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Mediating Role of Emotional Intelligence on the Associations between Core Self-Evaluations and Job Satisfaction, Work Engagement as Indices of Work-Related Well-Being

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Abstract The purpose of this study was to investigate the role of emotional intelligence in relation to core self-evaluations (CSE) and work-related well-being. A sample of 356 employees who are all females completed measures of CSE, emotional intelligence, job satisfaction and work engagement. Results revealed that higher levels of CSE were correlated with higher levels of emotional intelligence, job satisfaction and work engagement. Higher levels of emotional intelligence were associated with greater job satisfaction and work engagement. Structural Equation Modeling (SEM) indicated that emotional intelligence partially mediated the association between CSE and work-related well-being. The results revealed the importance of emotional intelligence in order to improve occupational well-being of employees. This research makes a contribution to the potential mechanism of the relationship between CSE and work-related well-being.

Keywords Core self-evaluations · Emotional intelligence · Job satisfaction · Work engagement · Well-being

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Introduction

Employee well-being has received increasing attention in the field of organizational psychology. Work engagement and job satisfaction are considered as two indicators of the affective work-related well-being of employees (Cropanzano and Wright 2001; Schaufeli et al. 2002). Work engagement as a positive resource has received increasing attention in the field of organizational psychology and occupational health psychology (Bakker and Schaufeli 2008; Schaufeli and Salanova 2007; Sonnentag 2011). Schaufeli et al. (2002) show that engagement refers to a more persistent and pervasive affective-cognitive state and is defined as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Job satisfaction is considered as the positive or negative evaluative judgments people make about their jobs (Weiss 2002) and a pleasurable or positive emotional state resulting from the evaluation of one's job (Locke 1976).

Correlational research indicates personal resources are regarded as the prediction of work engagement (Hakanen et al. 2006) and a wealth of research reveals that personality is correlated with job satisfaction and work engagement (Jovanovic 2011; Nielsen et al. 2009; Rossier et al. 2012; Kim et al. 2009). For example, Woods and Sofat (2013)) revealed that assertiveness and industriousness were robust predictors of work engagement in a sample of working adults. Individuals with higher core self-evaluations (CSE) were able to choose higher levels of complexity on their task, which could improve their work satisfaction (Srivastava et al. 2010). Studies also indicated that personality including neuroticism, conscientiousness, agreeableness, low neuroticism extraversion and proactive personality were correlated with job/career satisfaction/subjective well-being (Ng et al. 2005; Li et al. 2010; Judge et al. 2002; Weiss et al. 2006). In addition, CSE as a broad personality trait was a useful predictor of job satisfaction /job

involvement (Judge et al. 2003; Judge et al. 1997; Judge et al. 2002; Wu and Griffin 2012; Yan and Su 2013).

CSE is a broad, higher-order trait representing the fundamental evaluations. Individuals make about themselves and their worthiness, competence and capability (Judge et al. 1997). That means that individuals with higher CSE tend to think highly of themselves,believe in their ability to complete tasks/job and have strong sense of personal control over their lives. Studies indicated that CSE traits including self-esteem, generalized self-efficacy, locus of control and emotional stability were strong predictors of job satisfaction (Judge and Bono 2001). In addition, CSE was also a predicator of employee engagement in medium-sized organizations (Shorbaji et al. 2011). Employee with higher CSE can experience more satisfaction and engagement with their job (Judge et al. 2005; Yan and Su 2013). James et al. (2012)) found that emotional intelligence and personality were regarded as predictors of psychological well-being. Therefore, it is assumed that CSE is positively and significantly related to work-related well-being.

CSE is correlated with work-related well-being, but the relationships between CSE and work-related well-being may be also indirect (Bono and Judge 2003). For example, CSE is positively correlated with indices of well-being through various mechanisms such as goal self-concordance (Judge et al. 2005) and seeking task complexity (Srivastava et al. 2010). Type of environment employees are in and how employees perceive and process information about their work environment may play a part role in the relationships between CSE and job satisfaction (Judge and Hurst 2007; Dormann and Zapf 2001).

Emotional intelligence (EI) is the ability to perceive accurately, appraise, and express emotion: the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth (Mayer and Salovey 1997). Research indicated that emotional intelligence may predict work outcome including job satisfaction (Abraham 2000) and have on the improvement of nurse well-being (Karimi et al. 2015). Evidence revealed that people with higher levels of mindfulness were more EI, which in turn experienced more subjective well-being (Schutte and Malouff 2011). The associations between stability, conscientiousness, agreeableness and happiness were mediated by EI in a sample of adolescents (Chamorro-Premuzic et al. 2007). Furthermore, individual with higher CSE assess higher their level of EI, which in turn may increase their life satisfaction and decrease their work stress (Kluemper 2008). Affective Events Theory (Weiss and Cropanzano 1996) indicates that cumulative affective experiences together with personality may shape workers' job related attitudes. Thus, it is assumed that EI mediate the association between CSE and work-related well-being.

EI is indeed associated with CSE and work-related well-being, but it is necessary to note that whether EI is really differentially related to the associations between CSE and work-related well-being. Firstly, there are not many studies about being correlated with both job satisfaction and work engagement as indices of work-related well-being in one and the same research, examining the impact of CSE and EI on work-related well-being. Secondly, there are few studies around considering CSE, EI and work-related well-being in the same study. Testing the concurrent mediating effects of EI would extend our consolidated understanding of potential mechanism about CSE and work-related well-being. Thirdly, a noteworthy deficiency is that the majority of studies related EI was executed within Western countries. Testing the mediation models in Chinese culture would provide meaningful evidence for adaption of different cultures. Thus, the present research tested the relationship between CSE as a broad personality and work-related well-being in a sample of nurses who are health service occupations. Moreover, we also investigate whether EI mediates the association between CSE and work-related well-being.

Method

Participants and Procedure

356 adult who are clinic nurses from two hospitals in Xi'an, one mid-sized city in the northern part of China. The age of adult was ranged from 24 to 45 years. All participants are the Han nationality and were briefly told to the purpose of the study. Participants completed a series of questionnaires measuring CSE, emotional intelligence, job satisfaction and work engagement. The measures in the current research were conducted in the classroom environment by a trained research assistant to be sure of participants' confidentiality of the data. The measurement requires about 20–25 min to complete and no personal identifying information was collected in the current research.

Measures

Core Self-Evaluations

The Core Self-Evaluations Scale (CSES; Judge et al. 2003) was used to measure participants' CSE. It includes 12-item, such as "I am confident I get the success I deserve in life" and "I complete tasks successfully". Participants rate how well each statement describes their typical evaluations in self-evaluations on a 5-point Liker-type scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Score range from 12 to 60 for CSE. Higher scores on the CSE scale reveal higher CSE. Judge et al. (2003) reported coefficient alphas of.81 for the core self-evaluations scale. In the present study, the Cronbach alpha coefficient for CSE was 0.75, which

reveals a high level of internal consistency. It is important to heed that in the present study, structural equation modeling with latent variables is executed to preclude the measurement errors. Because at least three observed indicators for each latent variable is a common rule in the process of structural equation (Kenny et al. 1998). We followed the suggestions of Russell et al. (1998) to create three observed indicators for CSE. In the present study, we created three measured variables by averaging responses to the three musters of items. The three measures were then used as the three measured indicators for CSE.

Emotional Intelligence

The Wong Law Emotional Intelligence Scale (Wong and Law 2002) was used to measure participants' emotional intelligence. It includes a 16-item such as "I really understand what I feel", "I am a good observer of others' emotion", "I always tell myself I am a competent person" and "I have good control of my own emotions". It consisting of four dimensions including Others' Emotion Appraisal (OEA), Self-Emotion Appraisal (SEA), Use of Emotion (UOE) and Regulation of Emotion (ROE) on a 5-point Liker-type scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). In the present study, the Cronbach alpha coefficients for OEA, SEA, UOE and ROE were 0.80, 0.79, 0.79 and 0.89. The Cronbach alpha coefficient for emotional intelligence was 0.87. The four dimensions including OEA, SEA, UOE and ROE were used as the four measured indicators for emotional intelligence.

Job Satisfaction

The Minnesota Satisfaction Questionnaire-Short Form (MSQ; Weiss et al. 1967), which is the most widely used instruments measuring the level of job satisfaction (Scarpello and Campbell 1983) was used to assess participants' job satisfaction. Participants rate the extent of their satisfaction with each of 20-item of their job on a 5-point Liker-type scale ranging from 1 (Very dissatisfied) to 5 (Very satisfied). Score range from 20 to 100 for job satisfaction. In the present study, general satisfaction, which the responses to all 20-item can be summed was used as indicator for job satisfaction. The Cronbach alpha coefficient value for job satisfaction was 0.90. Three observed indicators for the latent variable of job satisfaction were created in a similar to that used to obtain observed indicators for job satisfaction.

Work Engagement

A shorter 9-item version of the Utrecht Work Engagement Scale (UWES-9, Schaufeli et al. 2006) was used to measure participants' work engagement. It consisting of three dimensions including absorption (AB), dedication (DE) and vigor (VI) assessed by 3-item per dimension. In the present study, the Cronbach alpha coefficients for vigor, absorption and dedication were 0.73, 0.68, and 0.81. The Cronbach alpha coefficient for work engagement was 0.90. The three dimensions including vigor, absorption and dedication were used as the three measured indicators for work engagement.

Data Analyses

The two-step procedure was adopted to analyze the mediate effects that whether the path from CSE to occupational well-being was mediated by emotional intelligence (Anderson and Gerbing 1988). First, the measurement model was tested to assess whether each of the latent variable was represented by its indicators. If the measurement model revealed an acceptable fit, then the structural model will be tested using the maximum likelihood estimation in Mplus7.0 software. To control for inflated measurement errors due to multiple items for the latent variables including job satisfaction and CSE, three item parcels were created for them.

Multiple fit indices were used to evaluate the adequacy of mode fit: chi-square statistics, standardized root-mean-square residual (SRMR), the root-mean-square error of approximation (RMSEA), the comparative fit index (CFI). An adequate fit to the model is revealed by values less than or equal to .08 for the RMSEA, values less than .06 for the SRMR, and values greater than or equal to.90 for the CFI (Hu and Bentler 1999; Quintana and Maxwell 1999; Jöreskog 1993).

Results

Descriptive Statistics and Correlational Analysis

The means, standard deviations and correlational analysis are presented in Table 1. CSE was positively and significantly correlated with job satisfaction ($r = 0.41$) and work engagement ($r = 0.48$). EI were also positively and significantly associated with job satisfaction ($r = 0.40$) and work engagement ($r = 0.49$). Finally, CSE was positively and significantly associated with EI ($r = 0.41$).

Measurement Model

An initial test of the measurement model, which included four latent constructs (CSE, EI, job satisfaction and work engagement) and 13 observed variables, revealed a relatively good fit to the data: $\chi 2$ (59, $N = 356$) = 175.507, $p < .001$; RMSEA =0.074 (90% confidence interval [CI] = 0.062 to 0.087), CF $I = 0.949$, and SRMR =0.048. All of the loadings of the measured variables on the latent variables were significant ($p < .001$), revealing that all of the latent constructs were well operationalized by their indicators.

Table 1 Means, Standard Deviations and zero-order correlations for all measures

	1	2	3	4	5	6	7	8	9	10
1SEA										
2OEA	0.43**									
3UOE	0.32**	0.41**								
4ROE	0.29**	0.23**	0.46**							
5VI	0.23**	0.28**	0.48**	0.37**						
6DE	0.20**	0.24**	0.49**	0.37**	0.82**					
7AB	0.23**	0.24**	0.39**	0.31**	0.65**	0.73**				
8CSE	0.24**	0.23**	0.42**	0.29**	0.49**	0.44**	0.34**			
9EI	0.68**	0.71**	0.75**	0.73**	0.48**	0.46**	0.41**	0.41**		
10JS	0.22**	0.25**	0.37**	0.31**	0.57**	0.59**	0.53**	0.41**	0.40**	
11WE	0.24**	0.28**	0.50**	0.39**	0.92**	0.94**	0.86**	0.48**	0.49**	0.62**

CSE core self-evaluations, *SEA* self-emotion appraisal, *OEA* others' emotion appraisal, *UOE* use of emotion, *ROE* regulation of emotion, *JS* job satisfaction, *VI* vigor, *DE* dedication, *AB* absorption. $^{**}P < .01$

Structural Model

SEM procedure was executed for testing mediating effects among study variables. The results showed that our hypothesized mediational model, which is one mediator (emotional intelligence) and two direct paths from CSE to job satisfaction and work engagement, revealed a satisfactory fit to the data: $\chi 2\ (59, N = 356) = 175.507, p < 0.001$; RMSEA =0.074 (90% confidence interval [CI] = 0.062 to 0.087), CFI = 0.949, and SRMR =0.048. The results revealed significant direct effects of CSE on job satisfaction (0.25, $p < 0.01$), work engagement (0.28, $p < 0.01$) in (Fig. 1). The results also showed significant direct effects of emotional intelligence on job satisfaction (0.38, $p < 0.01$), work engagement (0.49, $p < 0.01$) in (Fig.1).

Assessment of the Mediation

Bootstrapping method in Mplus7.0 tests the significance of the mediating effects of emotional intelligence. 2000 bootstrap samples were generated by random sampling. If 95%CI for the estimates of mediational effect does not include zero, then the mediational effect will be significant. Table 2 reveals the indirect effects and their associated 95% confidence intervals. As shown in Table 2, CSE exerted significant indirect effect on job satisfaction through emotional intelligence. CSE also exerted significant indirect effect on work engagement via emotional intelligence.

Discussion

The primary aim of the current study was to investigate the significance effect of CSE on work-related well-being and to extend the previous literature by analyzing the potential mediating effect of emotional intelligence in the impact of CSE on work-related well-being. As expected, EI functioned as a partial mediator between CSE and job satisfaction. Nurses with higher CSE have more level of EI, which in turn improve their job satisfaction. This result is consistent with previous studies, EI as an effective is positively predicted by CSE (Kluemper 2008), and is positively and significantly correlated with increasing job satisfaction (Güleryüz et al. 2008; Sy et al. 2006), higher levels of well-being (Slaski and Cartwright 2002). In addition, CSE exerted its direct and indirect effect via EI on job satisfaction. This is in line with the previous findings about the partial mediating effect of EI on the association personality and different indicators of well-being (Chamorro-Premuzic et al. 2007; Schutte and Malouff 2011). These results suggest that EI mediates the association between CSE and job satisfaction. In other words, nurses with higher CSE are likely to have more level of EI, which in turn increase their job satisfaction.

Another finding of the present study revealed that the effect of CSE on work engagement in nurses was also partially mediated by EI. The findings suggested that people with higher CSE may have more EI, which in turn improve their work engagement. Thus, the findings about the mediating effect of EI on the association between CSE and work engagement might have some management implication. Furthermore, CSE had a significant direct effect on job satisfaction and work engagement in the current study. This results demonstrates that there are other possible mediators which have not been included in the current study, such as mindfulness (Schutte and Malouff 2011). Further research is needed to investigate these possible intervening variables on the relationship between CSE and job satisfaction, work engagement. The findings demonstrate the associations between CSE, EI and work related well-being of nurses. As proposed, CSE might facilitate the increase of EI, which reveals one possible process through which CSE exerts beneficial effect.

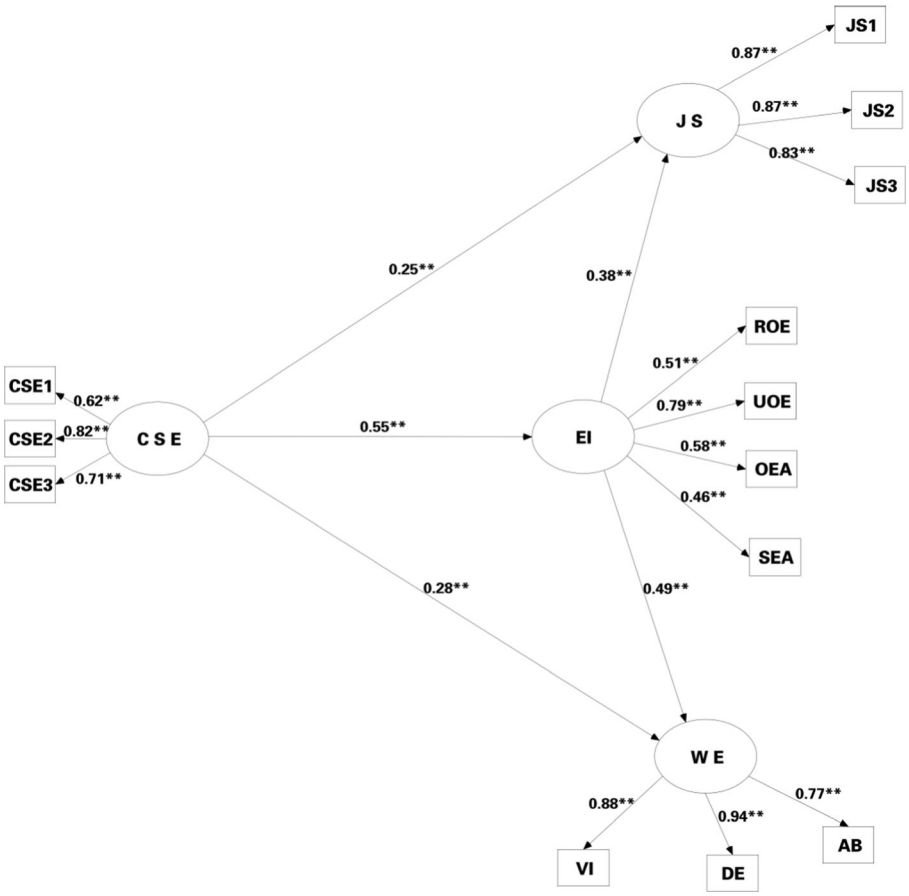

Fig. 1 Mediational model of the relationships between CSE, EI and work related well-being *Note*: CSE = core self-evaluations, CSE 1-CSE 3 = three parcels of core self-evaluations; EI = emotional intelligence, SEA = self-emotion appraisal, OEA = others' emotion appraisal, UOE = use of emotion, ROE = regulation of emotion; JS = job satisfaction; JS 1 – JS 3 = three parcels of job satisfaction; WE = work engagement, VI = vigor, DE = dedication, AB = absorption

Moreover, to improve job satisfaction and work engagement, CSE training could provide a practical means of increasing EI. In the light of these findings, leaders could increase worker's emotion by providing a friend work environment and choosing individuals who are more positive concept (e.g. core self-evaluations) for improving their work engagement and job satisfaction.

Several limitations of the present study should be considered. Firstly, in the correlational cross-sectional nature of the present study, causal associations among research variables should be drawn with caution. Further researches will utilize longitudinal methods to determine these relationships. Secondly, the present study relied on a Chinese nurses who are all women sample in collective culture. It is uncertain the present findings can be generalized to other vocations and nurses who are men. Thirdly, future research would examine other possible intervening variables (such as resilience) in the relations between CSE and work related well-being. Notwithstanding these limitations, the current study is an attempt to examine EI in one and the same study to extend our understanding of mechanisms between CSE and job satisfaction, work engagement as indices of work related well-being. The results reveal that EI mediate the relationships between CSE and work related well-being. It might provide valuable help for how to implement psychological interventions in order to improve nurses' work related well-being.

Table 2 Standardized indirect effect and 95% confidence intervals (CI) for the meditational model

Model pathways	Estimated effects	95%CI Lower	Upper
CSE → EI → JS	0.21[a]	0.09	0.32
CSE → EI → WE	0.27[a]	0.15	0.39

CSE core self-evaluations, *EI* emotional intelligence, *JS* job satisfaction, *WE* work engagement

[a] Empirical 95% confidence interval does not overlap with zero

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Compliance with Ethical Standards

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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