How You Feel About Yourself Can Affect How You Feel About Your Job: A Meta-Analysis Examining the Relationship of Core Self-Evaluations and Job Satisfaction

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The construct of core self-evaluations has been recognized as one of the most significant dispositional predictors of job satisfaction. The current study meta-analyzed the relationship between core self-evaluations and job satisfaction and found a moderate, positive relationship. Characteristics of the samples (such as gender, race, age, and organizational tenure), and characteristics of the research design (such as type of core self-evaluation measurement used and author type) were examined as potential moderators of the relationship between core self-evaluations and job satisfaction in this study. The findings along with practical implications are discussed and outlined.

INTRODUCTION

It has long been claimed that employee job satisfaction is not only contingent upon the characteristics of the job, but also on the predispositions that individuals bring to the job. However, the majority of the research examining the relationship between individual dispositions and job satisfaction has focused on the Big Five factors of personality (i.e., openness to experience, conscientiousness, extraversion, emotional stability, and agreeableness; Ng, Sorensen, & Eby, 2006), leaving a great deal left unexplained. In an attempt to further address the lack of knowledge in this area, Judge, Locke, and Durham (1997) identified and examined several potential disposition-related characteristics as predictors of satisfaction. These variables (i.e., self-esteem, self-efficacy, locus of control, and emotional stability) comprise what is now collectively referred to as 'core self-evaluations'.

Core self-evaluations are defined as "fundamental premises that individuals hold about themselves and their functioning in the world" (Judge, Erez, & Bono, 1998, p. 168). The concept of individuals having core self-evaluations has not only provided researchers with meaningful information about a person's fundamental view of his/her self-worth, but has also proved to be beneficial when predicting important work outcomes, like job satisfaction. In fact, the construct of core self-evaluations has been advocated as the single best predictor of job satisfaction by some individuals (c.f., Judge & Bono, 2001a). Judge et al. (1997) determined that individuals' core views about themselves (i.e., their self-esteem, self-efficacy, locus of control, and emotional stability) were related to how satisfied they are with life in general, and more specifically, their jobs. Although causality cannot conclusively be determined, Judge and others contend that this predisposition to have certain beliefs about oneself leads to satisfaction with

other areas in one's life (e.g., job satisfaction). In essence, a person's evaluation of themselves can likely affect how satisfied they are with their jobs almost as much as the actual characteristics of the job. Furthermore, research has found that core self-evaluations were able to predict job satisfaction above and beyond that of the Big Five personality traits (c.f., Judge, Heller, & Klinger, 2008). Since Judge et al.'s (1997) initial publication, there have been numerous studies that have evaluated the relationship between core self-evaluations and job satisfaction. For example, Judge & Bono (2001b) conducted a meta-analysis to examine the association between each of the four individual traits that comprise CSE and job satisfaction, and found that each of these variables were indeed related to job satisfaction. However, no study has yet to systematically examine the robustness of the effect size between core self-evaluations (at the construct level) and job satisfaction. These researchers specifically mentioned not being able to address the validity of the CSE construct in predicting job satisfaction in their study due to data insufficiency, and they called for future research to consider the broad, latent construct of CSE as a predictor of job satisfaction.

Therefore, the purpose of the current study is to respond to this call for research and quantitatively summarize the relationship between core self-evaluations (also referred to as CSE) and job satisfaction using meta-analytic techniques. Moreover, several potential moderators of this relationship will also be examined. First, a brief history of the nascence and development of the CSE construct will be discussed. Secondly, theoretical explanations of the relationship between CSE and job satisfaction will be outlined. Finally, meta-analytic results will be reviewed and discussed.

What Are Core Self-Evaluations?

Judge et al. (1997) identified several components of core self-evaluations that they considered important to the construct based on their fundamentality, evaluation-focus, and scope. Specifically, they identified four traits that met these criteria: self-esteem, self-efficacy, emotional stability, and locus of control. Each of these traits will be briefly discussed.

Self-Esteem

Self-esteem describes a basic appraisal of an individual's self worth (Harter, 1990). Harter (1990) claimed that self-esteem represents the overall value that an individual places on themselves. Due to this inherent self-evaluation, self-esteem is claimed to be the most fundamental trait of core self-evaluations (Judge et al., 1997; Judge, Locke, Durham, & Kluger, 1998). It is argued that self-esteem is contingent upon situational influences and results as an outcome of the situation an individual faces (e.g., personal success; Rosenberg, Schooler, & Schoenbach, 1989). However, self-esteem is also said to be fairly stable, solidifying by the end of adolescence and not drastically changing through adulthood (Costa & McCrae, 1994; Tharenou, 1979). Thus, self-esteem is likely a trait which predisposes individuals to behave in a certain way – but, that tendency can be modified in regards to contextual variables.

Evidence supporting the relationship between self-esteem and job satisfaction is substantial (Locke, McClear, & Knight, 1996). Judge and Bono (2001b) meta-analyzed the relationship between self-esteem and job satisfaction and reported an average uncorrected correlation of $r = .20$ and an average corrected correlation of $\rho = .26$. Johnson, Rosen, and Levy (2007) mentioned that self-esteem has both direct and indirect relationships with job satisfaction, with the direct path showing spillover effects from views of oneself to the job, and the indirect path showing that individuals with higher self-esteem are more likely to choose jobs that are aligned with their interests, thus leading to satisfaction with their jobs. Subsequently, Judge et al. (1997) not only proposed self-esteem to be positively related to job satisfaction, but they also specified that it would have the highest magnitude out of any of the relationships between core self-evaluation traits and job satisfaction, because it is the most fundamental and broad core evaluation of the self. However, a later meta-analysis performed by Judge and Bono (2001b) showed that self-esteem did not have the highest magnitude of the four trait predictors (see Figure 1 for the results of the Judge and Bono (2001) meta-analysis). Moreover, self-esteem was the strongest CSE predictor of job performance ($\rho_{corr} = .26$).

FIGURE 1
META-ANALYTIC RESULTS OF THE RELATIONSHIPS BETWEEN THE CSE TRAITS AND JOB SATISFACTION

Trait	k	N	Mean r	SD_r	Mean ρ	SD_ρ	$SE_{M\rho}$	95% CI	80%CV
Self-esteem	56	20,819	.20	.10	.26	.11	.02	.23, .29	.11, .40
Gen. Self-efficacy	12	12,903	.38	.09	.45	.10	.03	.39, .51	.32, .58
Internal LOC	80	18,491	.24	.12	.32	.16	.02	.28, .36	.12, .52
Emotional Stability	21	7,658	.20	.08	.24	.09	.03	.19, .29	.12, .36

Note: Adapted from Judge and Bono (2001); k = number of correlations; N = the total sample size for all studies combined; Mean r = average uncorrected correlation; SD_r = standard deviation of average uncorrected correlation; Mean ρ = average corrected correlation; $SE_{M\rho}$ = standard error of corrected correlation; 95% CI = lower and upper limits of 95% confidence interval; 80% CV = lower and upper limits of 80% credibility interval.

Generalized Self-efficacy

Self-efficacy was originally described by Bandura (1997) as being task specific, but Judge et al. (1997) sought to broaden the scope of the concept by taking the generality dimension of Bandura's (1986) conceptualization and describing generalized self-efficacy as "one's estimates of one's capabilities to mobilize the motivation, cognitive resources, and course of action needed to exercise general control over events in one's life" (Judge, Locke, Durham, & Kluger, 1998, p. 19). Self-efficacy has previously been found to be a sub-component of the self-esteem (Judge et al., 1998). It was stated that each of the core self-evaluation traits are not theoretically distinct, but yet are indicative a single, higher-order construct (Judge et al., 1998). Thus, one would expect these traits to be highly related. Additionally, because generalized self-efficacy pertains to an individual's coping ability, it was predicted that those who are better able to cope through stressful situations are more likely to experience satisfaction at work (Johnson, Rosen, & Levy, 2007). In their meta-analysis, Judge and Bono (2001b) found generalized self-efficacy to be the strongest CSE predictor of job satisfaction ($\rho_{corr} = .45$).

Emotional Stability

Emotional stability refers to an individual's propensity to becoming emotionally upset in difficult or stressful situations (Costa & McCrae, 1988; Dilchert, Ones, Van Rooy, & Viswesvaran, 2006). It is conceptualized as part of a continuum, with emotional stability on one end and neuroticism on the other. Thus, these two terms are oftentimes used interchangeably. Emotional stability (neuroticism) is one the Big Five dimensions of personality, and Judge et al. (1997) described neuroticism as the opposite of self-esteem. This adds to Judge and colleagues contention that the core self-evaluation traits are really facets of a single, underlying construct rather than separate entities. Individuals who score low on emotional stability (i.e., high on neuroticism) are more prone to feelings of insecurity, helplessness, and anxiety (Judge et al., 1998). It was also proposed that those lower in emotional stability are more likely to react adversely and show negative emotions towards undesired events, therefore, leading to lower job satisfaction (Judge et al. 1997). Judge and Bono (2001b) reported that the true score correlation between emotional stability and job satisfaction was $\rho_{corr} = .24$.

Locus of Control

Locus of control is the final trait believed to comprise the latent construct of core self-evaluations. Rotter (1966) distinguished locus of control into two components: internal locus of control (where individuals believe that they are in control of their own fate) and external locus of control (where individuals feel that peripheral –i.e., external/contextual - factors guide their fate rather than self-driven actions). While locus of control generally meets the inclusion criteria set forth by Judge et al. (1997), it is said to be less evaluation-focused than the other traits. However, many of the items included in measures of generalized self-efficacy involve self-evaluations (e.g., "My life is determined by my own actions";

Levenson, 1981). Locus of control has also been theoretically linked to other core self-evaluation traits (i.e., generalized self-efficacy). Judge et al., (1998) distinguishes between the two by saying, "self-efficacy pertains to confidence with respect to actions or behaviors, whereas locus is more concerned with confidence in being able to control outcomes" (p. 19). It is the perceived ability to control one's destiny that lends individuals with an internal locus of control to exhibit higher levels of job satisfaction. In their meta-analysis, Judge and Bono (2001b) reported that the true score correlation between locus of control and job satisfaction was $\rho_{\mathrm{corr}} = .32$.

Construct Validity of CSE

Judge, Erez, Bono, and Thoresen (2002) examined the inter-relationships between self-esteem, generalized self-efficacy, locus of control, and emotional stability in their meta-analysis to determine how closely related these traits were with each other. They found that the average (absolute) correlation between the traits was .60 (after being corrected for unreliability). Judge and Bono (1999) performed a similar analysis using 18 studies and found an average corrected correlation of .64. They also note that this value is comparable to the average correlation between different measures of neuroticism (Digman, 1990). Because there is such a strong relationship between these traits, they are believed to be part of a higher-order factor. In fact, there have been numerous studies that have found support for the notion of these variables comprising a super-ordinate factor. (e.g., Bono & Judge, 2003, Erez & Judge, 2001; Heller, Judge, & Watson, 2002; Judge & Bono, 2001; Judge, Bono, & Locke, 2000; Judge et al., 1998; Judge, Erez, Bono, & Thoresen, 2002, 2003).

Conversely, some other researchers have argued that these four variables provide unique information, are not interchangeable, and have different antecedents (e.g., Dormann, Fay, Zapf, & Frese, 2006; Johnson, Rosen, & Levy, 2007). For example, Dormann and colleagues attempting to examine the trait-specific (stable) variance accounted for by the CSE, concluded that a simple aggregate of these four constructs proved superior to an overall weighted subordinate CSE construct in predicting job satisfaction. More specifically, Dormann et al. (2006) separated the stable variance of job satisfaction from the full variance and then regressed this value onto the CSE traits. They found that negative affectivity (or neuroticism) and locus of control were the strongest predictors of the trait variance of job satisfaction, together accounting for 84% of the variance. Being that the goal of CSE research was to determine the dispositional predictors of job satisfaction (i.e., the trait variance of job satisfaction), then it is important to examine the effect of CSE on the stable aspects of job satisfaction. Thus, it is plausible that these simple aggregates may prove more predictive than the overall CSE construct being examined in this study. Accordingly, an analysis will be performed to determine whether the type of CSE measurement used (either the overarching construct measure developed by Judge et al. (2003) or the equally-weighted composite CSE score derived from the average of the individual trait predictors) influences the inferences derived regarding the relationship between core self-evaluations and job satisfaction. If there is found to be a moderating effect of CSE measurement, then this would suggest that one method may be statistically superior (and in turn a better representation of the intended construct of CSE) to the other in predicting job satisfaction. If the test of moderation is non-significant, then this would imply that there is not a significant difference between the two measurement types in predicting job satisfaction.

Core Self-Evaluations and Job Satisfaction

Many theoretical reasons have been offered to explain the relationship between CSE and job satisfaction. Judge et al. (1997) suggested several processes by which core self-evaluations could influence job satisfaction. One of their theories was emotional generalization. Through this process, individuals transfer their feelings of self-worth to other areas in their life, such as their jobs. Thus, someone who views themselves favorably and is generally more emotional stable will likely generalize their approving views about themselves to the workplace. Contrarily, someone who thinks of themselves as unworthy or inferior will likely transfer these negative views to their place of employment. Another theory proposed by Judge et al. (1997) was that core self-evaluations influence the way in which the job is

evaluated. They provide an example of an individual who is given a pay raise or promotion. They then go on to explain that someone with a low core self-evaluation may feel that their accomplishment was not deserved, whereas a person with a high core self-evaluation would feel that the reward was warranted. Hence, the satisfaction felt by the person with a high self-regard would be higher than that of the person with a low self-regard. Another theoretical explanation for the link between core self-evaluations and job satisfaction is Korman's (1970) theory of self-consistency. This theory suggests that individuals will pursue behaviors that are in line with their self-concept. Thus, individuals higher in core-self evaluations will be more likely to be satisfied than those lower, because they are more likely to pursue jobs that interest them, thus leading to greater satisfaction.

The model proposed by Judge et al. (1998) suggested that the link between core self-evaluations and job satisfaction is mediated by perceptions of intrinsic job characteristics (i.e., identity, variety, feedback, autonomy, and significance; Hackman & Oldman, 1980). Their basis was that individuals with a more positive orientation would respond more auspiciously to jobs with greater challenge, autonomy, and room for growth. In fact, their results showed that those individuals with positive self-evaluations tended to rate their work as higher on the intrinsic job characteristic dimensions and were, therefore, more satisfied with their jobs. Judge, Bono, and Locke (2000) took this research a step further and investigated the link between core self-evaluations and job complexity. Their proposition was based on interactional theory (Diener, Larsen, & Emmons, 1984), which postulates that individuals select certain situations in life based on their psychological proclivities. With this theoretical backing, Judge et al. (2000) posed that individuals with higher core self-evaluations would seek out more complex and challenging jobs in the hopes of achieving positive intrinsic characteristics, whereas individuals with low core self-evaluations would not. An effort was made in the present study to examine characteristics of the job as a potential moderator between CSE and job satisfaction. However, due to a lack of data reporting intrinsic job characteristic variables, an examination of these moderating effects was not feasible. Rhoades and Eisenberger (2002) proclaim that moderator analyses are often performed when at least 20 studies (that observe the relationships of interest) are available. As previously mentioned, due to data insufficiency, this analysis was not performed in the current study.
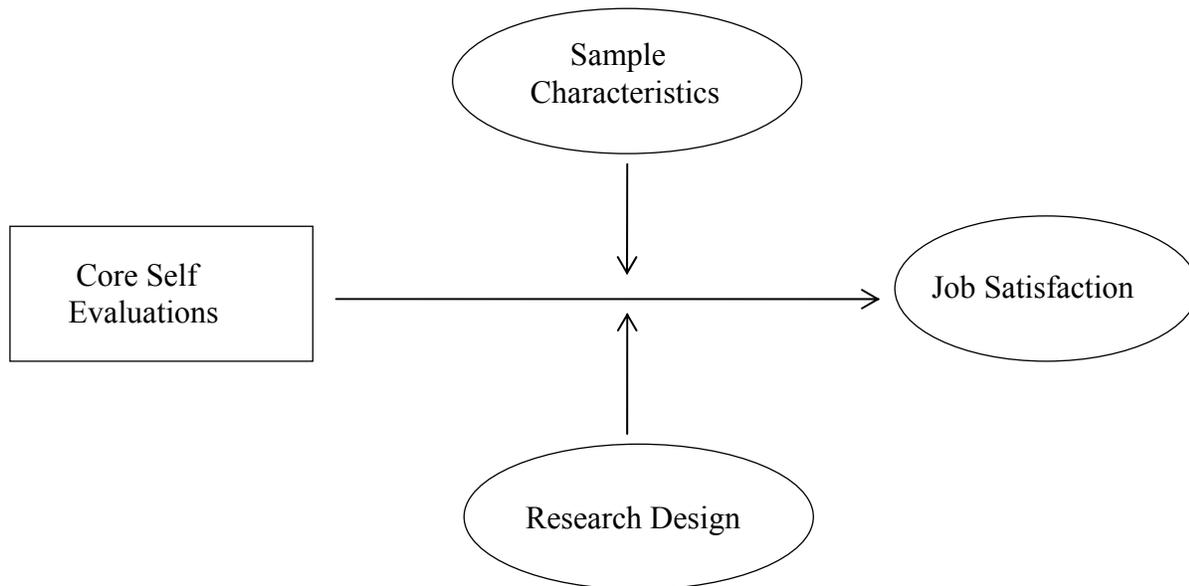
The main question of interest in this current study pertained to whether or not there exists a strong, positive relationship across the literature linking core self-evaluations to job satisfaction. Potential moderators (including characteristics of the samples and research design) were also examined. Figure 2 displays the variables under examination in this study.

Potential Moderators

It is customary in meta-analysis to explore whether or not the characteristics of the samples under examination or the research designs used in the studies influence the relationship between the variables under study in any way. The goal is to rule out the possibility that these characteristics are likely to be confounding variables (DeCoster, 2004). In this vein, an examination of the demographic variables of the studies was performed (gender, age, race, and organizational tenure).

In regards to the research design, an exploration of the type of CSE measurement used was performed to determine whether there was a significant difference between using a construct level , overarching measure of CSE (i.e., the Core Self Evaluations Scale; Judge et al., 2003) and an equally weighted aggregation of the individual scale predictors. As previously mentioned, there has been a debate in the literature regarding which measurement is more predictive in regards to job satisfaction. This exploration can shed some light onto this topic by looking across multiple studies to examine the effect. An additional moderator was examined pertaining to research design. Authorship was explored to rule out any effects of Timothy Judge, who is the primary researcher in this area.

FIGURE 2
VARIABLES UNDER EXAMINATION IN THIS STUDY

Note: Sample characteristics include gender, age, race, and organizational tenure. Research design includes measurement type and author type.

METHOD

Literature Search

The main purpose of this study was to examine the association between core self-evaluations (as a latent construct) and job satisfaction. In an attempt to surface articles published in August of 2009 or before that examined this relationship, a search was conducted using the following databases (using the keywords "core self-evaluations" and "job satisfaction"): PsycInfo, PsycArticles, Business Source Complete, Academic Source Complete, and The Psychology and Behavioral Sciences Collection. In addition to these academic databases, an internet search using Google Scholar was also conducted. Furthermore, three separate attempts were made to gather unpublished works in this area. First, using the results that were collected from the electronic searches, primary researchers in the area were identified and contacted in order to gain access to unpublished works or presentations. Secondly, a search for relevant articles in the Dissertation Abstract International database was performed. Finally, a request for unpublished works was posted on the Society for Industrial and Organizational Psychologist's message board of a popular, professional social networking site (i.e., LinkedIn). The reference pages of the identified articles were also perused in an effort to locate other relevant articles.

Inclusion Criteria

Several rules for study inclusion were established before analyzing any results. Because of the potential confound that differing conceptualizations of core self-evaluations may have on the relationship between CSE and job satisfaction, only studies that used the four traits described by Judge et al. (1997) were included in the analysis (i.e., self-esteem, generalized self-efficacy, locus of control, and emotional stability). However, studies that used negative affectivity instead of emotional stability were permitted for use because of the synonymous nature of these two traits. In fact, Judge et al. (2008) cite that some

researchers have used the measures of emotional stability and negative affectivity interchangeably (e.g., Moyle, 1995). For those studies that reported the correlations separately for the trait level data as opposed to using the composite score or using the established measure of core self-evaluations (i.e., Core Self-Evaluations Scale; Judge et al., 2003), an aggregate score was created by taking the average of the individual scale correlations. The absolute value of the neuroticism or negative affectivity scale correlations were used before averaging. Qualitative reviews or theoretical papers that did not include the data necessary to calculate a correlation where also excluded. Additionally, studies that were not reported in English were not included in the analysis.

In addition, analysis was limited to those studies that included an overall measure of job satisfaction. If single facets of job satisfaction (e.g., satisfaction with supervisor) or measures of life satisfaction were the only satisfaction measures reported, then those studies were excluded from the analysis. Likewise, any studies that reported non work-related measures of satisfaction (e.g., school satisfaction) were excluded from analysis. Also, if studies did not report the correlation using the overall measure of job satisfaction exclusively, but rather used an average of both job and life satisfaction, they were not included in the analysis.

Search Results

The search combined with the application of the inclusion criteria yielded a total of 32 studies that reported a relationship between core self-evaluations (as a latent construct) and job satisfaction. This total includes 16,670 participants. Of the studies that reported demographic variables: roughly half of the participants were female (49.6%), a majority of the participants were White (64.7%), the mean age across all samples was 39 years old, and the average tenure across all samples was 8.4 years of employment. Most of the studies were conducted in or after the year 2000 (91%). Of the total 32 studies, eight were unpublished dissertations and six were conducted outside of the United States.

Meta-Analysis Procedures

Hunter and Schmidt (1990) contend that the goal of conducting a meta-analysis is to obtain a better understanding of the relationships of interest than would be possible in a solitary, isolated study (Hunter & Schmidt, 2004). Specifically, errors across studies tend to average out, in turn removing erroneous inferences obtained from individual studies. The technique and procedure used by Hunter and Schmidt was adopted in conducting this meta-analysis. Specifically, the relationship of core self-evaluations and job satisfaction was examined by aggregating r values. The effect sizes were then weighted based on sample sizes, thus correcting for measurement error. Moreover, each correlation was corrected for attenuation, due to unreliability in both CSE and job satisfaction. Hunter and Schmidt (1990) recommend correcting for unreliability (among other corrections) in order to get the best possible indicator of the strength of the relationship (that would hypothetically appear under perfect research conditions). Ng et al. (2006) also remark that personality or psychological measures contain measurement error and should, therefore, be corrected for unreliability to denote truer or more ideal effect sizes. Therefore, measurement error was corrected by using the reliabilities reported in each study. For studies that did not report a reliability coefficient, the reliability was assumed to be perfect.

Judge and Bono (2001) note that it is important in meta-analyses not only to report the mean corrected correlation between the variables of interest but also to describe the variability of both the average correlations and the individual correlations. Taking their direction, 95% confidence intervals and 80% credibility intervals were reported around the corrected correlations. Confidence intervals are used to offer an estimate of the variability associated with the mean corrected correlation, and in turn inferences can be made about whether or not the true effect of interest is likely different than zero. The average corrected correlation was deemed to be significant (at $\alpha = .05$). On the contrary, credibility intervals are used to indicate the variability of each individual correlation across a population of studies (Whitener, 1990). Credibility intervals that do not include the value of zero signify that 90% of the individual correlations are greater than zero, with 10% of the correlations being less than or equal to zero and 10% being at the high end of the distribution (Judge & Bono, 2001).

Moderator Analyses

Meta-analyses often involve an examination of moderator variables. Steel and Kammeyer-Mueller (2002) define a moderator in the meta-analysis context as "a systematic difference among studies under review that might explain differences in the strength or direction of observed relationships between the primary variables of interest" (p. 96). Many methods have been offered in the literature to determine the presence of moderators in a meta-analysis. The two methods used in the current study were credibility intervals and the Q statistic. When dealing with credibility intervals, the span of the interval is a useful indicator of the likelihood that moderators exist, with larger spans indicating a greater probability (Whitener, 1990). The Q statistic was also calculated to determine the presence of moderators. Significance in the Q statistic suggests that there is a considerable amount of variability in the effect sizes that may be attributable to other variables (i.e., moderators; Hedges & Olkin, 1985).

Two sets of moderators were of interest for the current study. First, the characteristics of the samples were examined to determine if they affected the relationship between core self-evaluations and job satisfaction. These sample characteristics included gender, age, race, and organizational tenure. All variables were examined as continuous variables with gender representing the percentage of female participants, and race representing the percentage of White participants. The other group of moderators involved research design. Of particular interest here was whether or not the type of CSE measure used in each study influenced the effect size in any way. Specifically, some studies reported using the individual scales of self-esteem, generalized self-efficacy, emotional stability, and locus of control and averaging across to get a composite score of CSE, whereas, other studies used a more direct measure of CSE (i.e., the Core Self-Evaluations Scale, CSES; Judge et al., 2003). This variable was dummy coded (CSES vs. non-CSES) for the purposes of the analysis. In addition, an examination of the authors was performed to determine if there was a significant difference between studies published by Judge versus those that were not. Being one of the initial pioneers of CSE research, Timothy Judge comes up frequently when researching CSE and has authored a preponderance of studies in this area. In fact, in the present study, Judge was an author in 44% of the included studies. To rule out any effects of his lab or affiliation, a moderator analysis was performed on study author. This variable was also dummy coded (Judge versus non-Judge) for the purposes of the analysis.

Heeding the advice of Steel and Kammeyer-Mueller (2002), weighted least squares (WLS) multiple regression was used as the preferred method to determine the effect of each moderator. This method was chosen due to its robustness and superiority in accuracy over the other methods (Steel & Kammeyer-Mueller, 2002). It is important to note that separate regression models were run to test the moderator estimates for the sample characteristics (e.g., gender, age, race, and organizational tenure). This was due to the fact that few studies reported all of these characteristics and running separate models allowed for a greater inclusion of studies, and also examination of the moderator variables' independent effects.

RESULTS

Table 1 lists the correlation coefficients, sample sizes, reliabilities of the criterion variable (i.e., general job satisfaction), and reliabilities of the predictor variables for each study under investigation that were input into the meta-analysis software. The main purpose of this study was to examine the strength of the relationship of core self-evaluation and job satisfaction. The results of the meta-analysis show that there is a positive relationship between core self-evaluations and job satisfaction ($\rho_{corr} = .28$). This represents a moderate effect according to Cohen's guidelines (Cohen, 1992). Additionally, the fail-safe N (also known as file drawer effect) was 3288. This value signifies that 3288 null data points would be needed to change the statistically significant results to a non-significant finding (James, 2001). This value far surpasses the guideline set forth by Rosenthal (1979) which states that fail safe N values should exceed $5k + 10$ to gain more confidence and rule out potential threats to the validity of the findings. Table 2 reports the meta-analytic findings including the following: the overall sample size, the overall number of correlations, the average uncorrected correlation coefficient, the standard deviation of the average

uncorrected correlation, the average corrected correlation coefficient, the standard deviation of the average corrected correlation, the 95% confidence intervals, and the 80% credibility intervals.

TABLE 1
STUDIES INCLUDED IN THE META-ANALYSIS

Short Reference	N	R	r_{xx}	r_{yy}
Best (2003)	852	.44	.83	.88
Best, Stapleton, & Downey (2005)	430	.46	.93	.88
Best et al. (2005) – Study 2	429	.43	.94	.87
Bowling (2005)	219	.28	.83	.89
Boyar & Mosley (2007)	124	.15	.71	.76
Brown, Ferris, Heller, & Keeping (2007)	991	.44	.85	.94
Coder (2007)	441	.45	.83	.87
Dormann, Fay, Zapf, & Frese (2006)	157	.60	-	.79
Harris, Harvey, Kacmar (2009)	144	.41	.76	.90
Heller, Judge, Watson (2002)	138	.43	.73	.86
Holt & Jung (2008)	461	.29	.77	.75
Jinadu (2007)	327	.21	.82	.95
Judge, Bono, & Locke (2000)	384	.41	.84	.91
Judge et al., (2000) – Study 2	258	.43	.74	.92
Judge, Bono, Erez, & Locke (2005)	251	.38	.80	.82
Judge, Erez, Bono, & Thoresen (2003)	365	.41	.85	.83
Judge et al., (2003) – Study 2	265	.49	.83	.82
Judge, Heller, & Klinger (2008)	159	.36	-	.89
Judge et al., (2008) – Study 2	122	.31	-	.92
Judge & Hurst (2008)	7660	.12	-	-
Judge, Locke, Durham, & Kluger (1998)	164	.52	-	.87
Judge et al., (1998) – Study 2	122	.39	-	.92
Judge et al., (1998) – Study 3	132	.18	-	.84
Judge, Van Vianen, & de Pater (2004)	99	.56	.82	.82
Laschinger (2007)	141	.37	.87	.88
Newman (2004)	111	.45	.82	-
Piccolo et al., (2005)	271	.49	.76	-
Spitzmueller (2003)	205	.29	.78	.85
Stumpp, Hulseger, Muck, & Maier (2009)	199	.38	.83	.82
Swody (2007)	600	.43	.85	.86
Swody (2007) – Study 2	289	.40	.84	.87
Taylor (2004)	160	.33	.77	.80

Note: Missing reliability coefficients were assumed to be perfect. N = the total sample size; R = correlation between core self-evaluations and job satisfaction; r_{xx} = reliability coefficient of the predictor variable; r_{yy} = reliability coefficient of the criterion variable.

TABLE 2
META-ANALYTIC RESULTS OF THE RELATIONSHIP BETWEEN CORE SELF-EVALUATIONS AND JOB SATISFACTION

k	N	Mean r	SD_r	Mean ρ	SD_ρ	95% CI	80%CV
32	16670	.27	.15	.28	.18	.27, .30	.05, .51

Note: k = number of correlations; N = the total sample size for all studies combined; Mean r = average uncorrected correlation; SD_r = standard deviation of average uncorrected correlation; Mean ρ = average corrected correlation; 95% CI = lower and upper limits of 95% confidence interval; 80% CV = lower and upper limits of 80% credibility interval.

Moreover, upon conducting further analyses, it was found that one study appeared to be markedly different than the others. Specifically, the Judge and Hurst (2008) study had 7660 participants and in turn was weighted heavily in the analyses. With the exclusion of this study from the analysis, the overall uncorrected correlation between CSE and job satisfaction was ρ = .40, and the corrected correlation was ρ_{corr} = .47. This exclusion is worthy of mention, because it changes the overall effect from a moderate effect to a large effect.

As previously mentioned, the credibility intervals and the Q statistic were used as moderation detection techniques. However, more weight was placed on the results of the Q statistic due to the fact that it has been recommended as the best method to identify the presence of moderators (Sagie & Koslowsky, 1993). The Q statistic is a chi-square test of the homogeneity of effect sizes across studies. Significance in this test of homogeneity suggests that effect sizes are heterogeneous and thus moderators may be present. While the credibility intervals did not include the value of zero (Lower 10% = .05; Upper 10% = .51), the chi-square test of homogeneity of effect sizes showed significance (χ^2 = 459.34, p <.01). Accordingly, an examination of potential moderators was justified. However, upon removal of the particular study discussed above (i.e., Judge & Hurst, 2008), the chi-square dropped substantially (although still significant, χ^2 = 87.15, p <.01). Thus, moderator analyses are examined with and without this particular study were conducted when applicable.

Tables 3, 4, and 5 list the results of the moderator analyses. Because of the limited sample size of these variables (with k ranging from 10 – 32), it is difficult to draw accurate inferences from the data. As previously mentioned, Rhoades and Eisenberger (2002) note that moderator analyses are often performed when at least 20 studies (that observe the relationships of interest) are available. Many of the moderators examined did not meet or barely met this criterion, thus these results should be interpreted with caution.

Continuous Moderator Analyses

First, sample characteristics (i.e., gender, age, race, and organizational tenure) were examined. As previously discussed, weighted least squares regression was used to examine the interactions of continuous variables. In order to do this, the effects and inverse variance were corrected for unreliability. Then, each of the continuous moderator variables were entered (independently as previously discussed) into the regression model, thus predicting the corrected effect size, weighted with the corrected inverse variance. Then, due to incorrect weightings being utilized in SPSS, the correction suggested by Hedges and Olkin (1985) was applied. Both gender and race were significant, whereas age and tenure were not (see Table 3). Gender showed a relatively large effect (β = -.41, z =-2.82, p < .01), indicating that males show a higher effect between CSE and job satisfaction than do females. Race (β = .43 z =2.35, p = .019) indicated that samples with higher percentages of whites were more likely to have stronger CSE-job satisfaction relationships. Age also approached significance (β = .19, z =1.60, p = .108), inferring that samples with older individuals were more likely to have stronger effects.

TABLE 3
CONTINUOUS MODERATOR RESULTS

Moderator	k	B	SE_B	β	Sig
Gender	22	-.002	.001	-.413	.005
Age	20	.004	.004	.191	.108
Race	10	.003	.002	.434	.019
Tenure	16	-.001	.013	-.029	.898

Note: k = number of studies; B = unstandardized coefficients; SE_B = standard error of measurement associated with the unstandardized coefficient; β = standardized coefficient; Sig = significance level (significance was deemed at p < .05).

Supplementary analysis

Attempting to better understand the smaller CSE-job satisfaction associations for females and minorities, some further analyses were conducted. The relationship of gender and race (ρ = -.52, p = .128, n = 10), although not significant due to low power, indicated that approximately 25% of the variance in these two variables is shared. Thus, studies that had higher proportions of females tended to also have higher proportions of minorities. Gender (ρ = .24, p = .31, n = 19) and race (ρ = -.32, p = .40, n = 9) also had small, but non-significant relationships, with age, consistent with the notion that studies that had females/minorities also tended to have older employees.

Surprisingly, gender related to measure type (ρ = .46, p = .03, n = 22) and also author (ρ = .64, p < .01, n = 22). Thus, studies using the CSES scale and studies not conducted by Judge tended to have higher percentages of females. Although not practical in the current study due to sample size limitations, future studies should examine the relations of these effects in more detail.

Categorical Moderator Analyses

Next, characteristics of research design (i.e., type of CSE measurement used and author type) were assessed to determine whether they interacted with core self-evaluations in predicting job satisfaction. These variables were examined with the same approach discussed above; however, they were run together rather than independently. Both variables were predictive (see Table 4). However, upon further examination, it appears that this discrepancy may be attributable solely to the one study that had over 7000 participants (this study was not included in the previous moderator analyses, as that study did not report the needed statistics for inclusion). With that study removed, the CSE measure effect is not statistically different (see Table 5).

TABLE 4
CATEGORICAL MODERATOR RESULTS

Moderator	k	B	SE_B	β	Sig
Measurement Type	32	-.237	.040	-.550	.000
Author	32	.237	.037	.600	.000

Note: k = number of studies; B = unstandardized coefficients; SE_B = standard error of measurement associated with the unstandardized coefficient; β = standardized coefficient; Sig = significance level (significance was deemed at p < .05).

TABLE 5
CATEGORICAL MODERATOR RESULTS WITHOUT JUDGE AND HURST (2008)

Moderator	k	B	SE_B	β	Sig
Measurement Type	31	-.045	.042	-.244	.296
Author	31	.008	.045	.042	.854

Note: Results do not include the Judge and Hurst (2008) study*; k* = number of studies; B = unstandardized coefficients; SE_B = standard error of measurement associated with the unstandardized coefficient; β = standardized coefficient; Sig = significance level (significance was deemed at p < .05).

Furthermore, since these are categorical variables, independent effect sizes and confidence intervals were created. Studies using the four separate components of CSE aggregated (ρ_{corr} = .49, 95% CI =.46 to .52) had stronger effects than those using the CSES measure (ρ_{corr} = .22, 95% CI = .20 to .24). Again removing the effect of the one large study, the CSES measure effect is not statistically different (ρ_{corr} = .45, 95% CI = .41 to.48) as indicated by the overlap in the confidence intervals. Similarly for author, it appears that studies that had Judge as an author (ρ_{corr} = .22, 95% CI = .20 to .24) had weaker effects than those that did not (ρ_{corr} = .49, 95% CI = .46 to .52). However, upon removing that same study, the results were no longer different (non-Judge group minus study = ρ_{corr}.45, 95% CI = .41 to .48).Thus, there appears to be something about that study that makes it different from other similar studies and should be further researched.

DISCUSSION

The purpose of this study was to systematically examine the relationship between core self-evaluations and job satisfaction across studies. This investigation was undertaken to advance the research of Judge and Bono (2001) and respond to their call for further research on addressing the validity of the core self-evaluations construct in predicting job satisfaction rather than looking at the four CSE scales in isolation. The results signified that there is a moderate relationship between core self-evaluations and job satisfaction (ρ = .27). This finding is similar to that of Judge and Bono (2001) who found the following uncorrected mean correlations with job satisfaction: a) self-esteem (ρ = .20); b) generalized self-efficacy (ρ = .38); internal locus of control (ρ = .24); emotional stability (ρ = .20). In fact, the mean uncorrected correlation for the construct of core self-evaluations surpasses the entire individual trait uncorrected correlations except one (generalized self-efficacy). The relationship between core self-evaluations and job satisfaction (ρ = .27) is stronger than the relationship between self-esteem and job satisfaction (ρ = .20) and the relationship between emotional stability and job satisfaction (ρ = .20), thus showing the added benefit of the breadth of the core self-evaluations construct. In addition, with the exclusion of the Judge and Hurst (2008) study from the analysis (which contained over 7000 participants), the average uncorrected correlation rose to ρ = .40 (with ρ_{corr} = .47), which far surpasses all the individual trait predictors.

Additionally, this study examined the moderating effects of several demographic variables (e.g., gender, age, race, and organizational tenure) on the relationship between CSE and job satisfaction. These analyses revealed that males showed a higher effect between CSE and job satisfaction than did females, and that minorities tended to have lower CSE-job satisfaction relationships than Whites. It is plausible that this relationship attenuation is caused by contextual (job or personal) variables. For example, females may have extra burdens such as sole responsibility of children, more probability of facing workplace issues such as sexual harassment and, in turn, may have other non-dispositional related issues that come into play and reduce this relationship relative to males. Similarly, minority individuals may also be more likely to face obstacles (e.g., greater likelihood of workplace discrimination (US Equal Employment

Opportunity, 2009) and higher representation in lower socio-economic groups) that may come into play and, in turn, reduce the CSE-job satisfaction relationship. However, given the high relations between these two variables (and also the relations of these two variables with measurement type (i.e., CSES or individual aggregated components) and also author (Judge or non-Judge)), there may be alternative explanations or additional processes at play. There have been very few studies that have examined differences between certain demographic groups on core self-evaluations. Exploring these differences is yet another contribution to the literature made by the present study. However, due to the limited sample size available for this study, definitive conclusions could not be drawn from the data, yet the pattern in the data is obvious. Thus, future research should further examine these relationships as more studies become available.

Further, it was also concluded that the type of CSE measurement used only significantly affected the CSE-job satisfaction relationship when the Judge and Hurst (2008) study was included. This suggests that there is not a significant difference in prediction between the Core Self-Evaluations Scale (CSES; Judge et al., 2003) and the summation of the individual scales. While this does not directly address the construct validity of the core self-evaluations construct, it does indirectly signify that neither the superordinate nor aggregate method is likely significantly superior in predicting job satisfaction.

The final moderation analysis run was the examination of author effects. This test was also found to be non-significant when the Judge and Hurst (2008) study was not included, thus the author is likely not important when examining relationship between core self-evaluations and job satisfaction. This concludes that despite the fact that Judge has a clear program of research pertaining to this topic and has authored an overwhelming majority of the published CSE works, the relationship between core self-evaluations and job satisfaction is not affected by whether or not he participated in the development of the study.

Although several potentially important moderators were identified in this study, the variables that have previously shown moderating effects in the literature (e.g., intrinsic job characteristics and job complexity) were not examined in this study due to data insufficiency. With respect to job complexity, an initial effort was made to code the studies based on a predetermined schema. However, due to the fact that most samples reported varied job positions, this effort was immobilized. Also, because of the scant number of studies measuring intrinsic job characteristics and/or reported findings that could be used to calculate an effect size, this moderation analysis was also unable to be conducted. However, it is highly likely that the characteristics of the job may contribute significantly to the variance in findings between core self-evaluations and job satisfaction. Future research should explore this possibility.

Practical Implications

The results of this study are promising for core self-evaluations research and denote that the relationship between the core self-evaluations construct and job satisfaction is not only worthy of academic mention but also of practical application. It has been suggested on several occasions that assessing a person's core self-evaluations before hire can be useful in predicting important work outcomes, such as job satisfaction (Judge, 2009). Because job satisfaction has been linked to other relevant work outcomes like job performance (Iaffaldano & Muchinsky, 1985; Judge, Thoresen, Bono, & Patton, 2001; Petty, McGee, & Cavender, 1984) and employee turnover (Cotton & Tuttle, 1986); understanding a potential employee's propensity for being satisfied would be beneficial for organizations at large. However, the interactions obtained in the study with demographic characteristics represent potentially undesirable outcomes of using this construct for such a purpose. For example, one of the more recognized bias models, the Cleary model (1968) states that both regression slopes and intercepts for scales predicting performance should be commensurate for all groups of interest. Relationships of core self-evaluations with job satisfaction varied based on both gender and race, indicating that this would not be a reasonable measure to use for hiring decisions. Thus, although appealing for such a use, it should not be considered for such purposes until a better understanding of the mechanisms through which these effects occur is obtained.

Another practical implication involves the increased validity of the core self-evaluations construct above the more widely studied constructs of self-esteem and emotional stability in predicting job

satisfaction. As stately previously, the average uncorrected correlation between CSE and job satisfaction was ρ = .27, whereas, the average uncorrected correlation for both self-esteem and emotional stability were ρ = .20. Also stated previously was the fact that the correlation jumps significantly with the exclusion of the Judge and Hurst (2008) study (ρ = .40). Therefore, more predictive ability can be gleaned from using the broader, more robust construct of core self-evaluations as opposed to looking at these sub-component scales individually. Thus, researchers should examine the CSE construct rather relying on individual scale predictors.

Future Research and Limitations

Although we identified several potentially important moderator variables of the core self-evaluation/job satisfaction relationship, the mechanisms through which these discrepancies occur has not yet been identified. At best we can speculate to why these results were obtained given the relatively small number of studies available to examine these relationships. Future research should attempt to broaden our understanding regarding these moderators, and examine other factors that may account for these discrepancies (such as contextual factors, range restriction with scales, etc.). Moreover, future research should attempt to further embed the construct of core self-evaluations with other more recognized constructs – such as employee engagement, intelligence, and affectivity.

Conclusion

In summary, the findings of the present study reveal that the construct of core self-evaluations is a significant predictor of job satisfaction. The average uncorrected correlation between CSE and job satisfaction exceeds the majority of the individual CSE trait predictors' relationships with job satisfaction. This finding points to the necessity to view self-esteem, locus of control, emotional stability, and generalized self-efficacy as a common construct (i.e., as core self-evaluations) when predicting job satisfaction in order to yield the highest validity. The study also highlights the need for further research on the moderating effect of gender and race on the relationship between job satisfaction and core self-evaluations. In addition, the moderating effect of job characteristics may also be contributing to the variance in effect sizes and needs to be explored in future research.

REFERENCES
References marked with an asterisk indicate studies included in the meta-analysis.

Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman.

*Best, R.G., (2003). Are self-evaluations at the core of job burnout? *Dissertation Abstracts International: Section B: The Sciences and Engineering, 63*, 3502.

*Best, R.G., Stapleton, L.M., & Downey, R.G. (2005). Core self-evaluations and job burnout: The test of alternative models. *Journal of Occupational Health Psychology*, 10, 441-451.

*Bowling, N.A. (2006). Dispositional approach to satisfaction with social facets of work: The role of dispositional cynicism. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 66*, 6319.

*Boyar, S.L. & Mosley, D.C. (2007). The relationship between core self-evaluations and work and family satisfaction: The mediating role of work-family conflict and facilitation. *Journal of Vocational Behavior*, 265-281.

*Brown, D.J., Ferris, D.L., Heller, D., & Keeping, L.M. (2007). Antecedents and consequences of the frequency of upward and downward social comparisons at work. *Organizational Behavior and Human Decision Processes, 102*, 59-75.

*Coder, L. (2007). Understanding voluntary turnover: Comparing factors of employer change and career change in a sample of professional workers. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 68*, 1064.

Cotton, J.L, & Tuttle, J.M. (1986). Employee turnover: A meta-analysis and review with implications for research. *Academy of Management Review*, *11*, 55-70.

Costa, P.T., Jr., & McCrae, R.R. (1988). Personality in adulthood: A six-year longitudinal study of self-reports and spouse ratings on the NEO Personality Inventory. *Journal of Personality and Social Psychology, 54*, 853-863.

Costa, P.T. Jr., & McCrae, R.R. (1994). Set like plaster? Evidence for the stability of adult personality. In T.F. Hetherton & J.L. Weinberger (Eds), *Can personality change*? Washington, DC: American Psychological Association.

DeCoster, J. (2004). *Meta-analysis notes*. Retrieved <August 1, 2009> from http://www.stat-help.com/notes.html

Diener, E., Larsen, R.J., & Emmons, R.A. (1984). Person X situation interactions: Choice of situations and congruence response models. *Journal of Personality and Social Psychology*, *47*, 580-592.

Digman, J.M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology, 41*, 417-440.

Dilchert, S., Ones, D. S., Van Rooy, D. L., & Viswesvaran, C. (2006). Big Five factors of personality. In J. H. Greenhaus & G. A. Callanan (Eds.), *Encyclopedia of career development*. Thousand Oaks, CA: Sage.

*Dormann, C., Fay, D., Zapf, D., & Frese, M. (2006). A state-trait analysis of job satisfaction: On the effect of core self-evaluations. *Applied Psychology: An International Review*, 55, 27-51.

Erez, A., & Judge, T.A. (2001). Relationship of core self-evaluations to goal-setting, motivation, and performance. *Journal of Applied Psychology*, 86, 1270-1279.

Hackman, J., & Oldman, G. (1980). *Work redesign*. Reading, MA: Addison-Wesley.

*Harris, K.J., Harvey, P., & Kacmar, K.M. (2009). Do social stressors impact everyone equally? An examination of the moderating impact of core self-evaluations. *Journal of Business Psychology,* 24, 153-164.

Harter, S. (1990). Causes, correlates, and the functional role of global self-worth: A life-span perspective. In R.J. Sternberg & J. Kolligan, Jr. (Eds), *Competence Considered*. New Haven: Yale University Press.

Hedges, L.V., & Olkin, I. (1985). *Statistical methods for meta-analysis*. Orlando, FL: Academic Press.

*Heller, D., Judge, T.A., & Watson, D. (2002). The confounding role of personality and trait affectivity in the relationship between job and life satisfaction. *Journal of Organizational Behavior, 23*, 815.

*Holt, D.T., Jung, H. (2008). Development of a Korean version of a core self-evaluations scale. *Psychological Reports, 103*, 415-425.

Hunter, J.E., & Schmidt, F.L. (1990). *Methods of meta-analysis*. Newbury Park, CA: Sage.

Hunter, J.E., & Schmidt, F.L. (2004). *Methods of meta-analysis* (2nd Edition). Newbury Park, CA: Sage.

Iaffaldano, M.T., & Muchinsky, P.M. (1985). Job satisfaction and job performance: A meta-analysis. *Psychological Bulletin*, *97*, 251-273.

*Jinadu, F.R. (2007). A structural model of relationships between employee characteristics, supervisory mentoring behaviors and job satisfaction. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 67*, 2007.

Johnson, R.E., Rosen, C.C., & Levy, P.E. (2007). Getting to the core of core self-evaluation: A review and recommendations. *Journal of Organizational Behavior*, 29, 391-413.

Judge, T.A. (2009). Core self-evaluations and work success. *Current Directions in Psychological Science*, 18, 58-62.

Judge, T.A., & Bono, J.E. (1999, April). *Core self-evaluations and construct breadth: Effects on job satisfaction and job performance*. Paper presented at the 14th annual conference of the Society for Industrial and Organizational Psychology, Atlanta, GA.

Judge, T.A., & Bono J.E. (2001a). A rose by any other name : Are self-esteem, generalized self-efficacy, neuroticism, and locus of control indicators of a common construct? In B.W. Roberts & R. Hogan (Eds.), *Personality psychology in the workplace* (pp. 93–118). Washington, DC: American Psychological Association.

Judge, T.A., & Bono, J.E. (2001b). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology*, 86, 80–92.

*Judge, T.A., Bono, J.E., Erez, A., & Locke, E.A. (2005). Core self-evaluations and job and life satisfaction: The role of self-concordance and goal attainment. *Journal of Applied Psychology*, 90, 257-268.

*Judge, T.A., Bono, J.E., & Locke, E.A. (2000). Personality and job satisfaction: The mediating role of job characteristics. *Journal of Applied Psychology*, 85, 237–249.

Judge, T.A., Erez, A., Bono, J.E., & Thoresen, C.J. (2002). Are measures of self esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct? *Journal of Personality and Social Psychology*, *83*, 693–710.

*Judge, T.A., Erez, A., Bono, J.E., & Thoresen, C.J. (2003). The core self-evaluations scale: Development of a measure. *Personnel Psychology*, *56*, 303–331.

*Judge, T.A., Heller, D., & Klinger, R. (2008). The dispositional sources of job satisfaction: A comparative test. *Applied Psychology: An International Review*, *57*, 361-372.

*Judge, T.A. & Hurst, C. (2008). How the rich (and happy) get richer (and happier): Relationship of core self-evaluations to trajectories in attaining work success. *Journal of Applied Psychology, 93*, 849-863.

Judge, T.A. & Hurst, C. (2007). Capitalizing on One's Advantages: Role of core self-evaluations. *Journal of Applied Psychology*, *92*, 1212-1227.

Judge, Locke, & Durham (1997). The dispositional causes of job satisfaction: A core evaluations approach. *Research in Organizational Behavior*, *19*, 151-188.

*Judge, T.A., Locke, E.A., Durham, C.C., & Kluger, A.N. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology*, *83*, 17–34.

Judge, T.A., Thoresen, C.J., Bono, J.E., & Patton, G.K. (2001). The job satisfaction-job performance relationship: A qualitative and quantitative review. *Psychological Bulletin*, *127*, 376-407.

*Judge, T.A., Van Vianen, A.E.M., & De Pater, I.E. (2004). Emotional stability, core self-evaluations, and job outcomes: A review of the evidence and an agenda for future research. *Human Performance*, *17*, 325-346.

Korman, A.K. (1970). Toward a hypothesis of work behavior. *Journal of Applied Psychology*, *54*, 31-41.
Larsen, R.J., & Ketelaar, T. (1991). Personality and susceptibility to positive and negative emotional states. *Journal of Personality and Social Psychology, 61*, 132-140.

*Laschinger, H. (2007). The impact of leader-member exchange quality, empowerment, and core self-evaluation on nurse manager's job satisfaction. *Journal of Nursing Administration, 37*, 221-229.

Levenson, H. (1981). Differentiating among internality, powerful others, and chance. In H.M. Lefcourt (Ed.), *Research with the locus of control construct*. New York: Academic Press.

Locke, E.A., McClear, K., & Knight, D. (1996). Self-esteem and work. *International Review of Industrial/Organizational Psychology*, *11*, 1-32.

Moyle, P. (1995). The role of negative affectivity in the stress process: Tests of alternative models. *Journal of Organizational Behavior*, *16*, 647-668.

*Newman, D.A. (2005). Is job (dis) satisfaction contagious? Simultaneous effects of social networks, task characteristics, and dispositions. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 65*, 4883.

Ng, T.W.H., Sorensen, K.L., & Eby, L.T. (2006). Locus of control at work: A meta-analysis. *Journal of Organizational Behavior*, 27, 1057-1087.

Packer, E. (1985). Understanding the subconscious. *The Objectivist Forum*, *6* (1), 1-10.

Petty, M.M., McGee, G.W., & Cavender, J.W. (1984). A meta-analysis of the relationships between individual job satisfaction and individual performance. *Academy of Management Review*, *9*, 712-721.

*Piccolo, R.F., Judge, T.A, Takahashi, K., Watanabe, N., & Locke, E.A. (2005). Core self-evaluations in Japan: Relative effects on job satisfaction, life satisfaction, and happiness. *Journal of Organizational Behavior, 26*, 965-984.

Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, *87*, 698-714.

Rosenberg, M.J., Schooler, C., & Schoenbach, C. (1989). Self-esteem and adolescent problems: Modeling reciprocal effects. *American Sociological Review*, *54*, 1004-1018.

Rosenthal, R. (1979). The "File Drawer Problem" and tolerance for null results. *Psychological Bulletin*, *85*, 638-641.

Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*.

Sagie, A., & Koslowsky, M. (1993). Detecting moderators with meta-analysis: An evaluation and comparison of techniques. *Personnel Psychology*, *46*, 629-640.

*Spitzmuller, C. (2003). Investigating mediators of the core self-evaluations-job satisfaction relationship. *Dissertation Abstracts International: Section B: The Sciences and Engineering*,64, 3569.

Steel, P.D., & Kammeyer-Mueller, J.D. (2002). Comparing meta-analytic moderator estimation techniques under realistic conditions. *Journal of Applied Psychology*, *87*, 96-111.

*Stumpp, T., Hulsheger, U.R., Muck, P.M., & Maier, G.W. (2009). Expanding the link between core self-evaluations and affective job attitudes. *European Journal of Work and Organizational Psychology*, 18, 148-166.

*Swody, C.A. (2007). Work-family enrichment: The role of work eustress in spillover of positive psychological states. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 67*, 2007.

*Taylor, C.W. (2004). The relationship between core self-evaluations and job satisfaction: Finding the mediating variables. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 65*, 2134.

Tharenou, P. (1979). Employee self-esteem: A review of the literature. *Journal of Vocational Behavior*, *15*, 316-346.

U.S. Equal Employment Opportunity Commission (2009). Charge statistics FY 1997 to FY 2008 (March 11, 2009). The U.S. Equal Employment Opportunity Commission. November 8, 2009. http://archive.eeoc.gov/stats/charges.html

Whitener, E.M. (1990). Confusion of confidence intervals and credibility intervals in meta-analysis. *Journal of Applied Psychology, 75*, 315-321.