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Emotional Intelligence and Extra-Role Behavior of Knowledge Employees: Mediating and Moderating Effects

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Abstract. *This study constructed a model to explore how emotional intelligence (EI) predicts organizational citizenship behavior (OCB) and counterproductive work behavior (CWB) via the mediators of job satisfaction (JS) and work engagement (WE). Furthermore, this study examined whether organizational justice (OJ) and person-organization fit (P-O fit) moderate the effect of EI on OCB and CWB. The model was tested using data from 540 knowledge employees in mainland China. This study found that JS and WE positively and partially mediated the association between EI and OCB, as well as negatively and partially mediated the association between EI and CWB. Moreover, OJ and P-O fit moderated the effect of EI positively on OCB and negatively on CWB. This study revealed the mechanism from EI to OCB and CWB through multiple mediators, identified two variables that may adjust EI-OCB and EI-CWB relationships, and proposed that organizations could promote OCB and diminish CWB of knowledge employees by employing certain human resource practices.*

Keywords: *emotional intelligence; knowledge employees; organizational citizenship behavior; counterproductive work behavior; mediation; moderation*

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Introduction

Salovey and Mayer (1990) introduced the concept of emotional intelligence (EI), suggesting that the ability model of EI is a subsection of social intelligence that involves four dimensions: perceiving emotions, facilitating thought using emotions, understanding emotions, and managing emotions (Mayer et al., 2016; Mayer & Salovey, 1997). Two other models, the trait model of EI (Akhtar et al., 2015; Petrides et al., 2016) and mixed model of EI (Goleman, 2006), were developed and accepted by some researchers afterward. However, as the ability model is considered the best model to indicate the phenomenon of EI and predict socially relevant behavioral outcomes (Greenidge et al., 2014; Mayer et al., 2008), this study selected the ability model of EI as the predictor.

Considering that EI is the ability to feel, use, understand, and manage emotions, individuals with high EI can perceive and regulate emotion well and engage in prosocial behaviors (Goleman, 2006; Greenidge et al., 2014). Individuals with low EI cannot manage emotions and therefore might behave inappropriately (Spector, Fox, & Domagalski, 2006). Studies exploring the effects of EI have generally focused on two independent research concepts: organizational citizenship behavior (OCB) and counterproductive work behaviors (CWB) (Miao et al., 2017; Spector & Fox, 2002, 2010). OCB is defined as employees' intentional behavior that promotes the effective functioning of an organization and its stakeholders despite not being officially recognized or rewarded (Blatt, 2008; Organ, 1988). CWB refers to employees' intentional behavior that harms the lawful rights and interests of an organization and its stakeholders (Dalal, 2005; Klotz & Bolino, 2013). Although deductions from these definitions may show a contradicting relationship between OCB and CWB predicted by EI, the relationship is not straightforward, especially for some aspects of OCB and CWB and in particular, groups or contexts (Czarnota-Bojarska, 2015; Peng, 2012; Spector & Fox, 2010).

Knowledge employees are viewed as a major source of human capital of organizations, whose work mainly concerns ideas, knowledge, and information (Drucker, 1999). Productivity of manual workers and knowledge workers was compared, and, unlike manual work, knowledge work is a quality-based system. Extra contributions of knowledge workers may increase output by several times and reduce enormous costs (Drucker, 1999). On the other hand, knowledge workers have more work autonomy and are relatively independent in managing their work processes (Cortada, 2009). If they take actions that harm the organization, the consequences are also vast. Available literature lacked the examination of knowledge employees' behavior in the workplace and emphasized that further study should pay more attention to knowledge employees' workplace behavior (Darr & Warhurst, 2008; Ting-Pang Huang, 2011). Hence, this study focused on the EI-OCB and EI-CWB relationships of knowledge employees.

EI–performance relationship studies have suggested some mediators (e.g., job satisfaction, trust, psychological contract, engagement, stressors) that bridge the antecedent and outcome variables and some moderators (e.g., job context, job stress, gender, age,

tuner, job level). However, few studies have attempted to explore multiple mediators in one model and address the moderation effect of some scenario factors as person-organization relationship and justice in the workplace. Therefore, this study constructed a model (as presented in Figure 1) exploring the effects of EI on both OCB and CWB through job satisfaction (JS) and work engagement (WE). It also determined whether perceived organizational justice (OJ) and person-organization fit (P-O fit) moderated the effect of EI on extra-role behaviors. The goal with this model was to better understand how knowledge employees engage in OCB and CWB based on their EI, and how organizations eventually enhance OCB and diminish CWB via recruitment, selection, and training programs.

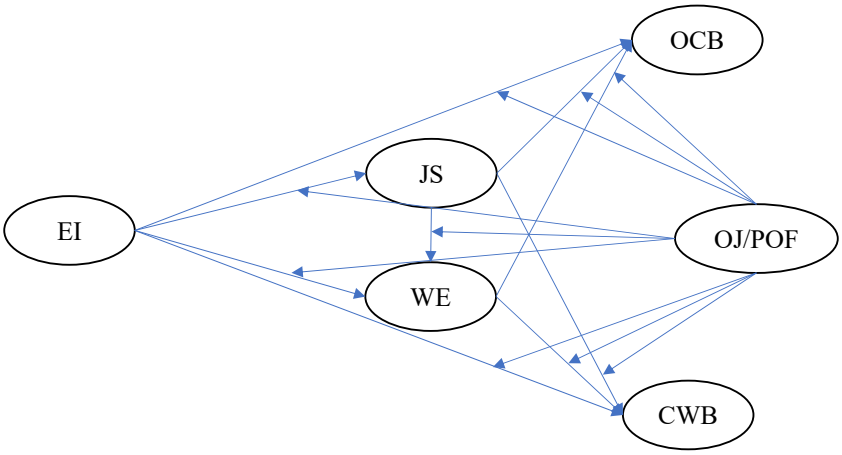

FIGURE 1. **Conceptual framework**

1. Theoretical Framework

1.1 Emotional Intelligence and Extra-role Behavior

Literature examined the EI-extra-role behavior relationship. A positive relationship between EI and OCB factors (e.g., altruism and compliance) was tested (Carmeli & Josman, 2006; Turnipseed & Vandewaa, 2012). Abraham (1999) explained that EI is essential in building and maintaining good social relationships and fostering altruistic behaviors in the workplace. Therefore, individuals with high EI can perceive and understand their colleagues' feelings well and respond more appropriately. They are more sensitive to the needs of coworkers and will offer timely empathic responses. Carmeli and Josman (2006) argued that highly emotionally intelligent individuals' sensibility to the environment will be higher than those with low EI, they can better understand organizational norms and rules, and they will behave more compliantly. Researchers also identified a negative relationship between EI and CWB (Miao et al., 2017). Both direct and indirect negative association exists between four EI components and two CWB

components, counterproductive work behavior toward an organization and counterproductive work behavior toward an individual (Greenidge et al., 2014). Negative emotion plays a central role on CWB, and EI can help employees to cope with negative emotions that may lead to improper behaviors in the workplace (Spector et al., 2006). Since managing emotions is the top dimension and key part of EI, individuals can facilitate their behavior by adjusting their emotions (Spector & Fox, 2002). Individuals with higher EI can better cope with emotional matters and tend to experience more positive emotions, leading them to engage in more altruistic acts. Meanwhile, people with low EI might experience more negative moods and perform more destructive behaviors. Accordingly, we expect to find a positive association between EI and OCB and a negative association between EI and CWB.

1.2 Job Satisfaction and Work Engagement as Mediators

JS is an employee's pleasurable or positive emotional response to the job and work environment (Morris & Venkatesh, 2010; Ouyang et al., 2015). WE is a positive work-related attitude that can be assessed in terms of vigor, dedication, and absorption (Christian et al., 2011). JS and WE are both emotion-based attitudes and will obviously be affected by EI. Emotionally intelligent individuals can interact with coworkers smoothly and effectively, and their compliance to norms or rules in the organization may cause less conflict with organization and people in the organization. Thus, they are more satisfied with their jobs and more engaged with their work. On the contrary, individuals with low EI cannot engage with coworkers and the organization well, are less satisfied with their jobs, and are disengaged in their work. EI is significantly and positively associated with JS (Brunetto et al., 2012; Sun et al., 2017), and JS is the antecedent of WE (S. Abraham, 2012; Rayton & Yalabik, 2014). Brunetto et al. (2012) further confirmed the EI-JS-WE relationship in which EI has a positive and significant path leading to JS and then to WE. Furthermore, JS and WE are considered two of the most intuitive antecedents of OCB. JS positively influences OCB, and the relationship between JS and OCB is stronger than that between JS and employee in-role performance (Organ & Lingl, 1995; Organ & Ryan, 1995). Additionally, WE positively influences employee OCB (Ahmad & Omar, 2015; Ariani, 2013; Babcock-Roberson & Strickland, 2010). Per the notion of OCB and CWB, we may expect that JS and WE are predictors of CWB. If employees' JS and WE are high, they tend to display less CWB; if their JS and WE are low, they are likely to display more CWB. The negative relationship has been tested in existing studies (Ariani, 2013; Czarnota-Bojarska, 2015; Greenidge et al., 2014). Respecting the expected association between EI, OCB, and CWB, we proposed the following hypotheses:

1: WE mediates the positive association between EI and OCB;
2: WE mediates the negative association between EI and CWB;
3: JS mediates the positive association between EI and OCB;
4: JS mediates the negative association between EI and CWB.

1.3 Organizational Justice and Person-organization Fit as Moderators

Contextual or situational factors might influence the relationship between EI and extra-role behavior (e.g., Miao et al., 2017a; Sulea et al., 2013). Jordan et al. (2010) addressed the importance of context in their study, arguing that EI might have differing effects depending on the situation in which the ability is being utilized. Thus far, no empirical studies have analyzed the moderation while they have investigated only the direct association between contextual factors and extra-role behavior. Specifically, evidence suggests that OJ is positively associated with OCB (Chan & Lai, 2017; Ouyang et al., 2015) and negatively associated with CWB (Shoaib & Baruch, 2019), and that strong value congruence between employees and organization predicts higher levels of OCB (Vondey, 2010) and lower levels of CWB (Demir et al., 2015).

The fundamental attribution error describes individuals' tendency to overestimate the role of personal traits or dispositional factors in outcomes and underestimate external or situational factors (Forgas, 1998). Contextual factors are exceedingly important contributors to individual behaviors. According to Lewin's equation, B = f(P, E) (Sansone et al., 2004), human behavior is a function of a person–environment interaction. Similarly, Spector and Fox (2002) argued that individuals will act upon emotional reactions to a workplace situation and that OCB and CWB are contextual behaviors. Therefore, one might expect that the interaction of EI or its consequences with OJ and P-O fit will have positive effects on OCB and negative effects on CWB. Thus, we propose the following hypotheses:

5: OJ will moderate the effect of EI on OCB, such that when OJ is higher, the effect of EI on OCB is stronger.

6: OJ will moderate the effect of EI on CWB, such that when OJ is higher, the effect of EI on CWB is weaker.

7: P-O fit will moderate the effect of EI on OCB, such that when P-O fit is higher, the effect of EI on OCB is stronger.

8: P-O fit will moderate the effect of EI on CWB, such that when P-O fit is higher, the effect of EI on CWB is weaker.

2. Methodology

2.1 Participants

The participants were knowledge employees of public and non-public organizations who had completed formal higher education in mainland China. Participants were selected using a purposive convenience sampling method. A total of 570 questionnaires were received from 26 provinces of China, 540 of which were valid (94.7 %).

2.2 Measures

The Wong Law EI Scale (WLEIS) (Wong & Law, 2002) was used to assess participants' EI. Individuals' OCB was measured with 16 items designed by Lee and Allen (2002), while 16 items from Yang and Diefendorff's (2009) scale were adopted to assess individuals' CWB. Three items were adopted from Morris and Venkatesh (2010) to evaluate individuals' JS level (one item was deleted in analysis). We used the shortened 9-item version of the Utrecht WE Scale (UWES-9) (Schaufeli et al., 2006) to capture the three dimensions of engagement. We adopted 16 items from previous studies to assess the three dimensions of perceived OJ: items on distributive justice (DJ) and procedural justice (PJ) were taken from Niehoff and Moorman (1993), while items on interactional justice (IJ) were taken from Farh, Earley, and Lin (1997). Three items adopted from Cable and Judge (1996), with minor changes, were used to assess P-O fit.

All measures were self-reported and utilized seven-point Likert-type scales. The items used to measure EI, JS, OJ, and P-O fit scales were scored via an agreement rating scale ranging from 1 (strongly disagree) to 7 (strongly agree). The WE, OCB, and CWB scales were scored via a frequency rating scale ranging from 1 (never) to 7 (always).

2.3 Data analysis

This study first used the structural equation modeling to examine how EI influences employee OCB and CWB through JS and WE as mediators with SPSS Amos 24. Afterward, multiple linear regression was utilized to estimate the moderation effects of OJ and P-O fit on the relationship of EI-OCB and EI-CWB with SPSS 24. Considering it is very complicated to estimate the moderating coefficients when both independent variables and moderators are latent, we computed EI, JS, WE, OCB, CWB, OJ, and P-O fit as the means of all subordinated items. Following Robinson and Schumacker's (2009) suggestion, mean-centered variables were used to generate the interaction terms. The reliability of the interaction terms is estimated with the products of the Cronbach Alpha of both variables (Aguinis et al., 2017). The results showed that all the interaction terms were reliable.

3. Results

3.1 Descriptive Statistics and Correlations

Table 1 shows the means, standard deviations, and intercorrelations among the variables. The Cronbach's alpha of each factor (in parentheses in the table) met the cutoff criterion (alpha > 0.7). One item from the JS scale was deleted because it was not consistent with other two items to achieve better reliability. The outcome variable OCB was positively correlated to gender ($r = .108$, $p < .05$), age group ($r = .109$, $p < .05$), and tenure ($r = .100$, $p < .05$), while CWB was correlated with organizational types ($r = .147$, $p < .01$),

gender (r = .181, p < .01), age group (r = -.153, p < .01), and tenure (r = -.145, p < .01). This implies that employees in a non-public organization may display more CWB, female employees may display more OCB and CWB, and senior employees may be more likely to perform more OCB and less CWB than young and less tenured employees. This negative relationship is similar to the results of Bordia, Restubog, and Tang (2008). Since tenure is highly correlated with age (r = .849, p < .01), only age group was used as a control variable, and group analysis was conducted to assess whether organization differences and gender moderated the effect of EI on extra-role behaviors.

TABLE 1. **Descriptive statistics, correlations, and reliability coefficients**

	Mean	SD	EI	JS	WE	OCB	CWB	OJ	P-O fit
Organization types	1.39	0.488	-.056	-.017	.065	-.072	.147**	.086*	.011
Gender	1.45	0.498	.120**	.137**	.136**	.108*	.181**	.072	.118**
Age group	4.18	1.22	.118**	.106*	.096*	.109*	-.153**	-.006	.056
Tenure	3.45	1.32	.086*	.077	0.06	.100*	-.145**	-.004.	.059
EI	5.22	0.76	(.934)						
JS	4.6	1.22	.442**	(.847)					
WE	4.84	1.08	.585**	.647**	(.94)				
OCB	4.98	0.88	.536**	.450**	.524**	(.94)			
CWB	2.09	0.87	-.255**	-.119**	-.221**	-.227**	(.938)		
OJ	4.38	1.23	.377**	.667**	.524**	.424**	-.139**	(.952)	
P-O fit	4.34	1.14	.365**	.675**	562**	421**	-130**	715**	(.917)

*Notes: N= 540, *p < .05; **p < .01. Organization types: public organization = 1, non-public organization = 2; Gender: male = 1, female = 2, age group: < 20 = 1, 21-25 = 2, 26-30 = 3, 31-35 =4, 36-40 = 5, 45-50 = 6, > 50 = 7; tenure: < 3years = 1, 3-5 years = 2, 5-10 years = 3, 10-15 years = 4, 15-20 years = 5, > 20 years = 6. Constructs are computed by the mean of all indicators. Reliability coefficient Cronbach's Alphas are shown in parentheses.*

3.2 Measurement Model Test

Confirmatory factor analysis (CFA) was implemented using maximum likelihood estimation with 5,000 bootstrap samples to assess the factor structure. To generate a simple model, some second-order indicators were computed using the means of first-order items (e.g., SEA was assessed using the mean of four subordinate items), and the second-order indicators were used to measure the constructs. The results showed that a one-factor model yielded good fit to the data (CMIN/DF (309.78/129) = 2.401, p < .001, RMR = 0.040, GFI = .942, AGFI = .914, CFI = .973, NFI = .955, RMSEA = .051, PCLOSE = .400). The composite reliability (CR), average variance extracted (AVE),

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TABLE 2. **Model fit, path coefficients and standard errors**

			Model 1. Controlling Age	Model 2. Before grouping	Model 3. Grouped by organization type		Model 4. Grouped by gender	
Outcomes		**Antecedents**	N=540	N=540	Pub Org = 331	Non-pub Org = 209	Male = 298	Female = 242
JS	←	**EI**	.931(.098)***	.928(.098)***	1.004(.133)***	.829(.145)***	.998(.162)***	.824(.120)***
WE	←	**EI**	.637(.075)***	.637(.075)***	.604(.103)***	.714(.109)***	.521(.116)***	.773(.096)***
OCB	←	**EI**	.408(.071)***	.409(.071)***	.485(.093)***	.227(.120)	.474(.109)***	.354(.104)***
CWB	←	**EI**	-.285(.114)**	-.348(.114)**	-.451(.138)***	-.198(.214)	-.375(.149)*	-.419(.183)*
WE	←	**JS**	.450(.040)***	.450(.040)***	.460(.054)***	.435(.060)***	.547(.059)***	.331(.055)***
OCB	←	**JS**	.095(.039)*	.096(.039)*	.097(.047)*	.058(.070)	.084(.059)	.115(.052)*
CWB	←	**JS**	.134(.069)	.111(.069)	.187(.081)*	.013(.128)	.076(.094)	.071(.094)
OCB	←	**WE**	.172(.055)**	.170(.055)**	.118(.062)	.332(.117)**	.171(.074)*	.165(.088)
CWB	←	**WE**	-.246(.095)*	-.204(.095)*	-.276(.106)**	-.115(.205)	-.192(.115)	-.142(.161)
OCB	←	**Age**	.003(.020)	n/a	n/a	n/a	n/a	n/a
CWB	←	**Age**	-.117(.035)***	n/a	n/a	n/a	n/a	n/a
Model fit			CMIN/DF = 169.9/66 = 2.574, RMR = 0.036, GFI = 0.955, AGFI = 0.929, TLI = 0.962, CFI = 0.972, NFI = 0.956, RMSEA = 0.054, PCLOSE = 0.242	CMIN/DF = 160.7/56 = 2.870, RMR = 0.036, GFI = 0.954, AGFI = 0.926, TLI =0.961, CFI = 0.972, NFI = 0.958, RMSEA = 0.059, PCLOSE = 0.081	CMIN/DF = 215.942/112=1.928, RMR = 0.039, GFI = 0.941, AGFI = 0.904, TLI = 0.961, CFI = 0.972, NFI = 0.945, RMSEA = 0.042, PCLOSE = 0.954		CMIN/DF = 212.343/112=1.896, RMR = 0.043, GFI = 0.942, AGFI = 0.906, TLI = 0.962, CFI = 0.973, NFI = 0.945, RMSEA = 0.041, PCLOSE = 0.966	
Note: p* < .05; **p < .01; ***p < .001								

maximum shared variance (MSV), and average shared variance (ASV) through the CFA were checked following the procedure suggested by Gaskin (2016). The validity and reliability of all factors were adequate.

The CFA indicators were used to examine collinearity tolerance and variance influence factors (VIF). The lowest tolerance ($t = 0.277$) was better than the suggested cutoff of 0.2 (Midi et al., 2010). The highest VIF (VIF = 3.606) was far below the commonly used threshold of 10 and the more conservative cutoff of 5 (Craney & Surles, 2002). Thus, multicollinearity problems were not a concern in this model.

3.3 Hypotheses Tests

3.3.1 The mediating effects of WE and JS

Four models were estimated using a maximum likelihood method with 5,000 bootstrap samples. Table 2 shows the model fit and coefficients of four models. Standard errors are in parentheses.

In Model 1, age group was controlled for OCB and CWB. The results indicated that EI was significantly and positively associated with OCB, JS, and WE and significantly and negatively associated with CWB. JS was significantly and positively related to OCB and WE. WE was significantly and positively associated with OCB and negatively associated with CWB. There was no significant direct association between JS and CWB, only a significant negative association via WE. We removed control variables in Model 2. There were no notable differences in model fit, coefficients, and significant level between Model 1 and Model 2; thus, for simplicity and parsimony, Model 2 was used for further analysis. The relationships of variables between public organizations and non-public organizations were compared in Model 3. Results showed that the relationships of variables collected from public employees were clearly different from those gathered from non-public employees. Therefore, we concluded that organization type moderates the effect of EI on OCB and CWB. In Model 4, gender differences were checked. The results supported that gender moderates the effect of EI on OCB and CWB, confirming the findings of Bowling and Burns (2015).

Table 3 provides the standardized direct and indirect effects from antecedents to outcomes of Model 2, which supports Hypotheses 1, 2, 3, and 4. Thus, we argue that WE and JS partially mediate the association from EI to OCB and CWB.

TABLE 3. **Indirect effects, direct effects and the results of mediation test (Model 2)**

Outcomes	Mediators	Antecedents	SD. Indirect	SD. Direct	SD. Total	Hypotheses	Results
OCB	WE	EI	.102	.387	.642	H1	Supported
OCB	JS	EI	.152			H3	Supported
CWB	WE	EI	-.0865	-.232	-.384	H2	Supported
CWB	JS	EI	-.065			H4	Supported

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TABLE 4. **Multiple linear regression results**

Independent variables			Z'OCB		Z'CWB		Z'WE		Z'JS	
			Beta	ΔR^2	Beta	ΔR^2	Beta	ΔR^2	Beta	ΔR^2
		Step1:								
		Z'EI	.536**	.287**	-.255**	.065**	585**	.343**	.442**	.195**
		Z'JS	.450**	.202**	-.119**	.014**	.647**	.419**		
		Z'WE	.524**	.275**	-.221**	.049**				
		Step2								
	Z'EI	**Z'POF**	.259**	.058**	-.050	.002	.354**	.107**	.583**	.292**
	Z'JS	**Z'POF**	.224**	.028**	-.106	.006	.166**	.015**		
	Z'WE	**Z'POF**	.206**	.031**	-.032	.001				
	Z'EI	**Z'OJ**	.261**	.059**	-.042	.002	.402**	.140**	.593**	.305**
	Z'JS	**Z'OJ**	.216**	.025**	-.090	.004	.230**	.029**		
	Z'WE	**Z'OJ**	.185**	.023**	-.008	.000				
		Step3								
Z'EI	**Z'POF**	**Z'EI*Z'POF**	.120**	.013**	-.020	.000	.021	.000	.092**	.008**
Z'JS	**Z'POF**	**Z'JS*Z'POF**	.247**	.057**	-.114*	.012*	.154**	.022**		
Z'WE	**Z'POF**	**Z'WE*Z'POF**	.146**	.021**	-.056	.003				
Z'EI	**Z'OJ**	**Z'EI*Z'OJ**	.090*	.007*	-.059	.003	-.006	.000	.045	.002
Z'JS	**Z'OJ**	**Z'JS*Z'OJ**	.224**	.048**	-.148**	.021**	.169**	.027**		
Z'WE	**Z'OJ**	**Z'WE*Z'OJ**	.139**	.019**	-.102*	.010*				

*Notes: N= 540*p < .05; **p < .01. Variables are computed by the mean of all indicators. Z' means the values are mean centered.*

3.3.2 The moderating effects of OJ and P-O fit

The moderating effects on all paths from EI to both behavioral outcomes were checked to achieve a clear understanding of the interaction relationship. The variables in the moderation test were assessed by the standardized means of variables to compute the interaction factors without considering collinearity. Table 4 shows the standardized regression coefficient and change in R^2 of each step. The results indicated that OJ moderated the direct path from EI to OCB; the direct paths from JS to OCB, WE, and CWB; and the direct paths from WE to OCB and CWB. P-O fit moderated the direct paths from EI to OCB and JS; the direct paths from JS to OCB, WE, and CWB; and the direct path from WE to OCB. As shown in Table 5, if the moderator module coefficients were significant for at least one path from the antecedent to the outcome variables, a moderating relationship existed. Hence, OJ and P-O fit positively moderated the effect of EI on OCB and negatively moderated the effect of EI on CWB in the mediation model. Hypotheses 5, 6, 7, and 8 were thus supported.

TABLE 5. **Moderation effects and results of moderation tests**

Outcomes	Paths	Antecedents	Moderators	Effects	Total effects	Hypotheses	Results
OCB	←	**EI**	OJ	+ moderating	+ moderating	H5	Supported
OCB	←JS←	**EI**		+ moderating			
OCB	←WE←	**EI**		+ moderating			
OCB	←WE←JS←	**EI**		+ moderating			
CWB	←	**EI**		No moderating	- moderating	H6	Supported
CWB	←JS←	**EI**		- moderating			
CWB	←WE←	**EI**		- moderating			
CWB	←WE←JS←	**EI**		- moderating			
OCB	←	**EI**	POF	+ moderating	+ moderating	H7	Supported
OCB	←JS←	**EI**		+ moderating			
OCB	←WE←	**EI**		+ moderating			
OCB	←WE←JS←	**EI**		+ moderating			
CWB	←	**EI**		No moderating	- moderating	H8	Supported
CWB	←JS←	**EI**		- moderating			
CWB	←WE←	**EI**		No moderating			
CWB	←WE←JS←	**EI**		- moderating			

4. Discussion

4.1 Empirical Results Discussion

This study found that JS and WE partially mediated the associations of EI with OCB and CWB. With respect to the mechanism, people with higher EI and subsequently higher JS and WE were likely to perform more OCB and less CWB.

More importantly, this study identified that the effects of EI on OCB and CWB differed in size and direction. The total effect from EI to OCB (e = .642) was approximately 1.7 times that from EI to CWB (e = -.384) in the opposite direction. Regarding the characteristic of the participants, we may predict that well-educated people would exhibit larger effects of EI on OCB and smaller effects of EI on CWB in an emotional context. However, further research is necessary before a strong conclusion can be drawn.

Interestingly, there was no significant direct association between JS and CWB; only a weak negative relationship via WE existed, illustrating that the association between JS and CWB is serpentine. Many researchers have found a significant negative association between these two variables, whereas others found no significant relationship (e.g., Czarnota-Bojarska, 2015). Peng (2012) created a CWB scale for use with knowledge workers and found that overall scores on the scale moderately and negatively correlated with JS. However, the effect of JS on total CWB was not significant in a regression analysis, although JS did have a significant negative impact on employees' knowledge withholding behaviors and resistant behavior. Several theoretical reasons for the relationship between satisfaction and CWB have been proposed. First, it is possible that there are types of people who can control themselves from acting negatively even in low-satisfaction situations (Czarnota-Bojarska, 2015). Other researchers have proposed that CWB might inversely influence individuals' emotional and attitudinal factors. Specifically, individuals can alleviate stressors or a negative mood by performing harmful or deviant behaviors, such as revenge, and thereby achieve a higher level of satisfaction (Fox et al., 2001; Spector, Fox, Penney et al., 2006). Additionally, there may exist measurement problems. Compared with production-line employees, knowledge employees have greater flexibility in their work. Instead of being directly monitored by the organization, they tend to be evaluated with respect to their overall performance. However, previous CWB scales have primarily focused on worktime and workplace behaviors; CWB under work flexibility was not included in such scales. Accordingly, the items of previous CWB scales might need to be updated and refined (Bayram et al., 2009).

This study also found that OJ and P-O fit positively moderated the effect of EI on OCB and negatively moderated the effect of EI on CWB in the mediation model. In the case of higher levels of OJ or P-O fit, the positive association between EI and OCB was enhanced, while the negative association between EI and CWB was diminished. In this regard, we should consider more specifically the moderation effects of both OJ and P-O fit on the relationship between JS and CWB. As mentioned before, no signifi-

cant relationship between JS and CWB was found in the mediation model, while in the moderation model, interactions with both moderators had a significant negative impact on CWB. This finding implies that the greater the level of OJ and P-O fit, the smaller the impact of JS in reducing individuals' CWB. No significant moderation effect of OJ and P-O fit on the association between EI and WE or the association between EI and CWB were found in the model. This means that in an emotional context, OJ and P-O fit did not significantly influence the direct effect of EI on WE and CWB. Moreover, the interaction of EI and OJ did not significantly relate to the midway outcome JS, while P-O fit intervened in the association between EI and JS.

4.2 Significance and Implications

This study explored theoretical mechanism through which EI affects knowledge employees' OCB and CWB in one model. It found that the effect from EI to OCB is about 1.7 times in size than that from EI to CWB in the opposite direction, which filled the research gap and enriched the literature of EI-Job performance research. Most existing literature focused on either EI-OCB or EI-CWB relationship in the model (Carmeli & Josman, 2006; Cropanzano et al., 2003; Khalid et al., 2009; Matta et al., 2014; Spector, Fox, & Domagalski, 2006), which limited the possibility of contrasting the EI-OCB and EI-CWB relationship, although the comparison is necessary and important (Miao et al., 2017). A few studies integrated both EI-OCB and EI-CWB in one model (Greenidge et al., 2014; Jung & Yoon, 2012; Miao et al., 2017), which enabled the comparison of EI-OCB and EI-CWB. However, the meta-analysis identified the EI-OCB and EI-CWB relationship without exploring the influence mechanism. Other two works used the components of EI as predictors, which made it difficult to compare the effect of general EI on OCB and CWB and to explore the mechanism.

This study verified the total moderation effect of OJ and P-O fit on EI-OCB and EI-CWB relationship and examined how moderators affect the associations. The results showed that moderators do not have effects on the direct association between EI and CWB; however, both moderators influenced the indirect association between EI and CWB via JS and WE. Most previous research focused on the moderation effect on the direct relationship of antecedents and outcome variables, while few have concerned the moderation effect on the indirect relationship. This study elucidated that the moderation effect on both the direct and indirect relationship should be taken into consideration. The current results emphatically support affective events theory, which suggests that dispositional factors (EI) influence attitudes and behavioral outcomes (JS, WE, OCB, CWB), affective-related attitudes (JS, WE) mediate the association between disposition and behavioral outcomes, and perceived environmental factors (workplace justice and individual–organization relationships) moderate the relationship between dispositional factors and behavioral outcomes. In contrast to some prior research, the findings of this study did not support a negative association between EI and CWB via JS in the model, although there existed significant negative bivariate correlations. This

is consistent with the findings of Czarnota-Bojarska (2015) and Peng (2012). Therefore, we question whether JS is a good predictor of CWB or other deviant behavior in workplaces in an emotional context and whether CWB scale items should be updated and refined to match the attribute of particular groups.

This study proposed that organizations might be able to promote OCB and diminish CWB by hiring employees with high EI and developing their emotional abilities through adequate strategies (Biggart et al., 2016). Particularly, employees might be selected more precisely by assessing their EI, JS, and WE, which might help to improve OCB and reduce CWB. Similarly, fostering OJ and shaping employees' values to be more congruent with those of the organization can be another way to promote OCB and diminish CWB of employees with certain EI.

4.3 Limitations and Future Research

First, single-point data collection may engender concurrent data bias. Mood, stress, or other factors at any given time influence people's attitudes and feelings about their work state; therefore, single-sampling may not accurately capture the level of JS and WE. The individual's behavior is reflected in EI, JS, and WE, and moderators should be lagged in a time series; hence, the use of cross-sectional data limits the findings and arguments. Future research could adopt longitudinal designs to reduce bias and enable more confident conclusions.

Second, all data consisted of self-report measures, which have a considerable risk of common-method variance. Given the nature of many of the variables, self-report was the most appropriate measurement approach; however, the outcome variables, such as OCB, would be better assessed via multiple measurements. We maintain that it is appropriate to measure CWB via self-report methods because many CWBs are covert and known only to the people actually engaging in them (Bowling & Burns, 2015).

Third, inadequate measurement of some variables is a potential limitation. The WLEIS (Wong & Law, 2002) was validated by prior studies, but the number of items it contains limits its validity. Thus, future studies could consider more valid ways to assess this factor, including the Mayer-Salovey-Caruso EI Test (Brackett & Salovey, 2006). The items of the CWB and JS scales adopted in this research might not well match the attributes of the target participants. Future research might analyze the attributes of target participants and utilize suitable items to assess more accurate CWB.

Conclusions

This study found that JS and WE positively and partially mediate the association between EI and OCB and negatively and partially mediate the association between EI and CWB. Moreover, OJ and P-O fit positively moderate the effect of EI on OCB and negatively moderate the effect of EI on CWB.

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