

Incremental Validity of Core Self-Evaluations in the Presence of Other Self-Concept Traits: An Investigation of Applied Psychology Criteria in the United States and China

Journal of Leadership & Organizational Studies
19(3) 326–340
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DOI: 10.1177/1548051812442964
http://jlo.sagepub.com


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Abstract

Previous research indicates that core self-evaluations demonstrate incremental predictive validity after controlling for several well-established measures of individual differences. The authors extend this research by examining the incremental predictive validity of core self-evaluations relative to three self-focused individual difference constructs—self-esteem, Protestant work ethic, and narcissism—on a broad range of job performance facets, as well as an array of job attitude measures within both U.S. and Chinese cultures. Results indicated that core self-evaluations demonstrate incremental predictive validity for all tested criterion variables in samples of both U.S. and Chinese workers.

Keywords

core self-evaluations, incremental validity, cross-cultural, job attitudes, job behavior, self-esteem, Protestant work ethic, narcissism

A little more than a decade ago, Judge, Locke, and Durham (1997) proposed a broad self-concept construct called “core self-evaluations” defined as fundamental, bottom-line evaluations one makes regarding one’s self-worth, capacity to control one’s life, general competence, and a general sense that one’s life will turn out well. Contrary to some models of self-concept, Judge et al. (1997) took a “top-down” approach, arguing that situational specific appraisals and related behaviors depended on core self-evaluations. Early research measured core self-evaluations indirectly, modeling it as a higher order construct indicated by four well-established personality constructs: (a) self-esteem, or the overall value one places on one’s self as a person (Harter, 1990); (b) generalized self-efficacy, or one’s belief regarding one’s ability to perform well in a variety of situations (Locke, McClellan, & Knight, 1996); (c) locus of control, or beliefs that events in one’s life are the result of one’s behavior rather than the result of external forces (Rotter, 1996); and (d) neuroticism, the tendency to have negative cognitions and to focus on negative aspects of life circumstances (Watson, 2000). More recent research has used a direct measure of core self-evaluations (the Core Self-Evaluations Scale [CSES]; Judge, Erez, Bono, & Thoresen, 2003) designed to provide greater measurement precision while

addressing conceptual and methodological concerns raised regarding modeling the construct as a higher order latent variable (Johnson, Rosen, & Levy, 2008).

Research indicates that core self-evaluations are related to several important criteria, including job satisfaction (Judge et al., 2003; Judge, Locke, Durham, & Kluger, 1998; Rode, 2004), life satisfaction (Judge, Bono, Erez, & Locke, 2005; Judge et al., 2003; Judge, Locke, et al., 1998), coping strategies (Kammeyer-Mueller, Judge, & Scott, 2009), job performance (Judge & Bono, 2001; Judge, Erez, & Bono, 1998; Judge et al., 2003), earning and income (Judge & Hurst, 2008), citizenship behaviors (Bowling, Wang, & Li, 2011), and service quality orientation (Salvaggio et al., 2007). Moreover, previous research indicates that core self-evaluations demonstrate incremental predictive validity after controlling for several well-established measures of

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individual differences including the Big 5 personality dimensions (Judge et al., 2003; Judge, Heller, & Klinger, 2008) and measures of dispositional affect (Piccolo, Judge, Takahashi, Watanabe, & Locke, 2005; Weitz, 1952).

Although these results are encouraging, more research regarding the construct's incremental predictive validity is needed in at least two areas, if core self-evaluations are to become a part of the accepted individual differences nomenclature. First, the incremental validity of core self-evaluations over other self-oriented traits is not fully known. Although initial research has investigated the incremental validity of core self-evaluations over self-esteem on measures of subjective well-being (Judge, Erez, Bono, & Thoresen, 2002), the incremental effects relative to other self-oriented constructs have not been investigated as far we know. Second, additional research is needed regarding the generalizability of the construct's incremental predictive validity across cultures. Initial research supports the predictive validity of core self-evaluations in cultures outside the United States with respect to job satisfaction in both Israeli and Dutch samples (Judge, Erez, et al., 1998; Judge, Van Vianen, & De Pater, 2004), career ambition in a Spanish student sample (Judge et al., 2004), career success in a German sample (Stumpp, Muck, Hulsheger, Judge, & Maier, 2010), and both job and life satisfaction in Japanese and Swiss samples (Hirschi, 2011; Piccolo, Judge, Takahashi, Watanabe, & Locke, 2005). Research on non-Western samples is particularly important to core self-evaluations research given the self-focus of the trait, which from the onset was one of the defining characteristics of the concept.

We extend previous research by addressing these deficiencies in three ways. First, we examined the incremental predictive validity of the CSES (Judge et al., 2003) relative to three self-focused individual difference constructs: self-esteem, Protestant work ethic, and narcissism. Although self-esteem has a rich history in the industrial-organizational psychology literature, and has demonstrated notably strong correlations with the CSES (Judge et al., 2003), both narcissism and Protestant work ethic were conceived in distal research traditions and have only recently appeared in the industrial-organizational psychology literature. Second, we examined a broad range of outcome criteria, many of which have yet to be studied in core self-evaluations research, including various job performance and job satisfaction facets, as well as an array of other job attitudes. Third, our analyses included both U.S. and Chinese data sets. The demonstration of the incremental predictive validity of core self-evaluations in a highly collectivistic culture such as China (Fu, Wu, Yongkang, & Ye, 2007), where the role of the self relative to the group differs significantly from more individualistic cultures (J. D. Campbell et al., 1996), would provide strong support for the universal predictive validity of the construct.

Given the cultural differences inherent in our samples and the differences in both the independent and dependent variables contained in the two samples, we present hypotheses specific to each study in separate sections rather than the more traditional approach of including the hypotheses for both studies in the same section. Study 1 used longitudinal multisource data to examine the incremental effects of core self-evaluations over self-esteem with respect to a host of job attitude and job performance criteria in a sample of U.S. workers. Study 2 examined the incremental effects of core self-evaluations over both Protestant work ethic and narcissism with respect to overall life satisfaction, three measures of job satisfaction, and seven additional measures of job attitudes, in a sample of Chinese workers.

Study 1

Study 1 examined the incremental predictive validity of core self-evaluations over self-esteem. We focused on self-esteem because of its notably strong empirical relationship with core self-evaluations. Research indicates that of the four constructs used as indirect indicators of core self-evaluations in early research, self-esteem is the most highly correlated with the CSES (Judge et al., 2003).¹ Moreover, self-esteem has demonstrated particularly strong factor loadings, relative to the other three measures, in research that has modeled core self-evaluations as a higher order construct (e.g., Judge et al., 2005; Judge, Bono, & Locke, 2000).

Core Self-Evaluations and Overall Job Attitudes

Self-verification theory (Swann, Stein-Seroussi, & Giesler, 1992) suggests that intrinsic job characteristics, such as those proposed by Hackman and Oldham (1980; e.g., task significance, autonomy, feedback, etc.), mediate the relationship between core self-evaluations and general job attitudes such as job satisfaction and organizational commitment. Individuals with higher perceived core self-evaluations seek out jobs with characteristics (i.e., greater complexity, autonomy, etc.) that verify their high level of perceived competence and capacity, which in turn, are associated with positive job attitudes (Brief, 1998; Fried & Ferris, 1987). More directly, Judge et al. (1997) suggest that core self-evaluations are related to perceptions of the work environment. Individuals with low core self-evaluations may experience little satisfaction with a given work context because they expect that their incompetence will eventually lead to failure, disgrace, and unfulfilled expectations. Conversely, positive feelings associated with high self-regard contribute to an increased focus on more positive aspects of the work environment (Bower, 1981; Brief, Butcher, & Roberson, 1995). Previous research has provided initial support for both the direct and indirect effects

described above. Judge et al. (2000) found that core self-evaluations were related to the attainment of complex jobs as well as to perceptions of job complexity, after holding objective job complexity constant. Similarly, Judge, Locke, et al. (1998) found that perceptions of intrinsic job characteristics partially mediated the relationship between core self-evaluations and job satisfaction.

We extend these findings by examining the incremental predictive validity of core self-evaluations on perceived intrinsic job characteristics, job satisfaction, and affective organizational commitment, after controlling for the effect of self-esteem. Self-esteem is one of the most studied constructs in psychology, and it has been associated with a variety of outcomes of interest in industrial-organizational psychology, including job attitudes, job performance, and subjective reactions to the work experience (Brockner, 1988, Locke, McClellan, & Knight, 1996).

Hypothesis 1: Core self-evaluations are positively related to intrinsic job characteristics, overall job satisfaction, and affective commitment, after controlling for the effects of self-esteem.

Core Self-Evaluations and Job Satisfaction Facets

Previous research has not examined the relationship between core self-evaluations and job satisfaction facets (i.e., work satisfaction, supervisor satisfaction, coworker satisfaction, pay satisfaction, and promotion satisfaction; Smith, Kendall, & Hulin, 1969). We expected core self-evaluations to be related to job satisfaction facets as a result of the self-verification and perceptual process described above as well as processes specific to several facets. For example, the higher levels of intrinsic job characteristics (i.e., overall complexity; Hackman & Oldham, 1980; Hochwater, Zellars, Perrewe, & Harrison, 1999) associated with high core self-evaluations (Judge, Erez, et al., 1998; Judge et al., 2000) should result in higher pay and promotion satisfaction, as jobs higher in intrinsic job characteristics are generally associated with more challenging work, higher pay, and higher organizational levels (Hackman & Oldham, 1980). Similarly, the positive social interactions associated with high core self-evaluations (Scott & Judge, 2009) should result in higher levels of both supervisor and coworker satisfaction. Formally stated:

Hypothesis 2: Core self-evaluations are positively related to job satisfaction facets, after controlling for the effects of self-esteem.

Core Self-Evaluations and Job Performance

Research indicates that core self-evaluations may be related to job performance through at least two mechanisms. First,

core self-evaluations may influence performance by increasing motivation (Judge, Erez, et al., 1998). Logically, we would expect one who believes oneself to be unworthy and generally incompetent to set less challenging goals and to be less persistent in the face of obstacles than one whom believes the converse. Erez and Judge (2001) found in both lab and field studies that roughly half of the relationships between core self-evaluations and various aspects of job performance were mediated by motivation.

Judge, Erez, et al. (1998) also proposed that core self-evaluations may represent an ability or skill factor for certain positions and for certain aspects of job performance. Individuals with high core self-evaluations may use more effective problem-solving strategies, thereby increasing their ability to overcome unexpected obstacles. Similarly, core self-evaluations has been linked to effective coping strategies (Kammeyer-Mueller et al., 2009) and positive interpersonal relations (Scott & Judge, 2009), both of which have implications for jobs that include high levels of ambiguity and/or social interaction, as well as for “contextual” aspects of job performance, such as organizational citizenship behaviors (Organ, 1988). In support of the core self-evaluations as an ability perspective, Kammeyer-Mueller et al. (2009) found that high core self-evaluations were associated with lower levels of avoidance-based coping and with higher levels of problem-solving-based coping. Similarly, Scott and Judge (2009) found that core self-evaluations were associated with more positive social interactions and with higher levels of contextual performance. Again, we extend previous research by testing the incremental effects of core self-evaluations on a specific type of job performance (i.e., service performance) that has not been examined in previous CSE research as well as on task, contextual, and overall job performance, after controlling for the effects of self-esteem.

Hypothesis 3: Core self-evaluations are positively related to job performance after controlling for the effects of self-esteem.

Method: Study 1

Participants and Procedure. Participants were employees of a medium-size production and distribution center located in three states in the United States. At Time 1, research assistants distributed surveys containing core self-evaluations, self-esteem, and job attitudes measures to workers at three different locations. Employees were assured that while their responses were not anonymous (so as to match their surveys to their supervisor’s ratings as described below), all individual responses were completely confidential. At Time 2, between 2 and 4 weeks after administration of the employee survey, supervisors completed a confidential assessment of the various measures of job performance for each of their

Table 1. Means, Standard Deviations, and Intercorrelations of Study 1 Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Self-esteem	42.93	4.62	(.82)													
2. Core self-evaluations	46.15	5.68	.67	(.83)												
3. Affective commitment	27.66	6.03	.31	.32	(.86)											
4. Intrinsic job characteristics	53.18	6.47	.40	.45	.62	(.75)										
5. Overall job satisfaction	171.10	44.00	.15	.28	.59	.53	(.73)									
6. Work satisfaction	34.05	10.04	.22	.30	.60	.55	.70	(.81)								
7. Supervisor satisfaction	39.80	10.74	.18	.25	.48	.49	.73	.40	(.87)							
8. Coworker satisfaction	38.40	10.16	.16	.18	.37	.36	.62	.51	.41	(.86)						
9. Pay satisfaction	32.32	15.09	.00	.20	.32	.25	.70	.34	.40	.21	(.84)					
10. Promotion satisfaction	26.54	16.01	.04	.12	.40	.31	.76	.40	.47	.27	.38	(.87)				
11. Task performance	0.00	0.98	.14	.15	.13	.22	.06	.08	.04	-.19	.12	.11	(.95)			
12. Contextual performance	0.00	0.97	.14	.18	.27	.34	.33	.27	.27	.06	.24	.30	.72	(.95)		
13. Service performance	0.00	1.00	.16	.19	.27	.35	.29	.24	.28	.12	.16	.22	.51	.73	(.84)	
14. Overall job performance	0.00	0.99	.16	.19	.23	.32	.25	.20	.22	.00	.18	.23	.83	.91	.86	(.85)

NOTE: Listwise $N = 220$. For $|r| \geq .18, p < .01$. For $|r| \geq .13, p < .05$. Coefficient alpha (α) reliability estimates are listed on the diagonal.

direct reports. The supervisors were assured that their ratings were confidential. Thus, the data for this study were longitudinal and came from multiple sources. Of the 375 employees eligible to respond, 281 completed surveys for a response rate of 75%. Of those 281 employees, corresponding supervisor performance ratings were available for 236 (84%) of those employees. Among the employees who responded, 14% were exempt personnel (i.e., managers or supervisors); 64% worked at the company headquarters; and employees worked in various positions, the most common of which were the shop floor (33%), sales/marketing (34%), and transportation/distribution (22%). The average supervisory span of control of 4.2 indicates the average manager supervised roughly four employees. Listwise deletion resulted in a final sample size of $N = 220$.

Measures. All scales used a 5-point response score, with 1 = *strongly disagree* and 5 = *strongly agree*, unless otherwise noted. All scales demonstrated acceptable internal reliabilities (i.e., $\alpha > .70$), which are reported in Table 1.

Self-esteem. Employee self-esteem was measured with Rosenberg's (1965) 10-item scale, which has demonstrated strong internal consistency and test-retest reliability, as well as high convergent and discriminant validity (Blascovich & Tomaka, 1991). A sample item included, "I wish I could have more respect for myself" (reverse-scored).

Core self-evaluations. Employee core self-evaluations was measured with the 12-item Core Self-Evaluations Scale (CSES; Judge et al., 2003). A sample item included, "When I try, I generally succeed." The CSES has demonstrated validity and reliability in previous research (Judge et al., 2003; Kacmar, Collins, Harris, & Judge, 2009).

Affective commitment. Affective commitment was measured with Allen and Meyer's (1996) 8-item affective commitment

scale. A sample item included, "This organization has a great deal of personal meaning for me." This measure has shown to be both reliable and valid in previous research (Allen & Meyer, 1996; A. Cohen, 1999).

Intrinsic job characteristics. Intrinsic job characteristics were measured with 14 items from the Job Diagnostic Survey (Hackman & Oldham, 1975). A sample item included, "My job provides me the chance to completely finish the pieces of work I begin." This scale has shown to be both valid and reliable in previous research (Hackman & Oldham, 1975; Hochwater et al., 1999).

Job satisfaction. Job satisfaction was measured with Roznowski's (1989) revisions of the facets—work, supervision, coworkers, pay, and promotions—from the Job Descriptive Index (Smith, Kendall, & Hulin, 1969). Responses were collected using the traditional 0 = *no*, 1 = *?*, and 3 = *yes* response scale. Because three Job Descriptive Index facets (work, supervision, coworkers) have 18 items whereas the other two (pay, promotion) have 9 items each, scales were formed by adding the responses and doubling the scores on the latter two scales. Overall job satisfaction was measured by summing the five scales. This measure has demonstrated reliability and validity in previous research (Buckley, Carraher, & Cote, 1992; Roznowski, 1989).

Job performance. The measure of job performance was developed by interviewing several members of management to obtain information about the critical behaviors underlying the job. The organization also provided job descriptions. From that information we drafted a performance rating instrument. This instrument was then further refined by management. Behaviorally anchored scales for each item were then developed using both the literature on behaviorally anchored rating scales (Bernardin & Smith, 1981) and interviews with three top managers in the organization, who

Table 2. Core Self-Evaluations and Self-Esteem Predicting Intrinsic Job Characteristics and Work Attitudes: Study 1

	Intrinsic Job Characteristics	Overall Job Satisfaction	Affective Commitment	Job Satisfaction Facets				
				Work Satisfaction	Supervisor Satisfaction	Coworker Satisfaction	Pay Satisfaction	Promotion Satisfaction
Self-esteem	.13 [†]	-.12	.13 [†]	-.05	-.06	.00	-.20*	-.13
Core self-evaluations	.36**	.36**	.26**	.36**	.28**	.20*	.32**	.20*
ΔR^2	.07**	.07**	.04**	.07**	.04**	.02*	.06**	.02*
Overall R^2	.21**	.08**	.13**	.11**	.06**	.04**	.06**	.02*

NOTE: Regression coefficients (β) are standardized and from the full model. ΔR^2 represents increase in variance explained by core self-evaluations.

[†] $p < .10$. * $p < .05$. ** $p < .01$.

Table 3. Core Self-Evaluations and Self-Esteem Predicting Job Performance: Study 1

	Task Performance	Contextual Performance	Service Performance	Overall Job Performance
Self-esteem	.02	-.04	-.01	.02
Core self-evaluations	.17*	.22**	.25**	.23**
ΔR^2	.02*	.03**	.03**	.03**
Overall R^2	.03*	.04**	.06**	.06**

NOTE: Regression coefficients (β) are standardized and from the full model. ΔR^2 represents increase in variance explained by core self-evaluations.

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

provided incidents of excellent, average, or poor performance for each dimension. Finally, the dimensions and anchors were shared with management, and slight adjustments were made to form 1 (*poor*) to 5 (*excellent*) response scales for each item. Using these scales, supervisors evaluated employee task performance with three items (e.g., “On the technical areas of his/her job”), contextual performance with eight items (e.g., “In supporting and encouraging a coworker with a problem”), and service performance with five items (e.g., “In willingly going out of his/her way to make a customer satisfied”). Because the dimensions were assessed with different numbers of items, the scales were standardized prior to aggregation, and a measure of overall job performance was formed by averaging these three dimensions.

Results: Study 1

Table 1 provides the descriptive statistics intercorrelations of the study variables. Of particular note is the strong, positive correlation between self-esteem and core self-evaluations ($r = .67$). This underscores the idea that self-esteem is a partial indicator of core self-evaluations (Bono & Judge, 2003). To test the incremental validity of core self-evaluations over self-esteem, we performed a hierarchical regression. In Step 1 we entered self-esteem, and in Step 2 we entered core self-evaluations. The results of these regressions are provided in Tables 2 and 3. Core self-evaluations significantly predicted affective commitment

($\beta = .26, p < .01$), intrinsic job characteristics ($\beta = .36, p < .01$), and overall job satisfaction ($\beta = .36, p < .01$), supporting Hypothesis 1. Core self-evaluations also significantly predicted satisfaction with work ($\beta = .36, p < .01$), supervision ($\beta = .28, p < .01$), coworkers ($\beta = .20, p < .05$), pay ($\beta = .32, p < .01$), and promotions ($\beta = .20, p < .05$), supporting Hypothesis 2. Finally, core self-evaluations positively and significantly predicted task ($\beta = .17, p < .05$), contextual ($\beta = .22, p < .01$), service ($\beta = .25, p < .01$), and overall ($\beta = .23, p < .01$) job performance, thus supporting Hypothesis 3.

Discussion: Study 1

All our hypotheses were supported, thus providing strong evidence for the incremental predictive validity of core self-evaluations over self-esteem with respect to a wide range of attitudinal and individual performance criteria.

Study 2

Study 2 extended the findings of Study 1 in three ways. First, it examined the incremental validity of core self-evaluations over Protestant work ethic and narcissism, two self-oriented constructs that have been the subject of increased research attention (Ghorpade, Lackritz, & Singh, 2006; Judge, LePine, & Rich, 2006; Miller, Woehr, & Hudspeth, 2002) and that have been associated with theoretical indicators of core self-evaluations. Second, in

addition to the previously studied criteria of job satisfaction and life satisfaction, Study 2 included seven other job-related attitudes that have not, to our knowledge, been included in empirical tests of core self-evaluations. Finally, and perhaps most important, these relationships were tested in a Chinese sample, a culture that to date has not been included in core self-evaluations research.

Empirical results from the Global Leadership and Organizational Behavior Effectiveness Research Program indicate that China differs from the United States on at least two dimensions relevant to self-views: institutional collectivism and in-group collectivism (House et al., 2004). In fact, China ranks among the highest on both dimensions of collectivism (House et al., 2004). Individuals in collectivist societies tend to have interdependent views of the self, whereby, in contrast to more individualistic cultures, judgments of self-worth and capabilities are based less on one's ability to be assertive and to control the situation and more on one's ability to control one's internal states and to adjust to various interpersonal contingencies (Markus & Kitayama, 1991). Indeed, some have suggested that personal identity is less dependent on self-referenced evaluations in collectivistic cultures than in individualistic cultures (Bond & Tormatzky, 1973; Suh, Diener, Oishi, & Triandis, 1998). However, other self-oriented constructs have been found to be valid in collectivist cultures (Ghorpade, Hattrup, & Lackritz, 1999; Zhang & Norvilitis, 2002), consistent with arguments suggesting that basic human tendencies are independent of cultural influence (McCrae & Costa, 1997). Still, the demonstration of incremental predictive validity in a highly collectivistic culture such as China, where the conceptualization of the self differs significantly from that in more individualistic cultures, would provide strong support for the universal predictive validity of core self-evaluations.

We included Protestant work ethic in Study 2 because, in addition to the collectivistic traits described above, Chinese culture has been strongly influenced by the tenets of Confucianism (Z. H. Li, 1986). Among other things, Confucianism stresses diligence, internal control of emotions and urges, and delayed gratification (Weber, 1951). Similarly, Protestant work ethic measures the extent to which one values hard work, personal control of internal states, and personal responsibility (Furnham, 1990), as well as the extent to which work is a central aspect of one's life (Miller et al., 2002). Thus, Protestant work ethic may be particularly relevant to individual outcomes in China, as the behaviors associated with the construct will be valued and presumably rewarded by various cultural institutions. Moreover, Protestant work ethic has been found to be relevant in cross-cultural research including collectivistic societies (Furnham et al., 1993; Furnham & Reilly, 1991).

Protestant work ethic is considered a self-oriented construct in that it constitutes a part of one's self-definition (Cockley et al., 2007; Miller et al., 2002). It is particularly

relevant to our focus on incremental validity as it is significantly correlated with both indicators of core self-evaluations (i.e., self-esteem, Tang & Ibrahim, 1998; and locus of control, Ghorpade et al., 2006), as well as with outcomes associated with core self-evaluations, including job satisfaction (Miller et al., 2002; Wanous, 1974), organizational commitment, and job performance (Miller et al., 2002).

Similarly, we included Narcissism because of its strong self-oriented focus as well as its demonstrated empirical associations with constructs known to be related to core self-evaluations. Narcissism is characterized by a positive and inflated self-image, especially with respect to agentic traits such as power, importance, and physical attractiveness (W. K. Campbell, Rudich, & Sedikides, 2002; Morf & Rhodewalt, 2001). It is moderately correlated with self-esteem (Brown & Zeigler-Hill, 2004; W. K. Campbell et al., 2002) and is associated with a strong belief in one's ability to perform in a variety of situations (i.e., generalized self-efficacy; W. K. Campbell et al., 2002; Paulhus, Harms, Bruce, & Lysy, 2004). Narcissism is also correlated with both life satisfaction and positive affect (Rose, 2002; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004), two criteria that are also associated with core self-evaluations (Judge et al., 2003; Judge et al., 2008). Although mean levels of the construct tend to be lower, meaningful variation of narcissism exists at the individual level within collectivist cultures such as China (Foster, Campbell, & Twenge, 2003).

Core Self-evaluations and Job and Life Satisfaction

Previous studies have found relationships between the individual traits used in earlier research as indicators of core self-evaluations (i.e., self-esteem, generalized self-efficacy, locus of control, and neuroticism) and job satisfaction in non-Western cultures. For example, Cheng (1994) found that locus of control was related to multiple measures of job attitudes and perceptual processes in a sample of Hong Kong secondary school teachers. More direct evidence comes from Piccolo et al. (2005), who found that, in a sample of Japanese pharmaceutical sales representatives, an overall composite measure of core self-evaluations was significantly related to both job and life satisfaction after controlling for the effects of trait-based affectivity. Thus, even though studies suggest that individuals in collectivist cultures use different references when making satisfaction judgments compared with individuals in individualistic cultures (Suh et al., 1998), initial research indicates that core self-evaluations have positive relationships with overall attitudes across cultures. We extend these findings by examining the effects of core self-evaluations on overall job satisfaction and life satisfaction, as well as job satisfaction facets, after controlling for the

effects of Protestant work ethic and narcissism in a Chinese sample. Formally stated,

Hypothesis 1: Core self-evaluations are positively related to overall job and life satisfaction, after controlling for the effects of Protestant work ethic and narcissism.

Hypothesis 2: Core self-evaluations are positively related to job satisfaction facets, after controlling for the effects of Protestant work ethic and narcissism.

Core Self-Evaluations and Other Job Attitudes

Although the top-down processes described by Judge et al. (1997) imply that core self-evaluations may be related to a broad array of job-related attitudes, research has focused largely on job satisfaction (Judge, Locke, et al., 1998; Judge et al., 2000; Judge et al., 2003; Piccolo et al., 2005; Rode, 2004). However, empirical research indicates that in addition to the perceptual processes described by Judge et al. (1997), core self-evaluations may also be related to other job attitudes through more specific mechanisms. Judge and Hurst (2008) found that core self-evaluations were related to one's ability to capitalize on available resources such as financial support and educational opportunities to increase personal outcomes such as personal income. Judge and Hurst (2008) theorized that these findings may be the result, in part, of the self-verification processes described above whereby individuals with high core self-evaluations seek out challenges that complement their self-views and seek out environments that best fit their interests and skills. Conversely, those with low core self-evaluations are less proactive in their employment search, reasoning that they have little capacity to find a suitable environment or to secure employment in such an environment.

Hypothesis 3: Core self-evaluations are positively associated with work attitudes related to environmental fit (i.e., person-environmental fit, person-job fit, and organizational identification), after controlling for the effects of Protestant work ethic and narcissism.

Kammeyer-Mueller et al. (2009) found that high core self-evaluations was related to fewer perceived stressors, less avoidance coping, and more problem-solving coping. Borrowing from the stress-process model proposed by Bolger and colleagues (Bolger & Schilling, 1991; Bolger & Zuckerman, 1995), Kammeyer-Mueller et al. (2009) theorized that core self-evaluations are related to the perception of environmental stressors, the extent to which individuals feel capable of dealing with perceived stressors and the extent to which individuals are able to enact and successfully execute effective coping strategies for dealing with

stressors. In support of this notion, Best, Stapleton, and Downey (2005) found that core self-evaluations had both direct effects on job satisfaction and indirect effects that were mediated by burnout, a construct closely related to the ongoing experience of environmental stressors (Maslach & Jackson, 1981). Similarly, the ongoing experience of workplace stress has been positively associated with turnover intentions and negatively associated with affective commitment and perceived organizational support, among other criteria (Bakker, Schaufeli, Sixma, Bosveld, & Van Dierendock, 2000; McGrath, 1976; Quick, Murphy, & Hurrell, 1992). Thus, we offer the following hypotheses:

Hypothesis 4: Core self-evaluations are negatively associated with burnout and turnover intentions, after controlling for the effects of Protestant work ethic and narcissism.

Hypothesis 5: Core self-evaluations are positively associated with affective commitment and perceived organizational support, after controlling for the effects of Protestant work ethic and narcissism.

Method: Study 2

Participants and Procedure. Participants were employees of a large retail company headquartered in Beijing, China. Research assistants distributed surveys to employees chosen from a stratified random selection process developed with the help of the organization's human resource manager. Employees were assured that their responses were confidential and that no individual responses could be identified by either the company or the researchers. A total of 297 surveys were sent out, of which 269 were returned with usable data, representing a valid response rate of 89.7%. Among the employees who responded, 58% were female, and 49% held bachelor or higher education degrees. The average age was 33.96 years ($SD = 7.59$), and the average organization tenure was 8.92 years ($SD = 4.38$). Of the respondents, 21% were first line employees, 56% supervisors, and 23% middle- and top-level managers.

Measures. All the measures are rated on the 7-point Likert-type scale with 1 = *strongly disagree* and 7 = *strongly agree*. The turnover intention and affective commitment measures were originally developed in Chinese culture with Chinese language. The organizational identification and burnout measures used scales that had been previously translated and validated in Chinese samples. The core self-evaluations, Protestant work ethic, narcissism, overall job satisfaction, life satisfaction, and intrinsic and extrinsic job satisfaction measures were all translated using the translation and back-translation procedure described by Brislin (1970). The original English versions of these scales were first translated into Chinese by two doctoral students in organizational behavior and human resource management and two

Table 4. Means, Standard Deviations, and Intercorrelations of Study 2 Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Protestant work ethic	4.42	0.59	(.73)													
2. Narcissism	0.53	0.16	.05	(.82)												
3. Core self-evaluations	4.27	0.49	.03	.21	(.75)											
4. Overall job satisfaction	3.84	0.90	.11	-.07	.32	(.81)										
5. Life satisfaction	3.62	1.06	.07	.16	.40	.47	(.85)									
6. Intrinsic job satisfaction	4.11	0.65	.13	-.15	.38	.68	.32	(.80)								
7. Extrinsic job satisfaction	3.54	0.75	.12	-.10	.30	.75	.34	.72	(.88)							
8. Turnover intention	2.91	1.18	-.19	.04	-.35	-.58	-.41	-.62	-.61	(.86)						
9. Person-environment fit	3.99	0.96	.24	.03	.36	.49	.43	.50	.45	-.60	(.83)					
10. Person-job fit	4.42	0.86	.10	.04	.40	.32	.36	.33	.26	-.42	.44	(.71)				
11. Burnout	2.89	0.93	-.01	.05	-.46	-.44	-.22	-.60	-.46	.54	-.34	-.39	(.88)			
12. Affective commitment	4.27	0.97	.29	.04	.31	.52	.43	.50	.47	-.70	.66	.40	-.34	(.82)		
13. Organizational identification	4.98	0.90	.20	.00	.33	.44	.37	.44	.38	-.52	.57	.33	-.28	.69	(.92)	
14. Perceived organizational support	3.66	0.77	.15	.00	.31	.62	.41	.63	.74	-.71	.62	.32	-.40	.62	.52	(.91)

NOTE: Listwise $N = 269$. For $|r| \geq .15$, $p < .01$. For $|r| \geq .12$, $p < .05$. Coefficient alpha (α) reliability estimates are listed on the diagonal.

professors of management independently. A mutually agreed on version of the translation was produced after in-depth discussions among the translators. The Chinese version was then back-translated into English by two doctoral students in psychology and English literature who were fluent in both English and Chinese and who had no knowledge of the study's purpose. The two translators discussed discrepancies until they reached mutual agreement. The back-translated English version of all the measures was then sent to the authors, and both the American and Chinese authors discussed and compared the translated version with the original English version to establish that the final Chinese version and the original English version had conceptual equivalence. All scales demonstrated acceptable internal reliability (i.e., $\alpha > .70$), as shown in Table 4.

Overall job satisfaction. Overall job satisfaction was measured with the six-item scale from Tsui, Egan, and O'Reilly (1992). A sample item included, "Considering everything, how satisfied are you with your current job situation?" Previous research has shown the original English language version to be both reliable and valid (A. Cohen, 1997; Tsui et al., 1992).

Turnover intention. Turnover intention was measured with the four-item scale from Farh, Tsui, and Xin, Cheng (1998). A sample item included, "I may leave this company and work for another company in the next year."

Affective commitment. Affective commitment was measured by Z. X. Chen and Francesco's (2003) six-item scale. A sample items included, "I really feel as if this organization's problems are my own." Previous research has shown this measure to be both reliable and valid (Z. X. Chen & Francesco, 2003; Wang, 2004).

Life satisfaction. Life satisfaction was measured with the five-item scale developed by Diener, Emmons, Larsen, and Griffin (1985). A sample item included, "In most ways my life is close to ideal." The reliability and validity of the English language version of this measure has been demonstrated previously (Lucas, Diener, & Suh, 1996).

Organizational identification. Organizational identification was measured with the Chinese version (Y. X. Li, Zhang, & Shen, 2007) of Mael and Ashforth's (1992) six-item scale ($\alpha = .92$). A sample item included, "When someone criticizes my company, it feels like a personal insult." The English language version of this scale was shown to be both reliable and valid (Mael & Ashforth, 1992; Mael & Tetrick, 1992).

Burnout. Burnout was measured with the Chinese version (C. Li & Shi, 2003) of the 10-item scale developed by Schaufeli, Leiter, Maslach, and Jackson (1996). A sample item included, "I feel emotionally drained from my work." The reliability and validity of the English version of this scale has been demonstrated previously (Leiter & Schaufeli, 1996; Schaufeli et al., 1996).

Core self-evaluations. Core self-evaluations were measured using the Core Self-Evaluations Scale (Judge et al., 2003) described in Study 1.

Protestant work ethic. Protestant work ethic was measured with the 19-item scale from Mirels and Garrett (1971). A sample item included, "If one works hard enough he is likely to make a good life for himself." The English language version of this scale was shown to be both reliable and valid in previous research (Mirels & Garrett, 1971; Waters, Batlis, & Waters, 1975).

Narcissism. Narcissism was measured with the 37-item scale from Emmons (1987). A sample item included, "I insist upon getting the respect that is due me." The English language version of this scale has shown to be both reliable and valid (Emmons, 1987; Rhodewalt & Morf, 1998).

Intrinsic and extrinsic job satisfaction. Intrinsic and extrinsic job satisfaction was measured using the 36-item scale developed by Spector (1997), which has been shown to be reliable and valid in previous research on the English language version of the scale (Blau, 1999; Spector, 1997). Although the scale was designed to measure nine facets, several of the facets had unacceptable internal reliabilities in our sample. Results of exploratory factor analyses (results available from the second author) indicated the presence of two underlying factors, one with items related to the work itself (20 items) and the other with items related to factors outside of the work itself (16 items), such as pay and coworkers. We formed two composite measures based on these results and labeled them intrinsic job satisfaction and extrinsic job satisfaction, respectively. A sample intrinsic item included, "I like doing the things I do at work." A sample extrinsic item included, "I feel I am being paid a fair amount for the work I do."

Person–environment fit and person–job fit. Person–environment fit and person–job fit were measured with scales from Lauer and Kristof-Brown (2001). A sample of one of the five person–environment fit items included, "My values match or fit the values of this organization." A sample of one of the three person–job fit items included, "I have the right skills and abilities for doing this job." Both scales have shown to be reliable and valid in previous research (Lauer & Kristof-Brown, 2001).

Perceived organizational support. Perceived organizational support was measured with the 17-item scale developed by Eisenberger, Huntington, Hutchison, and Sowa (1986). A sample item included, "The organization is willing to help me when I need a special favor." Previous research has shown this scale to be both reliable and valid (Eisenberger, Cummings, Armeli, & Lynch, 1997; Wayne, Shore, & Liden, 1997).

Results: Study 2

Descriptive statistics and intercorrelations for Study 2 variables appear in Table 4. To test our hypotheses, we performed a series of hierarchical regressions. In Step 1, we entered Protestant work ethic and narcissism. In Step 2, we entered core self-evaluations. The results of the regression analyses are provided in Tables 5 and 6. Core self-evaluations positively and significantly predicted overall job satisfaction ($\beta = .35, p < .01$) and overall life satisfaction ($\beta = .38, p < .01$), as well as both intrinsic ($\beta = .43, p < .01$) and extrinsic ($\beta = .33, p < .01$) job satisfaction, thereby supporting Hypotheses 1 and 2. Core self-evaluations positively

and significantly predicted person–environment fit ($\beta = .37, p < .01$), person–job fit ($\beta = .41, p < .01$), and organizational identification ($\beta = .34, p < .01$), thereby supporting Hypothesis 3. Core self-evaluations negatively and significantly predicted turnover intention ($\beta = -.37, p < .01$) and burnout ($\beta = -.49, p < .01$), thereby supporting Hypothesis 4. Finally, core self-evaluations positively and significantly predicted and perceived organizational support ($\beta = .32, p < .01$) and affective commitment ($\beta = .31, p < .01$), thereby supporting Hypothesis 5.

Discussion: Study 2

Core self-evaluations predicted significant incremental variance in job satisfaction, life satisfaction, both intrinsic and extrinsic job satisfaction, and seven other job attitude variables, after taking into account the effects of Protestant work ethic and narcissism. Of particular note, although Protestant work ethic and narcissism both displayed incremental predictive validity with respect to some of the included criterion variables, in no cases were the incremental effects as strong as those associated with core self-evaluations. Also notable was that although narcissism and core self-evaluations displayed a moderate and positive association with each other ($r = .21, p < .01$), narcissism was negatively associated with the three measures of job satisfaction in the regression analyses, whereas core self-evaluations were positively associated with these criteria. Similarly, narcissism was positively associated but core self-evaluations were negatively associated with burnout in the regression analyses. The implications of these results are discussed in further detail below.

General Discussion

Overall, core self-evaluations, as measured by the CSES, explained incremental variance in each of the 13 criterion variables included in Study 1 and 11 criterion variables included in Study 2. The strength of the effects in Study 1 is particularly impressive, given the relatively strong correlation between core self-evaluations and self-esteem. These results indicate that although core self-evaluations and self-esteem share notable similarities, the broader core self-evaluations concept has significant incremental predictive validity over self-esteem.

The consistency of the results across two studies is notable. In Study 1, core self-evaluations explained 4% and 7% incremental variance in affective commitment and job satisfaction, respectively, compared with 9% and 11% in Study 2. Similar results were found for the closely related measures of intrinsic job characteristics (7%, Study 1) and intrinsic job satisfaction (18%, Study 2). This consistency is notable, given that the two studies included different control variables, different industries and functional areas, and perhaps

Table 5. Core Self-Evaluations, Narcissism, and Protestant Work Ethic Predicting Job and Life Satisfaction: Study 2

	Overall Job and Life Satisfaction		Job Satisfaction Facets	
	Overall Job Satisfaction	Life Satisfaction	Intrinsic Job Satisfaction	Extrinsic Job Satisfaction
Protestant work ethic	.10 [†]	.05	.13*	.12*
Narcissism	-.15*	.07	-.25**	-.17**
Core self-evaluations	.35**	.38**	.43**	.33**
ΔR^2	.11**	.14**	.18**	.10**
Overall R^2	.13**	.17**	.22**	.13**

NOTE: Regression coefficients (β) are standardized and from the full model. ΔR^2 represents increase in variance explained by core self-evaluations. [†] $p < .10$. * $p < .05$. ** $p < .01$.

Table 6. Core Self-Evaluations, Narcissism, and Protestant Work Ethic Predicting Other Job Attitudes: Study 2

	Person– Environment Fit	Person– Job Fit	Organizational Identification	Burnout	Turnover Intention	Perceived Organizational Support	Affective Commitment
Protestant work ethic	.23**	.09 [†]	.19**	.00	-.18**	.14*	.28**
Narcissism	-.07	-.05	-.08	.15**	.12*	-.08	-.04
Core self-evaluations	.37**	.41**	.34**	-.49**	-.37**	.32**	.31**
ΔR^2	.12**	.16**	.11**	.23**	.13**	.10**	.09**
Overall R^2	.19**	.17**	.15**	.23**	.17**	.12**	.17**

NOTE: Regression coefficients (β) are standardized and from the full model. ΔR^2 represents increase in variance explained by core self-evaluations. [†] $p < .10$. * $p < .05$. ** $p < .01$.

most important, vastly different cultural settings. Thus, our results support the notion that core self-evaluations are a robust predictor of a wide range of attitudinal and individual behaviors across a wide range of settings and environmental circumstances.

From a theoretical perspective, our results support both Judge et al.'s (1997) contention that core self-evaluations affect general perceptual processes as well as research suggesting that core self-evaluations are also related to self-regulatory and social interaction processes, which, in turn, affect both attitudes and behavior. Moreover, the consistency of our results in both an individualistic and a highly collectivistic culture indicate that the effects of core self-evaluations may be universal, at least with respect to work attitudes (work performance criteria were not included in Study 2). In contrast to authors who have proposed that satisfaction judgments in collectivist cultures are based on the existence of harmonious relationships rather than on positive self-regard (Diener & Diener, 1995; Oishi, Diener, Lucas, & Suh, 1999), our results are consistent with Piccolo et al. (2005), indicating that positive self-concept plays an important role even when the self and others are viewed as highly interdependent (Markus & Kitayama, 1991). However, with the exception of Stumpp et al. (2010), who examined the effects of core self-evaluations on career success in a German sample, cross-cultural core self-evaluations research

has focused almost exclusively on attitudinal criteria. Future cross-cultural research should focus on more objective outcomes such as job performance and citizenship behaviors that have been linked to core self-evaluations in U.S. samples.

The finding that narcissism was positively associated with core self-evaluations but had effects in the opposite direction as core-self evaluations in the regression analyses raises several questions for future research. On one hand, these findings may reflect the possibility that excessive self-regard may manifest itself as narcissism. Alternately, it may be that the behaviors associated with narcissism are met with particularly high levels of disapproval in the collectivist Chinese culture, where modesty is highly valued (Fu et al., 2007). Judge et al. (2008) found that narcissism was related positively to self-views of leadership but negatively to other's ratings of leadership, in two samples from the United States. However, little research has examined the relationships between narcissism and job attitudes or overall job performance. Further research is needed to better understand the relationships among core self-evaluations, narcissism, work attitudes and other work outcomes, and culture.

Our studies have several notable limitations. First, although we did have longitudinal data in Study 1, we did not manipulate any of the independent variables, so we cannot make conclusive statements regarding causality. However,

the consistency of the results between the two studies, as well as with previous studies of core self-evaluations that have used longitudinal designs (Judge et al., 2005; Rode, 2004) and significant other reports to measure attitudes (Judge, Locke, et al., 1998), support the implied causal relationships between core self-evaluations and the various outcome criteria contained in our analyses. Second, we used single-source, cross-sectional data in Study 2, and consequently our findings may have been influenced by common method bias. However, as previously mentioned, the results from Study 2 were consistent with those obtained in Study 1 and with those reported in previous research that used longitudinal and/or multisource data collection methodologies (Judge, Locke, et al., 1998; Judge et al., 2005; Rode, 2004), thereby indicating that the results were unlikely to be significantly influenced by common method bias. Finally, although the inclusion of a Chinese data set provided an excellent opportunity to examine predictive validity in a highly collectivist culture, we did not include the same control variables in Study 1 and Study 2. Thus, although the consistency of our results provides some evidence of generalizability, more empirical research will be necessary before equivocal claims regarding the incremental predictive validity of the CSES over Protestant work ethic and narcissism in non-Chinese samples can be made.

These limitations notwithstanding, our results provide significant support regarding the incremental predictive validity of core self-evaluations. The consistency of our results across samples from two cultures with very different views of the role of the individual relative to others, and with differing sets of self-oriented control variables, provides strong evidence that continued study of core self-evaluations will provide unique insight into the critical role of self-views in a wide range of work-related phenomena.

Acknowledgement

This research was conducted while Jian-Min Sun was a Fulbright visiting scholar with Timothy A. Judge at University of Florida. We are grateful for the support provided by the Fulbright Foundation.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Note

1. Given that initial research modeled core self-evaluations as a higher order latent construct consisting of the variance common to self-esteem, generalized self-efficacy, locus of control,

and neuroticism, one might argue that to use self-esteem and core self-evaluations in the same multivariate analysis falls into a part-whole correlation problem (J. Cohen, Cohen, West, & Aiken, 2003). However, the part-whole problem refers to explicit inclusion: "A correlation has been computed between some variable J and another variable W, which is the sum of scores on a set of variables including J" (J. Cohen et al., 2003, p. 59). Since, in this study, self-esteem and core self-evaluations are separate measures, one might argue that the problem does not apply here, at least explicitly. Nevertheless, because self-esteem is a presumed indicator of core self-evaluations (Judge et al., 1997), it is worthwhile to consider the issue further. If core self-evaluations are a latent concept, such that the individual core traits are (imperfect) indicators of the concept and the core is what the individual traits have in common (i.e., measures of the individual traits reflect their common core [core self-evaluations]), then this representation in no way denies the validity of individual-trait variance. Indeed, such comparisons are essential to determine whether criteria are better predicted by single-factor (self-esteem) variance, general-factor (core self-evaluations) variance, or both.

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