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Core self-evaluations as causes of satisfaction: The mediating role of seeking task complexity

Abhishek Srivastava [a,*], Edwin A. Locke [b], Timothy A. Judge [c], John W. Adams [d]

[a] Division of Business Administration, College of Business and Economics, West Virginia University, Morgantown, WV 26506-6025, USA
[b] Department of Management and Organization (Emeritus), Robert H. Smith School of Business, University of Maryland, College Park, MD 20742-1815, USA
[c] Department of Management, Warrington College of Business, University of Florida, Gainesville, FL 32611, USA
[d] College of Business and Economics, West Virginia University, Morgantown, WV 26506-6025, USA

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ABSTRACT

This study examined the mediating role of task complexity in the relationship between core self-evaluations (CSE) and satisfaction. In Study 1, eighty three undergraduate business students worked on a strategic decision-making simulation. The simulated environment enabled us to verify the temporal sequence of variables, use an objective measure of task complexity, and control confounding factors. In Study 2, we surveyed 108 full-time employees. In addition to verifying the temporal sequencing of variables in Study 1, both studies demonstrate that people with higher CSE actually choose/seek higher levels of complexity on their tasks, which directly or indirectly increases their task/work satisfaction.

Over the last decade, several studies have investigated the influence of individual dispositions on two important indicators of intrinsic career success — employee job satisfaction (e.g., Heller, Ferris, Brown, & Watson, 2009; Ishitani, 2010; Judge, Heller, & Klinger, 2008; Sutin, Costa, Miech, & Eaton, 2009) and career satisfaction (e.g., Boudreau, Boswell, & Judge, 2001; Bowling, Beehr, & Lepisto, 2006; Kim, Hon, & Crant, 2009; Lounsbury, Steel, Gibson, & Drost, 2008; Seibert, Kraimer, & Crant, 2001). Whereas job satisfaction is associated with one's current work, career satisfaction refers to accumulated experiences of a person in one's occupation or profession (Erdogan & Bauer, 2005). Accordingly, job satisfaction is treated as a constituent of career satisfaction (Lounsbury, Gibson, Steel, Lundstrom, & Loveland, 2004).

In the broad field of research on personality and satisfaction, the concept of core self-evaluations (CSE; Judge, Locke, & Durham, 1997) has provided an integrative theory and influenced a large number of empirical studies (e.g., Judge & Hurst, 2008; Stumpp, Hülsheger, Muck, & Maier, 2009). Judge et al. (1997) defined CSE as fundamental premises that individuals hold about themselves and their self-worth. The authors argued that positive CSE included four dispositional traits: high self-esteem, high generalized self-efficacy, internal locus of control, and low neuroticism. Subsequently, several studies demonstrated that CSE were related positively to job satisfaction through various mechanisms such as goal self-concordance (Judge, Bono, Erez, & Locke, 2005), work-family interference/facilitation (Boyar & Mosley, 2007), and the types of jobs the employees were involved in (Judge, Bono, & Locke, 2000; Judge, Locke, Durham, & Kluger, 1998). The current study fits into this research stream and aims to contribute to the literature by: (1) examining the mediating role of seeking task complexity in the CSE — satisfaction relationship, and (2) verifying the temporal sequencing of variables. This would extend our understanding of the mechanisms that link individual dispositions to job satisfaction, an important indicator of intrinsic career success.

* Corresponding author. Fax: +1 304 293 5652.
E-mail addresses: abhishek.srivastava@mail.wvu.edu (A. Srivastava), elocke@rhsmith.umd.edu (E.A. Locke), timothy.judge@cba.ufl.edu (T.A. Judge), john.adams@mail.wvu.edu (J.W. Adams).

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Literature review

The hypothesis that satisfaction is rooted in the personality of the worker is not new. Some of the earlier writers on the subject of satisfaction, Fisher and Hanna (1931) and Hoppock (1935), emphasized the possible linkage between emotional adjustment and satisfaction. However, with the exception of two studies in the 1950s (Smith, 1955; Weitz, 1952), this suggestion seemed to lay dormant until the 1980s. In 1985, however, Staw and Ross showed that employee satisfaction exhibited significant stability over time, even when individuals changed jobs or occupations. Staw, Bell, and Clausen (1986) followed with a study that linked clinical assessments of childhood affective temperament to satisfaction in adulthood; the relations between affective disposition and satisfaction remained significant even when the measurement of these concepts was separated by 40–50 years. Several studies built on this base by linking satisfaction with positive affectivity and dissatisfaction with negative affectivity (Levin & Stokes, 1989; Necowitz & Roznowski, 1994; Watson, Clark, & Tellegen, 1988; Watson & Slack, 1993) and an adapted measure of Weitz's (1952) dispositional measure, gripe index (Judge & Hulin, 1993; Judge & Locke, 1993).

Although these studies on individual dispositions and satisfaction made their contributions, they did not fully illuminate the psychological processes that explain why satisfaction is linked to individuals' personalities. As Spector (1997) noted, "Although many traits have been shown to correlate significantly with job satisfaction, most research with personality has done little more than demonstrate relations without offering much theoretical explanation" (p. 51).

Judge et al. (1997) introduced the concept of core self-evaluations for the first time while theorizing the dispositional bases of satisfaction. They defined CSE as the bottom-line evaluations that individuals make about themselves. Judge et al. used three criteria to search for existing traits in the literature that might qualify as measures of CSE: (a) evaluation-focus (the extent to which the trait involves self-evaluation as opposed to self-description); (b) fundamentality (the trait must be closer to the source traits as opposed to the surface traits identified by Cattell (1965)); and (c) breadth of scope (cardinal traits are broader in scope than secondary traits as per Allport (1961)). Judge et al. (1997), Judge, Erez and Bono (1998), Judge, Locke, et al. (1998) identified four traits that met these inclusion criteria. First, self-esteem is the most fundamental and broad self-evaluation as it represents the overall value that one places on oneself (Locke, McClear, & Knight, 1996). Second, generalized self-efficacy is an evaluation of how well one can deal with life's challenges (Smith, 1989). Third, a high internal locus of control reflects one's evaluation of one's ability to manage life outcomes. Finally, emotional stability (low neuroticism) indicates a stable person, who is free of debilitating negative emotions such as anxiety. Thus, all these traits are broad in scope, fundamental to defining an individual's personality, and carry a bottom-line evaluation or judgment about oneself.

Several empirical studies have supported the validity of the CSE concept (Erez, 1997; Judge, Erez et al., 1998; Judge, Erez, Bono, & Thoresen, 2002; Judge, Locke et al., 1998; Judge et al., 2000). In addition to verifying the existence of a single higher order factor (CSE) for the above four traits, research has linked the CSE to satisfaction. Judge, Locke, et al. (1998) demonstrated that this core factor was related significantly to satisfaction, even when CSE and satisfaction were measured with different sources (self and significant others). They also found that the link between CSE and satisfaction was partially mediated by perceptions of intrinsic job characteristics. In addition, Judge et al. (2000) found that people with more positive CSE were employed in more complex jobs.

Our research builds on the earlier work of Judge and colleagues (2000) in two important ways. For scholars as well as practitioners, one of the important missing elements in CSE research is the role of on-the-job choices of employees in the CSE — satisfaction relationship. While Judge et al. found that people with more positive CSE were found to be employed in more complex jobs, no research has examined whether CSE affects the complexity of the tasks individuals seek while working. Viewing it from the other side of the equation, while task complexity has been studied in organizational research (e.g., Steinmann, 1976; Wood, 1986) there is limited, if any, research on personality traits that determine the level of complexity of the tasks that people choose in the course of their jobs. Yet, it is important for researchers and practitioners to know why certain individuals choose more complex tasks. This is because with ongoing increases in the uncertainty of the external environment and the need for organizational innovation, employees who take the initiative to perform more complex tasks on their jobs are likely to prove more valuable to organizations than ones who do not. The question for our research is whether people with more positive CSE actually seek more complexity in their tasks, leading to perception of current job as more enriched, and higher satisfaction. Methodologically, we aim to provide more information on the cause-and-effect relationships among the variables and control for some confounding factors. Earlier research on core self-evaluations used field designs alone where direction of causality (between CSE, mediating variables, and job satisfaction) was difficult to establish. As Judge et al. (2000, p. 247) noted in their field research, "However, with respect to several important aspects of the model, causal inferences cannot be drawn." In other words, it is easier to account for certain confounding factors in a controlled, simulated setting. Moreover, in field settings it is often not possible to find employees working on identical tasks.

The first two goals of the present study, therefore, were both theoretical extension and methodological enhancement of the CSE — satisfaction research. The third goal was to replicate the simulation task choice model in a field setting once the simulation had ruled out possible confounds. Study 1 was a simulation with undergraduate students. Study 2 was a survey of full-time employees working in "real" jobs.

Hypotheses

Fig. 1 provides the conceptual model that is tested in this study. We argue that the effect of CSE on satisfaction (with task or work) is partly mediated by the behavior of seeking complexity in one's tasks and perceptions of job enrichment. Below we provide justification for each of the links in the model.

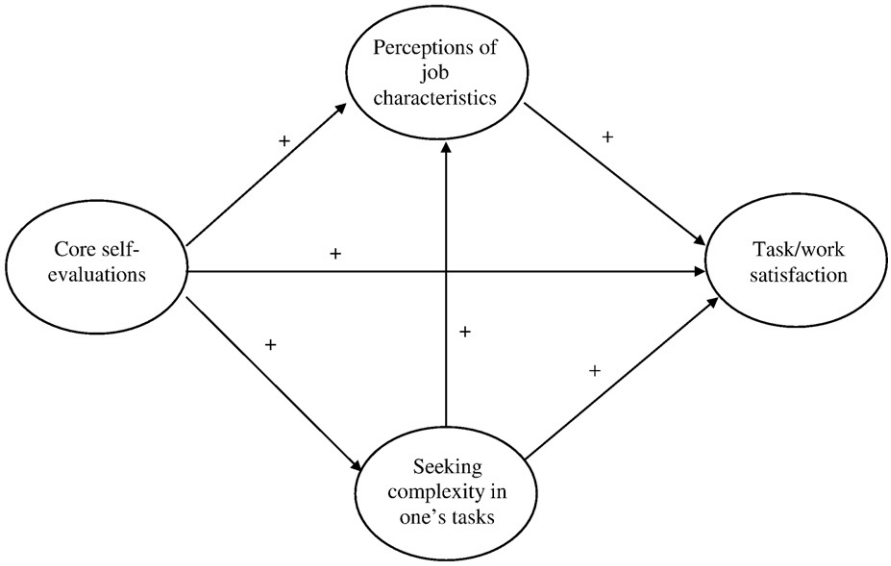

Fig. 1. Core self-evaluations and satisfaction: Conceptual model. *Note*. The effect of control variables is not shown in the above model.

Effect of CSE on satisfaction

Briefly, the reasons for the relationship between each of the CSE traits and satisfaction are as follows. People with high self-esteem will be more likely to like their jobs than those with low self-esteem, because they see themselves as worthy of happiness and will focus on the positive aspects of the job (Korman, 1970). Those with high general self-efficacy will be satisfied because they view themselves as able to master the life's, and therefore, the job's challenges. People low on neuroticism (that is, high on emotional stability) will experience higher satisfaction because neuroticism causes people to focus on their shortcomings and negative aspects of the job and the world. As Staw (1984) argued, most jobs have positive as well as negative aspects. However, individuals vary in terms of which aspects of the jobs they give salience to. Focusing on the negatives will cause people high on neuroticism to be less satisfied with their jobs (Necowitz & Roznowski, 1994). People high on personal control beliefs (internal locus of control and generalized self-efficacy) should report higher satisfaction because they are likely to attribute the positive outcomes of their jobs to their own effort and ability rather than to factors beyond their control.

Beyond the individual traits, there are more general reasons to expect a positive relationship between CSE and satisfaction. CSE as a whole affect satisfaction through the process of emotional generalization in which the positive feelings of individuals about themselves spill over into their work domain (Judge et al., 1997). For example, Judge and colleagues (Judge et al., 2000; Judge, Locke, et al., 1998) linked the CSE factor (indicated by the four traits) directly to satisfaction. Thus, there are theoretical reasons as well as past empirical evidence to believe that CSE relate positively to satisfaction.

Hypothesis 1. CSE relate positively to task/work satisfaction. (Study 2 used a real setting, so we measured work satisfaction.)

Seeking task complexity as a mediator

For a mediation effect to exist, two linkages in the model must be supported. First, CSE must be related to the behavior of seeking complexity in one's tasks. A person with more positive CSE will view a challenging task as an opportunity that he/she can master and benefit from, whereas a person with negative CSE might view it as an undeserved opportunity or a threat to be avoided (Bandura, 1997; Locke et al., 1996). People with more positive CSE have a greater feeling of control over life events. As a result, they should be more likely to seek tasks that require learning because they believe that the outcomes of the learning effort — such as improved performance and career advancement — are within their control (Spector, 1982). On the other hand, individuals with negative CSE have a general tendency to be apprehensive of novel situations (Wiggins, 1996) such as working at a higher level of task complexity than what they are accustomed to. Therefore, they are less likely to seek complexity in their tasks as that might aggravate their anxiety levels.

In a laboratory experiment, Kahle (1980) gave the participant the choice of a task requiring either luck or skill. People high on internal locus of control were more likely to choose tasks that required skill. Since higher task complexity might involve utilization of new skills, people with higher internal locus of control and more generally, people with more positive CSE might be attracted toward them. Thus, individuals with positive CSE are more likely to seek greater complexity in their tasks whereas individuals with negative self-evaluations should be less attracted to such tasks (because they see the risks and threats to their ego).

The second link that must be established is that seeking complexity in one's tasks must be related to satisfaction. Tasks higher in level of complexity call upon the worker to use a higher number and possibly, higher level of skills on the task, leading to the

experience of greater mental challenge and stimulation, one of the underlying principles of higher satisfaction (Locke, 1976). Judge (2000) concluded, based on the literature, that mental challenge is the most important cause of job satisfaction.

Hypothesis 2. The effect of CSE on task/work satisfaction is mediated partly by the behavior of seeking complexity in one's tasks such that (a) CSE relate positively to seeking complexity in one's tasks, and (b) seeking complexity in one's tasks relates positively to task/work satisfaction.

Mediating role of perceived job characteristics

In addition to the mediating effect of seeking complexity in one's tasks, in line with past research, we also expect the perceptions of job characteristics to partly mediate the relationship between CSE and satisfaction. The job characteristics that we focus on are related to the job characteristics model (Hackman & Oldham, 1980). According to this model, five core characteristics of the job — skill variety, task significance, task identity, feedback, and autonomy — make a job enriched and influence the satisfaction of the worker with the job.

Again, as in the earlier hypothesis, two links must be supported for the mediation effect to exist. Specifically, there must be a relationship between CSE and enriched perceptions of job characteristics and these perceptions, in turn, must be related to satisfaction. Judge et al. (1997) argued that individuals with positive CSE are more likely to attend to positive aspects of their work. As the authors argued, people with high generalized self-efficacy may perceive autonomy in a job where people with low generalized self-efficacy perceive bureaucracy. Similarly, individuals with high self-esteem are more likely to see work related setbacks as temporary and focus on the positive elements of the job, compared to those with low self-esteem. Thus, CSE are likely to affect enriched perceptions of job characteristics. In terms of the latter link, the Job Characteristics Model (Hackman & Oldham, 1980) argues that specific job characteristics (skill variety, task significance, task identity, feedback, and autonomy) lead to satisfaction because of experienced meaningfulness, responsibility, and fulfillment of growth needs. Two meta-analyses (Fried & Ferris, 1987; Loher, Noe, Moeller, & Fitzgerald, 1985) indicate a positive correlation between perceptual measures of job characteristics and satisfaction.

Hypothesis 3. The effect of CSE on task/work satisfaction is mediated partly by perceptions of job characteristics such that (a) CSE relate positively to perceptions of job characteristics (i.e., more skill variety, task significance, task identity, feedback, and autonomy), and (b) perceptions of job characteristics relate positively to task/work satisfaction.

Seeking task complexity and perceptions of job characteristics

To establish the mediating role of perceptions of job characteristics in the relationship between the behavior of seeking complexity in one's tasks and satisfaction, two links must be established: one, between seeking task complexity and perceptions of job characteristics, and two, between perceptions of job characteristics and satisfaction. Because the second link has already been argued under Hypothesis 3-b, we discuss here the first linkage. As discussed earlier, perceptions of job characteristics refer to the perceptions of skill variety, task significance, task identity, feedback, and autonomy in the job (Hackman & Oldham, 1980). Seeking more complexity in one's tasks would involve exercising higher level and possibly, greater variety of skills. Usually, tasks that are greater in complexity assume significance for the worker and the organization because not many employees show the initiative to do those tasks. Workers taking the initiative to perform such complex tasks are also likely to be better trusted by their supervisors as responsible individuals who can work autonomously. Thus, for all these reasons, we would expect individuals who seek complexity in tasks to appraise their jobs as more positive in terms of at least some of the core job characteristics identified by Hackman and Oldham (1980).

Hypothesis 4. Seeking complexity on one's tasks relates positively to perceptions of job characteristics.

Study 1

The purpose of Study 1 was to test the hypothesized model in a controlled simulated setting to eliminate or mitigate the effect of confounding variables and to provide stronger evidence for the causal relationships. It must be noted here that because in Study 1 the individuals performed simulated jobs, we refer to perceptions about the job and satisfaction with it, as task perceptions and task satisfaction, respectively.

Method

Participants

The participants in our study consisted of 83 business undergraduate business students (41 females and 42 males) enrolled in upper-level courses at a large public university.

Procedure

There were two stages of the study. In stage 1, all the participating students completed a questionnaire that had items pertaining to CSE (generalized self-efficacy, self-esteem, locus of control, and neuroticism). About 10 days later, students

participated in a business strategy computer simulation game. This simulation game has been adopted in prior research (e.g., Audia, Locke, & Smith, 2000). The game requires the participant to play the role of CEO of a new company in the cellular services industry. It is based on real events of the industry in the U.S. Participants read the background case on the game and made decisions on several components of a firm's strategy such as raising capital, forming alliance, buying licenses, advertising, new products, etc. The goal was to increase market share. At the end of every decision period, participants got feedback on how the company had performed based on their decisions and also received information relevant for their future decisions.

To test the conceptual model shown in Fig. 1, the game was divided into two phases. Phase 1 consisted of decision periods 1 through 4. The participants were required to make decisions on six components (e.g., raising capital, forming strategic alliance). At the end of phase 1, participants were asked what level of complexity of task they wanted to work on for the second phase of the game. Phase 2 consisted of decision periods 5 through 8. Participants worked on the same task but at their chosen level of complexity.

According to Wood (1986), task complexity is a weighted sum of component complexity, coordinative complexity, and dynamic complexity of a task. In the strategic decision-making task assigned to our participants, we allowed them to choose different levels of component complexity while keeping the other two types of complexity constant. Component complexity of a task is related directly to the number of distinct acts that need to be executed in task performance and the number of distinct information cues that must be processed in the execution of those acts (Wood, 1986). In this exercise, component complexity on a given trial is the number of different decision components that the person works on. Consistent with Steinmann's (1976) assertion that an integral part of objective task complexity is the absolute amount of information and the diversity of information involved in the task, the participants who chose to work on more components (higher complexity) were required to analyze a greater volume and diversity of information (from the background case material and the computer screen).

There were four levels of complexity for the task, labeled and described as: *extremely complex* (ten decision components), *very complex* (eight decision components), *complex* (six decision components, same level as in phase 1), and *moderately complex* (four components). At the end of phase 2, participants completed brief questionnaires that measured their perceptions of task characteristics and task satisfaction.

We statistically controlled for task performance, because people who perform better might report higher satisfaction (Locke & Latham, 1990).

Measures

Self-esteem. We measured this variable with Rosenberg's (1965) 10-item Self-Esteem Scale. We asked the respondents to indicate the extent of their agreement with statements such as "I feel that I am a person of worth, at least on an equal basis with others." The reliability of this scale was .87.

Generalized self-efficacy. We used the same 8-item scale that was used by Judge, Locke, et al. (1998). A sample item from this scale is: "I am strong enough to overcome life's struggles." The reliability of this scale was .88.

Locus of control. We used the 24-item Internality, Powerful Others, and Chance Scale (Levenson, 1981). Respondents indicated their agreement with items such that a higher score indicated greater internal locus of control. An example of an item in this scale is: "Whether or not I get to be a leader depends mostly on my ability." The reliability of this scale was .83.

Neuroticism. We used the 12-item Eysenck Personality Inventory Neuroticism Scale (Eysenck & Eysenck, 1968) to measure neuroticism. A sample item is: "I am often tense or high-strung." The reliability of this scale was .91.

Combining the measures of CSE

Several empirical studies have supported a single second-order factor for CSE with the four personality traits — self-esteem, generalized self-efficacy, locus of control, and neuroticism — as the first order factors. Erez (1997) found a single factor in both exploratory and confirmatory analyses, and Judge, Erez et al. (1998) found that a principal components analysis of a meta-analytically derived correlation matrix produced a single factor. Across three independent groups of participants, Judge, Locke, et al. (1998) found that the four CSE traits indicated a single higher order factor. Judge et al. (2000) replicated this result in another set of participants.

Perhaps the most rigorous empirical analysis in favor of combining these four traits comes from research by Judge et al. (2002). Judge et al. (2002) conducted four studies across seven groups of participants and also reported a meta-analysis of past empirical research. Across these four studies, the authors used multiple measures of the four CSE traits, collected data from more than one source (self and significant other), and also measured traits in surveys separated by three months. Thus, the researchers precluded alternative explanations (e.g., common method bias, common source bias) for the results. The key findings across the four studies were as follows. First, a meta-analysis of past research on each of the four CSE traits indicated an average correlation of 0.60 among the four traits, which is comparable to the average correlation among alternative measures of a single trait, neuroticism. Second, the four traits demonstrated convergent validity from the standpoint of presence of a higher order factor. Third, authors used the multitrait–multimethod (MTMM) technique to demonstrate that the four traits lacked discriminant validity. Fourth, an empirical analysis of a nomological network also suggested a lack of discriminant validity among the four CSE traits. Accordingly, we combined the scales of the four personality traits to compute CSE. The reliability coefficient of the combined scale was .91.

Perceptions of task characteristics. We used the 5-item version of the Job Diagnostic Survey (Hackman & Oldham, 1980). This scale has one item corresponding to each of the five job characteristics: task significance, task identity, task feedback, autonomy, and skill variety. A sample item is: "How much autonomy is there in your task? That is, to what extent does your task permit you to decide on your own how to go about doing the work?" The participants were instructed to respond to the items in the context of the CEO role they were playing for the cellular services company. The reliability of this scale was .80.

Task satisfaction

Task satisfaction was measured with the work scale from the Job Descriptive Index (Smith, Kendall, & Hulin, 1969). The JDI work scale consists of 18 items. The responses followed a modified Likert type format. Respondents answered either a "yes," "no," or a question mark (unsure) for adjectives such as "fascinating" and "routine" to describe the task. The reliability of this scale was .80.

Task performance. The performance on the decision-making task was a control variable in our study. We measured performance at the end of phase 1 (that is, at the end of four decision periods) before the participant chose the level of task complexity in phase 2. The performance was measured in terms of market share achieved by the participant at the end of phase 1. It was indicated to the participant before starting the simulation that achieving high market share was more important than other metrics of performance.

Results

The correlation matrix and descriptive statistics are shown in Table 1. We tested the conceptual model (Fig. 1) through structural equation modeling using phase 2 data of the simulation. We controlled for performance in phase 1 while testing the model. The results are shown in Fig. 2.

The model (Fig. 2) summary statistics are: $\chi^2 = 1.82$; $df = 3$; $p > .05$; NFI = .97; CFI = 1.0; RMSEA = .00. Thus, the conceptual model was consistent with the data. The three degrees of freedom correspond to the omitted paths from task performance to all the variables in the conceptual model except task performance. Turning to the specific estimates, Hypothesis 1 that argued a direct relationship between CSE and task satisfaction, was supported. Hypotheses 2-a and -b that argued an indirect relationship between CSE and task satisfaction partly mediated through the behavior of seeking complexity in job were supported. Hypotheses 3-a and -b that argued an indirect relationship between CSE and task satisfaction partly mediated through perceptions of task characteristics also were supported. However, Hypothesis 4 that argued a positive relationship between seeking complexity and perceptions of task characteristics only received borderline support ($p < .10$). As shown in Table 2, 44% of the total effect of CSE on task satisfaction was indirect.

To identify alternative/equivalent models, Breckler's (1990: 269) recommendation is as follows. "In many instances, it may be possible to eliminate equivalent models on theoretical or logical grounds. Other features of the data-collection context (e.g., an experimental design or supplemental data) may make some equivalent models implausible." Accordingly, we used both theory and nature of our research design to eliminate equivalent models. For example, since CSE were measured in advance, they must precede the other three variables (chosen level of task complexity, perceptions of task characteristics, and task satisfaction). Similarly, the participants chose the level of task complexity first and then gave their responses on the perceptions of task characteristics and task satisfaction. Thus, the causal path can be from chosen level of task complexity to perceptions of task characteristics and task satisfaction and not vice versa. Similarly, the past research on job characteristics model has provided good support for perceptions of task characteristics as the determinant of job satisfaction.

Discussion

The results for Study 1 show that people with more positive CSE seek greater complexity in their tasks, which, in turn, is related positively to task satisfaction. There was only a borderline relationship between seeking complexity and perceptions of task characteristics. Thus, seeking complexity in tasks provides an added causal explanation — aside from emotional generalization — for why CSE are related positively to task satisfaction.

As one of the early studies in examining the chosen level of task complexity, the simulation method offered us a good means for objectively measuring task complexity. The simulation study also enabled us to measure variables (CSE, seeking task complexity,

Table 1
Descriptive Statistics and Correlations between Variables (Study 1).

Variable	Mean	SD	1	2	3	4	5
1. Core self-evaluations	11.46	2.45	*.91*				
2. Chosen level of task complexity	2.67	.99	.19	–			
3. Perceptions of task characteristics	5.36	1.30	.33**	.26*	*.80*		
4. Task satisfaction	2.26	.53	.38**	.32**	.40**	*.80*	
5. Task performance	8.76	5.46	−.03	.32**	.17	−.08	–

Notes. N = 83. The diagonal elements are the scale reliability estimates, where applicable.
** $p < .01$ (two-tailed).
* $p < .05$ (two-tailed).

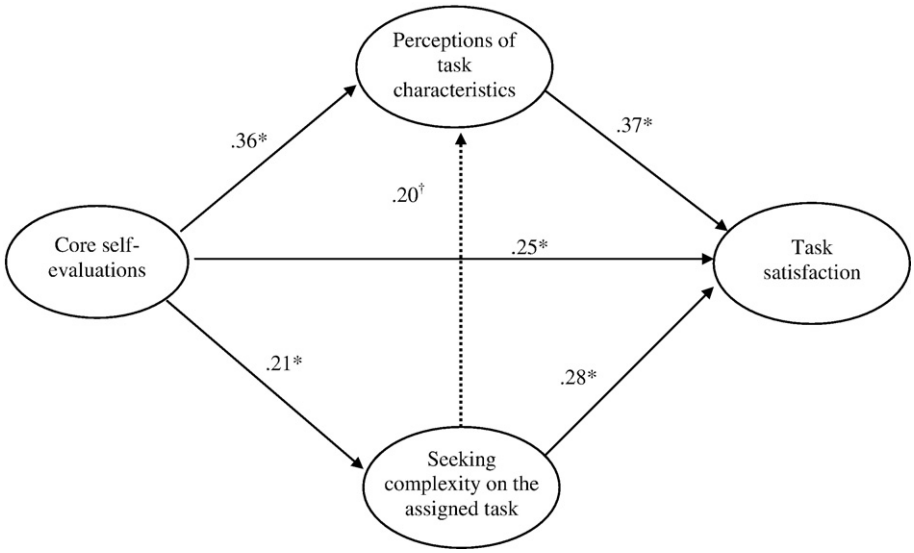

Fig. 2. Study 1. Core self-evaluations and work satisfaction: Structural equations model with standardized path coefficients. *Notes*. The effect of task performance (control variable) is not shown in the above Figure. *$p<.05$ (two-tailed). †$p<.10$ (two-tailed).

and task satisfaction) at different times thereby providing stronger evidence of cause–effect relationships. Thirdly, we were able to control some of the possible confounding factors associated with past field research on CSE and satisfaction because all respondents worked on the same task and their previous performance was statistically controlled for.

On the issue of validity of simulated settings, an important matter to consider is whether the simulated and field studies are similar in terms of the essential features (Locke, 1986). The task that we assigned to the participants does share some of the essential features (e.g., reading company or industry reports, culling out relevant information, analyzing the information to make decisions in a short time) that employees encounter in their tasks in workplace. The task that we used is conceptually similar to the enriched task used by Levin and Stokes (1989) in their laboratory study of job satisfaction. However, it is important to recognize that the respondents were not full-time employees working on a real job.

Study 2

Study 2 was a partial replication of Study 1 in a field setting. The purpose of Study 2 was to verify the validity, in a real setting, of the mediating role of the behavior of seeking complexity in one's tasks in the relationship between CSE and satisfaction.

Method

We received completed surveys from 108 employees working in various companies. The response rate was 60%. The respondents were individually instructed by the researcher or the contact persons to complete the two surveys one week apart. The first survey included the measures of CSE and demographic characteristics and the second survey measured the rest of the variables in our model.

Table 2
Decomposition of Effect of Core Self-Evaluations on Task/Work Satisfaction (Study 1 and Study 2).

Effects	Standardized Coefficient	T-value
Study 1		
Indirect	.20	2.63*
Total	.45	3.88**
Percentage of relationship mediated	44%	–
Study 2		
Indirect	.13	2.53*
Total	.13	2.53*
Percentage of relationship mediated	100%	

Notes. Percentage of relationship mediated was obtained by dividing the indirect effect by the total effect.
** $p<.01$; * $p<.05$.

Measures

We used the same scales as in Study 1 to measure CSE. We used an expanded version (15 items) of the scale to measure perceptions of job characteristics (Hackman & Oldham, 1980). Consistent with Study 1, we used the work scale from the Job Descriptive Index (Smith, Kendall, & Hulin, 1969) to measure work satisfaction.

We measured seeking complexity in one's tasks through a modified version of the four-item scale used by Frese, Kring, Soose, and Zempel (1996). A sample item is "In my current job I always seek tasks that are extraordinary and particularly difficult." The scale reliability was .71. We included five control variables in our statistical analysis. These related to the background characteristics of the respondent (gender, race, education, salary, and years of work experience). The scale reliabilities are given in Table 3 (diagonal elements).

Results

The correlations between variables are shown in Table 3. We tested the hypotheses using structural equation modeling, as in Study 1. The results are shown in Fig. 3.

The model statistics are: $\chi^2 = 28.19$; $df = 19$; $p > .05$; NFI = .99; CFI = .996; RMSEA = .07. It may be noted that the degrees of freedom in the model tested in Study 2, compared to the model tested in Study 1, are different because we included additional control variables in the analysis (gender, race, work experience, salary, and education). The paths from the control variables have not been shown in Fig. 3 for simplicity of presentation to the reader. In the results shown in Fig. 3, CSE were related positively to seeking complexity in job thereby supporting Hypothesis 2-a. However, seeking complexity was not related directly to work satisfaction and so, Hypothesis 2-b was not supported. CSE were related positively to perceptions of job characteristics, which, in turn, were related positively to work satisfaction. Thus, Hypotheses 3-a and -b were supported. The relationship between seeking complexity and perceptions of job characteristics was positive, thereby supporting Hypothesis 4. As shown in Fig. 3, there was no direct residual relationship between CSE and work satisfaction. However, a separate test of the relationship between CSE and work satisfaction (without the effect of seeking complexity and perceptions of job characteristics but including the control variables) indicated a positive relationship ($\beta = .29$, $p < .01$). As shown in Table 2, the entire effect of CSE on job satisfaction is conveyed indirectly through the two mediators and the total indirect effect is significant. Thus, Hypothesis 1 was supported and what this indicates is that the relationship between CSE and work satisfaction was completely mediated by other variables in the model.

Discussion

Study 2 helped verify the external validity of the simulation study with undergraduate students (Study 1). Consistent with Study 1, the results of Study 2 indicate that people with more positive core self-evaluations seek more complexity in their tasks. However, one difference between the results of Study 2 and Study 1 is that while in Study 1, seeking complexity had a direct positive relationship with task satisfaction, in Study 2 the effect was indirectly conveyed through perceptions of greater job enrichment.

General Discussion

Theoretical Implications

Our study adds an important link to the theoretical model showing how positive CSE lead to task/work satisfaction. Judge and Church (2000) noted in their review that in studies examining different facets of jobs (e.g., pay, promotion opportunities, coworkers, etc.), the nature of the work itself has consistently been found to be the most important element of job satisfaction. Therefore, our findings have implications for the broader literature on job satisfaction.

Table 3
Descriptive Statistics and Correlations between Variables (Study 2).

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Core self-evaluations	4.82	.56	*.93*								
2. Seeking complexity in one's job [a]	4.12	.53	.23*	*.71*							
3. Perceptions of job characteristics	5.53	.89	.32**	.27**	*.86*						
4. Work satisfaction	2.49	.58	.32**	.12	.52**	*.88*					
5. Gender (male = 1; female = 2)	1.42	.50	.01	.03	.00	−.02	–				
6. Race (white = 1; others = 0)	.95	.22	−.19	.06	.05	.24*	−.08	–			
7. Work experience	28.10	13.76	.18	−.07	.20*	.29**	−.07	.10	–		
8. Salary [b]	4.11	2.33	.26**	.08	.29**	.37**	−.34**	.11	.20	–	
9. Education level [b]	4.45	1.58	.06	.10	.37**	.38**	−.13	.07	−.08	.40**	–

Notes. N = 108. The diagonal elements are the scale reliability estimates, where applicable.
** $p < .01$ (two-tailed). * $p < .05$ (two-tailed).
[a] Measured with a five-point scale, unlike the four levels of task complexity in Study 1. Other scales were the same as in Study 1.
[b] Ordered categorical variable.

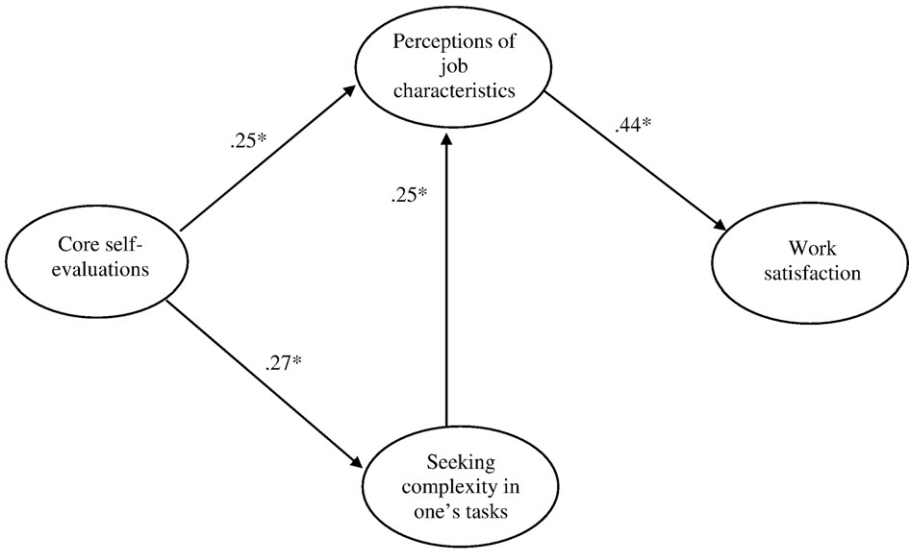

Fig. 3. Study 2. Core self-evaluations and work satisfaction: Structural equations model with standardized path coefficients. *Notes.* Only significant paths are shown. The effect of control variables (gender, race, work experience, salary, and education) is not shown in the figure. $^{*}p<.05$ (two-tailed).

Previous research (Judge et al., 2000) had shown a direct effect of CSE on satisfaction, an effect mediated by job perceptions, and an effect mediated by complexity of jobs (as inferred from job titles) that the respondents were employed in. Our research was the first to focus on the behaviors/actions of individuals as a mediating linkage between CSE and satisfaction. Study 1 is the first study to show that CSE actually affect the behavior of seeking complexity in one's tasks. The more positive the CSE, the greater the level of complexity people choose on their jobs. This finding was also supported in Study 2 though complexity seeking was self-reported. However, the relationship of seeking complexity with task/work satisfaction differed between the two studies. While in Study 1 there was a direct relationship, in Study 2, the effect was mediated through perceptions of job characteristics. One possible reason could be that because the participants in Study 1 were new to the task, they found it more enjoyable to work on higher levels of complexity. On the other hand, in Study 2, because the employees were presumably doing the same job for a much longer time (compared to Study 1), the effect of task complexity was mainly a perception of greater job enrichment without a direct, emotional effect on work satisfaction. It is also possible that in a real work situation over time job challenge might be seen as having mixed outcomes, e.g., more pleasure from the tasks but more fatigue from the greater effort required and a lack of commensurate rewards.

Thus, the behavior of seeking complexity is either directly or indirectly related to task/work satisfaction. While Study 1 provided the advantage of an objective measure of level of complexity the participant could choose, Study 2 provided the advantage of studying full-time employees in "real" jobs. Because the results are not identical, more research is required to firmly establish how seeking complexity affects satisfaction. From the point of view of research on task complexity, this study finds support for an important antecedent of the level of task complexity that individuals seek in their jobs. There are boundary conditions for the relationship between seeking task complexity and job satisfaction that must be explored by future research. For example, when individuals are more competent at performing the complex tasks, the relationship between seeking task complexity and satisfaction is likely to be stronger.

Consistent with earlier work, we also found that CSE had a positive relationship with task/work satisfaction and an effect mediated by perceptions of task/job characteristics. In Study 1, 44% of the effect of CSE on task satisfaction was indirect. On the other hand, in Study 2, the entire effect was indirect. Taken together, our studies imply that on the job behaviors play an important role in personality — outcome relationship such as in CSE — satisfaction. Building on our study, an important area for future research could be the examination of the recruitment process from the applicant's perspective. That is, do applicants with more positive CSE search for more complex jobs and among competing alternatives, choose the more complex job? While we focused on job satisfaction, an indicator of intrinsic career success, future research may examine extrinsic career success (e.g., income, prestige).

Methodological implications

Study 1 compensates for certain weaknesses of previous studies on CSE – satisfaction that employed concurrent, correlation designs. We isolated the work task from the wider context in which jobs are embedded in real situations. We designed the study so that participants could actually make choices regarding level of complexity on their assigned task. We ruled out the confounding effects of prior task success by measuring that variable and controlling it. Since the measurement of perceptions of task characteristics, seeking task complexity, and task satisfaction followed the measurement of CSE, our research provides a more defensible causal interpretation than previous studies, that is, that CSE actually influence these variables, and not vice versa. In

Study 2, though CSE was measured before other variables, the causal effects of CSE on complexity seeking are less firmly proven. However, the subjects were real employees and demographic factors were controlled.

Practical implications

Our study implies that not only are people with more positive CSE more satisfied with their tasks/work, they are also likely to show greater interest and initiative in working on complex tasks, which might involve learning new skills. Considering that people with higher score on CSE view their jobs as more challenging, seek greater complexity on their current jobs, are more satisfied with their tasks/work, and, based on some evidence (Judge & Bono, 2001) perform better, using CSE for selection could be beneficial. Judge et al. (2002) found that CSE were also correlated with some of the Big Five personality traits (such as conscientiousness and extraversion; neuroticism is already a part of CSE). Further research and refinements may uncover a "supertrait" which could be one of the useful predictors of performance and attitudes across jobs.

While seeking complexity in one's tasks may have beneficial implications for perceptions of job enrichment and job satisfaction, it is not always possible for an employee to choose complex tasks or for the supervisor to provide such opportunities to the employees. However, whenever possible, it would be beneficial for supervisors to provide opportunities to employees to work on complex tasks and also provide them the resources necessary to succeed on such tasks to increase their level of satisfaction.

Limitations

We acknowledge the limitation of Study 1 in the sense of the task being a simulation and not a real job. It may be noted that the task we assigned to the participants does share some of the essential features (e.g., reading company or industry reports, culling out relevant information, analyzing the information to make decisions in a short time) that employees encounter in their tasks in workplace. However, to overcome this limitation, we did a follow up study (Study 2) with full-time employees in real jobs.

The main limitation of Study 2 is the possibility of common method bias. However, in line with the suggestions of Podsakoff and colleagues (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), to reduce the extent of common method bias, the employees in Study 2 completed the two surveys with a time lag (one week) and their responses were anonymous (matched by a code not linked to their identity). Thus, at least some of the possible sources of common method bias were controlled in the study design in Study 2.

Therefore, the methodological weaknesses of each study were offset by the other. Thus, one study provides a constructive replication (as opposed to literal or operational; Lykken, 1968), where the same phenomenon is studied under different conditions.

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