,903	.07	.10	.21	-.17, .37	.06	-.01, .21
Self-esteem	6	1,213	-.05	-.07	.34	-.51, .37	.14	-.35, .21
Emotional stability	17	2,990	-.14	-.18	.40	-.68, .32	.10	-.37, .01

Note. CSE = core self-evaluation.

subtraits. Consistent with Hypothesis 3, CSE had a positive relationship with problem-solving coping ($\hat{\rho} = .15$). Results for the individual core subtraits were mixed; emotional stability had a weaker relationship with problem-solving coping ($\hat{\rho} = .04$) relative to locus of control ($\hat{\rho} = .22$) and self-esteem ($\hat{\rho} = .22$), and there was little overlap between confidence intervals of emotional stability with the other individual CSE subtraits. Also consistent with Hypothesis 3, CSE had a negative relationship with avoidance coping ($\hat{\rho} = -.23$). Of the individual core subtraits, locus of control had a slightly stronger relationship with avoidance coping ($\hat{\rho} = -.26$) than did self-esteem ($\hat{\rho} = -.20$) or emotional stability ($\hat{\rho} = -.22$), but the magnitude of these differences was small, and the confidence intervals overlapped. We made no hypotheses regarding CSE and emotion-focused coping because there is presently not a strong basis in either theory or empirical research to suggest a directional hypothesis. Our results showed that CSE had a negative relationship with emotion-focused coping ($\hat{\rho} = -.09$). Of the individual CSE subtraits, emotional stability had a stronger relationship with emotion-focused coping ($\hat{\rho} = -.18$) than did locus of control ($\hat{\rho} = .10$) or self-esteem ($\hat{\rho} = -.07$); overlap between confidence intervals for locus of control and emotional stability was minimal, but self-esteem overlapped significantly with both.

Discussion

This study provides a first meta-analytic view of the relationship between CSEs, subtraits, and stress and coping processes. The results of the meta-analysis demonstrate that individuals with positive CSE experience fewer stressors and less strain than individuals with negative CSE. Furthermore, individuals high in CSE practice less avoidance coping, somewhat less emotion-focused coping, and more problem-solving coping than individuals low in CSE. With respect to our integrative focus, the evidence showed that the elements that make up CSE have relationships in the same direction with all constructs under investigation. These results broadly agree with other meta-analytic research demonstrating convergent validity for CSE measures (Judge & Bono, 2001; Judge et al., 2002).

However, some results were inconsistent with our hypothesis that all elements of CSE would function in the same direction with similar effect sizes for all relationships. Emotional stability was more strongly related to stressors, strain, and emotion-focused coping and less strongly related to problem-solving coping than were the other CSE subtraits. This suggests that, although CSE generally functions as a unified construct, emotional stability may function differently in the specific context of stress and coping. This could be due to differences in the nature of emotional stability vis-à-vis the other subtraits comprising CSE. Emotional stability is a broad construct, perhaps as broad as CSE (Judge et al., 2004). Judge et al. (2004) stated that there may be two indicators of emotional stability: anxiety and depressive self-concept (the obverse of CSE). They suggested that the anxiety component of emotional stability may be expected to relate more strongly with stress and strain than the depressive self-concept (CSE) component. Individuals low in emotional stability may not only be pessimistic about whether problems can be solved but also might make more negative emotional attributions of stressors as crises rather than as challenges to be overcome (Watson, David, & Suls,

1999). So whereas self-esteem and locus of control are specifically related to one's appraisal of one's agency in terms of problem solving, emotional stability is also related to one's susceptibility to negative emotions. To the extent that the full spectrum of emotional stability is not captured by CSE, this implies that emotional stability may explain unique, incremental variance in stress-related outcomes relative to CSE.

Study 2: Daily Diary Study

Although the results from the meta-analysis are an informative summary of a literature that previously has not been quantitatively combined, there are difficulties inherent in testing moderating and the structural mediating influences shown in Figure 1 with cross-sectional studies. The primary problem is that cross-sectional studies estimate all relationships at the person level of analysis, rather than investigating how within-person variation in perceived stressors relate to variations in coping and strain over time. Individuals also remember their typical response patterns and therefore report traitlike behaviors when asked about coping strategies in cross-sectional studies (e.g., Hahn, 2000; Stone, Kennedy-Moore, & Neale, 1995); this will tend to overstate the importance of dispositions like CSE and understate the importance of processes. The extent to which response patterns and behaviors mediate the relationship between dispositions and strain will therefore be distorted. Single-occasion models also confound between-individual differences in typical levels of coping with potential within-person palliative effects of coping. Individuals with low CSE may believe they experience more stressful situations and will therefore engage in more avoidance coping. However, just because those who experience more strain engage in more coping does not necessarily mean strain produces more avoidance coping for that person. Once typical strain levels are factored out via within-person centering, it will be more apparent whether daily variations in coping are related to daily fluctuations in strain. On a statistical level, failing to distinguish between within- and between-persons levels of analysis will result in incorrect error terms (Raudenbush & Bryk, 2001). Because meta-analyses only produce correlation matrices of variables and not correlations between their interaction terms, they also do not readily lend themselves to moderator analyses. This means that the differential reactivity and differential effectiveness models cannot be tested. In response to these concerns, we followed up our meta-analysis with a repeated measures research design that could address these issues and test all of the structural hypotheses shown in Figure 1. In addition, as noted above, we measured emotional stability separately to examine its discriminant validity relative to CSE.

Method

Participants and Procedure

Individuals who were working full time and enrolled in an undergraduate introduction to management course were solicited to participate in an online study for extra credit. Participants were provided with a link to a secure online personality survey. Two weeks after personality data were collected, each day, for a period of 2 weeks (Monday–Friday only), participants received an e-mail directing them to complete an online survey consisting of items

assessing stressors, strain, and coping. A total of 252 (the Level 2 n) respondents who completed the survey at Time 1 completed at least two of the daily surveys; the total number of daily surveys completed (the Level 1 n) was 1,718, the mean number of responses per person was 6.8, and the mode was 8. Respondents had an average of 2.4 years of tenure in their current position, and their self-reported jobs ranged widely from restaurant servers, retail workers, office managers, computer programmers, to financial planners. Respondents were instructed to complete surveys at the end of their work days, and the instructions for stressor, strain, and coping were framed to cover the specific daily time frame of "over the past day."

Between-Persons (Level 2) Measures

CSEs. The 12-item Core Self-Evaluations Scale (CSES; Judge et al., 2003) was used to measure each participant's CSE using a 5-point Likert scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*) in the initial survey. The CSES measures a single factor that is the intersection of self-esteem, locus of control, generalized self-efficacy, and emotional stability. Sample items from this scale are "I am confident I get the success I deserve in life," "Sometimes I feel worthless," and "I determine what will happen in my life." The internal consistency for this scale was $\alpha = .84$. To assess the veracity of self-report effects for personality and coping, respondents were also asked to provide contact information of a person,

you know well who you think would be able to answer a few additional questions regarding your personality and level of stress. Ideally, this person should be a friend, spouse, partner, or a co-worker with whom you discuss personal matters frequently.

One hundred forty-nine significant others responded to the CSE survey with respect to the respondents; the results correlated with the self-report measures $r = .42$, and the pattern of results when these significant-other reports were used in place of the CSE measure in the analyses were similar to those obtained from the self-report measures.³

Emotional stability. Emotional stability was assessed using the 12 neuroticism items from the short form of the Eysenck Personality Questionnaire (Eysenck, Eysenck, & Barrett, 1985). This widely used scale is highly similar to other published neuroticism or emotional stability scales. Respondents indicate to what extent they experience worry, nervousness, and tension. The coefficient alpha for this scale was $\alpha = .90$.

Within-Persons (Level 1) Measures

Stressors. Stressors were assessed on a daily basis using 10 items from Caplan, Cobb, French, Van Harrison, and Pinneau (1975) and Ivancevich and Matteson (1983), which have been used in previous research on strain at work (Deluga, 1991; Dwyer & Ganster, 1991; Nelson & Sutton, 1990; Sargent & Terry, 1998).

Respondents indicated the extent to which a variety of situations caused stress at work, including experiencing barriers to work effectiveness, ambiguity, or excessive workload on a scale ranging from 1 (*produced no stress*) to 5 (*produced a very great deal of stress*). The average daily level of stressors, aggregated across all 10 items, was $\mu = 2.27$. The coefficient alpha for this scale was $\alpha = 0.88$. The within-person consistency of stressors over time was

intraclass correlation (ICC)(1) = 0.63 (95% confidence interval [CI] = 0.58, 0.68).

Strain. Strain was measured on a daily basis using six emotional and physical exhaustion items developed by Pines, Aronson, and Kafry (1981). Respondents indicated for each item how they felt emotionally and physically over the past day at work on a scale ranging from 1 (*to no extent*) to 5 (*to a very great extent*). The internal consistency reliability for this scale was $\alpha = 0.79$. The within-person consistency of strain over time was ICC(1) = 0.42 (95% CI = 0.36, 0.47).

Coping strategies. Coping across the three categories of avoidance, emotion focused, and problem solving was measured on a daily basis with items taken from a revised version of the Ways of Coping Checklist (Lazarus & Folkman, 1984), which was modified by Long (1990) to contain more items that reflected the work context. To minimize the length of the daily survey, five items were selected per coping strategy, with the selection based on those items from Long's survey that had high factor loadings and covered unique content. Avoidance coping items ask respondents about the extent to which they sought out distractions or avoided thinking about problems; the within-person consistency of avoidance over time was ICC(1) = 0.67 (95% CI = 0.63, 0.72), with internal consistency of $\alpha = 0.78$. Emotion-focused coping items ask respondents about the extent to which they discussed emotions with other people or tried to think about their problems differently; the within-person consistency of emotion-focused coping over time was ICC(1) = 0.60 (95% CI = 0.55, 0.65), with internal consistency of $\alpha = 0.79$. Problem-solving coping items ask respondents about the active steps they took to solve problems that lead to strain; the within-person consistency of emotion-focused coping over time was ICC(1) = 0.60 (95% CI = 0.55, 0.65), with internal consistency of $\alpha = 0.79$.

Data Analysis

Hierarchical linear modeling (HLM) equations were estimated with stressors, strain, and coping strategies as Level 1 variables. The analyses are presented with just the aggregated CSE construct as a predictor, and with CSE and emotional stability entered simultaneously, so that changes in variance explained and regression coefficients will be apparent.⁴ Level 1 predictors were person-mean centered for all analyses. Hypotheses 1 and 3 were tested using intercepts as outcomes models. For example, to test Hypothesis 1, stressors were entered as a Level 1 outcome, and CSE and emotional stability were entered as Level 2 predictors of the Level 1 intercepts. Written as equations:

$$\text{Level 1: Stressor} = \beta_0 + r,$$

³ These results are available from John D. Kammeyer-Mueller upon request.

⁴ We also measured the other individual core subtraits. However, based on the fact that self-esteem and locus of control did not show differential predictive validity in the meta-analysis, and based on prior research (e.g., Judge et al., 2002), the empirical and theoretical justification for including all core (CSE) subtraits was weak. Moreover, in Study 2, when the aggregate CSE construct was included in supplemental analyses, locus of control, generalized self-efficacy, and self-esteem did not show theoretically meaningful relationships with any of the outcomes, and there were only very slight increments in R^2 across all of the analyses.

where β_0 is the intercept representing the individuals' average level of stressors across days, and r is random error.

$$\text{Level 2: } \beta_0 = \gamma_{00} + \gamma_{01} \text{ CSE} + \gamma_{02} \text{ Emotional stability} + u_0,$$

where each person's Level 1 intercept (average level of stressors) is predicted by an intercept, CSE, emotional stability, and a random error component.

The equations to test Hypothesis 3 were identical to those above, except each coping strategy was the Level 1 outcome, and stressors were included as a Level 1 control variable.

Hypotheses 2 and 4 were tested using slopes as outcomes models. Strain was entered as the Level 1 outcome, stressors and the three coping strategies were entered as Level 1 predictors, and CSE and emotional stability were entered as Level 2 predictors of the Level 1 intercepts and slopes. Slopes as outcomes models are used for tests of cross-level moderation, which occurs when a Level 2 variable predicts variation in Level 1 relationships. In the context of the present study, each of the 252 respondents has a slope at Level 1 between a given predictor and outcome, and these slopes may vary across individuals. Level 2 variables, which vary between individuals only, may explain variance in those slopes. Written as equations:

$$\begin{aligned} \text{Level 1: strain} &= \beta_0 + \beta_1 \text{ stressors} + \beta_2 \text{ avoidance coping} \\ &+ \beta_3 \text{ emotion coping} + \beta_4 \text{ problem solving coping} + r, \end{aligned}$$

where β_0 is the intercept representing the level of strain at the mean for the other Level 1 predictors, β_1 , β_2 , β_3 , and β_4 are the slopes for the Level 1 variables, and r is random error.

$$\text{Level 2: } \beta_0 = \gamma_{00} + \gamma_{01} \text{ CSE} + \gamma_{02} \text{ emotional stability} + u_0;$$

$$\beta_1 = \gamma_{10} + \gamma_{11} \text{ CSE} + \gamma_{12} \text{ emotional stability} + u_1;$$

$$\beta_2 = \gamma_{20} + \gamma_{21} \text{ CSE} + \gamma_{22} \text{ emotional stability} + u_2;$$

$$\beta_3 = \gamma_{30} + \gamma_{31} \text{ CSE} + \gamma_{32} \text{ emotional stability} + u_3;$$

$$\beta_4 = \gamma_{40} + \gamma_{41} \text{ CSE} + \gamma_{42} \text{ emotional stability} + u_4,$$

where each person's Level 1 intercept (average level of strain) is predicted by an intercept, CSE, emotional stability, and a random error component, and each Level 1 slope (the within-individual relationship between the predictor and outcome) is predicted by

the average of that relationship, CSE, emotional stability, and a random error component.

Relationships among stressors, coping, and strain on a day-to-day basis are measured and assessed in the present study. To establish causal precedence, it would be desirable to measure whether stressors at Time 1 lead to coping strategies at Time 2, which would lead to reduced strain levels at Time 3. There are several reasons this design was not pursued with this sample. The daily survey asked respondents to think of stressors, strains, and coping responses that occurred on the day they are responding. This design choice obviously makes a lagged procedure questionable. The choice to measure stressors, strains, and coping on the same day was not haphazard. The primary concern about attempting to separate stressor and strain measurement occasions in a diary study was that stressors might well be resolved by the time there is a report of coping and/or strain on the next day. This is especially likely because some of the respondents were working in entry-level positions in which extended stressors are not likely to be encountered; for example, a customer service representative or frontline manager often have stressors that typically last for an hour or two at most, and then they are no longer present on the next working day. In this sense, the present results are comparable to the portion of Fuller et al. (2003) where they also looked at stress reactions on a day-to-day basis and investigated how same-day strain impacted same-day satisfaction. The use of a lagged procedure would have been more warranted if we were attempting to capture time-series fluctuations in moods, or if we were specifically interested in the timing effects of mood and coping. However, for the present purposes, these analyses would be problematic given the time frame provided to respondents. Other studies with properties similar to ours have used same-day reports in longitudinal studies. For example, nonlagged Level 1 relationships have been used in HLM on the basis of longitudinal studies (see Table 2) in which the effects of dispositions on processes involving stressors and strains (Potter, Smith, Strobel, Zautra, 2002) and hostile responses to injustice (e.g., Judge, Scott, & Ilies, 2006) have been investigated.

Results

Hypothesis 1 proposed that CSEs are associated with fewer reported stressors and are represented by the differential exposure path in Figure 1. Results testing this hypothesis are shown in Table 3.

Table 2
Diary Study Correlation Matrix

Variable	SD	1	2	3	4	5	6	7
1. Core self-evaluations (Level 2)	.53	<i>.84</i>						
2. Emotional stability (Level 2)	.70	.61	<i>.90</i>					
3. Strain (Level 1)	.68	-.23	-.31	<i>.79</i>				
4. Stressors (Level 1)	.69	-.28	-.26	.49	<i>.88</i>			
5. Avoidance coping (Level 1)	.71	-.28	-.33	.56	.56	<i>.78</i>		
6. Problem-solving coping (Level 1)	.74	-.02	-.09	.03	.34	.20	<i>.78</i>	
7. Emotion-focused coping (Level 1)	.74	.15	.07	-.16	.14	.14	.62	<i>.78</i>

Note. All variables were centered prior to analyses, so all variable means equal zero. Correlations for Level 1 variables reflect only the first-round scores. For $r > .15$, $p < .01$; for $r < .12$, $p < .05$. Internal consistency reliability estimates (coefficient alpha) appear in italics on the diagonal.

Table 3
Diary Study Predictors of Stressors

Variable	CSE alone		CSE + emotional stability	
	Coefficient	<i>t</i> (250)	Coefficient	<i>t</i> (249)
CSE	-.28	-3.59**	-.19	-2.12*
Emotional stability			-.11	1.77
Between-persons <i>R</i> ²	.07		.08	

Note. All results are from a regression of Level 1 strain levels on Level 2 individual-differences variables. Between-persons *R*² is the proportion of variance explained by person-level trait factors. Level 2 *N* = 252; Level 1 *N* = 1,718. CSE = core self-evaluation.
* *p* < .05. ** *p* < .01.

CSE was negatively related to individuals' average levels of daily stressors ($\gamma_{01} = -.28; p < .05$), explaining 7% of the between-individual variance in individuals' intercepts. A model that included both CSE and emotional stability revealed that only CSE was a significant predictor of perceived daily stressors ($\gamma_{01} = -.19; p < .05$), whereas the coefficient for emotional stability was negative but not statistically significant ($\gamma_{01} = -.11; p = .08$). These results support the differential exposure hypothesis and suggest that there is little incremental value in using both CSE and emotional stability to predict daily stressor levels.

Hypothesis 2 proposed that the positive relationship between stressors and strain is weaker for those high in CSE and is repre-

sented by the differential reactivity path in Figure 1. As shown in the top portion of Table 4, controlling for daily coping, the within-individual relationship between daily stressors and strain was positive and significant ($\beta_j = .39; p < .05$); this relationship was the same in the model controlling for CSE alone and in the model controlling for CSE and emotional stability. Recall that the HLM equations testing cross-level moderation include variables at Level 2 (emotional stability and/or CSE) as predictors of the Level 1 intercepts; these results are included in the top portion of Table 4. The moderation results are shown in the middle portion of Table 4. CSE did not moderate the within-individual relationship between daily stressors and strain ($\gamma_{11} = .02$ [without emotional stability]; $\gamma_{11} = .14$ [with emotional stability]). In contrast, emotional stability did moderate the within-individual relationship between stressors and strain ($\gamma_{12} = -.13; p < .05$), such that the relationship was less positive for those high in emotional stability, as shown in Figure 2. Thus, the results are partially consistent with the differential reactivity hypothesis.

Hypothesis 3 proposed that CSEs are negatively associated with avoidance coping and positively associated with problem-solving coping and are represented by the differential choice path in Figure 1. Results testing this hypothesis are shown in Table 5. Of note are the significant within-individual relationships between daily stressors and avoidance coping ($\beta_j = 0.43; p < .05$) and problem-solving coping ($\beta_j = 0.21; p < .05$)—much of the variance in coping is driven by within-individual perceptions of stressors rather than between-individual differences. Regarding avoidance coping, CSE was negatively related to individuals'

Table 4
Diary Study Strain Levels Regressed on Stressors, Coping Strategies and CSE

Variable	Without emotional stability		With emotional stability	
	Coefficient	<i>t</i> ^a	Coefficient	<i>T</i> ^b
Stressors	.39	10.86**	.39	11.11**
Avoidance coping	.31	8.78**	.31	8.56**
Emotion-focused coping	-.29	-9.51**	-.29	9.54**
Problem-solving coping	-.03	-1.03	-.03	-0.94
Within-persons <i>R</i> ²	.43		.43	
CSE	-.35	-5.92**	-.18	-2.63**
Emotional stability			-.22	4.63**
Between-persons <i>R</i> ²	.17		.24	
Stressors × CSE	.02	0.32	.14	1.52
Stressors × Emotional Stability			-.13	2.14*
Stressor-strain <i>R</i> ²	.00		.09	
Avoidance Coping × CSE	-.07	-1.08	-.10	-1.28
Avoidance Coping × Emotional Stability			.04	-0.83
Avoidance-strain <i>R</i> ²	.00		.00	
Emotion Coping × CSE	.05	0.93	-.08	-1.09
Emotion Coping × Emotional Stability			.16	2.73**
Emotion-strain <i>R</i> ²	.00		.10	
Problem Coping × CSE	-.04	-0.83	-.00	0.95
Problem Coping × Emotional Stability			-.04	0.41
Problem-strain <i>R</i> ²	.00		.00	

Note. Level 2 *N* = 252; Level 1 *N* = 1,718. Within-persons *R*² is the proportion of variance explained by within-person variation; between-persons *R*² is the proportion of variance explained by person-level trait factors; all other *R*² estimates are the proportion of the variance in the random level 1 coefficient explained by person-level trait factors. CSE = core self-evaluation.

* *p* < .05. ** *p* < .01.

^a *df* = 200 for all analyses with CSE. ^b *df* = 249 for all analyses with CSE and emotional stability.

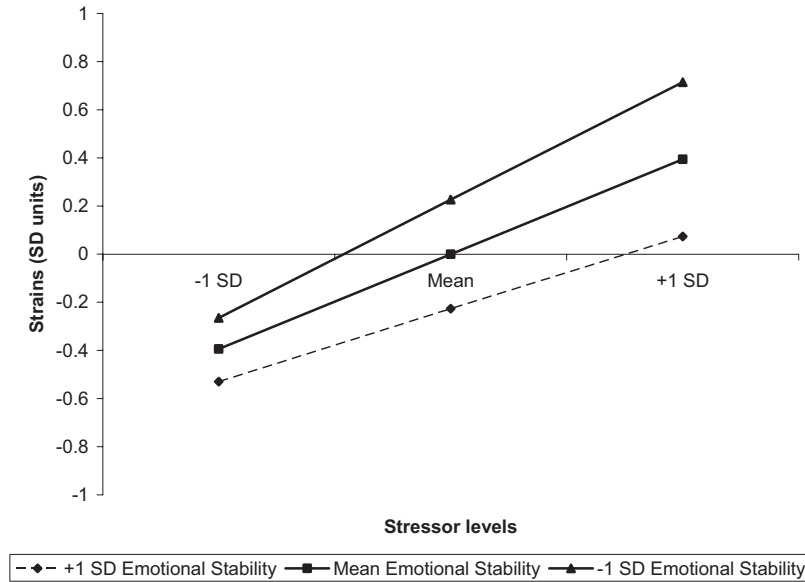


Figure 2. Emotional stability as a moderator of the stressor–strain relationship.

average levels of daily avoidance coping ($\gamma_{01} = -.34, p < .05$), explaining 9% of the between-individual variance in individuals' intercepts. When emotional stability was included as a Level 2 predictor, emotional stability ($\gamma_{02} = -.22, p < .05$), but not CSE ($\gamma_{01} = -.16, p = .07$), was significantly related to avoidance coping. Regarding problem-solving coping, neither CSE nor emotional stability was significantly related to individuals' average levels of this coping strategy. Although not hypothesized, CSE was positively related to emotion coping in models without ($\gamma_{01} = .17, p < .05$) emotional stability, but not after emotional stability was added as a predictor ($\gamma_{01} = .16, p = .06$). These results provide partial support for the differential choice hypothesis.

Hypothesis 4 proposed that the negative relationships between problem-solving coping and strain are stronger for those high in CSE and are represented by the differential effectiveness path in Figure 1. As shown in the top panel of Table 4, controlling for daily stressors, avoidance coping, and emotion coping, the within-individual relationship between problem-solving coping and strain was not significant ($\beta_4 = -.03$). Of note are the within-individual

relationships between avoidance coping and strain ($\beta_2 = .31$) and emotion coping and strain ($\beta_3 = -.29$). The moderation results are shown in the bottom panel of Table 4. CSE did not moderate the within-individual relationship between problem-solving coping and strain ($\gamma_{41} = -.04$ [without emotional stability]; $\gamma_{41} = -.00$ [with emotional stability]), which is to be expected given that there was no within-individual relationship between problem-solving coping and strain to moderate. As ancillary analyses, we explored whether CSE or emotional stability moderated the within-individual relationships between avoidance coping and problem-solving coping and strain. Results revealed that the negative relationship between emotion coping and strain was weaker for those high in emotional stability, as shown in Figure 3, but no other interactions were significant.

Discussion

The results from our daily diary study demonstrate that emotional stability and the overall CSE measure are consistently re-

Table 5
Diary Study Coping Strategies Regressed on Stressors and Core Self-Evaluations (CSEs)

Variable	Avoidance coping				Emotion coping				Problem coping			
	Coefficient	<i>t</i> ^a	Coefficient	<i>t</i> ^b	Coefficient	<i>t</i> ^a	Coefficient	<i>t</i> ^{a,b}	Coefficient	<i>t</i> ^a	Coefficient	<i>t</i> ^{a,b}
Stressors	.44	13.88**	.43	13.73**	-.01	0.82	-.01	-0.24	.20	6.00**	.21	6.33**
Within-persons <i>R</i> ²	.25		.25		.09		.09				.06	
CSE	-.34	-4.40***	-.16	-1.83	.17	2.49**	.16	1.87 ^a	-.06	-0.82 ^a	.00	0.052 ^a
Emotional stability			-.22	-3.71 ^b			-.01	-0.21 ^b			-.07	-1.05 ^b
Between-persons <i>R</i> ²	.09		.13		.02		.02				.00	

Note. Level 2 *N* = 252. Level 1 *N* = 1,718. Within-persons *R*² is the proportion of variance explained by within-person variation; between-persons *R*² is the proportion of variance explained by person-level trait factors.

^a *df* = 200 for all analyses with CSE. ^b *df* = 249 for all analyses with CSE and emotional stability.

* *p* < .05. ** *p* < .01.

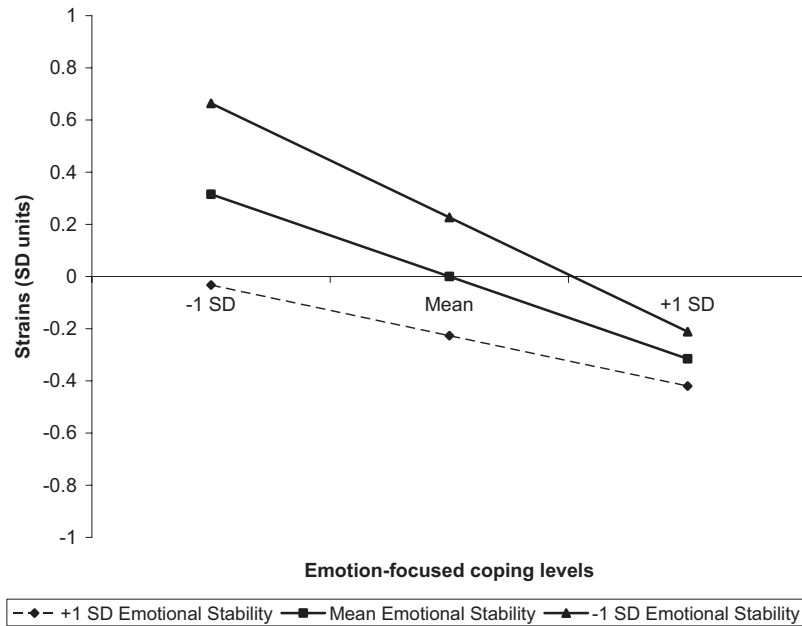


Figure 3. Emotional stability as a moderator of the emotion-focused–coping–strain relationship.

lated to important outcomes in the stress process. As in the meta-analysis, CSE was negatively related to stressors; in addition, CSE was related to within-person variability in strain after within-person variability in stressors was taken into account. We also found that CSE was (negatively) related to within-person variability in avoidance coping, but this relationship was not significant after emotional stability was taken into account. Moreover, stressors were more substantive predictors of strain and coping (as indexed by *t* statistics) than were individual differences. Our results corroborate prior evidence suggesting emotional stability influences stressors, strain, and coping (Bolger & Schilling, 1991; Bolger & Zuckerman, 1995). However, our results also suggest that CSEs are the primary drivers of many of these relationships. We were also able to investigate moderating relationships that could not be examined through our meta-analysis; emotional stability moderated the relationship between stressors and strain, and between emotion-focused coping and strain, but CSE did not act as a moderator for any relationships. These results suggest that stress researchers interested in dispositions should consider using both CSE and emotional stability in their studies.

General Discussion

Some researchers have proposed that the time has come to invest more research in learning about the capacity to maintain a positive outlook in the face of stressors (Bonanno, 2004). Our study is an attempt to answer this call by investigating individual dispositions that are associated with appraisal and coping responses among employed individuals. Taking cues from interactional psychology (Magnusson, 1999; Pervin, 1989) and the self-determination perspective (Ryan et al., 1997), our results, based on the model depicted in Figure 1, demonstrate that individuals with higher levels of CSE and emotional stability are especially likely to perceive their work environments positively. Our meta-analytic

results demonstrated that there is a consistent role for CSE and emotional stability in the stress reaction process. The daily study also demonstrated the contributions that CSE and emotional stability make as they influence perceived stressors (differential exposure), the degree to which these stressors increase strains (differential reactivity), the choice of coping strategies (differential choice), and the impact of these coping strategies on strains (differential effectiveness) on an ongoing basis (Bolger & Zuckerman, 1995; Maddi, 1999). Thus, it appears that CSE can serve as a useful consolidation and organizing framework for the wide variety of studies that have already been conducted on the individual CSE subtraits. However, unlike previous research, our study suggests that researchers need to take the unique influence of emotional stability into account when discussing the stress process.

Previous research showing negative relationships between emotional stability and strain (e.g., Brief et al., 1988; Spector et al., 2000) has created considerable controversy regarding the process by which these variables influence each other. Consistent with these studies on the individual core trait of emotional stability, our meta-analysis and daily study both revealed that CSEs were associated with differential exposure to stressors. Our results suggest that emotional stability is related to stressors primarily through its association with CSE. By demonstrating that self-esteem and locus of control similarly are associated with lower levels of perceived stressors, we show support for the contention that,

people who consider themselves worthy and able to cope with life's exigencies bring a 'positive frame' to the events and situations they encounter, whereas people who do not see themselves as worthy and able bring a negative frame to the same situations. (Judge et al., 1998, pp. 30–31)

Although differential reactivity to stressors was not investigated in the meta-analysis, the evidence did show that CSE and emotional stability were associated with lower levels of strain. The

daily diary study found that CSE and emotional stability both had main effects on the relationship with strain after stressors and coping were held constant and that stressors had a stronger effect on strain for those lower in emotional stability. The main effect of CSE and emotional stability on strain suggests that factors related to these individual differences, besides the perception of stressors and coping, are responsible for associations with strain. It may be that in a manner similar to the component trait of self-esteem, CSE not only alleviates threats posed by specific stressors but also increases general well-being (Greenberg et al., 1992), and emotional stability buffers against anxiety, perhaps through the mechanism of positive affect. Future research should examine why it is that emotional stability relates uniquely to stress reactivity in this way.

Our hypothesis that individuals with higher CSE would exhibit differential choice by engaging in less avoidance coping and more problem-solving coping was only partially supported. The evidence from the meta-analysis did support a link between all CSE subtraits and less avoidance coping, but the multivariate daily diary results suggest that it is only emotional stability that drives this result. We believe that part of this difference may reflect differences in methodology. The contemporaneous relationships between coping levels and CSE subtraits were looked at in the meta-analysis, whereas the relationships between day-to-day coping and CSE and emotional stability were looked at in the daily diary study after factoring out the relationship between daily stressor levels and daily coping. This result is sensible when one considers that those higher in CSE reported fewer stressors in the daily diary survey, whereas those higher in emotional stability did not. It may be that the relationship between CSE and avoidance coping is mediated through perception of stressors. Recall that avoidance coping is primarily driven by an attempt to avoid thinking about problems and escape from stressors (Billings & Moos, 1981). It may be, consistent with our proposition that emotional stability is uniquely related to worry and strain even after controlling for CSE and stressor levels, that individuals who are low in emotional stability are more likely to feel overwhelmed for a given level of stressors and therefore are especially likely to activate escape-based responses.

The results for emotion-focused coping and problem-solving coping were less straightforward. In the daily study, we found that CSEs were positively associated with emotion-focused coping and that emotion-focused coping was negatively related to psychological strain, within individuals. These results suggest that individuals with positive CSE are able to engage in positive framing and elicit helpful social support. However, it was found in the meta-analysis that CSE subtraits were negatively related to emotion-focused coping. One can consider this result in light of the literature on catharsis, which shows that individuals who frequently express anger have more health problems than those who infrequently express anger. This between-individuals difference does not get to the essence of the catharsis process, which focuses more on the within-individual question regarding whether the best response to a specific instance of experienced anger is to hold it in or to express it. Daily surveys suggest that aggression can indeed temporarily reduce symptoms of negative health (Bushman, Baumeister, & Phillips, 2001; McGuire, Greenberg, & Gevirtz, 2005; Van Coillie & Van Mechelen, 2006). For our study, the results suggest that those higher in CSE routinely engage in more

daily emotion-focused coping for a given level of stressors, and these emotion-focused coping strategies produce long-term positive emotional consequences. However, because they experience fewer stressors, they will have less need to engage in these emotion-focused coping strategies in general.

Perhaps the most surprising result was the relatively weak relationship between CSE and problem-solving coping in the daily diary survey, especially in light of the positive relationship between problem-focused coping and CSE subtraits in the meta-analysis. Ginexi, Howe, and Caplan (2000) examined the relationship between locus of control and reemployment in a longitudinal study and found that locus did not change over time and was not affected by reemployment but that those with an internal locus of control were more likely to obtain new jobs quickly. This suggests that CSE may be associated with strain levels because of problems being solved, but this was not apparent in our study.

The final hypothesis started from the proposition that individuals with higher levels of CSE would show differential effectiveness in their use of coping strategies. Specifically, we believed that those high in CSE would implement problem-focused coping more effectively. This hypothesis was not supported. The results did demonstrate that the negative within-individual relationship between emotion-focused coping and strain was stronger for individuals with lower levels of emotional stability. This means that emotion-focused coping had especially palliative effects for those who had lower dispositional emotional stability, counter to our hypothesis. These results actually suggest that whereas those with higher levels of emotional stability will have comparatively lower levels of strain regardless of what they do, those with lower levels of emotional stability can be reassured by actively engaging in positive framing and discussing stressors with others. As such, interventions directed toward those low in emotional stability might focus on encouraging them to engage in more emotion-focused coping.

Limitations and Future Research Directions

Our investigation contributes to a growing body of research that investigates how affective states vary over time at work due to the interaction of dispositional subtraits and events (e.g., Fuller et al., 2003; Ilies & Judge, 2002, 2004; Williams, Suls, Alliger, Learner, & Wan, 1991). Unlike prior research that has studied how events influence moods, we were able to examine how dispositions can influence appraisals of stressors and coping responses. Future research could follow up on this investigation by examining some of the other daily processes involving emotional stability, CSE, and coping in a format that would allow multiple responses in a single day. The greatest opportunity provided by such an event study design would be the chance to track how a specific stressor's severity and attendant coping responses evolve in response to one another through the course of the day.

The separation we found between CSE and emotional stability may be a reflection of the difference between the depressive self-concept and the "anxiety" component of emotional stability. As noted above, CSE does not directly address a tendency to worry in general or experience unfocused psychological strain, whereas many other measures of emotional stability do include items referencing worry or concern (Judge et al., 2004). The transactional model of stress proposes that a situation is appraised as a

stressor on the basis of a combination of the perceived severity of one's problems coupled with the perceived inability to respond appropriately (Baglioni et al., 1990; Cooper et al., 2001; Folkman & Lazarus, 1985). The depressive self-concept is likely to have an impact on one's perceived ability to combat problems, whereas the tendency toward worry and anxiety may contribute further to psychological strain by amplifying the perceived severity of stressors. Unfortunately, we did not separate our measure of stressors to allow an independent evaluation of these appraisal processes. Future research that differentiates primary and secondary appraisals of stressors may aid in understanding our results. Future research should also attempt to assess whether a more specific measure of worry or anxiety would have even greater incremental validity in a study involving CSE.

An obvious limitation of our study is that both the meta-analysis and the daily diary studies revolved around self-report measures of stressors. This makes it hard to assess exactly why CSEs were negatively related to stressor levels—do high-CSE individuals perceive situations as less stressful, do they not notice stressors as much because they are focused on other aspects of their work, or do high-CSE individuals encounter fewer stressors? It is difficult to imagine a clear technique that could assess daily variation in stressor levels objectively across a wide variety of occupations, but it might be possible to find a measure of objective workload that could be obtained from some external source in highly specialized occupations in which workload is clearly defined. One method that has been used profitably in previous research is the use of objective job characteristics information from archival databases (Judge et al., 2000; Spector & Jex, 1991). This method has the obvious shortcoming of not being able to address the specifics of each person's individual work day, but it could at least partially mitigate concerns about the issue above.

The implications of the coping literature are significant, and it would be advisable for researchers to build on the existing frameworks from the CSE and social psychology literature on positive coping to extend researchers' understanding of how individuals can respond in an affirmative, helpful way to transform challenges into positive outcomes. Although our contemporaneous measurement strategy means that our results cannot demonstrate conclusively that CSE had its effects on strain as a result of using certain coping strategies, we did find that positive individuals engaged in positive coping strategies, and emotion-focused coping (emphasizing positive reappraisal and mood repair) and problem-focused coping both were negatively related to strain levels once stressors had been partialled out. Our results were not completely conclusive regarding the efficacy of these strategies, but we did find that emotion-focused coping (emphasizing positive reappraisal and mood repair) and problem-focused coping both were negatively related to strain levels once stressors had been partialled out. Research on traumatic events is suggestive in this regard, as it has been shown that in some cases individuals are able to make positive life changes following adversity, such that they are not only able to recover but also end up better off for having been through the stress process (Linley & Joseph, 2004). It would be informative to know what sorts of relationships would be found for positive outcomes such as citizenship, task performance, and "positive deviance" (L. M. Roberts, 2006). Research examining reactions to death events has found that positive coping is more common than chronic depression (Bonanno & Kaltman, 2001).

Similarly, there is some evidence that for some individuals, acute stressors in the work domain can result in positive reappraisal, such as looking at unemployment as an opportunity to explore new work areas (Wanberg, 1997) or seeing an organizational restructuring as a potentially positive event (Wanberg & Banas, 2000).

We restricted our meta-analytic database by only including studies that had measures of coping along with CSE subtraits. This decision is consistent with the focus of our investigation on coping as a vital element of the stress process. However, there is a very large literature that measures the relationships among the CSE subtraits, stressor levels, and psychological strain that was not meta-analytically reviewed. A more detailed investigation of these relationships would be of sufficient magnitude and complexity that a dedicated study incorporating both theoretical and situational moderating variables is warranted.

Practical Implications

Although much CSE research has argued in favor of the selection implications of CSE (e.g., Judge et al., 2003), organizations do not always have free and full latitude to hire whomever they wish. Our results suggest that understanding CSE may be practically important even when an organization cannot use its selection system to screen out applicants with low CSE. Specifically, if an organization has a stressful assignment before it (e.g., international assignment, increased job responsibility, handling a temporary crisis), all else equal, then the individual with higher CSE and emotional stability may handle the assignment more effectively. Prior studies have shown that at least part of the relationship between CSE subtraits and satisfaction can be explained by differences in job characteristics (Judge et al., 2000). It would be interesting to see whether the tendency for individuals with higher emotional stability to engage in less avoidance coping can explain the relationship between CSE subtraits and attitudes. Perhaps dispositions influence the objective work environment at the individual level. If this is true, then managers might want to pay careful attention to the work choices being made by individuals who have lower levels of emotional stability and provide additional encouragement to confront stressors directly. Besides the attitudinal consequences implied by our study, field research looking into comparative performance success for high-stress job assignments would also be informative.

In the introduction, we proposed that by understanding the coping strategies of those who are high in CSE, researchers might be able to better design interventions to help those who are low in CSE cope more effectively. Future research might also examine the extent to which interventions designed to improve perceptions of control, self-image, and enhance positive mood states leads to implementation of more effective coping strategies. One illustrative study in this regard has shown that self-efficacy enhancement following training can reduce strain levels and increase satisfaction among organizational newcomers (Saks, 1995). It is also worth noting that the relationship between CSE and emotional stability with daily experienced strains does not appear to be driven by levels of problem-focused coping, as one might expect by looking at the meta-analysis. Instead, it appears that an effective stress reduction strategy should focus more on reducing perceptions of stressors at work and managing the emotional reaction to stressors, combined with judicious use of emotion-focused coping.

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