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IS FACET-LEVEL EMOTIONAL STABILITY USEFUL IN PREDICTING JOB
PERFORMANCE?
A META ANALYTIC INVESTIGATION OF FACET-LEVEL EMOTIONAL STABILITY

BY

EMILY JULIANNE GRIJALVA

THESIS

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Adviser:

Professor Fritz Drasgow

ABSTRACT

There has been much debate about the appropriate level of specificity at which to measure personality, but no consensus has been reached regarding the usefulness of facet-level Emotional Stability in predicting job performance. Research in this area has been impeded by the lack of an agreed upon facet structure for Emotional Stability. In the current article, the authors used a three facet-structure for Emotional Stability (Well-Being, No Anxiety, and Even Temperedness) to conduct a series of meta-analyses to determine if facet-level Emotional Stability is useful in predicting different types of job performance (overall performance, task performance, contextual performance, and counterproductive work behavior (CWB)). It was found that facet-level Emotional Stability explained additional variance beyond global Emotional Stability for task performance and CWB. The moderating effects of job complexity were also examined.

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CHAPTER 1

INTRODUCTION

Since the early 1990s organizational science has taken full advantage of the “Big Five” personality dimensions as a common structure with which to study personality at work. As evidence of this, over 15 meta-analyses have related Big Five personality dimensions to work behavior (Barrick & Mount, 1991; Barrick, Mount, & Judge, 2001; Berry, Ones, & Sackett, 2007; Clarke & Robertson, 2008; Dudley, Orvis, Lebiecki, & Cortina, 2006; Fuller & Marler, 2009; Hogan & Holland, 2003; Hough et al., 1990; Hurtz & Donovan, 2000; Judge, Bono, Ilies, & Gerhardt, 2002; Judge, Heller, & Mount, 2002; Judge & Ilies, 2002; Joseph & Newman, 2010; Salgado, 2002; Tett, Jackson, & Rothstein, 1991; Zhao & Seibert, 2006). While the use of the Big Five has promoted progress in many ways, the ubiquity of the Big Five personality structure has also restricted the level of specificity at which personality is studied in organizational psychology. That is, due to the popularity of the Big Five, personality is typically studied at the dimension-level (e.g., Extraversion, Openness, Conscientiousness, Agreeableness, and Emotional Stability) rather than at the facet-level (e.g., Even Temperedness, Well-being) of each Big Five personality construct. Recent investigations of facet-level Conscientiousness (Dudley, Orvis, Lebiecki, & Cortina, 2006; Roberts, Chernyshenko, Stark, & Goldberg, 2005) have revealed that an increased level of specificity can provide added explanatory power over the broader Big Five construct of Conscientiousness. Applying the same logic, the current paper will attempt to address the work performance implications of facet-level Emotional Stability. To date, no meta-analysis has examined the predictive power of Emotional Stability’s facets, leaving the appropriate level of analysis with which to relate Emotional Stability to job performance

unknown. The purpose of the current paper is to present a series of meta-analyses that address this gap in the literature.

In order to address this issue, this paper makes four contributions to the literature. First, a new, empirically derived facet structure of Emotional Stability is used. Second, we use this facet-structure to estimate the relationship between facet-level Emotional Stability and a variety of performance criteria. Third, the incremental validity of facet-level Emotional Stability over broad Emotional Stability is estimated. Fourth, job complexity is examined as a moderator of the relationship between overall job performance and facet-level Emotional Stability.

The Value of Global Emotional Stability

Although Neuroticism has been conceptualized in a variety of ways, it is widely considered to be an enduring tendency to experience negative emotions such as anxiety, sadness, and anger that result in poor emotional adjustment (Costa & McCrae, 1992; Goldberg, 1990; 1999). Some researchers have preferred to discuss Neuroticism as Emotional Stability, the bipolar opposite of Neuroticism, described as the tendency to be calm, composed, and resilient (Barrick & Mount, 1991; Goldberg, 1999; Norman, 1963). In the current paper we use the term Emotional Stability preferentially, but occasionally use Neuroticism when necessary.

Research on Emotional Stability has a long history dating back to the beginning of psychological inquiry, including the examination of neurotic symptoms in classic clinical psychology research such as Freud's psychoanalytic theory (Fiske, 1949; Freud, 1910, 1930). Since Emotional Stability was adopted as one of the Big Five traits (Tupes & Christal, 1961), it has consistently been replicated as an important component of personality across cultures (McCrae & Costa, 1997; Saucier & Ostendorf, 1999) and measures (e.g., Eysenck's Personality

Questionnaire, Eysenck, 1985; NEO-PI-R, Costa & McCrae, 1992; 16- PF, Cattell, 1993; AB5C, Hofstee, De Raad, & Goldberg, 1992), making it one of the most robust traits of the Big Five. A multitude of studies in both the clinical and personality literatures have linked Emotional Stability/Neuroticism to a variety of important life outcomes, including health-risk behaviors (Smith & Spiro, 2002), psychological disorders (Trull & Sher, 1994), criminality (Krueger, Hicks, & McGue, 2001), and problems maintaining important interpersonal relationships (Anderson, John, Keltner, & Kring, 2001; Donnellan, Larsen-Rife, & Conger, 2005). Despite these findings relating Emotional Stability to life outcomes, research relating Emotional Stability to organizational phenomena has been less promising.

Although Emotional Stability has a long history in psychological research, research involving the relationship between Emotional Stability and work behavior has only been popular in the last two decades. Specifically, in 1991, a meta-analysis by Barrick and Mount marked the beginning of an era in which a series of meta-analyses showed that Conscientiousness ($\rho = .22$) and Emotional Stability ($\rho = .08$) exhibit modest but stable relationships with work criteria. Other researchers have updated Barrick and Mount's (1991) Big Five meta-analysis, with results showing a higher corrected correlation for Emotional Stability of $\rho = .14$ (Hurtz & Donovan, 2000), $\rho = .19$ (Judge & Bono, 2001) and $\rho = .32$ (Hogan & Holland, 2003). While the meta-analytic relationships between Emotional Stability and work performance criteria have typically exhibited modest effect sizes, the estimates are relatively consistent across meta-analyses and typically have a credibility interval excluding zero (Barrick et al., 2001; Hurtz & Donovan, 2000; Judge & Bono, 2001; Hogan & Holland, 2003). This suggests that the correlation between Emotional Stability and work performance is consistent even across different occupational categories (e.g., sales, customer service, and managers).

The Value of Facet-Level Personality

Although meta-analytic research relating broad Emotional Stability to job performance has shown a fairly weak bivariate relationship, the value of facet-level Emotional Stability to organizational behavior is unknown. In general, organizational science has long debated the relative value of broad vs. specific predictors, which is often labeled the *bandwidth-fidelity dilemma* (Cronbach & Gleser, 1965). This dilemma characterizes the debate over whether organizational researchers should use fine-grained predictors to maximize precision in measurement or broader personality traits to optimize prediction of work performance. Proponents of broader constructs argue that global measurement provides a better understanding of behavior in organizations because it maximizes the range of behaviors that can be predicted (Funder; 1991; Hanisch, Hulin, & Roznowski, 1998; Ones & Viswesvaran, 1996; Roznowski & Hanisch, 1990). In personality research, several studies have shown the value of broad predictors (Judge & Bono, 2001; Judge, Erez, Bono, & Locke, 2005; Ones, Viswesvaran, & Schmidt, 1993).

At the same time, several studies have found value in examining personality traits at an increased level of specificity (Ashton, 1998; Dudley, et. al., 2003; Mershon & Gorsuch, 1988; Paunonen, 1998; Roberts, Chernyshenko, Stark, & Goldberg 2005). For example, Roberts et al. (2005) found that the six facets underlying Conscientiousness have different predictive relationships with various criteria and that many facets were better predictors than overall Conscientiousness. Similarly, in their meta-analysis of facet-level Conscientiousness, Dudley et al. (2006) showed that the inclusion of the facets produced statistically significant increases in explained variance beyond global Conscientiousness across all job performance criteria. Unfortunately, very little is known about whether facet-level Emotional Stability provides

greater predictive value than global Emotional Stability, leaving the band-width fidelity dilemma of Emotional Stability unresolved.

The Facet Structure of Emotional Stability

A significant obstacle to meta-analyzing facet-level Emotional Stability is the lack of clear consensus regarding its lower-level structure. In this section, we review various conceptualizations of the facet structure of Emotional Stability in an attempt to integrate them into a common representation.

In describing the facet structure of Emotional Stability, we would be remiss to ignore the research done by clinical psychologists. It is commonly accepted among clinical psychologists that Neuroticism is associated with a host of emotional disorders (Ulliaszek, et al., 2009), being linked most frequently to anxiety and depression (Clara, Cox, & Enns, 2001; Clark, Watson, & Mineka, 1994; Watson, 2000). However, clinical psychology's emphasis is on psychological disorders and not on the study of normal trait personality, so these terms, as referenced in the clinical domain, cannot necessarily be equated with personality facets as discussed in the current paper. An additional level of complexity is introduced into the discussion of Emotional Stability facets by the terminology associated with clinical research being integrated into many existing studies and taxonomies.

In the domain of normal personality, the definition of Emotional Stability/Neuroticism appears to be broader. For example, one of the most-commonly used Big Five inventories, the NEO-PI-R (Costa & McCrae, 1992), purports to measure six Neuroticism facets: Anxiety, Depression, Self-Consciousness, Impulsiveness, Vulnerability to Stress, and Hostility. The Anxiety and Depression facets are similar to clinical definitions and the Vulnerability to Stress

and Self-Consciousness facets appear to describe behavioral patterns similar to the Anxiety facet. Additionally, the creators of the NEO-PI-R, Costa & McCrae (1992), include instability as a key part of their facet structure, and the broader conceptualization of Emotional Stability residing within the NEO-PI-R (Costa & McCrae, 1992), appears to come from the facets representative of this instability: Impulsiveness and Hostility.

A second facet structure for normal personality was proposed by Saucier and Ostendorf (1999). It was based on a factor analysis of responses to a large set of adjectives describing everyday human behavior. These authors also included emotional instability themes together with anxiety to represent Neuroticism. They found three facets – Irritability (temperamental, moody, impatient), Insecurity (unstable, nervous, fretful, jealous), and Emotionality (high strung, emotional, excitable). All three facets dealt with some form of emotional instability, excitability, and anxiety, but Saucier and Ostendorf (1999) did not obtain a separate depression facet-- perhaps because there weren't enough adjectives related to that theme.

A third set of Neuroticism facets was developed by Hough and Ones (2002) who used a conceptual, nomological web-clustering approach to delineate the factor structure of Emotional Stability. Through this process, Hough and Ones (2002) identified three facets: Self-Esteem, Low Anxiety, and Even Temperedness. In summary, the conceptual and lexical taxonomic approaches to date offer a number of perspectives on the underlying structure of Emotional Stability.

Finally, in a recent questionnaire-based study, Chernyshenko and colleagues (Chernyshenko, Stark, & Drasgow, 2010; Stark, Drasgow, & Chernyshenko, 2008) factor analyzed scores from 30 scales purportedly measuring various aspects of the Emotional Stability factor. The data were

obtained from Goldberg's (1993 - 1997) systematic program of research on the Big Five. Goldberg's data were also used to develop a facet structure for Conscientiousness, and more information on the data collection technique can be found in Roberts et al. (2005). The scales measuring various aspects of Emotional Stability were from seven personality inventories (NEO-PI-Revised, Costa & McCrae, 1992; 16 Personality Factor Questionnaire [16PF], Conn & Rieke, 1994; California Psychological Inventory [CPI], Gough, 1987; Multidimensional Personality Questionnaire [MPQ], Tellegen, 1982, Jackson Personality Inventory-Revised [JPI-R], Jackson, 1994; Hogan Personality Inventory [HPI], Hogan & Hogan, 1992; and the Abridged Big Five Circumplex from the International Personality Item Pool [AB5C - IPIP], Goldberg, 1999).

Factor analyses revealed that a three-facet solution fit the Goldberg data the best. The three facets of Emotional Stability were labeled *Well-Being*, *No Anxiety*, and *Even Temperedness*; all named in the direction of Emotional Stability, rather than Neuroticism. The three facets were relatively highly correlated. Table 1 contains the correlations between the facets of global Emotional Stability. First, individuals scoring low on the *Well-Being* facet are often depressed and dejected, have a low opinion of themselves, and experience frequent mood swings. All the scales loading on this factor try to assess an individual's general emotional tone with despair and sadness being at the low end of the continuum and joy and well-being located at the high end. The second factor, *No Anxiety* is marked by a number of subscales describing apprehensiveness. Individuals scoring low on the No Anxiety facet are high strung, fearful, stressed, and apprehensive regardless of the type of situation they find themselves in. Finally, individuals scoring low on the third factor, *Even Temperedness*, tend to get upset easily and experience a range of negative emotions including irritability, anger, and hostility. On the other hand, those

scoring high on the Even Temperedness facet seldom get upset or annoyed, and remain calm and stable, even in extreme situations.

This three-facet representation attained from existing questionnaire-based scales of Emotional Stability shares similarities with both the clinical and lexical views described earlier. Well-Being and No Anxiety share similarities to the emotional disorders depression and anxiety, but are scored in the opposite direction. The Even Temperedness facet appears to be a combination of the Irritability and Emotionality facets found by Saucier and Ostendorf (1999). Interestingly, Hough and Ones (2002), who used a rational approach to cluster existing measures of Emotional Stability, identified a remarkably similar three-facet structure consisting of Well-Being, Low Anxiety, and Even Temperedness. Hence, the studies reviewed here, while using seemingly different samples and terminology, appear to be converging on the same three-facet representation of Emotional Stability with the first facet involving well-being, self-esteem and depression themes, the second facet involving adjustment and anxiety themes, and the third facet involving irritability, hostility and even temperedness themes. Consequently, the three-facet structure of Emotional Stability is adopted for the present study.

Emotional Stability and Job Performance

One difficulty for the current project is that, to date, the facets of Emotional Stability have not garnered much interest in the organizational literature, leaving a limited amount of theory to draw on when hypothesizing potential relationships between the facets of Emotional Stability (i.e., No Anxiety, Well-Being, and Even Temperedness) and job performance. To circumvent the lack of organizational research, research on negative emotional states was used to predict potential relationships. Whereas we acknowledge it is not ideal to use theories built upon

emotional *states* to explain a relationship between job performance and the *trait* of Emotional Stability, some researchers (Fleeson, 2001; Larsen & Ketelaar, 1991; Watson, 2000) have argued that affective traits, such as Emotional Stability, are intrinsically linked to states because traits increase the likelihood of experiencing a variety of related emotional states.

The Episodic Process Model of Affective Influences on Performance (shortened to the EPM for this paper; Beal, Weiss, Barros, & MacDermid, 2005) provides a common framework for understanding the relationships between the facets of Emotional Stability and various performance criteria. Although the EPM was developed to link immediate affective experiences to within-person performance episodes, its description of the core cognitive and regulatory processes that influence performance are relevant to the current paper. That is, we are assuming an *isomorphism* from the within-person processes of the EPM to the individual-level, between-person processes of personality research. The EPM suggests that episodic performance is influenced by the amount of cognitive and regulatory resources available to an individual and the extent to which these resources are allocated to the task at any given time. That is, one's pool of cognitive resources (i.e., task-related knowledge, skills, and ability) and regulatory resources (i.e., self-regulation; Baumeister, Muraven, & Tice, 2000; Muraven & Baumeister, 2000) are thought to impact performance to the extent that they are available and there are no off-task attentional demands. Relating this to Emotional Stability, individuals low on Emotional Stability experience a double-jeopardy of affective influences on performance because they (a) lack depth in their pool of regulatory resources, and (b) suffer from high levels of off-task attentional demands.

First, evidence of a shallow pool of regulatory resources for individuals who are low on Emotional Stability can be found in recent meta-analytic evidence suggesting Emotional

Stability is related to the ability to regulate emotion ($\rho = .17$; Joseph & Newman, 2010). Furthermore, self-regulatory resources are viewed as finite and easily depleted (Muraven & Baumeister, 2000) and the experience of negative affective states such as those commonly experienced by individuals low on Emotional Stability has been associated with self-regulatory depletion (Baumeister, Heatherton & Tice, 1994; Baumeister, Vohs, & Tice, 2007). From these findings it follows that individuals low on Emotional Stability's facets will suffer impairments in task performance due to a diminished pool of regulatory resources available at any given time (Beal et al., 2005). It is plausible that these effects will extend beyond task performance to contextual performance and CWB, which is discussed below.

Second, the EPM suggests a lack of Emotional Stability may impair performance through an increase in off-task attentional demands. Specifically, it is expected that individuals low on No Anxiety, Even-Temperedness, and Well-Being will experience negative emotions more frequently. The experience of frequent and intense negative emotional states may lead to the introduction of additional information processing burdens (Clore, et al., 1994; Martin & Tesser, 1996; Lazarus, 1991). For example, rumination is associated with people remaining fixated on intrusive negative thoughts instead of taking action to find a solution to their problem (Kanfer & Ackerman, 1989; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008) and is directly associated with Emotional Stability (Lam, Smith, Checkley, Rijdsdijk, & Sham, 2003; Roberts, Gilboa, & Gotlib, 1998). Furthermore, low Emotional Stability individuals tend to have a higher than average level of physiological arousal, often associated with an overactive behavioral inhibition system (BIS) that promotes attention to threat-relevant stimuli (Gray, 1982, 1987; Fowles, 1993). Easterbrook's (1959) work found that when individuals experience high levels of physiological arousal they tend to narrow their attentional focus. In the workplace, this narrowing of attentional

focus, to concentrate on threat relevant stimuli, is expected to be detrimental, especially as tasks become more difficult and require more resources. Even if attention is focused on a work task, arousal has been shown to be detrimental if it exceeds an optimal level (Hochwarter, Perrewé, Hall, & Ferris, 2005; Yerkes & Dodson, 1908).

Thus far, to simplify the discussion of the EPM we have focused on its theoretical relationship with Emotional Stability. However, the current paper proposes that there are times when different forces drive the individual facets' self-regulatory and cognitive deficits, even though the outcomes of these deficits may appear to be similar. Next, a variety of evidence will be presented to describe each facet's unique relationship to self-regulatory/cognitive resources and to particular performance criteria.

Performance Types

It has been suggested that the structure of job performance is multidimensional and should include task performance, contextual performance, and counterproductive work behaviors (Rotundo & Sackett, 2002; Sackett, 2002). To thoroughly examine facet-level Emotional Stability's relationship to job performance, we hypothesize relationships between Emotional Stability and task performance, contextual performance, CWBs, and overall performance.

To begin, task performance is conceptualized as the effectiveness with which job incumbents perform activities that contribute to an organization's technical core (Borman & Motowidlo, 1997). Past meta-analytic research has shown a positive relationship between task performance and global Emotional Stability ($\rho = .09$; Hertz & Donovan, 2000). Second, contextual performance is defined as activities that "contribute to organizational effectiveness in ways that shape the organizational, social, and psychological context" (Borman & Motowidlo,

1997). Contextual performance includes a variety of different activities, a few of which include volunteering to work overtime, helping and cooperating with others, and loyalty to the organization. Past meta-analytic research has found small correlations between global Emotional Stability and contextual performance (Borman, Penner, Allen, & Motowidlo, 2001; Hertz & Donovan, 2000).

Finally, CWBs are defined as “voluntary behaviors that violate significant organizational norms and threaten the well-being of the organization, its members, or both” (Robinson & Bennett, 1995, p 556). CWBs are discretionary acts that individuals have significantly more control over than task related behaviors. Salgado’s (2002) meta-analysis of the relationship between global Emotional Stability and different forms of CWB found that the relationship varies depending upon the CWB criteria used. Berry, Ones and Sackett (2007) completed an updated meta-analysis of the CWB/global Emotional Stability relationship in which they found a corrected correlation between global Emotional Stability and interpersonal deviance of -.24 and organizational deviance of -.23.

No Anxiety

There is now a wealth of evidence in the social and personality psychology literatures indicating that elevated levels of trait anxiety are associated with performance decrements on a wide range of cognitive tasks (Eysenck, 1982, 1988; Eysenck, Derakshan, Santos, & Calvo, 2007; Williams, Watts, MacLeod, & Mathews, 1997). A recently introduced theory, Attentional Control Theory (Eysenck et al., 2007), suggests mechanisms through which anxiety is detrimental to task performance. In Attentional Control Theory, anxiety is thought to impair attentional control, which results in the preferential allocation of attention to either internal

(worrisome thoughts) or external (non-task related) threat-related stimuli, thus reducing attentional focus on the current task (Eysenck et al., 2007). As evidence of this, high-anxious individuals have been shown to make less efficient use of the ability to use attentional control to resist distracter interference from task-irrelevant distractions (Derakshan & Eysenck, 2009, 2010).

In contrast, trait anxiety has also been shown to have neutral or even positive effects on task performance in some circumstances (Calvo, 1985; Calvo & Alamo, 1987; Eysenck, 1985). For example, Calvo and Alamo (1987) showed that when the task performed was simple or automatic and not evaluative, then high trait-anxious individuals performed better than low trait-anxious individuals. Attentional Control Theory addresses these results by suggesting the positive effects of trait anxiety on task performance result from a desire to minimize the aversive state that anxiety creates by producing an increased motivation to complete a task. Attentional Control Theory also predicts that anxious individuals' increased effort and resource allocation may at first prevent decreases in performance quality, but as overall task demands increase performance quality will decrease. In support of this prediction, there is evidence that trait-anxious individuals' performance on demanding tasks shows performance decrements not apparent on simpler tasks (Hayes, MacLeod, & Hammond, 2009). Overall, it appears that anxiety is beneficial only under very limited circumstances (e.g., when a task is simple and an individual does not feel pressure to perform well). Therefore, it is expected that No Anxiety will have a positive relationship to task performance.

Hypothesis 1: The Emotional Stability facet of No Anxiety will have a positive relationship to task performance

To explain No Anxiety's predicted relationship to contextual performance we once again draw on research related to attentional focus. The attentional focus model of helping behavior suggests that a negative mood increases helpfulness when attention is directed outward towards the misfortunes of others, whereas negative mood does not affect helping behavior (and often decreases it) when one attends to one's own problems and concerns (Carlson & Miller, 1986; Thompson, Cowan, & Rosenhan, 1980). This model is relevant to No Anxiety because anxious individuals have been shown to suffer impairments in the ability to inhibit their own negative thoughts, making them more likely to be inwardly focused. Past researchers also suggested that Anxiety will be negatively related to contextual performance because the action tendency for Anxiety is avoidance (Lazarus, 1991; Roddell & Judge, 2009). In a work context, avoiding anxiety-provoking stimuli may lead to generalized withdrawal behaviors. Work withdrawal consists of behaviors such as tardiness, long breaks, leaving early, and missing meetings (Bennett & Robinson, 2000; Rotundo & Sackett, 2002). As contextual performance involves volunteering to perform helpful behaviors, either toward coworkers or toward the organization as a whole, an incumbent's work withdrawal will result in fewer opportunities to perform helping behaviors. Overall, it is expected that, due to Anxious individuals inability to control their attentional focus and their avoidant action tendencies, No Anxiety will be positively related to contextual performance.

Hypothesis 2: The Emotional Stability facet of No Anxiety will show a positive relationship to contextual performance.

Anxiety's avoidant action tendency has also been linked to state and trait anxiety's positive relationship to CWB (Fox & Spector, 1999; Rodell and Judge; 2009). Avoidant strategies are meant to reduce stress, in the process preventing individuals from becoming

incapacitated (Roth & Cohen, 1986). Unfortunately, as mentioned previously, we suspect that avoidant strategies result in increasing levels of work withdrawal if depended upon as a primary means of stress relief and withdrawal behaviors are a component of many counterproductive work behavior taxonomies (Bennet & Robinson, 2000; Rotundo & Sackett, 2002).

A second line of reasoning (that extends to all three facets) suggests that individuals who exhibit greater degrees of self-regulation are better able to control the affective responses that promote antisocial behavior (Eisenberg, Smith, Sadovsky, & Spinrad, 2004; Thau & Mitchell, 2010). As we have already laid out how Anxiety is associated with lowered attentional control, this provides further support for the prediction that No Anxiety will have a negative relationship to counterproductive work behaviors.

Hypothesis 3: The Emotional Stability facet of No Anxiety will be negatively related to CWBs.

Well-Being

Well-Being has potentially mixed effects on task performance. Interestingly, recent research has shown that sadness has a broadening effect on attention (Gable & Harmon, 2010), similar to that observed with positive emotions (Fredrickson & Branigan, 2005; Hicks & King, 2007). Breadth of attention has been associated with increased creativity. However, not all studies have found a positive relationship between sadness and creativity (Baas, De Dreu, & Nijstad, 2008; Gasper, 2004) and creativity may not be an important component of task performance in every job. Therefore, it is unclear to what extent the advantages in this domain will generalize to overall task performance.

More generally, it is expected that there is a positive relationship between Well-Being and task performance. To begin with, we have described how emotional distress is thought to cause impairment in self-regulation using the EPM (Beal, et al., 2005). Moreover, while Anxiety's deficits may sometimes be counterbalanced by compensatory strategies, it is not predicted that low Well-Being will create an accompanying motivational impetus to improve task performance. Whereas anxiety is characterized by somatic tension and hyperarousal, depressed affect is characterized by anhedonia and the absence of positive affect (e.g., loss of interest and feeling nothing is enjoyable). As can be seen from these differences, anxiety is a high-activation state, but depressed affect is characterized by the absence of activation. Moreover, motivational intensity, or the drive to act, is directly related to arousal or activation suggesting that low Well-Being individuals are unmotivated to complete tasks (Bradley & Lang, 2007; Gable & Harmon, 2010). In summary, individuals low in Well-Being suffer self-regulatory deficits and an action tendency of *inaction*, thus it is expected that Well-Being will be positively related to task performance.

Hypothesis 4: The Emotional Stability facet of Well-Being will have a positive relationship to task performance.

Temporary sadness induced in a lab has been shown to increase helping behavior (see Cialdini & Kenrick, 1976, and Rosenhan, Karylowski, Salovey, & Hargis, 1981, for reviews). According to the negative-state relief model, a negative mood (specifically sadness) is accompanied by a corresponding drive to reduce bad feelings. This model posits that sadness may be reduced by performing helping behaviors because there is a sense of gratification that accompanies the performance of good works (Manucia, Baumann, & Cialdini, 1984). It should

be mentioned that there are important reversals to this phenomenon produced by variations in such factors as the costs associated with the helping act and the focus of the helper's attention.

From the negative state relief model it follows that Well-Being should be positively related to contextual performance, but there is additional research that must first be considered. In reference to the previously mentioned evidence connecting Well-Being to self-regulatory deficits, it has also been argued that prosocial behavior is effortful and demands the expenditure of considerable self-regulatory resources (Gailliot, 2010). As we have already noted, self-regulation is a limited resource (Baumeister, Heatherton & Tice, 1994; Baumeister, Vohs, & Tice, 2007), and controlling negative emotions uses these repositories (Muraven & Baumeister, 2000). It thus follows that individuals low on Well-Being will be less likely to participate in prosocial behaviors. In support of this proposition there is evidence suggesting that people are less helpful after they have exerted self-control (Gailliot, Baumeister, DeWall, Maner, Plant, Tice et al., 2007). For instance, participants who exerted self-control in artificial lab settings were less helpful afterwards, compared to participants who had not exerted self-control (Gailliot et al., 2007).

Hypothesis 5: The Emotional Stability facet of Well-Being will have a positive relationship to task performance.

Finally, Well-Being is to have a negative relationship to CWB. Once again, as for No Anxiety, this relationship is thought to be mediated by low Well-Being's relationship to impairments in self-regulation which are in turn linked to increased antisocial behavior (Eisenberg, et al., 2004; Posner & Rothbart, 2000).

Hypothesis 6: The Emotional Stability facet of Well-Being will be negatively related to CWBs.

Even Temperedness

Even Temperedness, at its negative pole, is marked by proneness to episodes of anger, irritability, hostility, and frustration. Anger is an important component of Even Temperedness and depends on the appraisal that one's "identity has been threatened or harmed" coupled with there being someone to blame for the offending action (Averill, 1982, 1983; Lazarus, 1991).

Even Temperedness is expected to negatively influence cognitive and self-regulatory resources. Like No Anxiety, Even Temperedness is a high-activation state accompanied by a generalized physiological reaction marked by the activation of the sympathetic nervous system (Cannon, 1927, 1929). As previously mentioned, when individuals experience high levels of physiological arousal, they tend to devote their cognitive resources entirely to threat-related stimuli, which is thought to serve as a distraction in the work place (Easterbrook, 1959). It is also predicted that Even Temperedness will influence self-regulation. Due to the intensity of the negative emotions associated with low Even Temperedness and the negative social consequences of expressing these emotions, it is expected that individuals will deplete their self-regulatory resources to suppress their feelings. Anger has been linked to the behaviors one would expect of individuals suffering from self-regulatory depletion such as indiscriminant optimism of success outcomes, an eagerness to act, (Lerner, Gonzalez, Small & Fischhoff, 2003; Lerner & Keltner, 2000, 2001; Mackie, Devos, & Smith, 2000) and carelessness in thought processes (Bodenhausen, Sheppard, & Kramer, 1994; Lerner, Goldberg, & Tetlock, 1998). Taken together,

the cognitive and self-regulatory deficits associated with low Even Temperedness should result in a positive relationship between Even Temperedness and task performance.

Hypothesis 7: The Emotional Stability facet of Even Temperedness will have a positive relationship to task performance.

The characteristic emotions representing low Even Temperedness, such as anger and frustration, by their very nature elicit responses antithetical to helping. While a variety of emotions associated with low Even Temperedness can be experienced and not acted on, when they are expressed it is frequently in the form of aggression. Baron and Richardson's (1994) definition of aggression highlights the opposing nature of low Even Temperedness to helping behaviors. The definition is "any form of behavior directed toward the goal of harming or injuring another living person who is motivated to avoid such treatment" (p. 7). We predict that Even Temperedness will exhibit a positive relationship to contextual performance because the negative emotions associated with low Even-Temperedness will inspire competitive/antagonistic behavior rather than helping behavior.

Hypothesis 8: The Emotional Stability facet of Even Temperedness will be positively related to contextual performance

Situational and trait anger predict externalizing problems (e.g., aggression; Berkowitz, 1993). In response to anger there is an action tendency to attack (Lazarus, 1991). Not surprisingly, there is substantial evidence showing that state anger and trait anger are related to CWB. Indeed, Roddell and Judge (2009) found that when Neurotic individuals experienced occupational stressors they were more likely to become angry and that anger was particularly correlated to CWB ($r = .38$). Additionally, trait anger is correlated with both organizational and

personal CWBs such as absenteeism, abusive behavior, work avoidance, work sabotage and theft (Chen & Spector, 1992; Fox & Spector, 1999). Lazarus (1991) suggested that retaliation and vengeance are ways to restore equilibrium. In other words, these counterproductive behaviors may help individuals deal with their anger by “evening the score” (Spector & Fox, 2002).

Hypothesis 9: The Emotional Stability facet of Even Temperedness will be negatively related to CWBs.

Overall Performance

There is growing consensus that overall performance is multidimensional - influenced by task performance, contextual performance, and CWB (Borman & Motowidlo, 1997; Sackett, 2002; Whiting, Podsakoff, & Pierce, 2008). Organ (1988) originally conceptualized organizational citizenship behavior (OCB) as discretionary, not recognized by the formal reward system; however, Orr, Sackett, and Mercer (1989) showed that citizenship behaviors do affect supervisor’s ratings of overall job performance, and later Organ (1997) acknowledged the conceptual problems with OCBs being discretionary and not formally rewarded. In this meta-analysis, overall performance is conceptualized as supervisors’ informal aggregation of all relevant performance information (including task, contextual, and CWB). Thus, we will build our hypotheses for overall performance based upon the previously described hypotheses. We assume that task performance and contextual performance are positively related to overall performance while CWB is negatively related. As No Anxiety, Well-Being, and Even Temperedness are all expected to show positive relationships to task performance, positive relationships to contextual performance, and negative relationships to CWB, it is expected that they will show a positive relationship to overall performance.

Hypothesis 10: Emotional Stability's facets (No Anxiety, Well-Being, and Even Temperedness) will be positively related to overall performance.

Complexity Moderator

Implicit in the logic that affective tendencies influence performance through their impact on cognitive and self-regulatory resources is that the complexity of the job being performed will moderate this relationship; performance decrements are expected to become more profound with increasing levels of job complexity. Job complexity is defined as a characteristic of the job “where high complexity infers a lack of routine repetitive work in favor of work involving high intellectual demands and/or frequent changes in task-related requirements—often involving the synthesis or interpretation of complex data” (Oswald, Campbell, McCloy, Rivkin, & Lewis, 1999, p. 3). As job complexity's definition makes clear, jobs characterized by higher job complexity require individuals to commit a higher level of cognitive and self-regulatory resources to the job. We have hypothesized that individuals low on No Anxiety, Well-Being, and Even Temperedness will suffer performance decrements due to the misuse of cognitive resources and the depletion of self-regulatory resources. Thus it is hypothesized that high levels of No Anxiety, Well-Being, and Even Temperedness will be positively related to overall job performance.

Hypothesis 11: Job complexity will moderate the relationship between each facet of Emotional Stability and job performance such that the relationships will be more positive in high complexity jobs than low complexity jobs.

Incremental Validity

The current meta-analysis also contributes to the existing literature by examining whether the facets provide incremental validity beyond that provided by global Emotional Stability. The question of whether the facets provide incremental validity is intrinsically linked to the expected relationships among the facets and global Emotional Stability as well as the expected inter-facet correlations.

Similar to past research, the present paper conceptualizes a global trait measure, such as Emotional Stability, as, “representing the variance common among a set of facet measures included within the particular broad trait” (Dudley et al., 2006, pp. 42). On the other hand, facet measures are seen to contain two types of variance: that which is shared with the other facets (and composes the global measure) and that which is unique to a particular facet (Costa & McCrae, 1995; Paunonen, 1998). For the facets to add incremental validity they must possess this unique component; otherwise they are redundant with the global trait. High intercorrelations between the facets and global Emotional Stability would suggest that global Emotional Stability is a sum of its parts and that the parts may not add anything that is not already contributed by the global trait. Additionally, if the facets are highly correlated with one another then it may not be useful to distinguish among them because they will tend to exhibit similar relationships to criteria of interest.

When examining the literature for clues regarding the potential relationships in question, it became clear that there exists substantial variation regarding the magnitude of these intercorrelations. For example, Harkness, Tellegen, and Waller (1995) reported a correlation between Well-Being and No Anxiety of .24, while for the same facets Moberg (1998) reported a correlation of .70. To give a second illustrative example, Lee (2000) found a correlation between No Anxiety and Global Emotional Stability of .78, while Paunonen (1998) found a correlation of

.27. This confusing array of evidence in combination with there being no research that we are aware of directly examining Emotional Stability's facets incremental validity above global Emotional Stability, leaves uncertainty regarding whether the facets will add incremental validity.

Research Question 1: To what degree will Emotional Stability's facets add incremental validity beyond global Emotional Stability in the prediction of job performance criteria?

CHAPTER 2

METHOD

In this study, six correlations among global Emotional Stability and its three facets were estimated via meta-analysis. In addition, validity coefficients representing the relationships between Emotional Stability (global and facet-level) and a variety of job performance criteria were examined. These types of job performance included overall performance, task performance, contextual performance, CWB, and overall composite performance (a performance variable that composited all of the previously mentioned performance subdomains, with CWB reverse-coded). In all, a total of 20 meta-analytic validity coefficients were generated, including four validity coefficients (global Emotional Stability and the three facets of Emotional Stability) for each of the five criteria (overall performance, task performance, contextual performance, CWB, and overall composite performance). In the current paper, we updated previous meta-analytic estimates of the relationship between global Emotional Stability and the five types of performance criteria to provide current estimates of these relationships.

Literature Search

In order to calculate meta-analytic correlations among global Emotional Stability, facet-level Emotional Stability, and various job performance criteria, we electronically searched the literature using Dissertation Abstracts International (1861-2010) and the American Psychological Association's PsycINFO database (1887-2010) for the following key words (and several variations thereof): *Neuroticism, Emotional Stability, anxiety, anger, hostility, depression, sadness, well-being, narrow traits, facets, job performance, work performance, counterproductive work behavior, contextual performance, organizational citizenship behavior,*

prosocial behavior, in-role performance, and task performance. Second, we electronically searched programs from the last six annual Society for Industrial and Organizational Psychology conferences (2005-2010) and the last 13 annual Academy of Management conferences (1998-2010), and contacted researchers who had conducted research on facet-level Emotional Stability to obtain unpublished manuscripts. Finally, we searched the references of other recent meta-analyses on facet-level Big Five traits (Dudley et. al., 2006; Roberts et. al., 2005).

Additionally, while updating the global Emotional Stability meta-analyses, we included all available and relevant validity coefficients from Hurtz and Donovan's (2000) original meta-analysis on personality and job performance and Joseph and Newman's (2010) update of Hurtz and Donovan's original meta-analysis, then these estimates were updated through 2010 (the Joseph and Newman meta-analysis was only updated through 2008). We also updated the meta-analysis of counterproductive work behavior by Berry, Ones and Sackett (2007) [through 2010]. All of the original seven studies on the relationship between Emotional Stability and CWB were located. Five were published journal articles and two were unpublished dissertations. These articles yielded 29 correlations from eight independent samples.

Inclusion Criteria

Studies were included in the meta-analysis according to the following rules. First, a study had to report a relationship between a job performance criterion (i.e., overall job performance, task performance, organizational citizenship behavior, or counterproductive work behavior) and global Emotional Stability or one of Emotional Stability's three facets. Alternatively, a study had to include an intercorrelation among facets or an intercorrelation between a facet and global Emotional Stability. For the articles pertaining to the performance criteria, only those studies

using actual workers or students recalling past work experience were included. No article that based its correlations on experimental conditions (e.g., English, 2001) was included. Additionally, only traits (e.g., “how you *tend* to feel” as opposed to state questions such as “how you feel *right now*”) were included in the current meta-analysis (e.g., Roddell & Judge, 2009). If there were several correlations reported for the same individuals due to performance ratings by different observers (e.g., self, peer, supervisor, etc.), the correlations from multiple observers were composited (e.g., Leslie, 2002). To be included, each study had to provide sample sizes and to consist primarily of adult populations, excluding clinical populations. When the primary article only reported a range of the number of participating individuals (e.g., 200-225), the lower bound was recorded as the sample size. If only corrected correlations were reported in an article, then the authors were contacted to retrieve the uncorrected correlations (e.g., Denis et al., 2010). When deciding whether to include a primary study containing a correlation between Emotional Stability and CWB, measures of CWB could not consist of a personality measure designed to tap deviant behavior such as the Personnel Decisions International (PDI)-Employment Inventory (Paajanen, 1986), because correlating two measures of personality would yield artificially high estimates (e.g., Collins & Schmidt, 1993).

As mentioned previously, we adopted a three-facet structure of Emotional Stability that was originally developed by Chernyshenko and colleagues (Chernyshenko, Stark, & Drasgow, 2010; Stark, Drasgow, & Chernyshenko, 2008) and is currently being tried for use with the ASVAB to facilitate military personnel selection and classification decisions. Table 2 organizes the scales measuring Emotional Stability’s facets in accordance to this three-facet framework. The inventories used in the current meta-analysis include the Hogan Personality Inventory (HPI; Hogan & Hogan, 1992), Big Five Inventory (BFI, John, Donahue, & Srivastava, 1991; John &

Srivastava, 1999); Five-Dimensional Temperament Inventory (FDTI; Higgins, Pihl, Peterson, & Lee, 2007); Goldberg's Big 5 markers (Goldberg, 1992), NEO (PI/PI-R/FFI; Costa & McCrae, 1992), 16PF (Cattell, Cattell, & Cattell, 1993), Global Personality Inventory (GPI; Schmit, Kihm, & Robie, 2006), Assessment of Individual Motivation (AIM; Barnes, 2001a; 2001b), Personal Style Inventory (PSI; Lounsbury & Gibson, 2004), Multi-dimensional Personality Questionnaire (MPQ; Tellegen, 1982, 1995, 2003), Abridged Big Five Circumplex (AB5C; Goldberg, 1999), Personal Characteristics Inventory (PCI; Barrick & Mount, 2007), Jackson Personality Inventory (JPI; Jackson, 1976, 1992, 1994, 1997), California Psychological Inventory (CPI; Gough, 1987; Gough & Bradley, 1996), Eysenck's Personality Questionnaire (EPQ; Eysenck, 1985), Occupational Personality Questionnaire (OPQ), State-Trait Personality Inventory (STPI; Spielberger, 1979, 1996), Personality Research Form (PRF; Jackson, 1964, 1974, 1984, 1997) and the International Personality Item Pool (IPIP; Goldberg, 1999).

Table 2 summarizes the scales used to measure facet-level Emotional Stability and how they load onto the facets. When available the scales were categorized to facets based on a personality scale's factor loadings (*note.* for a scale to be assigned to a facet it had to have a factor loading greater than .30 and not load onto either of the other facets greater than .30). The information in this Table 2 was used by the coders to make inclusion decisions. The first column of the table lists the personality inventory in question then, if that inventory has a global Emotional Stability measure, the second column contains the test publisher's definition of the global measure. The column entitled "*Global Emotional Stability's Relationship to Facets*" describes how the global measure is related to its facets. For example, is the global Emotional Stability measure a combination of all the facet-level items or is it a broader construct containing different or additional items? The fourth column lists (yes/no) whether the global measure was

used in the meta-analysis, which when combined with the information regarding global Emotional Stability's relationship to its facets becomes important later when interpreting our results. Finally, the last three columns of Table 2 give the personality manual's definitions of the facet scales. Below each scale's definition is its loading onto its facet. Many scales do not have factor loadings because data were not collected for these scales. If a study used a personality inventory not included in Chernyshenko's original factor analysis, the first and second authors obtained a copy of the inventory's items and examined the content of each item in order to address which facet of Emotional Stability was being measured. The inclusion of correlations from these studies was contingent upon a measure being one-dimensional. Indeed, if a measure appeared to include multiple facets or to measure clinical or state-like behaviors, its effect size was not included. Also, in these cases, agreement had to be unanimous across raters or the inventory was not included. The inclusion criteria resulted in a final database of 148 usable studies with 333 relevant correlations.

Coding

Consistent with our hypotheses and previous meta-analyses (Barrick & Mount, 1991; Dudley, et. al., 2004; Hurtz & Donovan, 2000; Salgado, 1997), we coded for type of performance criterion. There were four criterion types including (1) overall job performance, (2) task performance, (3) contextual performance, and (4) CWB. If a study reported a correlation between a brief, supervisor-reported measure of job performance and Emotional Stability, but no description of the job performance items or item content was given, this effect size was coded as overall performance. Similar to Hurtz and Donovan (2000), performance criteria such as in-role performance, technical performance, objective performance ratings, and the completion of specific job duties were classified as indicators of task performance. Given that contextual

performance has been defined as, “activities that contribute to the social and psychological core of an organization” (Borman & Motowidlo, 2003), activities such as helping coworkers (i.e., interpersonal facilitation), following the rules and procedures of the organization, volunteering for extra work, and persisting with enthusiasm were coded as contextual performance. Finally, on the basis of prior meta-analyses (Hough, 1992; Salgado, 2002), the counterproductive work behaviors category included criteria such as not adhering to policies and procedures, theft, attendance, tardiness/lateness, and disciplinary problems. Type of performance was independently coded by both the first and second author to ensure accuracy and completeness of coding. Overall, a high degree of initial agreement (89%) was obtained between the two independent raters, and divergent ratings were discussed by the authors until there was an agreement about the proper coding of the study in question. Finally, studies were also coded for sample size, nature of the sample (students, incumbents, applicants, etc.), and demographic makeup of the sample. If a study reported more than one type of performance criterion, the criterion were used to separately calculate their specific performance criterion (e.g., task performance and contextual performance), and were also used to create an “overall performance composite” that aggregated the effect sizes for all of the different performance criterion from each study (CWB was reverse coded; Nunnally, 1978; Judge, Thoresen, Bono, & Patton, 2001). This overall performance composite resulted in the calculation of a meta-analytic composite effect size that included one effect size from each study. The overall composite performance criterion was calculated because it gives an idea of how useful a predictor is when considering all of the components of job performance in tandem. Indeed, there is increasing evidence that there exists an integrative behavioral component that represents the shared variance among task

performance, contextual performance, deviant behaviors and withdrawal, labeled behavioral engagement (Newman & Harrison, 2008; Newman, Harrison, and Roth, 2006).

Job Complexity

To investigate job complexity as a moderator, we used the same method to code job complexity as that used by Le, Robbins, Illies, Holland, and Westrick (2010). Job complexity was based on ratings of preparation requirements for each occupation provided by O*NET, (<http://online.onetcenter.org>), or in O*NET terminology this is referred to as an occupation's "job zone". O*NET classifies jobs into one of five job zones based on the amount of experience, education, and training required to do the work. Job zones range from 1 (little or no preparation needed) to 5 (extensive preparation needed) although due to the small number of studies per facet, the job zones were dichotomized into little preparation needed (1-3) and extensive preparation needed (4 and 5; see Le et al., 2010 for more details regarding the use of O*NET job zones as a proxy for job complexity). The first and second authors independently matched the occupation description from each relevant study to an O*NET occupation and consequently a job zone. Overall, a high degree of initial agreement (79%) was obtained between the two independent raters, and divergent ratings were discussed until there was an agreement about the proper coding of the study in question.

Computation of meta-analytic coefficients

The current study followed the meta-analytic procedures outlined by Hunter and Schmidt (2004). We performed no correction for range restriction or dichotomization, but all effect sizes were corrected for unreliability in both predictors and criteria. When studies did not include reliability coefficients for *facet-level* predictor variables, the facet-level reliabilities were located

in the appropriate personality instrument manual and imputed for the missing facet-level reliabilities. For missing reliabilities for global Emotional Stability's relationship to performance criteria (which were not included in personality test manuals), reliability distributions were created from those reported to estimate the missing values (Overall perf = .85; Task perf = .82; CWB = .81; Contextual perf = .81; Composite perf = .83). Reliability distributions were also created for missing global Emotional Stability reliabilities for the analysis of the correlation between global Emotional Stability and its facets (Emotional Stability/Wellbeing = .78; Emotional Stability/No Anxiety = .79; Emotional Stability/Even Temperedness = .83). The reliabilities from personality inventories continued to be used for missing facet-level reliabilities. To ensure the independence of our primary validity coefficients only one effect size per sample was used in each meta-analysis.

To assess incremental validity for various criteria, we ran a series of hierarchical regression analyses based on the meta-analytic correlation matrices. We used operational validities for our regression analyses (correlations corrected for criterion unreliability, but not predictor unreliability). These hierarchical regression analyses took part in two steps. First, a performance criterion was regressed onto global Emotional Stability (Step 1), which was followed by the three facets: Well-Being, No Anxiety, and Even Temperedness (Step 2). The sample size used to conduct each hierarchical regression analysis was the minimum sample size of the meta-analytic correlations included in the regression.

CHAPTER 3

RESULTS

Results for the meta-analyses of the intercorrelations of global Emotional Stability with its facets are presented in Table 3. When examining the intercorrelations among the facets and global Emotional Stability, it becomes apparent that they are strongly correlated. Of the three narrow traits, global Emotional Stability correlated with No Anxiety ($\rho = .93$), Well-Being ($\rho = .90$) and Even Temperedness ($\rho = .74$). Referring to the inter-facet relationships, the correlation between Well-Being and No Anxiety was especially notable at $\rho = .74$. The remaining two correlations Well-Being/ Even Temperedness ($\rho = .63$) and Even Temperedness/ No Anxiety ($\rho = .51$) were smaller - the confidence intervals for the later two did not overlap with that for Well-Being/No Anxiety suggesting that there is evidence that the relationship between Well-Being/No Anxiety is larger than the other two.

A regression of global Emotional Stability onto its three facets was also conducted. The results in Table 4 show that 78% of the variance in global Emotional Stability could be explained by its facets. This relatively large percentage of the variance in global Emotional Stability explained by the three lower-order facets suggested that global Emotional Stability is similar in meaning to a weighted composite of its facets, and there does not appear to be a large portion of remaining variance that would suggest another, fourth facet is needed.

Emotional Stability and Job Performance

Correlations between the facets/global Emotional Stability and the different types of job performance are reported in Table 5. As can be seen in Table 5, there was variability in the correlations across the five types of performance criteria, suggesting that type of performance

criterion was a moderator for the relationship between Emotional Stability and performance. As expected, Well-Being ($\rho = .17$) and Even Temperedness ($\rho = .10$) positively related to task performance, supporting Hypotheses 4 and 7. Hypothesis 1 was not supported because although No Anxiety was positively related to task performance ($\rho = .20$) its confidence interval included zero. Previous meta-analytic evidence indicated a positive relationship between task performance and global Emotional Stability ($\rho = .09$; Hurtz & Donovan, 2000), which was similar to that found in the current meta-analysis, $\rho = .12$.

As predicted, all three Emotional Stability facets had a small positive relationship with contextual performance, although the confidence interval for No Anxiety once again included zero. Thus Hypotheses 5 (Well-Being: $\rho = .17$) and 8 (Even Temperedness: $\rho = .10$) were supported while some uncertainty remains regarding Hypothesis 2 (No Anxiety: $\rho = .20$; CI lower limit = $-.02$, CI upper limit = $.13$). In past meta-analyses, Hurtz and Donovan (2000) found that global Emotional Stability showed a small positive meta-analytic relationship to the facets of contextual performance ($.09$ for job dedication and $.10$ for interpersonal facilitation) and Borman, et al., (2001) found a meta-analytic effect size of $.14$ between Negative Affect (a construct similar to Neuroticism) and global Emotional Stability. The current updated results also showed a positive relationship between global Emotional Stability and contextual performance of $.13$.

CWB showed the largest correlations between the facets and all the types of job performance. Hypotheses 3, 6, and 9 were supported as each of the facets had a negative relationship to CWB: Well-Being ($\rho = -.28$), No Anxiety ($\rho = -.19$), and Even Temperedness ($\rho = -.29$). The correlations for all three facets were much larger than those reported for global Emotional Stability although there were not a large number of facet-level studies ($k = 3, 4, \text{ and } 6$,

respectively), which means one should be cautious when interpreting these results. The current study also updated past meta-analyses of the relationship between global Emotional Stability and CWB, but our results were quite different. Emotional Stability had a small positive relationship between global Emotional Stability and CWB of $\rho = .11$. A positive relationship between Emotional Stability and CWB was unexpected, so the results were examined more carefully. Upon further inspection, a very large sample ($N = 7,666$) was reported for a study by Hough et al., (1990), which when removed changed the meta-analytic correlation to $\rho = -.16$, more closely resembling the findings by Berry et al., (2007).

Regarding relationships between Emotional Stability and overall performance (i.e., performance criteria that could not be classified into a more specific performance criterion), hypothesis 10 was partially supported. Global Emotional Stability and all of the facets had small positive relationships with overall performance: global Emotional Stability ($\rho = .12$), Well-Being and No Anxiety ($\rho = .08$), and Even Temperedness ($\rho = .02$). However, the meta-analytic effect size for Even Temperedness' had a wide confidence interval, which encompassed zero (CI lower limit = $-.18$, CI upper limit = $.20$).

Finally, the composite performance variable showed how the facets are related to all of the types of performance combined. For this criterion performance variable all of the facets had positive correlations: Even Temperedness ($\rho = .13$), Well-Being ($\rho = .12$), and No Anxiety ($\rho = .07$). Finally, global Emotional Stability exhibited a similar relationship to overall composite performance as the facets ($\rho = .12$). All of the credibility intervals for composite performance were relatively large, suggesting the presence of moderators, further validating type of performance and complexity as moderators.

Incremental Validity for predicting Job Performance Criteria

As a method of testing for incremental validity, we conducted a series of hierarchical regression analyses. A separate regression analysis was performed for each of the five types of performance. The results are presented in Table 6. For each of these analyses, global Emotional Stability was entered first, followed by the addition of the three facets.

The results suggest that the degree to which narrow traits contribute to the prediction of performance above and beyond global Emotional Stability depends on the type of performance in question. The regression analyses indicated that the facets of Emotional Stability provided statistically significant increases in explained variance above and beyond global Emotional Stability for CWB and composite performance. Notably, there was not a statistically significant increase in the amount of variance explained in contextual performance, overall performance, or task performance after controlling for global Emotional Stability. The increases in variance for composite performance ($\Delta R^2 = .013$) and especially CWB ($\Delta R^2 = .071$) are worth discussing in more detail. Overall, it appears that the area of the criterion space where facet-level Emotional Stability helps to improve prediction the most is for CWB. Some may argue that these significant specific validity results (i.e., lower-order Emotional Stability facets predicting CWB after controlling for global Emotional Stability) could have been artificially augmented if the facets were over-corrected for unreliability. This argument is irrelevant to the current regression results; however because we used operational validities in our analyses (corrected for criterion unreliability, but not for predictor unreliability).

Emotional Stability and Job Complexity

Once again, it is important to emphasize that these results are based upon very few primary correlations, which may affect the validity and generalizability of these findings. Correlations between the facets/global Emotional Stability and the different types of job complexity are reported in Table 7. As can be seen in Table 7, there is some variability in the correlations at the facet-level, but not global Emotional Stability (high job complexity $\rho = .16$; low job complexity $\rho = .14$). Yet once again the confidence intervals for the low and high complexity jobs overlap for Well-Being and No Anxiety. It should be noted that the confidence intervals for global Emotional Stability entirely overlap suggesting that job complexity is not a moderator for global Emotional Stability. First, the results for Well-Being did not support Hypothesis 11 that predicted the relationships with high job complexity would be more positive than those for low job complexity for all three facets. Well-Being had a correlation with low complexity jobs of ($\rho = .12$) and high complexity jobs of ($\rho = .05$), which leaves uncertainty regarding Well-Being's relationship to job complexity. The No Anxiety facet also did not support Hypothesis 11, although it trended in the right direction with a predictive validity in high complexity jobs of ($\rho = .11$) and ($\rho = .05$) for low complexity jobs. Finally, Even Temperedness had the most unexpected moderation relationship with job complexity. Even Temperedness had a larger and more positive relationship to performance under low job complexity ($\rho = .13$), but a negative relationship under high job complexity ($\rho = -.05$) and its confidence intervals were completely non-overlapping. Incremental validity was also examined for job complexity where it was found that the facets contributed a significant, although small amount, of incremental validity for both low ($\Delta R^2 = .010$) and high ($\Delta R^2 = .022$) job complexity. For low job complexity, No Anxiety was the only facet with a statistically significant incremental regression weight ($\beta = -.129$) whereas for high job complexity only Even Temperedness had a significant regression

weight ($\beta = -.17$). It is notable that both of these regression weights were negative while the other facets and global Emotional Stability were positive predictors (the exception being Well-Being's regression weight for high performance that was only slightly negative; $\beta = -.013$).

CHAPTER 4

DISCUSSION

The current meta-analysis is the first to consider the relationship of facet-level Emotional Stability and job performance. More specifically, it addresses questions surrounding the value of facet-level Emotional Stability to organizations, while simultaneously offering contributions to the debate surrounding the use of broad versus narrow traits. Additionally, the current study uses a new facet structure for Emotional Stability that codes popular personality inventories' scales on each of the three facets of Emotional Stability. The results yield several insights that will be addressed below.

First, this paper contributes to the literature by meta-analytically examining the relationships among the facets and the facets' relationships with Global Emotional Stability. It was found that Well-Being and No Anxiety correlated very highly with one another ($\rho = .72$) and with global Emotional Stability ($\rho = .90; .93$, respectively). The correlation between No Anxiety and Well-Being was not surprising as the clinical community has long been aware of the strong overlap between the two constructs (Clark & Watson, 1991; Feldman, 1993; Mineka, Watson, & Clark, 1998). The large intercorrelation between No Anxiety and Well-Being suggests that, in most respects, these facets should have similar relationships with other constructs and that individuals high in No Anxiety should also be high in Well-Being. In comparison, Even Temperedness consistently showed weaker relationships to global Emotional Stability ($\rho = .74$), Well-Being ($\rho = .63$), and No Anxiety ($\rho = .51$), although these intercorrelations are still large. Overall, the most notable aspect of these results is how highly correlated the facets are with global Emotional Stability and with each other. These results support the measurement of

Emotional Stability at the global-level, as it appears that the facets are very similar to one another and overlap considerably with global Emotional Stability, especially No Anxiety and Well-Being. Before making any conclusions, further analyses were performed to look more closely at the utility of facet-level Emotional Stability.

As a second contribution, the facet-level traits were meta-analytically examined to see how they were related to different types of performance. Across the different types of performance, the hypotheses regarding the direction of facet-level Emotional Stability's relationships were supported. To reiterate, it was expected that the facets would have a positive relationship to task performance, contextual performance, and overall performance and a negative relationship to CWB. Overall, the correlations between the facets and different types of performance were relatively small except for those associated with CWB. However, it should be noted that these and other results should be interpreted with caution due to the small number of studies available to include in the meta-analysis. Further analyses were done to determine if the facets help to predict the relationship with job performance beyond that already accounted for by global Emotional Stability. These results will be discussed in a later section.

In support of the narrow trait approach the facets had relatively large correlations for CWB. The facets' correlations to CWB ranged from $-.19$ to $-.29$ and were all larger than the correlation for global Emotional Stability, $r = -.16$, although the confidence intervals of facet-level and global Emotional Stability partially overlapped leaving open the possibility that their true effect sizes are the same. As CWBs are extremely damaging both financially and interpersonally (leading to lost productivity, high insurance and labor costs, and an elevation in employee turnover; Penney & Spector, 2005; Baron & Neuman, 1996), the opportunity to

identify employees more likely to perform these behaviors offers new insight into how to reduce CWB. For example, facet-level Emotional Stability could be incorporated into personnel selection tests to improve prediction while offering the advantage of not asking directly whether applicants have performed or are likely to perform counterproductive behaviors, like stealing, that are obviously socially undesirable. In addition to this practical concern, it is theoretically interesting that CWB is correlated with all three facets although current research has focused primarily on the connection between CWB and trait anxiety or trait anger. Well-Being exhibited the second largest correlation with CWB ($\rho = -.28$), so future research should focus on measuring this neglected component of global Emotional Stability's relationship to CWB. Taken together, these results are consistent with prior theorizing on negative affect and CWB: people low on No Anxiety, Well-Being, and Even Temperedness are more likely to perform behaviors that hurt their organization or coworkers. Future research is needed to support the theories underlying these hypotheses (i.e., individuals low on No Anxiety and Well-Being are primarily avoiding work, individuals low on Even Temperedness are actively lashing out, and the role of deficits in self-regulation in this process).

The facets relationships to the other types of performance (overall performance, task performance, contextual performance, and overall composite performance) tended to be in the expected, positive direction. These results support the possibility that Neuroticism is indeed associated with a drain on cognitive and self-regulatory resources, which negatively affects performance in a variety of ways. Of course, no causal assertion can be made as we were not able to manipulate cognitive/self-regulatory resources in the present study. Also, as these results are based upon few studies, future research is needed to clarify this relationship.

Facet-Level Incremental Validity for Job Performance

The third contribution was an examination of whether the facets are able to explain additional variance in relationship to job performance. However, before we could interpret the incremental validity results from the hierarchical regression analyses, the meaning of the facets after controlling for global Emotional Stability had to be considered. To do this the items from ten personality inventories were obtained (NEO-PI-R, HPI, MPQ, ABLE, IPIP, JPI, and 16-PF, BFI, Saucier 40 mini-markers, and Goldberg's Adjective Markers) and the inventories measuring only facet-level traits were compared to those measuring only global Emotional Stability. The ten personality inventories were selected because they were the most frequently used in the studies included in the meta-analysis and/or because their items were easily obtainable (non-proprietary). This task was made difficult because many of these inventories did not make it clear if their facet items were different or the same as their global items. Many times the inventories were constructed with multiple layers such that the scales used to measure the facets were combined to construct the estimate of global Emotional Stability (e.g., MPQ, JPI, HPI, etc.). This means that for inventories for which the global traits are composed entirely of items used to measure the facets, it is not possible for the facets to possess any incremental validity beyond global Emotional Stability. It was for this reason that we concentrated on comparing those inventories measuring only facet-level traits to those measuring only global Emotional Stability. This task was also difficult because proprietary inventories do not reveal how their items load onto their factors/facets, so the following interpretation is based upon the first and fourth authors categorizing the items based upon the inventory's definition of their factors and scales.

When we took a look at the compiled items, the items suggested that many pure Big Five inventories may not include any (or very few) Even Temperedness items whereas those inventories focused at the facet-level tended to cover Even Temperedness more thoroughly (see Table 2). In fact, many pure Big Five inventories described their measure of global Neuroticism as “the tendency to feel negative emotions such as anxiety and depression” without mentioning any components of Even Temperedness; or they concentrated specifically on how individuals respond to stress or pressure (BFI; John, Donahue, & Srivastava, 1991; John & Srivastava, 1999, EPI, PSI). As an example of how Even Temperedness as a facet of Emotional Stability was overlooked, the Big Five Inventory (BFI; John, Donahue, & Srivastava, 1991; John & Srivastava, 1999) described low Agreeableness as “competitive, can be argumentative and openly angry,” which sounded like a description of low Even Temperedness; and then for Emotional Stability there were no items addressing Even Temperedness. Additionally, some facet-level measures included more extreme items in which the aggressive tendencies associated with Even Temperedness were emphasized. It is possible that the majority of incremental validity stemmed from Even Temperedness. Global Emotional Stability inventories consistently included items for Well-Being, but individual inventories defined it in ways that were conceptually distinct from one another, ranging from some inventories concentrating on the component of Self-Confidence (PCI; secure, confident, resilient) to others concentrating on the component of No Depression (NEO-PI-R; depressed, sad, despondent). From looking at the items it is possible that the solely facet-level inventories may have had more items focusing on Well-Being as the tendency to remain optimistic in the face of stress/pressure. Additionally, there may be a unique component to Even Temperedness and Well-Being that focused specifically on self-regulation or in other words individual’s inability to exert impulse control.

The self-regulation took various forms such as keeping up with an exercise program or suppressing aggressive outbursts. Finally, No Anxiety/ Anxiety is a universally important component of personality inventories focusing on either global or facet-level Emotional Stability with items like “generally I feel nervous or fearful”. Clinical researchers have pointed out that there is a clear conceptual overlap between Neuroticism and anxiety (Watson & Clark, 1984) with “both the dimension and its measures often labeled anxiety and until 1980 anxiety disorders were considered neurotic disorders, with the clear implication of a characterological basis” (Clark, Watson, & Mineka, 1994, pp. 106). From inventory items it appears that No Anxiety is the facet that may be the most thoroughly covered by global measures, so it is less likely that incremental validity will originate from this facet. Yet, No Anxiety did consistently have somewhat large regression weights (see Table 6), which suggested that it did at times contribute to incremental validity.

The large correlations between the facets and global Emotional Stability suggested that gaining large amounts of incremental validity from the facets would be unlikely, but the incremental validity for CWB increased by 7.1% above and beyond that accounted for by global Emotional Stability. Therefore, CWB is the type of performance for which measuring facet-level Emotional Stability shows the most potential utility. The driving forces behind the incremental validity appear to be Well-Being and Even Temperedness, which both have significant regression weights, while the incremental validity for No Anxiety is much smaller and non-significant.

The other types of performance measured, overall performance, task performance, and contextual performance, (excluding composite performance, which may have become significant due to its inclusion of CWB) did not exhibit incremental validity. That the facets did not explain

incremental validity for contextual performance has important theoretical implications, because some researchers conceptualize CWB and contextual performance as representing opposite ends of a continuum. However, if contextual performance and CWB were truly on opposite ends of a single continuum then to counterbalance the large negative correlations associated with facet-level CWB, the correlations for facet-level contextual performance would be expected to be larger and explain a significant amount of incremental validity. Clearly, at least for Emotional Stability, contextual performance and CWB are not simply opposite ends of a continuum. Additionally, the small correlations and non-significant increases in incremental validity found for overall performance suggest that when supervisors give an overall rating of their subordinates' performance CWB must not play a large role in their overall evaluation.

Overall Job Performance and Job Complexity

The impact of negative affect on self-regulation provided an important theoretical structure within which to hypothesize the effect of the facets on job performance. Self-regulation research has shown that it is a limited resource (Baumeister, Heatherton, & Tice, 1994; Baumeister, Vohs, & Tice, 2007) and that both controlling negative affect and performing a task result in resource depletion (Muraven & Baumeister, 2000). Therefore, we predicted that more complex tasks would lead to faster deterioration of self-regulatory resources, resulting in poorer performance. More specifically, we predicted that the relationship between facet-level Emotional Stability and overall performance would become larger and more positive for high complexity jobs than low complexity jobs. It should be mentioned that our hypothesis for No Anxiety mirrors the predictions made by Attentional Control Theory for task performance and high job

complexity. Unfortunately, there were not enough studies to examine job complexity as a moderator for task performance or the other types of job performance.

Our hypotheses for job complexity were not supported. The results for Well-Being (high job complexity = .05; low job complexity = .12) and No Anxiety (high job complexity = .11; low job complexity = .05) showed that although No Anxiety is trending in the right direction that both No Anxiety's and Well-Being's confidence intervals for low and high job complexity overlap, thus we cannot draw conclusions about one correlation being larger or smaller than the other. Both facets were based on few primary effect sizes and additional research is needed to establish more stable results. This is especially true for Well-Being, because the current results could be a product of analyzing too few correlations for jobs of high complexity, resulting in a second order estimation error.

Finally, Even Temperedness had an interesting relationship to job complexity (high job complexity = -.05; low job complexity = .13) with a positive correlation for low job complexity and a negative correlation for high job complexity. This means that for complex jobs it is more beneficial for individuals to be low on Even Temperedness (i.e. quicker to anger, irritable, etc.). This pattern of results could stem in part from managerial positions being coded in O*NET as having high job complexity. Individuals with more power, such as managers have been shown to have more leeway when expressing negative emotions at work when their interaction partner had relatively lower power (Diefendorff, Morehart, & Gabriel, 2010). Additionally, the expression of anger (when other identifying information is absent) conveys that individuals have relatively higher-status and that they are competent and powerful (Conway, Di Fazio, & Mayman, 1999; Tiedens, 2001). In the negotiation literature anger, a component of Even Temperedness, has also

been shown to signal that individuals possess positive attributes such as toughness (Frank, 1988; Tiedens, 2001). In addition, the expression of emotions associated with Even Temperedness could have adaptive components because they allow an organization's problems to be acknowledged and dealt with allowing opportunities for organizational improvement (Huy, 1999; Kiefer, 2002; Nonaka, Toyama, & Byosiore, 2001). In sum, there is plenty of research that helps to explain why low Even Temperedness may be an adaptive characteristic for those in positions that afford power within an organization. On the other hand, display rules dictate that those lower in the organizational hierarchy exert more control over their emotions and refrain from expressing emotions such as anger to their supervisors (Diefendorff & Gabriel, 2010). If job complexity is acting as an indicator of one's position in an organizational hierarchy then it could explain why it is relatively important for individuals in low complexity jobs to be high on Even Temperedness.

Limitations and Directions for Future Research

The current study depended upon the availability of relevant effect sizes, and unfortunately, the number of studies for some of our key effect sizes was smaller than we would have liked. In the past facet-level Emotional Stability has not received very much attention in the organizational literature, so there were not very many effect sizes that met the selection criterion of measuring actual job performance. Many primary studies were excluded because they chose to use proxies of job performance (e.g., academic performance or training performance). This in turn led to a smaller pool of studies within which to examine the effects of job complexity, resulting in only having enough studies to examine its effect on overall job performance. Even when only examining overall job performance we were forced to dichotomize job complexity

from five categories to two to have enough studies for both low and high job complexity. A need exists for future research examining the relationship of facet-level Emotional Stability and job performance.

A second limitation of the current study could be that some studies were included in the meta-analysis that used scales for which we did not have factor loadings to support their categorization onto a particular Emotional Stability facet. Whereas utmost care was taken to ensure the correct classification of these scales, the process was subjective and other researchers could disagree about their placement. Yet, we would like to point out that in many ways the utilization of a factor analysis to decide upon many of these scales' relationships to the facets is a step forward – something that has not been done in previous facet-level meta-analyses (Dudley et al., 2006).

Finally, many personality inventories were not designed with Emotional Stability's three facets in mind, so most inventories do not measure all three facets or they have scales that combine a few of the facets into one. In the future it will be important to create a theoretically and empirically sound measure that taps all three facets independently and is readily available to researchers.

Conclusion and Implications

While many of these meta-analytic results were based upon a limited number of studies, they provide a synthesis of available knowledge and hopefully will create an impetus for future research in this area. First and foremost, these results have serious implications for the large number of researchers studying CWB and practitioners looking for a way to reduce CWBs in their organizations. Our results indicate that in relationship to CWB, Emotional Stability's facets

do have relatively large effect sizes and that they provide incremental validity beyond global Emotional Stability. The results for task performance were smaller, but also suggest the possibility that Emotional Stability's facets could improve the prediction of this criterion—a relationship that deserves future research. Overall, these results demonstrate that there are some types of job performance for which facet-level Emotional Stability is associated with performance criteria and is more informative than global Emotional Stability. Additionally, job complexity was shown to moderate the relationship between each facet and overall performance.

In the current paper, we used a meaningful structure for facet-level Emotional Stability that integrates past research, and answered questions regarding the specificity at which Emotional Stability maximizes predictive power. In the narrow vs. broad trait debate (Ashton, 1998; Ones & Viswesvaran, 1996; Paunonen, 1998) the CWB results lend further credence to the study of narrow traits, yet at the same time the facets did not improve predictive validity for the majority of types of job performance. It appears that the true answer to the debate is that some narrow traits are going to be useful some of the time, and empirical analyses can establish when this is going to be.

TABLES

Table 1. Correlations between Emotional Stability Facet Scores from Data Used to Establish the Facet Structure.

Factor	Well-Being	No Anxiety	Even Tempered
Well-Being	1.00		
No Anxiety	0.81	1.00	
Even Tempered	0.72	0.68	1.00

Note. N = 737.

Table 2. Facet-level personality inventories.

Facet-Level Personality Inventories							
Personality Trait Inventory	Global Emotional Stability	Global Emotional Stability's Relationship to Facets	Global Measure Used		Well-Being Scale: Happy, cheerful, optimistic, depressed, dejected	No Anxiety Scale: Insecure, apprehensive, nervous, relaxed, certain	Even Temperedness Scale: Moody, hot-headed, calm, composed, temperamental
Multidimensional Personality Questionnaire (MPQ; Tellegen, 1982, 1995, 2003)	High Negative Emotional Temperament - proneness to experience anxiety, anger, and related emotional and behavioral negative engagement.	Most distinctively related to Stress Reaction, Alienation, and Aggression.	No		Alienation - Believing that others wish them harm; being victims of false and nasty rumors; having been betrayed and deceived; feeling used by "friends"; feeling pushed around	Stress Reaction - Tense and nervous; sensitive and vulnerable; prone to worry and feeling anxious; irritable and easily upset; having changing moods; feeling miserable without reason; being troubled by feelings of guilt and unworthiness.	Aggression - Physically aggressive; enjoying upsetting and frightening others; enjoying scenes of violence (fights, violent movies); victimizing others for own advantage.
				Factor Loadings	-0.39	-0.56	---
NEO-PI-Revised (Costa & McCrae, 1992)	Neuroticism - identifies individuals who are prone to psychological distress.	It is unclear how the facets relate to the global trait (note . Self-Consciousness and Vulnerability load onto global Emotional Stability)	Yes		Depression - tendency to experience feelings of guilt, sadness, despondency and loneliness	Impulsiveness - tendency to act on cravings and urges rather than reining them in and delaying gratification	Angry Hostility - tendency to experience anger and related states such as frustration and bitterness
				Factor Loadings	-0.75	-0.50	-0.66

Note. Global Emotional Stability = the definition of the global measure if the inventory has one; Global Emotional Stability's relationship to the facets = description of how the personality inventories conceptualize the relationship between their measure of Global Emotional Stability and the facet measures; Global measure used = (yes/no) whether or not the meta-analysis used the global measure;

Table 2 (cont.)

Personality Trait Inventory	Global Emotional Stability	Global Emotional Stability's Relationship to Facets	Global Measure Used		Well-Being Scale: Happy, cheerful, optimistic, depressed, dejected	No Anxiety Scale: Insecure, apprehensive, nervous, relaxed, certain	Even Temperedness Scale: Moody, hot-headed, calm, composed, temperamental
16-PF (Cattell, Cattell, & Cattell, 1993)	<i>Low/High Anxiety</i> -	Is derived from subscales: Emotional Stability, Vigilance, Apprehension, and Tension. (<i>note.</i> Vigilance cross loads on Trust and Hostility, so was not included)	No		<i>Emotional Stability (C)</i> - Reactive emotionally, changeable, affected by feelings, emotionally less stable, easily upset (Lower Ego Strength); Emotionally stable, adaptive, mature, faces reality calmly (Higher Ego Strength)	<i>Tension; (Q4)</i> - Relaxed, placid, tranquil, torpid, patient, composed low drive. Tense, high energy, impatient, driven, frustrated, over wrought, time driven.	<i>Apprehension; (O)</i> - Self-Assured, unworried, complacent, secure, free of guilt, confident, self satisfied (Untroubled); Apprehensive, self doubting, worried, guilt prone, insecure, worrying, self blaming
				Factor Loadings	0.61	---	-0.70
Jackson Personality Inventory-R (JPI-R; Jackson, 1976, 1992, 1994, 1997)	<i>Emotional</i> - High score means may express feelings readily and that you may have trouble hiding your emotions, especially under stressful conditions.	Is derived from subscales Anxiety, Cooperativeness, and Empathy (Empathy coded as Agreeableness).	No			<i>Anxiety</i> - High Scorer Tends to worry over inconsequential matters; more easily upset than the average person; apprehensive about the future.	<i>Cooperativeness</i> - Is susceptible to social influence and group pressures; tends to modify behavior to be consistent with standards set by others; follows suit; fits in.
				Factor Loadings		-0.68	-0.85

Table 2 (cont.)

Personality Trait Inventory	Global Emotional Stability	Global Emotional Stability's Relationship to Facets	Global Measure Used		Well-Being Scale: Happy, cheerful, optimistic, depressed, dejected	No Anxiety Scale: Insecure, apprehensive, nervous, relaxed, certain	Even Temperedness Scale: Moody, hot-headed, calm, composed, temperamental				
Hogan Personality Inventory (HPI; Hogan,	<i>Adjustment</i> - High scorers tend to be calm, self-confident, and steady under pressure.	Is derived from subscales Empathy, Not Anxious, No Guilt, Calmness, Even Tempered, No Complaints, Trusting, Good Attachment.	Yes		<i>Good Attachment</i> - Good attachment with one's parents "No matter what happened I felt my parents love me"	<i>Identity</i> - Satisfaction with one's life tasks "I know what I want to be"	<i>Self Confidence</i> - Confidence in oneself; "I am a very confident person"	<i>Empathy</i> - Absence of irritability "I am rarely irritated by other's faults"			
				Factor Loadings	0.81	0.45	0.61	0.64	---	0.34	0.74
					<i>No Depression</i> - Feelings of contentment	<i>No Guilt</i> - Absence of regret "I rarely feel guilty about some of the things I have done"	<i>No Somatic Complaints</i> - disposition to complain		<i>Even Tempered</i> - Not moody or irritable "I rarely lose my temper"	<i>No Hostility</i> - Lack of hostility "I never hold grudges very long"	
Factor Loadings	0.68	0.34				0.7	---				
State Trait Personality Inventory (STPI; Spielberger,)	No Global Emotional Stability measure					<i>Trait Anxiety</i> - differences in the strength of the disposition to respond to situations perceived as threatening with elevations in state anxiety	<i>Trait Anger</i> - People high in trait anger frequently experience angry feelings ; especially when they are treated unfairly by others.				
				Factor Loadings		---	---				

Table 2 (cont.)

Personality Trait Inventory	Global Emotional Stability	Global Emotional Stability's Relationship to Facets	Global Measure Used		Well-Being Scale: Happy, cheerful, optimistic, depressed, dejected	No Anxiety Scale: Insecure, apprehensive, nervous, relaxed, certain	Even Temperedness Scale: Moody, hot-headed, calm, composed, temperamental	
California Psychological Inventory (CPI; Gough & Bradley, 1996)	No Global Emotional Stability measure				<i>Well-Being</i> - Overall sense of health and optimism	<i>Independence</i> - Self-sufficiency and self-directedness		
				Factor Loadings	0.62	---		
OPQ	No Global Emotional Stability measure				<i>Optimistic</i> - cheerful and happy, keeps spirits up despite setbacks	<i>Worrying</i> - Worrying when things go wrong, keyed up before important events	<i>Emotional Control</i> - restrained in showing emotions, keeps feelings back, avoids outbursts	<i>Relaxed</i> - calm, relaxed, cool under pressure, can switch off, free from anxiety
				Factor Loadings	---	---	---	---
							<i>Tough-Minded</i> - difficult to hurt or upset, can brush insults, unaffected	
			Factor Loadings				---	

Table 2 (cont.)

Personality Trait Inventory	Global Emotional Stability	Global Emotional Stability's Relationship to Facets	Global Measure Used		Well-Being Scale: Happy, cheerful, optimistic, depressed, dejected	No Anxiety Scale: Insecure, apprehensive, nervous, relaxed, certain	Even Temperedness Scale: Moody, hot-headed, calm, composed, temperamental
Personal Characteristics Inventory (PCI; Barrick & Mount, 2007)	<i>Stability</i> - This scale sheds light on how an individual is likely to respond when faced with changing or stressful situations.	Is derived from self-confidence and even-temperament subscales.	Yes		<i>Self-Confidence</i> - secure, confident, resilient, able to accept criticism, comfortable in social situations, and able to cope well in novel or difficult situations.		<i>Even-Temperament</i> - Easy-going, handle stress well while maintaining their poise, patient, and positive. They may tend to minimize difficulties and not be expressive.
				Factor Loadings	---	Security -	---
Personality Research Form (PRF; Jackson, 1964, 1974, 1984, 1997)	No Global Emotional Stability measure					<i>Harmavoidance</i> - Does not enjoy exciting activities, especially if danger is involved; avoids risk of bodily harm; seeks to maximize personal safety.	<i>Aggression</i> - Enjoys combat and argument; easily annoyed; sometimes willing to hurt people to get own way; may seek to "get even" with people perceived as causing harm. <i>Defence</i> - Ready to defend against real or imagined harm from other people; takes offense easily; does not accept criticism readily
				Factor Loadings	---	---	---

Table 3. Meta-Analysis of Relationships between Global Emotional Stability and its Facets

Intercorrelation	k	N	r	ρ	SD ρ	80% Credibility Int.		95% Confidence Int.		% variance
						LL	UL	LL	UL	
Global Emotional Stability and Well-Being	10	4148	0.75	0.90	0.25	0.58	1.00	0.61	0.88	01
Global Emotional Stability and No Anxiety	11	4234	0.76	0.93	0.15	0.74	1.00	0.68	.84	03
Global Emotional Stability and Even Temperedness	10	4014	0.62	0.74	0.29	0.37	1.00	0.46	0.77	02
Well-Being and No Anxiety	13	14017	0.58	0.74	0.04	0.69	0.79	0.54	0.61	00
Well-Being and Even-Temperedness	9	6431	0.48	0.63	0.05	0.57	0.69	0.42	0.56	00
No Anxiety and Even Temperedness	11	6715	0.39	0.51	0.16	0.30	0.72	0.29	0.48	08

Note. k = number of validity coefficients; mean r = sample-size weighted mean observed validity; r = sample-size weighted mean observed validity; ρ = true score validity; SD ρ = standard deviation of true score validity; 80% Credibility Int. = lower and upper limits of 80% credibility interval for ρ ; 95% Confidence Int. = lower and upper limits of 95% confidence interval for r; % variance = percentage of variance accounted for by sampling error; Aggregated job performance is the validity coefficient for all types of job performance combined.

Table 4. Regression of global Emotional Stability onto its three facets.

Facet	β	R	R ²
Well-Being	.361*	.882*	.778*
No Anxiety	.444*		
Even Temperedness	.273*		

Note. R² = amount of variance in global Emotional Stability explained by the facets.

*p < .05.

Table 5. Type of performance criterion as a moderator of the relationship between Emotional Stability facets and performance.

Performance Criterion	k	N	r	ρ	SD ρ	80% Credibility Int.		95% Confidence Int.		% variance
						LL	UL	LL	UL	
Overall Job performance										
Global Emotional Stability	61	10178	0.10	0.12	0.13	-0.04	0.28	0.06	0.14	41
Well-being	26	4118	0.07	0.08	0.09	-0.04	0.20	0.02	0.11	61
No Anxiety	22	3850	0.07	0.08	0.00	-0.11	0.29	0.02	0.13	31
Even Temperedness	12	2317	0.01	0.02	0.14	-0.16	0.20	-0.18	0.20	41
Task performance										
Global Emotional Stability	34	5692	0.09	0.12	0.08	0.01	0.22	0.05	0.13	69
Well-being	5	1223	0.12	0.17	0.13	0.004	0.34	0.01	0.24	44
No Anxiety	5	1223	0.13	0.20	0.17	-0.02	0.41	-0.02	0.28	31
Even Temperedness	3	273	0.08	0.10	0.00	----	----	-0.05	0.21	133
Contextual performance										
Global Emotional Stability	34	6498	0.11	0.13	0.14	-0.05	0.32	0.06	0.16	37
Well-being	9	1909	0.08	0.10	0.00	----	----	0.04	0.12	201
No Anxiety	7	1496	0.05	0.08	0.04	0.02	0.13	-0.02	0.13	89
Even Temperedness	8	1666	0.05	0.07	0.00	----	----	0.00	0.11	160
Counterproductive work behaviors										
Global Emotional Stability	19	11585	0.04	0.11	0.19	-0.14	0.35	0.12	0.20	10
<i>Global ES Hough et al. (1990) Removed</i>	18	3919	-0.12	-0.16	0.11	-0.30	-0.01	-0.18	-0.06	44
Well-being	3	1440	-0.21	-0.28	0.17	-0.51	-0.06	-0.38	-0.04	16
No Anxiety	4	1654	-0.15	-0.19	0.13	-0.35	-0.28	-0.27	-0.02	24
Even Temperedness	7	2477	-0.22	-0.27	0.20	-0.53	-0.01	-0.34	-0.10	15
Composite job performance										
Global Emotional Stability	102	18893	0.10	0.12	0.14	-0.06	0.30	0.07	0.13	36
Well-being	30	5751	0.12	0.14	0.11	0.01	0.28	0.06	0.17	37
No Anxiety	27	5734	0.07	0.09	0.16	-0.11	0.29	0.02	0.13	31
Even Temperedness	20	4887	0.13	0.17	0.22	-0.11	0.45	0.04	0.21	19

Note. k = number of validity coefficients; r = sample-size weighted mean observed validity; ρ = true score validity; SD ρ = standard deviation of true score validity; 80% Credibility Int. = lower and upper limits of 80% credibility interval for ρ ; 95% Confidence Int. = lower and upper limits of 95% confidence interval for r; % variance = percentage of variance accounted for by sampling error; Composite job performance = the validity coefficient for the composite of all the types of job performance included in the analyses; Hough et al., (1990) was removed because it measured global Emotional Stability differently than other articles; There is no credibility interval for a corrected correlation with a variance of zero

Table 6. Hierarchical regression results for job performance criteria.

Variable	β	R ²	ΔR^2
Overall job performance			
1. Global Emotional Stability	.110*	.012*	
2. Global Emotional Stability	.138*	.016*	.004
2. Well-Being	.035		
2. No Anxiety	-.018		
2. Even Temperedness	-.070		
Task performance			
1. Global Emotional Stability	.110	.012	
2. Global Emotional Stability	-.056	.036*	.016
2. Well-Being	.105		
2. No Anxiety	.146		
2. Even Temperedness	-.009		
Contextual performance			
1. Global Emotional Stability	.120*	.014*	
2. Global Emotional Stability	.128*	.016*	.002
2. Well-Being	.045		
2. No Anxiety	-.042		
2. Even Temperedness	-.010		
Counterproductive work behaviors (Hough et al., 1990 removed)			
1. Global Emotional Stability	-.140*	.020*	
2. Global Emotional Stability	.114*	.091*	.071*
2. Well-Being	-.200*		
2. No Anxiety	-.076*		
2. Even Temperedness	-.171*		
Composite job performance			
1. Global Emotional Stability	.011*	.012*	
2. Global Emotional Stability	.037	.025*	.013*
2. Well-Being	.081*		
2. No Anxiety	-.031		
2. Even Temperedness	.095*		

Note. Numbers 1 and 2 indicate Step 1 and Step 2, respectively, of the hierarchical regression analyses. Because the hierarchical regression analyses are based on meta-analytic data, sample sizes are large; therefore, statistical significance of the regression weights is less relevant; β = standardized regression coefficient; R² = amount of variance explained by predictors; ΔR^2 = amount of variance explained by the facets of Emotional Stability beyond that explained by global Emotional Stability; Composite job performance = the validity coefficient for the composite of all the types of job performance included in the analyses (CWB reverse coded). Hough et al., (1990) was removed because it measured global Emotional Stability differently than other articles.
* p < .05.

Table 7. Job complexity as a moderator of the relationship between Emotional Stability traits and performance.

Job Complexity	<i>k</i>	N	<i>r</i>	ρ	SD ρ	80% Credability Int.		95% Confidence Int.		% Variance
						LL	UL	LL	UL	
<i>Low Job Complexity</i>										
Global Emotional Stability	26	4761	0.12	0.14	0.15	-0.05	0.33	0.06	0.18	32
Well-Being	15	1492	0.10	0.12	0.13	-0.05	0.29	0.02	0.18	53
No Anxiety	10	1005	0.04	0.05	----	----	----	-0.01	0.08	300
Even Temperedness	3	719	0.10	0.13	----	----	----	0.06	0.13	607
<i>High Job Complexity</i>										
Global Emotional Stability	12	1301	0.13	0.16	0.14	-0.02	0.34	0.03	0.23	45
Well-Being	4	889	0.05	0.05	----	----	----	-0.02	0.11	144
No Anxiety	5	1108	0.10	0.11	0.08	0.00	0.22	0.01	0.19	54
Even Temperedness	4	899	-0.05	-0.05	----	----	----	-0.12	0.03	100

Note. *k* = number of validity coefficients; *r* = sample-size weighted mean observed validity; ρ = true score validity; SD ρ = standard deviation of true score validity; 80% Credibility Int. = lower and upper limits of 80% credibility interval for ρ ; 95% Confidence Int. = lower and upper limits of 95% confidence interval for *r*; % variance = percentage of variance accounted for by sampling error; There is no credibility interval for a corrected correlation with a variance of zero.

Table 8. Hierarchical regression results for job complexity's effect on overall performance.

Variable	β	R ²	ΔR^2
Low Complexity			
1. Global	0.130*	0.017*	
2. Global	0.159*	0.027*	0.010*
2. Well-Being	0.076		
2. No Anxiety	-0.129*		
2. Even Temperedness	0.035		
High Complexity			
1. Global	0.150*	0.023*	
2. Global	0.222*	0.045*	0.022*
2. Well-Being	-0.013		
2. No Anxiety	0.032		
2. Even Temperedness	-0.170*		

Note. Numbers 1 and 2 indicate Step 1 and Step 2, respectively, of the hierarchical regression analyses. Because the hierarchical regression analyses are based on meta-analytic data, sample sizes are large; therefore, statistical significance of the regression weights is less relevant; β = standardized regression coefficient; R² = amount of variance explained by predictors; ΔR^2 = amount of variance explained by the facets of Emotional Stability beyond that explained by global Emotional Stability.
* $p < .05$.

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AUTHOR'S BIOGRAPHY

Emily Grijalva graduated from Saint Louis University in Saint Louis, MO in 2008 with a Bachelor of Science degree in Psychology. After graduation, she came directly to Champaign, Illinois to pursue her graduate study in Industrial/Organizational Psychology. After the completion of her Master of Science degree in Industrial/Organizational Psychology in 2011, she will continue to pursue her Ph.D. and intends to graduate in 2013.