

Core Self-Evaluations: A Review of the Trait and its Role in Job Satisfaction and Job Performance

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Abstract

Over the past five years there has been a growing body of literature that examines the relationships among some of psychology's most studied traits (Neuroticism, self-esteem, and locus of control). Core self-evaluation theory posits a conceptual and empirical relationship between these traits and job satisfaction. After briefly reviewing core self-evaluation theory, we examine the empirical evidence documenting a relationship between these traits and the two central criteria of interest to I/O psychologists—job satisfaction and job performance. We then examine the relationship between core self-evaluation traits and the Big Five personality traits. We conclude with a discussion of the contributions and limitations of core self-evaluation research and opportunities for future research. Copyright © 2003 John Wiley & Sons, Ltd.

In 1997, Judge, Locke, and Durham published a conceptual paper linking an integrative personality trait—termed core self-evaluations—to job satisfaction. In the five years since the publication of that paper, more than a dozen core self-evaluation studies have been conducted, addressing issues ranging from the construct validity of the trait to its role in explaining and predicting job satisfaction and job performance. Amir Erez, Ed Locke, Carl Thoresen, and the authors of this paper have conducted a focused program of research, which will be reviewed in this paper. We begin by reviewing the theoretical foundations of core self-evaluation research and summarizing empirical findings. Next, we discuss the construct validity of the trait and its relationship to the Big Five. We conclude with an appraisal of the state of this research literature and an agenda for future research.

ORIGINS AND NATURE OF CORE SELF-EVALUATIONS

The original purpose of the Judge *et al.* (1997) article was to formulate propositions regarding dispositional factors that affect job satisfaction. In doing so, the paper drew from

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eight diverse literatures (philosophy, clinical psychology research, clinical psychology practice, job satisfaction research, stress research, child development theory, personality theory, and social psychology) to introduce the concept of 'core evaluations' as an integrating principle for understanding the personological bases of job satisfaction. Judge et al. (1997) suggest that core evaluations are fundamental, bottom-line evaluations that individuals hold about themselves, the world, and others. According to Judge et al., core-evaluations influence people's appraisal of themselves, the world and others, and do so subconsciously. Thus, situation specific appraisals (for example the evaluation of one's work or one's colleagues) are affected by these deeper and more fundamental self-appraisals, even though most people are not aware of the influence their self-evaluations have on their perceptions or behaviour as they occur. Although individuals may have core evaluations in multiple domains (e.g. evaluations of self, evaluations of others, evaluations of the world), early work on core evaluations (Judge, Locke, Durham, & Kluger, 1998) demonstrated that core *self*-evaluations were the most important.

In their initial formulation of the core self-evaluation concept, Judge et al. (1997) searched the literature for traits that met three criteria: *self-evaluative* (core traits should involve self-evaluation as opposed to description of oneself or others), *fundamentality* (core traits should be fundamental as opposed to surface traits; Cattell, 1965), and *scope* (core traits should be wide in scope or cardinal traits; Allport, 1961). Judge and colleagues identified three traits that clearly met these criteria: self-esteem, generalized self-efficacy, and neuroticism. Additionally, they suggested that locus of control might also qualify. Subsequent core self-evaluation research has focused mostly on these four traits. However, Judge et al. (1997) also discussed the possibility that other traits might be considered as indicators of core self-evaluations. Specifically, they discussed dispositional optimism and positive and negative affectivity. There is some evidence that dispositional optimism (Judge et al., 1998b) and negative affectivity (Judge & Heller, 2002) are indicators of the core self-evaluation concept. Little systematic research has been done, however, to integrate these additional traits with core self-evaluations. Whereas it is possible other traits might also be included in the core self-evaluation construct, the bulk of the research to date has focused on self-esteem, generalized self-efficacy, neuroticism, and locus of control.

Conceptual similarities among the four core traits

Three of these four traits appear to be the most widely studied in psychology (Judge & Bono, 2001a). Collectively, self-esteem, locus of control, and neuroticism (or emotional stability) have been the subject of more than 50 000 studies. Conceptually, these traits share strong similarities. Self-esteem is the approval of oneself and the degree to which one sees oneself as 'capable, significant, successful, and worthy' (Coopersmith, 1967, pp. 4–5). There is an obvious link between self-esteem and generalized self-efficacy, the least studied of the four traits. Generalized self-efficacy is one's estimate of one's capabilities of performing, at a global level across many contexts. Clearly, the distinction between seeing oneself as capable, successful, and worthy (self-esteem) and generalized self-efficacy is subtle. Generalized self-efficacy and locus of control also share strong similarities. Locus of control is one's belief in one's ability to control one's environment. It follows logically that individuals who judge themselves as capable of performing across many contexts (generalized self-efficacy) should see themselves as having control of their environment. Finally, self-esteem and neuroticism are also closely linked. Rosenberg (1965), the

researcher most often associated with the self-esteem concept, argued that neurosis was one sign of low self-esteem. In contrast, Eysenck (1990b) viewed self-esteem as indicative of low neuroticism. Irrespective of the causality between self-esteem and neuroticism, the traits clearly are related.

Treatment of the traits in the literature

Given these strong conceptual similarities, it is surprising that the four traits are nearly always studied in isolation. Self-esteem and locus of control are the traits most likely to be considered together. However, when the two traits are included together in a study, they are most commonly entirely separate variables. For example, while Ghorpade, Hatrup, and Lackritz (1999) focused on cross-cultural differences in self-esteem and locus of control, they neither reported the relationship between the two traits, nor discussed their conceptual and empirical similarity. Finn and Rock (1997) related self-esteem and locus of control to student resiliency, and in doing so noted that the traits were 'strongly related' (corrected $r = 0.73$). Yet, the authors then proceeded to treat the two traits as entirely independent concepts with no further discussion of relationships between them.

Another puzzling issue in research on the four core traits is their treatment as dependent variables in some studies, independent variables in others, and mutually causative variables in still others. For example, Wambach and Panackal (1979) investigated the main effect of neuroticism on locus of control, whereas Morelli, Krottinger, and Moore (1979) investigated locus of a control as a cause of neuroticism. Yet, articles continue to accumulate on these four traits—at an average pace of more than 1600 per year—with little or no discussion of how they relate to one another.

Correlations among the traits

Although the core traits are almost universally treated as separate and distinct, Judge, Erez, Bono, and Thoresen (2002) completed a meta-analysis of the relationship between the traits, using studies from the ten psychology journals most likely to include trait pairs. Their analysis of 127 articles revealed the following estimated, population level correlations between the traits.

- Self-esteem–locus of control, $\rho = 0.52$.
- Self-esteem–emotional stability, $\rho = 0.64$.
- Self-esteem–generalized self-efficacy, $\rho = 0.85$.
- Locus of control–emotional stability, $\rho = 0.40$.
- Locus of control–generalized self-efficacy, $\rho = 0.56$.
- Emotional stability–generalized self-efficacy, $\rho = 0.62$.

The average (absolute) correlation among the traits is 0.60. As can be seen in the list above, the relationships involving locus of control are the weakest. Indeed, without locus of control, the average intercorrelation is 0.70, providing evidence of substantial overlap in the personality space assessed by measures of the four traits.

Higher-order factor

Although the evidence reported above suggests that the traits are highly related, it does not address the nature of the association. In numerous papers by Judge and colleagues, using various specifications (exploratory factor analysis of scales using both oblique and

orthogonal rotations, confirmatory factor analysis at the scale level, second order factor analysis at the item level), a single factor, which explains the associations among the measures, reliably emerges. For example, Erez and Judge (2001) estimated three confirmatory analysis models across independent samples and found that a single-factor model fitted the data well. The average loadings of the four traits on the higher-order factor were self-esteem, $ave. = 0.91$; locus of control, $ave. = 0.74$; neuroticism, $ave = -0.73$; and generalized self-efficacy, $ave. = 0.81$. As in most of the factor analyses that have been conducted, self-esteem displays the highest loading on the latent core self-evaluation concept, suggesting that of the four traits it is the single best indicator of core self-evaluations.

Based on our review of the literature, the following conclusions regarding core-self evaluations can be drawn: (i) self-esteem, locus of control, neuroticism, and generalized self-efficacy share many conceptual similarities; (ii) despite their frequency of study, the similarities of these traits are virtually ignored in the literature; (iii) the empirical relations among these traits are strong; (iv) consistently, the four traits indicate a higher order factor. Given this evidence, it is important to consider when the core self-evaluation concept matters. Does it predict important criteria? We consider this question in the next section of the paper.

RELATIONSHIP OF CORE SELF-EVALUATIONS TO JOB SATISFACTION AND JOB PERFORMANCE

In the following section, we describe the relationship between core self-evaluations and job satisfaction and job performance. We should note there are many other criteria to which core self-evaluations could be applied, in the same way that the individual core traits have been applied to many criteria. However, because job satisfaction and job performance are perhaps the two most central criteria in industrial-organizational (I/O) psychology, relating the core traits to these two criteria has been the focus of most existing research.

Relationship of core self-evaluations to job satisfaction

Judge et al. (1998b) provide the first test of the initial predictions made by Judge et al. (1997), with respect to the relationship between core self-evaluations and job satisfaction. In three diverse samples, they found a correlation of 0.48 between job satisfaction and core self-evaluations when both were self-reported and 0.36 when core self-evaluations reports were provided by significant others. Judge and Bono (2001b) conducted a meta-analysis of 169 correlations and found that the correlations of the core traits with job satisfaction ranged from 0.24 for emotional stability to 0.45 for generalized self-efficacy. All of these correlations generalized across studies (more than 90% of the individual correlations were greater than zero). When Judge and Bono (2001b) considered the four traits as indicators of a single latent core self-evaluation construct, they found a correlation between the latent construct and job satisfaction of 0.41.

Why are core self-evaluations strongly related to job satisfaction? Three studies suggest that intrinsic job characteristics mediate the relationship. First, Judge et al. (1998b) showed that, across the three studies, roughly 37% of the influence of core self-evaluations on job satisfaction was mediated by perceptions of intrinsic job characteristics. That is,

individuals who score high on core self-evaluations report having more rewarding jobs. Judge, Bono, and Locke (2000) extended these results by showing not only are core self-evaluations related to perceptions of intrinsic job characteristics, but they also are related to the actual attainment of complex jobs (as measured by the coding of job titles). Thus, it appears that core self-evaluations influence job satisfaction, in part, because positive individuals actually obtain more challenging jobs, and also because they perceive jobs of equal complexity as more intrinsically fulfilling. This conclusion is supported by recent work conducted in a laboratory setting. Srivastava, Locke, and Judge (2002) found that management students who scored high on core self-evaluations chose more complex tasks and that task complexity partially mediated the relationship between core self-evaluations and task satisfaction. Because this study used an experimental design, it also lends support to the hypothesized causal ordering of the variables (i.e. core self-evaluations → job complexity → satisfaction).

Relationship of core self-evaluations to job performance

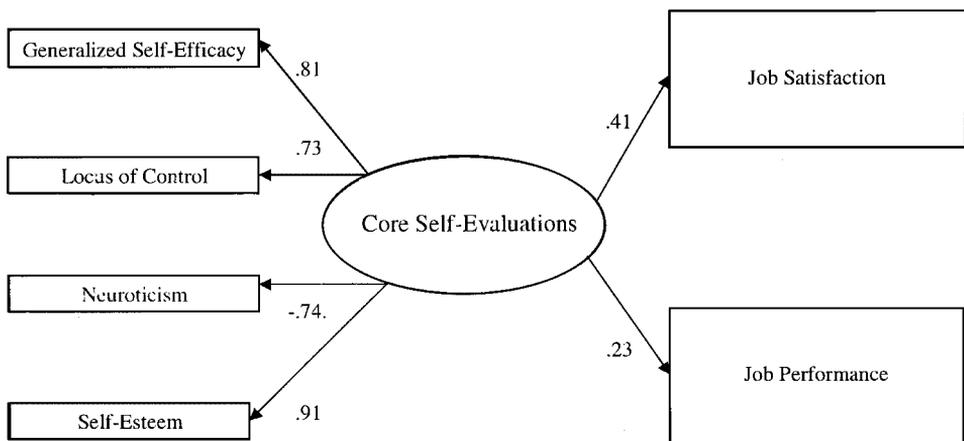
Although the original purpose of core self-evaluation research was to relate the trait to job satisfaction, the literature has grown considerably beyond this criterion. One application of core self-evaluation theory has been in the area of motivation and job performance. Judge and Bono (2001b) linked the four core self-evaluation traits to job performance in a meta-analysis of 105 correlations. The weakest correlation was emotional stability (0.19); the strongest correlation was self-esteem (0.26). Across the four traits, the average correlation was 0.23, which is exactly the same as the validity of conscientiousness in predicting job performance (Barrick & Mount, 1991). Thus, core self-evaluations stand alongside conscientiousness as an important dispositional predictor of job performance.

Why is there a relationship between core self-evaluations and job performance? Judge, Erez, and Bono (1998) argue that individuals with high core self-evaluations are more motivated to perform their jobs. Since motivation is a major determinant of job performance, it makes sense that individuals with positive self-views will perform most jobs better, due to increased confidence in their abilities. Why would individuals undertake a task at all if they saw themselves as incapable or unworthy of success? Similarly, why set challenging goals if one believes oneself to be incompetent and why persist in the face of obstacles if one believes that success is beyond one's grasp? Indeed, Erez and Judge (2001)—in both laboratory and field studies—found that core self-evaluations were linked to motivation and that motivation mediated much of the relationship between core self-evaluations and job performance. Specifically, in a laboratory study in which participants solved anagrams, core self-evaluations were positively related to self-reported task motivation ($r = 0.39, p < 0.01$), persistence (time spent) in solving the anagrams ($r = 0.24, p < 0.05$), and task performance (number of anagrams solved; $r = 0.35, p < 0.01$). In a field study of insurance agents, core self-evaluations were positively related to self-set goals ($r = 0.42, p < 0.01$), goal commitment ($r = 0.59, p < 0.01$), activity level, an archival measure of sales motivation ($r = 0.32, p < 0.01$), and both objective ($r = 0.35, p < 0.01$) and subjective ($r = 0.44, p < 0.01$) measures of sales performance. In both studies, motivation mediated the relationship between core self-evaluations and performance. On average, roughly half of the relationship between core self-evaluations and performance was mediated by motivation. What might explain the remaining co-variation between core self-evaluations and performance? One possibility is other forms of motivation (e.g. expectancy motivation, self-determination). It also is possible that core self-evaluations represent an

ability or skill factor for certain positions (Judge *et al.*, 1998a). For example, people with positive self-evaluations may be more effective in overcoming obstacles, by using better problem solving strategies. Furthermore, they may be more effective in positions requiring positive interpersonal relations or stress tolerance. Indeed, Judge, Thoreson, Pucik, and Welbourne (1999) found that managers who scored high on the core self-evaluation traits were able to cope better with organizational change. As suggested by a reviewer, it is also possible that core self-evaluations are linked to performance ratings because supervisors may like employees with high core self-evaluations (they may find positive employees more pleasant to be around regardless of their objective level of performance).

Whereas the focus of core self-evaluation research has been on its relationship with job satisfaction and job performance, there have been occasional studies that have examined other work and life correlates. For example, Judge and colleagues (2002) examined the relationships between the core self-evaluation traits and life satisfaction, happiness, stress (self-reported stress on the job), and strain (somatic symptoms). Weighted average correlations across all four traits and four samples were 0.25 for life satisfaction, 0.56 for happiness, 0.23 for stress (a high score indicates low stress), and 0.24 for strain (high score indicates fewer symptoms). Judge *et al.* (1999) also found associations between core self-evaluations and salary ($r = 0.10$, $p < 0.05$), career plateauing ($r = -0.32$, $p < 0.01$), and organizational commitment ($r = 0.52$, $p < 0.01$).

In summary, current research demonstrates that the four core self-evaluation traits and the latent core self-evaluation construct are related to I/O psychology's two central criteria: job satisfaction and job performance (see Figure 1 for a summary of these results). Moreover, some progress has been made toward understanding the psychological processes that link the trait to the criteria. Because core-self evaluations appear to play an important role in attitudes and behaviour at work, it is important to consider the relationship between core self-evaluations and comprehensive personality taxonomies such as the Big Five. The next section is devoted to a discussion of this issue.



Note: Factor loadings for the traits are from Erez & Judge (2001) and correlations between core self-evaluations and job satisfaction and job performance are from Judge and Bono (2001)

Figure 1. Summary of relationships between traits, core self-evaluation factor, job performance, and job satisfaction.

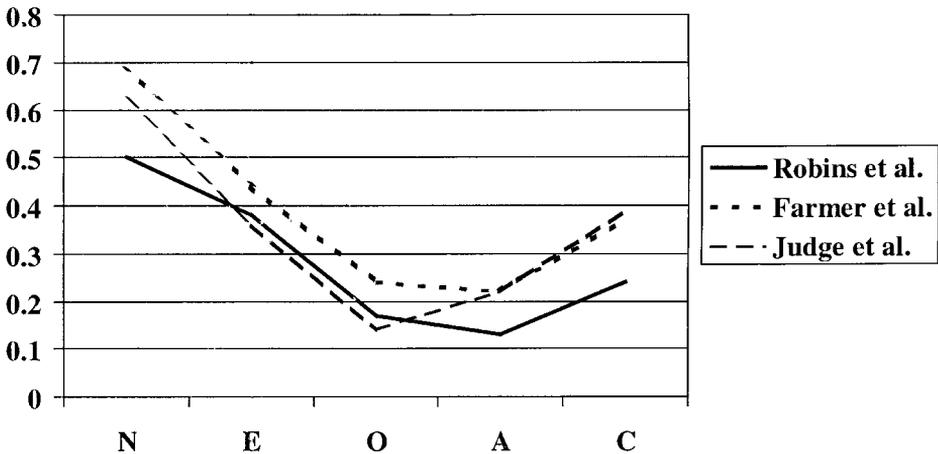
CONSTRUCT VALIDITY OF CORE SELF-EVALUATIONS

The nature of the relationship between core self-evaluations and the Big Five traits is an important issue. On the one hand, it is possible that core self-evaluations represent a piece of the personality domain that is not adequately captured in the Big Five. On the other hand, there is necessarily considerable overlap between core self-evaluations and the Big Five, as one of the four indicators of core self-evaluations is neuroticism. Thus, we examine the relationship between the core self-evaluations and the Big Five personality traits.

The four core traits and the Big Five

The relationship between self-esteem—the strongest indicator of core self-evaluations—and the Big Five personality traits is not clear. Eysenck (1990a) considered self-esteem to be one of nine primary traits that described neurotics. Similarly, Watson and Clark (1984) explicitly consider self-esteem as a component of negative affectivity, a trait that they found to have a 0.59 correlation with neuroticism (Watson & Clark, 1992). However, Costa and McCrae (1992)—in their frequently used Big Five personality inventory (NEO)—do not refer explicitly to self-esteem in their description of neuroticism, nor is self-esteem one of the facets of neuroticism in their model. In a recent edition of the *Handbook of industrial, work, and organizational psychology*, Hough and Ones (2001) propose a set of working taxons for the organization of all personality traits into the Big Five dimensions and their facets. Interestingly, although they include an emotional stability facet of self-esteem in their taxonomy, they do not include common self-esteem measures (e.g. Coopersmith or Rosenberg) in their analysis. This decision may be based on the common practice (especially in educational psychology) of treating self-esteem as a dependent variable, or a malleable state, rather than a stable trait, or it may be because self-esteem measures are not typically thought of as measuring Big Five traits or facets. Yet, there is evidence that the test–retest stability (Farmer, Jarvis, Berent, & Corbett, 2001) and heritability of self-esteem are similar to those of the Big Five personality traits (Roy, Neale, & Kendler, 1995).

Although there was little research prior to 2000 that explicitly examined the relationship between self-esteem and the Big Five, there were some studies reporting strong positive relationships between self-esteem and neuroticism, moderate positive relationships between self-esteem and extraversion and conscientiousness, and relatively weak positive relationships between self-esteem and agreeableness and openness (see Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001 for a review). Recently, however, three recent studies have explicitly addressed the relationship between self-esteem and the Big Five. In a very large, Internet based study ($n = 326\,641$), Robins et al. (2001) examine the relationship between self-esteem and the Big Five personality dimensions. Although their study is limited by its use of a single item self-esteem measure, they found that self-esteem was associated with Emotional Stability (reverse neuroticism; $r = 0.50$), Extraversion ($r = 0.38$), Conscientiousness ($r = 0.24$), Openness to Experience ($r = 0.17$) and Agreeableness ($r = 0.13$). Furthermore, these associations are quite consistent for both males and females and relatively consistent across the life span (subjects of ages 9–90 were included in the Robins et al. sample). In another study using a student sample, Farmer et al. (2001) use the Rosenberg (1965) and the Coopersmith (1967) self-esteem measures, reporting somewhat stronger correlations between the Big Five and self-esteem: $r = 0.69$ for Emotional Stability, 0.44 for Extraversion, 0.37 for Conscientiousness, and 0.24 and 0.22,



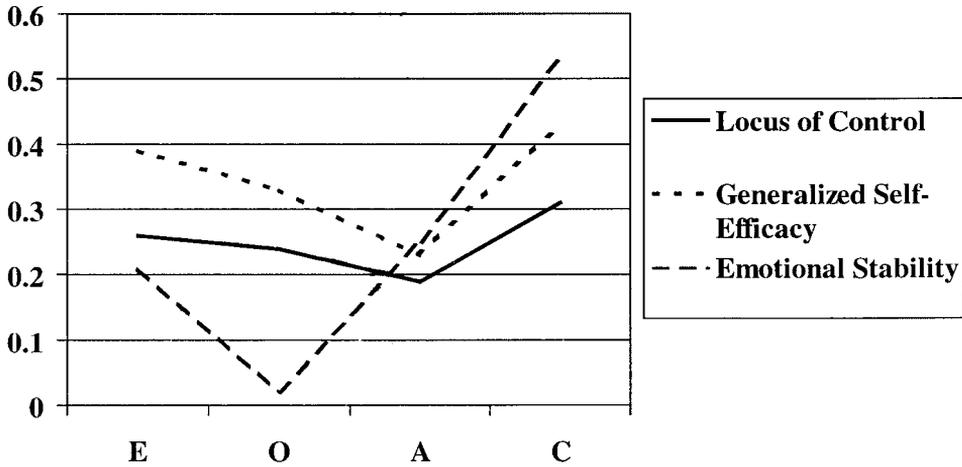
Note: N=Neuroticism, E=Extraversion, O=Openness to Experience, A=Agreeableness, and C = Conscientiousness.

Figure 2. Relationship between self-esteem and the Big Five.

respectively, for Openness and Agreeableness. Judge et al. (2002) also examined the relationship between self-esteem and the Big Five. As noted in a prior section, their meta-analysis results reveals an estimated true score correlation (correlations are corrected for measurement error) between self-esteem and neuroticism of 0.62. Furthermore, across six samples (with a combined average sample size of 1747, including both students and employees of two organizations), they report a weighted average correlation between self-esteem (Rosenberg, 1965) and the other four Big Five traits of 0.36 for extraversion, 0.39 for conscientiousness, 0.14 for openness, and 0.22 for agreeableness. Figure 2 points out the similarity of results across these three studies—using diverse measures and methodologies—in the relationship between self-esteem and the Big Five.

Examination of multiple regressions in which self-esteem is predicted by the Big Five provide additional information about this relationship. Robins et al. (2001) report that 34% of the variance in self-esteem can be explained by the Big Five. In the Farmer et al. (2001) analysis, 53% of the variance in self-esteem is explained by the Big Five, with the effects stemming largely from the strong ($\beta = 0.67$) relationship between self-esteem and Emotional Stability.

There are far fewer direct examinations of the relationship between the generalized self-efficacy and locus of control and the Big Five. With respect to these two traits and Emotional Stability, results of the Judge et al. (2002) meta-analysis are reported above. In addition, Judge and colleagues also report weighted average correlations, across samples, between generalized self-efficacy, emotional stability, locus of control and the other four Big Five Traits. For locus of control, the correlations are 0.19 with Agreeableness, 0.31 with Conscientiousness, 0.26 with Extraversion, and 0.24 with Openness to Experience. For generalized self-efficacy, the correlations are 0.23 with Agreeableness, 0.43 with Conscientiousness, 0.39 with Extraversion, and 0.33 with Openness. Figure 3 presents these relationships graphically. Also included in Figure 3, for purposes of comparison, is the relationship between Big Five Neuroticism (reverse scored to represent its positive pole, Emotional Stability) and the other Big Five traits, as reported in the NEO manual. Examination of Figures 2 and 3 reveals considerable similarity in the relationships



Note: E=Extraversion, O=Openness to Experience, A=Agreeableness, and C = Conscientiousness. Values for Locus of Control and Generalized self-efficacy are from Judge et al. (2001). Values for Emotional Stability are from the NEO manual (Neuroticism reverse scored).

Figure 3. Relationship between Neuroticism, locus of control, generalized self-efficacy, and the other four Big Five traits.

between the core self-evaluation traits and the Big Five traits, providing evidence of convergent validity. Only for Openness to Experience are the relationships with locus of control and generalized self-efficacy substantially different from the relationship with Emotional Stability.

In summary, the results of our review indicate that the core self-evaluation traits exhibit strong associations with Emotional Stability and a pattern of relationships with the other Big Five traits that is similar to that of Emotional Stability. There are several ways in which these results might be interpreted. One possibility is that, as initially conceptualized by Eysenck (1990a), neuroticism should be defined broadly enough to include self-esteem (and the other core traits as well) as a facet. Judge and Bono (2001a) suggest the possibility that core self-evaluations might be thought of as representing broad, inclusive measurement of Emotional Stability. Considering the relationships between the four core traits in this way, core self-evaluations represent a broader, more construct valid, measure of Emotional Stability. This approach is parsimonious in that, rather than adding to the 'jangle fallacy' (Kelley, 1927) by introducing a new personality trait, research on core self-evaluations allows us to better understand the complex nature and measurement of Emotional Stability. However, such reasoning represents a significant departure from common measurement practices. For example, NEO Neuroticism does not explicitly include self-esteem. Similarly, neither Goldberg's 20 item nor the Eysenck 12 item Neuroticism scales include items referring specifically to control or capability, which is a key component of core self-evaluations. This is not to imply that self-esteem is never included in personality inventories, as some inventories developed specifically for the prediction of occupational performance (e.g. the Hogan Personality Inventory) do explicitly contain a self-esteem dimension.

A second possibility is that the relationships between the four core traits and some of the Big Five traits are hierarchical in nature. For example, if self-esteem sits at the apex of the

hierarchy, then it is possible that conscientiousness (e.g. achievement orientation) and extraversion (e.g. positive emotionality), as well as neuroticism (e.g. anxiety) are all influenced by self-esteem—albeit in somewhat different manners—accounting for the relationships between them. Finally, it is possible that core self-evaluations are best thought of as a compound trait. According to Hough and Schneider (1996), compound traits are those comprised of multiple individual traits. Examples of compound traits in the I/O literature include personality based integrity tests, customer service orientation, and possibly emotional intelligence (see Hough and Ones, 2001, for a discussion of compound traits). When considered as a compound trait—with respect to the Big Five—core self-evaluations are a composite of emotional stability, extraversion, and conscientiousness. However, Judge and colleagues have emphasized that they believe that core self-evaluations are a latent concept, which means that they are the underlying trait that explains the relationships among the individual traits. Their approach is not consistent with the notion of core self-evaluations as a compound trait.

It should be noted that our discussion of the nature of the relationship between core self-evaluations and the Big Five is somewhat speculative, especially given the lack of a theoretical basis for the Big Five. Though there have been recent efforts to provide a theoretical foundation to the five-factor model (Wiggins, 1996), little work has integrated this model with core traits such as self-esteem and locus of control (Watson, Suls, & Haig, 2002). This is an important issue for future research that will be addressed in a subsequent section.

PROBLEMS, CONTRIBUTIONS, AND OPPORTUNITIES FOR FUTURE CORE-SELF EVALUATION RESEARCH

In reviewing the results of more than a dozen core self-evaluation studies, it is clear that this research makes a number of important contributions to personality and I/O psychology. However, there are also a number of limitations and unanswered questions, which might be answered in future research. In the final section, we address these issues.

Contributions

One important aspect of core self-evaluation research has been its focus on the relationships among several important personality traits, which had previously been considered largely in isolation. Large and distinct literatures have developed around at least three of the four core self-evaluation traits (locus of control, self-esteem, and Neuroticism). Yet it is clear from core self-evaluation research that these traits are highly intercorrelated and exhibit strikingly similar relationships with other variables. This does not imply that individual traits (e.g. self-esteem and Neuroticism) should not be studied. However, when a broad factor does explain overlap in measures, it is critical to examine the unique, non-error variance for each trait to determine the extent to which it contributes differential or non-incremental validity (see Lubinski & Dawis, 1992). In the case of core self-evaluations, for example, there is almost no incremental validity to using any of the single traits versus the broad core self-evaluations construct) for the prediction of job satisfaction (Judge et al., 2002). In contrast, Judge and colleagues found that Neuroticism explains 10% more variance in depression, after controlling for the broad core self-evaluation construct. Therefore, in the former case, the broad construct is adequate,

whereas in the latter case, the specific trait (emotional stability) provides additional information. Although personality psychologists may not agree about the practical or theoretical utility of broad versus narrow traits, it is critical for the advancement of psychology to understand and explain redundancies between related traits. Core self-evaluation research lays the foundation for such work in the area of self-evaluative traits, by focusing on the lens through which people view themselves and their world.

A second contribution of the core self-evaluation research that it has been directly applied toward understanding and predicting workplace attitudes and behaviours. The Judge and Bono (2001b) meta-analysis makes it clear that we can do a much better job of predicting job performance if we consider core self-evaluations, rather than focusing only on the Big Five. The broad core self-evaluation construct appears to be a much more useful correlate of job performance than is Emotional Stability, at least as it is most commonly measured. Beyond simply documenting the relationship between core self-evaluations and job satisfaction and performance, the focus of core self-evaluation research has been on understanding why these relationships exist. This focus on psychological processes is a strength of the research and has led to an increased understanding of the motivational properties of core self-evaluations (e.g. increased goal setting).

Problems

One vexing problem in core self-evaluation research is the role of locus of control. In most of the studies that include factor analyses, locus of control displays smaller relationships with the core self-evaluation factor than do the other three traits. In some cases, this may be because of the historically low reliability of locus of control. However, even if the factor loadings are corrected for measurement error the association between locus of control and the core self-evaluation construct is weaker than those of the other three traits. Indeed, in the Judge et al. (2002) paper, locus of control showed weaker convergent and discriminant validity compared with the other core self-evaluation traits.

A related issue is whether there are other traits that should also be included in the core self-evaluation concept. As noted earlier, traits such as negative affectivity and optimism are highly related to the core self-evaluation traits. Whereas this is an important area for future research, it should be noted that progress in this area is mostly likely to be made when the nature of the core self-evaluation construct (e.g. broad measure of Emotional Stability versus compound trait) is understood, allowing theory to drive further development of the nomological net.

Research opportunities

Although much has been learned in the five years since the first core self-evaluation article was published, there is much yet to be learned. Below we outline several areas that might be the focus of future research.

- (i) *Core self-evaluation measurement.* Presently core self-evaluations are measured only by summing the items for the four traits. This approach is problematic in two ways. First, this measurement approach places unique variance in each of the four traits—variance that is not part of the broad factor—in the core self-evaluation concept. Second, this approach requires the use of about 40 items, as compared with the 10–12 items used to measure most of the Big Five traits. Thus, it seems that the development of a measure designed specifically to capture the shared variance between the core

traits would be a worthwhile enterprise. A second measurement issue involves the accuracy of core self-evaluations. Because the items used to measure core self-evaluations are transparent and self-focused, they present unique measurement challenges. Self-reports may be subject to socially desirable responding. On the other hand, informant reports may not be accurate because these traits involve personal evaluations and not observable behaviours.

- (ii) *Is core self-evaluation another name for Emotional Stability?* As noted earlier, Judge and Bono (2001a) suggest that core self-evaluations may be a more broad and construct valid measure of Emotional Stability. This is both an empirical and a theoretical issue. Based on some theoretical conceptualizations of neuroticism (e.g. Eysenck, 1990a), the trait is broad enough to include all elements of core self-evaluations. However, current measurement practices—particularly those grounded in the lexical tradition—have tended to under-represent self-evaluative aspects of the trait. A related issue is whether the relationship among the core self-evaluation traits is hierarchical. Are the traits related, causally, in a hierarchical pattern? For example, it is possible that having low self-esteem causes one to feel anxious (low Emotional Stability), a position consistent with Rosenberg's (1965) views. However, an opposite relationship can also be envisioned, in which low self-esteem is an effect of Neuroticism. These are important theoretical issues that warrant research attention.
- (iii) *Is the relationship between core self-evaluations and job satisfaction and job performance culturally dependent?* One of the early core self-evaluation studies (Judge et al., 1998b) used samples from more than one country (i.e. Israel and the U.S.). However, there are no known studies that examine this relationship in non-Western cultures. Yet, there is reason to believe that the role of self in cognition and motivation varies by culture (see Markus & Kitayama, 1991, for a review). Because relationship harmony plays a key role—along with self-esteem—in life satisfaction in Asian cultures (Kwan, Bond, & Singelis, 1997), it is also possible that core-self evaluations will be less strongly related to job satisfaction in Asian cultures.
- (iv) *What additional psychological process link core self-evaluations to job satisfaction and job performance?* Another way in which core self-evaluations may be linked to job satisfaction (and performance) is through self-determination. According to Sheldon and Elliot (1999) and their self-concordance model, autonomous or self-determined goals are those pursued because they are interesting or important to the individual setting the goal. This is in contrast to controlled goals, which are set because of pressure from others or internal feelings of guilt or shame. Self-determined goals are more likely to lead to effort, goal attainment, and well-being than are controlled or avoidant goals because goals pursued for the sake of enduring values are likely to have greater volitional strength, particularly in the face of obstacles. Some evidence suggests that the individual core self-evaluation traits (e.g. Neuroticism) are linked to self-determination (Elliot & Sheldon, 1997; Elliot, Sheldon, & Church, 1997). More explicit research attention to this issue would prove worthwhile.
- (v) *What behavioural processes might explain the link between core self-evaluations and job performance?* Beyond the effect of core self-evaluations on task motivation (Erez & Judge, 2001), there are other possible mechanisms. The role of reputation in personality processes is under-researched (Hogan, 1996), yet might provide fruitful in this area. For example, perhaps individuals with core self-evaluations are more protective of their reputations and thereby better manage positive impressions others

have of them. Perhaps core self-evaluations can be seen, in part, as the desire to project a positive image of oneself (and this has positive implications for how one's performance is evaluated).

In conclusion, we focus on two central themes that can be found in this review. First, self-esteem, locus of control, Emotional Stability, and generalized self-efficacy are highly interrelated traits. Not only do they load on a single, higher order factor, they show convergent validity with other personality traits and with job satisfaction and performance. For these reasons, we believe that research on these traits should be integrated, a process that has begun in core self-evaluation research. Second, core self-evaluations appear to be an important concept for psychologists who seek to explain and predict job-related attitudes and behaviours. Core self-evaluations are important predictors of both job satisfaction and job performance, exhibiting relationships equal to (for job performance) or higher than (for job satisfaction) those of the Big Five traits.

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