

# 團體情緒資本、個體情緒資本與工作滿足及組織公民行為之關聯：跨層級研究

## The Relationships among Emotional Capital, Job Satisfaction and Organizational Citizenship Behavior: A Cross-Level Analysis

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**摘要：**員工工作滿意度和組織公民行為會受到個體變數的影響，同時也會受到群體層次的變數所影響。本研究利用跨層次的方式來探討員工工作滿意度及組織公民行為。我們首先探討個人情緒資本，之後討論群體情緒資本。利用階層線性迴歸，研究發現個人情緒資本分別會對工作滿意度及組織公民行為有顯著的正向影響，組織內的群體情緒資本也會對於員工的工作滿意度及組織公民行為有顯著的直接效果。而群體情緒資本對個人情緒資本與工作滿意度有干擾效果。根據實證研究，我們建議企業在徵選員工應挑選具有個人情緒資本的員工，此外管理團隊也應建立群體情緒資本，加強員工對組織的向心力，發揮出員工最大的潛力。

**關鍵詞：**個人情緒資本；群體情緒資本；工作滿意度；組織公民行為；階層線性模型

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**Abstract:** Employee job satisfaction and organizational citizenship behavior are affected not only by individual-level variables but also by group-level variables. Hence, this study uses a cross-level approach to investigate the relationships among individual and group emotional capitals with job satisfaction and organizational citizenship behaviors. We first explore the individual emotional capital effects, and then group emotional capital effects. Based on hierarchical linear modeling, the study found individual emotional capital has significant positive effects on job satisfaction and organizational citizenship behavior, and so does group emotional capital within organizations. In addition, this study also found that group emotional capital has moderate effects on job satisfaction but organizational citizenship behaviors. According to the empirical findings, this study proposes that enterprises should take individual emotional capital into account when recruiting new employees, and then develop and accumulate the group emotional capital to facilitate the cohesive spirits and team work performance.

**Keywords :** Individual emotional capital; Group emotional capital; Job satisfaction; Organization citizenship behavior; Hierarchical linear modeling

## **1. Introduction**

Emotional theory has attracted considerable research in recent decades. However, emotional capital has not been given sufficient attention in the management literature. The extant literature related to emotional capital can be divided into two broad categories: individual level (Schweingruber and Berns, 2005; Zembylas, 2007; O'Brien, 2008) and group level (Thomson, 1998). Most of extant individual-level studies have been focused on the fields of education and the family (Reay, 2004; Gillies, 2006; Zembylas, 2007; O'Brien, 2008). In educational research, individual emotional capital is defined as emotionally valued assets and skills; love and affection; and the expenditure of time, attention, care, and concern (Reay, 2004; Zembylas, 2007). Additionally, a number of emotional capital studies have focused on individuals, such as mothers and

children (Reay, 2004; Gillies, 2006; Zembylas, 2007; O'Brien, 2008). To the authors' best knowledge, there is little research dealt with individual emotional capital of employees in the workplace. Employees have a higher job performance when they perceive positive well-being (an emotional power) in the workplace (Wright, Cropanzano and Bonett, 2007). Similarly, Cote and Morgan (2002) proposed that pleasant emotions and emotional regulation can increase employees' job satisfaction.

Group emotion is a type of interpersonal relationship (Kelly and Barsade, 2001). People who have emotional capital can create strong, familiar relationships with others (Gratton and Ghoshal, 2003). Boehm and Lyubomirsky (2008) commented that people with high levels of positive emotion have superior interpersonal skills to those who with lower levels. Fan and Zigang (2004) reported the Chinese preferred to spend time developing and maintaining interpersonal relationship in the interactive process. Pescosolido (2002) also suggested that the interpersonal relationship between a manager and his/her employees is an important factor in forming group emotion. Saavedra and Dyne (1999) stated that emotional investment was a pivotal dimension of group effectiveness defined as mutual caring, group loyalty, and commitment to the group as a whole. Employees' positive emotions can be strongly related to ethical decision-making in the organization (Connelly, Fauth and Mumford, 2004). Chinese people rely more on groups to make decisions with the core idea that they should emphasize loyalty to the group (Fan and Zigang, 2004). Therefore, a positive emotion among group members can influence individual attitudes, group processes, and group performance (Barsade *et al.*, 2000). Despite the essential impact of group emotion on employees' attitudes and behaviors, it still received little attention in organizational behavior research.

Previous organizational behavior studies have claimed multi-level effects of contextual factors on employees' attitudes and behaviors, such as job satisfaction and organizational citizenship (Kelly and Barsade, 2001; Pescosolido, 2002; Renjun and Zigang, 2005). However, they continue to focus on individual levels of analysis and ignore the group level (Cote and Morgan, 2002; Carmeli, 2003; Luthans *et al.*, 2007).

As discussed above, the theoretical development and practical applications of emotional capital at the individual level have gained enormous research in the social and behavioral sciences. Yet, individual employees are embedded in social relations among groups, teams and organizations (Day, 2000), it should consider both individual and group level factors simultaneously when dealt with employees' perceptions and behaviors at workplace (West, Patera and Carsten, 2009). When analyzed stable person characteristics, situational factors were typically aggregated to the higher level (e.g., Pugh, 2001). But, in some cases, the aggregation of different level variables may change their true meaning (Morgeson and Hofmann, 1999). To remedy this kind of distortion, we establish models that explicitly acknowledge the existence of different levels and formulate the interactions between cross-levels in the production of the outcome variables. We adopt hierarchical linear modeling (HLM), which allowed us to process and relate variables from different levels. The main purpose of this study was to determine if multilevel effects on job satisfaction and organizational citizenship behavior (OCB) would be manifested in terms of theoretically relevant individual- and group-level variables. Specifically, we investigate the relationships of group emotional capital with employees' outcomes and its moderate effect on the relations of individual emotional capital and employees' outcomes. The conceptual model of this study is depicted in Figure 1. The following, we reviewed several literatures with regard to multi-level research framework of emotional capital and employees' outcomes.

## **2. Literature Review**

### **2.1 Individual Emotional Capital and Job Satisfaction, Organizational Citizenship Behavior**

Employees with higher levels of individual emotional capital tend to be more satisfied with their job and more willing to help their colleagues. Cote and Morgan (2002) argued the existence of a positive relationship between employees' positive emotion and their job satisfaction. Organizational citizenship behavior

comprises four sub-dimensions or facets: helping, cooperating, showing courtesy and consideration, and motivating others (Dudley and Cortina, 2008). People who have high levels of positive emotion are more likely to engage in organizational citizenship behaviors (Connelly, Fauth and Mumford, 2004; Messer and White, 2006; Johnson, 2008). Positive emotion affects individuals by leading them to create a good outcome (Saari and Judge, 2004; Efklides and Petkaki, 2005). In general, employees who exhibited higher levels of emotional intelligence demonstrated a positive work attitude, behavior and performance (Carmeli, 2003). Put simply, happy people are more satisfied with their work compared to unhappy people (Boehm and Lyubomirsky, 2008). King, George and Hebl (2005) also suggested that employees who have low levels of positive emotion may not hold enough social confidence to help their coworkers. Thus, based on the arguments above, we propose the following two hypotheses: those employees with high levels of individual emotional capital should be able to demonstrate higher job satisfaction and facilitate organizational citizenship behaviors.

***H<sub>1</sub> : Individual emotional capital will significantly contribute to job satisfaction and organizational citizenship behavior.***

***H<sub>1a</sub> : Individual emotional capital will significantly contribute to job satisfaction.***

***H<sub>1b</sub> : Individual emotional capital will significantly contribute to organizational citizenship behavior.***

## **2.2 Group Emotional Capital and Job Satisfaction and Organizational Citizenship Behavior**

Over the last decade, a substantial amount of research has verified the consequences of group emotion in organizations (Barsade *et al.*, 2000; Kelly and Barsade, 2001; Seger *et al.*, 2009), and in particular, they emphasized the benefits of group emotion in motivational processes for job satisfaction and organizational citizenship behavior (Kidwell and Mossholder, 1997; Sveinsdottir, Biering and Ramel, 2006; Dimitriades, 2007). Group emotional capital consists of the benefits of group emotion, such as group cohesiveness, group loyalty, an ethical climate,

and interpersonal relationships. Employees perceived that group emotion would stimulate their own emotion and bring about group synergy of common objectives to boost a team's potential. Therefore, group emotional capital is related to higher job satisfaction and organizational citizenship behavior (Connelly, Fauth and Mumford, 2004; Ulrich *et al.*, 2007; Tsai and Huang, 2008).

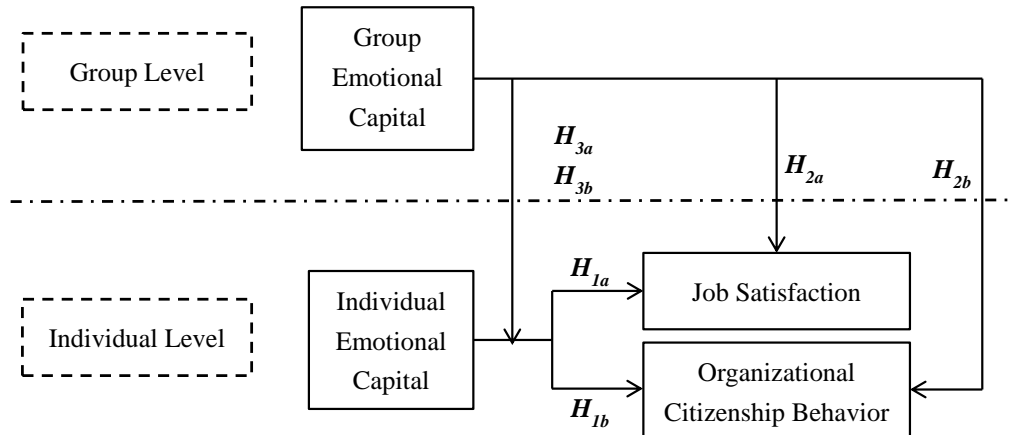
On the basis of this emerging theoretical foundation for group emotional capital, we derive the hypotheses as follows:

***H<sub>2</sub> : Group emotional capital will significantly contribute to job satisfaction and organizational citizenship behavior after individual emotional capital is controlled.***

***H<sub>2a</sub> : Group emotional capital will significantly contribute to job satisfaction after individual emotional capital is controlled.***

***H<sub>2b</sub> : Group emotional capital will significantly contribute to organizational citizenship behavior after individual emotional capital is controlled.***

**Figure 1**  
**A Multilevel Research**  
**Framework**



## 2.3 Contextual Effects and Cross-Level Interaction

The interaction between individual emotional elements and group context has been a critical concern in psychology theories (Griffin, 1997). Group emotional capital is a specific domain, defined as a group emotion phenomenon. Kidwell and Mossholder (1997) argued that group cohesiveness is an interaction pattern among employees and gives rise to the atmosphere that characterizes interactions within a team. Hence, contextual factors may be essential for understanding the consequences of group emotional capital in organizations (Walter and Bruch, 2008). Although group emotion originates within individuals (Barsade *et al.*, 2000; Kelly and Barsade, 2001; Seger *et al.*, 2009), group emotional capital is expected to be shared by individuals within different groups. Moreover, increased social interaction procedures result in a greater similarity of climate perceptions among group members within groups and greater variation across groups (Tse, Dasborough and Ashkansy, 2008). Given that employees with high emotional capital may already possess high levels of job satisfaction and organizational citizenship behavior, the additional contribution of group emotional capital is limited. Sy, Tram and O'Hara (2006) contended that employees' high emotional intelligence leads to high job satisfaction, and the additional contribution of environmental support is restricted. Chen and Francesco (2003) proposed that employees with high levels of positive emotion contribute to organizational citizenship behavior, and extra contribution of group norms is trivial. That is, employees who have high emotional capital that contributes to job satisfaction and organizational citizenship behavior and then group emotion has only minor influences. But, on the opposite, if employees have low emotional capital, the group emotional capital will have a great impact on job satisfaction and organizational citizenship behavior. Consequently, we predict that group emotional capital should be conceptualized as a group-level moderator of the relationships among individual emotional capital, job satisfaction, and organizational citizenship behavior. This leads to our cross-level hypothesis:

***H<sub>3</sub> : Given higher levels of group emotional capital, employees with lower individual emotional capital will demonstrate lower job satisfaction and weaker organizational citizenship behavior.***

***H<sub>3a</sub> : Given higher levels of group emotional capital, employees with lower individual emotional capital will demonstrate lower job satisfaction.***

***H<sub>3b</sub> : Given higher levels of group emotional capital, employees with lower individual emotional capital will demonstrate weaker organizational citizenship behavior.***

### **3. Methods**

#### **3.1 Sample and Procedures**

Prior to collecting the data for this study, a pretest was conducted on a sample of 30 questionnaires. Minor modifications, including the deletion of redundant and unclear items, were made to the survey instrument based on an item analysis and examination of internal consistency reliabilities. In addition, a few respondents were interviewed in order to establish the clarity of the questions, as well as their adequacy in capturing the desired construct.

We used questionnaires and convenience sampling to collect primary data from 25 companies, 3 high-tech companies, 8 financial companies and 2 governmental departments. All participants were told that the purpose of this study was to assess the relationships among emotional capital and job satisfaction and organizational citizenship behavior, and they were all volunteers. In this sample, 42.4% of participants were male, while 57.6% were female. The demographic variables are given in detail in Table 1.

#### **3.2 Measures**

The study adapted scales from Vallerand *et al.* (2008) to measure individual emotional capital. Sample items included “I think that I often feel satisfied with my life,” “I think that I always feel healthy,” “I think that I often feel optimistic about



the future,” “I have a tough time controlling my need to do my job,” “I have almost an obsessive feeling for my job,” etc. The Cronbach’s alpha for individual emotional capital was 0.87.

**Table 1**  
**Demographic Variables of this Study**

<b>Demographic</b>	<b>Frequency (%)</b>	
Gender	Male : 318 ( 42.4% )	Female : 432 ( 57.6% )
Age	15~25 : 72 (9.6%) 31~35 : 155 (20.7%) 46 and above : 95 (12.7%)	26~30 : 261 (34.8%) 36~45 : 167 (22.3%)
Education	High school or below : 132 (17.6%) University : 155 (20.7%)	College : 119 (15.9%) Graduate : 95 (12.7%)
Occupational Level	Senior managers : 15 (2.0%) First-line managers : 105 (14.0%) Temporary workers : 32 (4.3%)	Middle managers : 37 (4.9%) Employees : 561 (51.1%)
Tenure	1~3 years: 313 (41.7%) 6~9 years: 71 (9.5%)	3~6 years: 176 (23.5%) 9 years and above : 190 (25.3%)

Organizational citizenship behavior was based on works by Farh, Earley and Lin (1997) and Podsakoff and Mackenzie (1996). Sample items included “Many colleagues are willing to cover works for other colleagues when necessary,” “Many colleagues often use positions of power to pursue selfish personal gain,” and “Many colleagues often use company resources to do personal business” etc. The Cronbach’s alpha for organizational citizenship behavior was 0.74.

The measure of job satisfaction was modified from research by Churchill, Ford and Walker (1974). Sample items were “I think that my work is challenging,” “I think my job is often dull and monotonous,” “I think that my work gives me a sense of accomplishment,” “I think that my opportunities for advancement are very limited,” and “I think of my present job in light of my career expectations” etc. The Cronbach’s alpha for organizational citizenship behavior was 0.73.

Most measurements of group emotional expression use a mean aggregate

score determined by averaging responses across individual workers of the group (Griffin, 1997; Kelly and Barsade, 2001; Pescosolido, 2002; Seger *et al.*, 2009). Moreover, social interaction thus explains the transition from individual perceptions into a shared measurement, turning an individual-level factor into a group-level factor, that is, the group tone or climate (Zohar and Tenne-Gazit, 2008). The study combined scales devised by Mollenhorst, Volker and Flap (2008), Segrin and Taylor (2007) to measure group emotional capital. Sample items included, “I enjoy working with my colleague in the company,” “I feel that I am a part of the company,” “At work, people do not cooperate; sometimes they make trouble for me,” “I think that I should do what is right for the customers and public in this company,” and “I think that people protect their own interests above all else in this company” etc. The Cronbach’s alpha for group emotional capital was 0.86.

Previous researchers have indicated that gender, age, education, level, and tenure have effects on organizational citizenship behavior and job satisfaction (Carmeli, 2003; Chiu and Tsai, 2006; Cole, Harris and Bernerth, 2006; Gadot, 2007; Chughtai, 2008). Accordingly, we included gender, age, education, level and tenure as control variables.

### **3.3 Data Analysis**

We checked the viability of group-level constructs by examining the within-group agreement, intra-class correlation coefficient *ICC* (1) and reliability of the mean *ICC* (2) (Castro, 2002; Bliese, Halverson and Schriesheim, 2002; Hui *et al.*, 2007). We used four hierarchical linear models to test the above hypotheses. First, we tested the significant difference of within-and between-group variances of job satisfaction and organizational citizenship behavior, since they are influenced by both individual and group level variables. Hence, we tested a null model in which there were no variables at either the individual- or group-level to separate the variance in job satisfaction and organizational citizenship behavior into within-group and between-group factors. Second, we examined a random coefficient regression model with group-mean centered individual-level variables (i.e., individual emotional capital) to estimate the relationships among individual emotional capital, job satisfaction and organizational citizenship behavior. Third,

we established an intercepts-as-outcomes model to examine the effects of the group-level variable (i.e., group emotional capital) to regress the intercept estimates acquired from level 1 as outcome variables. Finally, we employed a slopes-as-outcomes model to regress the slope estimates acquired from level 1 to estimate cross-level interaction effects. This study also examined the proportion of variance in job satisfaction and organizational citizenship behavior explained by individual-level components ( $R^2_{\text{within-group}}$ ) as well as by group-level components ( $R^2_{\text{between-group}}$ ) (Hofmann, 1997). In addition, the choice of centering must be determined by theory (Hofmann, 1997). All individual predictors were group-mean centered to eliminate any group-level variance from the level 1 predictors. Group-level predictors in the above models were grand-mean centered to reduce potential collinearity between the level 2 intercept and slope terms (Kidwell and Mossholder, 1997).

## 4. Empirical Results

### 4.1 Discriminant Validity

We conducted confirmatory factor analyses (CFAs) to examine whether the four-factor model is a better fit than the one-factor model. This four-factor model fit the data better than the one-factor model. As shown in Table 2, four-factor  $\chi^2 = 3374.667$ ,  $CFI = 0.752$ ,  $AGFI = 0.716$ , and  $RMSEA = 0.0987$ , while one-factor  $\chi^2 = 5863.311$ ,  $CFI = 0.599$ ,  $AGFI = 0.546$ , and  $RMSEA = 0.145$ .

**Table 2**  
**Results of Confirmatory Factor Analysis of Measurement Variables**

Model	$\chi^2$	d.f.	GFI	AGFI	RMSEA
Four-factor model	3374.677	490	0.752	0.716	0.0987
One-factor model	5863.311	496	0.599	0.546	0.1450

### 4.2 Descriptive Statistics and Correlations

Table 3 displays the means, standard deviations and correlations of the

variables we researched. At the individual level, individual emotional capital was significantly correlated with job satisfaction ( $r = 0.600^{***}$ ) and organizational citizenship behavior ( $r = 0.437^{***}$ ); at the group level, group emotional capital was significantly correlated with job satisfaction ( $r = 0.425^{***}$ ) and organizational citizenship behavior ( $r = 0.562^{***}$ ). The correlations among the observed variables provide primary evidence to support our hypotheses. The results supported criterion-related validity evidence for job satisfaction and organizational citizenship behavior.

**Table 3**  
**Means, Standard Deviations and Correlations Matrix**

Correlations Matrix	IEC	JS	GEC	OCB
IEC	1.000			
JS	0.600***	1.000		
GEC	0.565***	0.425***	1.000	
OCB	0.437***	0.404***	0.562***	1.000
Mean	4.858	4.321	5.441	4.748
Standard Deviation	0.923	1.016	0.780	0.861
Cronbach's Alpha	0.878	0.748	0.868	0.731

Note:  $N = 750$ , \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.0001$ ; IEC: Individual Emotional Capital; GEC: Group Emotional Capital; JS: Job Satisfaction; OCB: Organizational Citizenship Behavior

### 4.3 Data Aggregation

Because certain variables in the research were higher level variables, we examined the potentiality of the organization-level variables. We therefore computed the value of the within-group agreement ( $r_{wg}$ ), intra-class correlation ( $ICC (1)$ ), and the reliability of the mean ( $ICC (2)$ ). Although all three indices measure group-level characteristics of data,  $ICC (1)$  and  $ICC (2)$  are indices that are used across all groups, whereas the  $r_{wg}$  coefficient is tested only within a single group; that is, the  $r_{wg}$  index is tested within each group in the sample (Castro, 2002). The  $r_{wg}$  was a standard used to confirm the fitness of aggregation data to higher levels of analysis. If the average value of  $r_{wg}$  is greater than 0.70, it means good

agreements within the groups (Kidwell and Mossholder, 1997; Castro, 2002; Mathieu and Schulze, 2006). We obtained average value of 0.95 for group emotional capital that sustains the appropriateness of aggregation data to higher levels (minimum = 0.90, maximum = 0.98). These values suggest that individuals within firms tend to agree with their assessment of group emotional capital. In past research, there were no absolute standards on acceptable values for *ICC (1)* and *ICC (2)* (Bliese, Halverson and Schriesheim, 2002). However, Hui *et al.* (2007) suggested that the values of *ICC (1)* greater than 0.12 can be due to aggregation, whereas if *ICC (1)* is less than 0.05, then aggregation may be excluded (Castro, 2002). If values of *ICC (2)* greater than 0.60, then can be due to aggregation (Hui *et al.*, 2007; Tse, Dasborough and Ashkansy, 2008). Using the model for the relationship between individual emotional capital and job satisfaction, the values of *ICC (1)* and *ICC (2)* on group emotional capital are 0.14 and 0.83 respectively. Similarly, in the model for organizational citizenship behavior, *ICC (1)* and *ICC (2)* values to be 0.09 and 0.74 respectively. These results indicate that group emotional capital consisted of individual members and was able to be aggregated as a group-level variable.

## **4.4 HLM Results for Job Satisfaction and Organizational Citizenship Behavior**

### **4.4.1 Null Model**

In order to support our hypotheses which predict that both individual and group variables would be significantly related to job satisfaction and organizational citizenship behavior, we used HLM to estimate a null model in which no predictors were specified for either the level1 or level2 function to test the significance at level 1 of the level 2 residual variance of the job satisfaction intercept (25.925, *t-ratio* = 51.335) and OCB intercept (28.485, *t-ratio* = 78.946). The *ICC (1)* was 0.14 and 0.09 respectively, indicating values of 14 and 9 percent of the variance in job satisfaction and organization citizenship behavior between firms.

### **4.4.2 Random Coefficient Regression Model**

*H<sub>1a</sub>* and *H<sub>1b</sub>* predict that individual emotional capital will be associated with job satisfaction and organizational citizenship behavior. At level 1, we used

individual emotional capital for the prediction, with no variables specified for the level 2 model. The results of this model revealed that individual emotional capital is positively related to job satisfaction (Table 4) and organizational citizenship behavior (Table 5) ( $\gamma_{10} = 0.318$ ,  $t\text{-ratio} = 11.744$  and  $\gamma_{10} = 0.218$ ,  $t\text{-ratio} = 9.583$ ). Employees with a higher level of emotional capital have a positive relation to job satisfaction (Cote and Morgan, 2002). The same effects worked for organizational citizenship behaviors, and were consistent with Connelly, Fauth and Mumford (2004), Messer and White (2006) and Johnson (2008). The results also shown that there was significant variance across groups in the level 1 intercepts and slopes (job satisfaction,  $\tau_{00} = 5.794$ ,  $p < 0.000$ ,  $\tau_{11} = 0.010$ ,  $p < 0.007$  and organizational citizenship behavior,  $\tau_{00} = 2.648$ ,  $p < 0.000$ ,  $\tau_{11} = 0.004$ ,  $p < 0.032$ ). Therefore,  $H_{1a}$  and  $H_{1b}$  were supported.  $R^2_{\text{within-group}}$  for job satisfaction and organizational citizenship behavior were 0.45 and 0.24, which meant individual emotional capital accounted for 45 and 24 percent of the within-group variance.

#### **4.4.3 Intercepts-as-Outcomes Model**

Results from the random coefficient regression model indicated there was significant variance in the intercept term across firms. In order to test  $H_{2a}$  and  $H_{2b}$ , we estimated an HLM model in which individual emotional capital was in the level 1 equation and group emotional capital was a predictor in the level 2 equation. Group emotional capital had a cross-level main effect associated with job satisfaction (Table 4) and organizational citizenship behavior (Table 5) ( $\gamma_{01} = 0.357$ ,  $t\text{-value} = 3.111$  and  $\gamma_{01} = 0.451$ ,  $t\text{-value} = 6.587$ ). The results support  $H_{2a}$  and  $H_{2b}$ ; group emotional capital demonstrated a significant positive relationship with job satisfaction and organizational citizenship behavior after controlling individual emotional capital.  $R^2_{\text{between-group}}$  were 0.29 and 0.74 indicating group-level variables which accounted for 29 and 74 percent of between-group variance in job satisfaction and organizational citizenship behavior after controlling individual emotional capital.

#### **4.4.4 Slopes-as-Outcomes Model**

$H_{3a}$  and  $H_{3b}$  suggest that group emotional capital moderates the relationships among individual emotional capital, job satisfaction and organizational citizenship behavior. A necessary precondition was the significant random variance for

individual emotional capital in the intercepts-as-outcomes models ( $\tau_{II} = 0.010$ ,  $p < 0.007$  and  $\tau_{II} = 0.004$ ,  $p < 0.032$ ), because it showed the significant difference in individual emotional capital, job satisfaction, and organizational citizenship behavior relationships across firms. With the purpose of confirming the prerequisite, we examined whether this variance could be accounted for by firm-level predictors. The results demonstrated that group emotional capital ( $\gamma = -0.017$ ,  $t\text{-value} = -2.179$ ) could negatively moderate the relationship between individual emotional capital and job satisfaction (Table 4). Thus,  $H_{3a}$  was supported.

**Table 4**  
**Hierarchical Linear Modeling Results for Job Satisfaction**

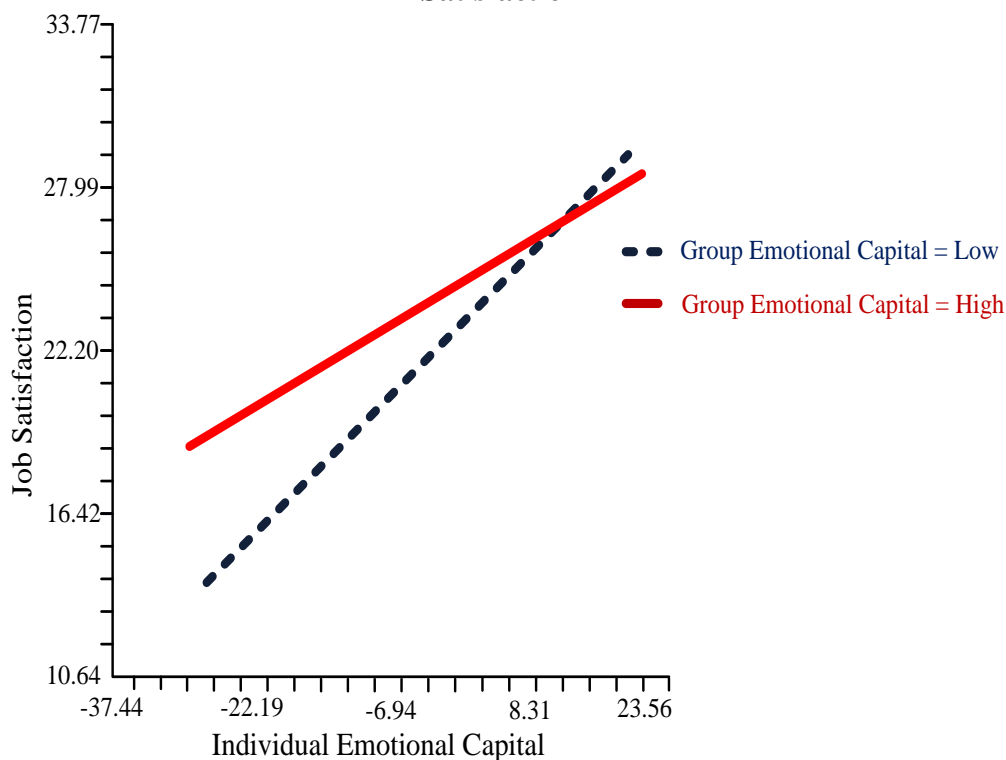
	Null	Random coefficient	Intercepts-as-outcomes	Slopes-as-outcomes
<b>Level 1</b>				
Intercept	25.925 (51.335)	25.925*** (51.320)	25.925*** (60.102)	25.925*** (59.496)
Gender		-0.424 (-1.058)	-0.386 (0.956)	-0.414 (-0.014)
Age		-0.042 (-0.179)	-0.040 (-0.170)	-0.062 (-0.255)
Education		0.213 (0.625)	0.254 (0.777)	0.258 (0.789)
Level		-1.324*** (-3.814)	-1.308*** (-3.724)	-1.266** (-3.630)
Tenure		0.230 (0.610)	0.222 (0.852)	0.263 (1.000)
Individual EC		0.318*** (11.744)	0.319*** (11.833)	0.317*** (11.155)
<b>Level 2</b>				
Group EC			0.357*** (3.111)	0.310* (2.697)
<b>Cross-interaction</b>				
Individual EC x Group EC				-0.017* (-2.179)
Within-firm residual variance	32.039	17.573	17.578	17.561
Model deviance	4770.004	4391.476	4391.334	4394.374

Notes: 1. Employees  $N = 750$ , firms  $N = 25$ . Entries are estimations of the fixed effects ( $\gamma$ s) with robust standard errors. *t-ratios* are in parentheses.

2.\*  $p < 0.05$  ; \*\*  $p < 0.01$  ; \*\*\*  $p < 0.001$

The results demonstrated that group emotional capital ( $\gamma = -0.003$ ,  $t\text{-value} = -0.591$ ) could not moderate the relationship between individual emotional capital and organizational citizenship behavior (Table 5). Thus,  $H_{3b}$  was not supported. The main purpose of  $H_{3a}$  is to examine whether group emotional capital will moderate the main effect between individual emotional capital and job satisfaction. We tested the relationship between individual emotional capital and job satisfaction at a high level of group emotional capital and at a low level of group emotional capital. The slopes shown in Figure 2 illustrate the interaction. Individual emotional capital associates more positively with job satisfaction for employees within low group emotional capital than for high emotional capital.

**Figure 2**  
**The Moderate Effect of Group Emotional Capital between**  
**Individual Emotional Capital and Job**  
**Satisfaction**





**Table 5**  
**Hierarchical Linear Modeling Results for OCB**

	Null	Random coefficient	Intercepts-as- outcomes	Slopes-as- outcomes
<b>Level 1</b>				
Intercept	28.485*** (79.946)	28.485*** (78.885)	28.485*** (125.853)	28.485*** (125.812)
Gender		-0.142 (-0.325)	-0.077 (-0.173)	-0.101 (-0.227)
Age		-0.099 (-0.340)	-0.085 (-0.296)	-0.097 (-0.331)
Education		-0.895** (-3.611)	-0.900** (-3.541)	-0.909** (-3.550)
Level		-0.140 (-0.455)	-0.170 (-0.544)	-0.160 (-0.511)
Tenure		0.125 (0.578)	0.115 (0.548)	0.124 (0.589)
Individual EC		0.218*** (9.583)	0.220*** (9.567)	0.220*** (9.506)
<b>Level 2</b>				
Group EC			0.451*** (6.587)	0.456*** (6.631)
<b>Cross-interaction</b>				
Individual EC x Group EC				-0.003 (-0.591)
Within-firm residual variance	24.350	18.353	18.254	18.261
Model deviance	4554.894	4390.080	4370.625	4376.653

Notes: 1. Employees  $N = 750$ , firms  $N = 25$ . Entries are estimations of the fixed effects ( $\gamma$ 's) with robust standard errors. t-ratios are in parentheses.

2. \*  $p < 0.05$  ; \*\*  $p < 0.01$  ; \*\*\*  $p < 0.001$

## 5. Conclusions and Suggestions

### 5.1 Conclusions

In this paper, we expanded previous research on the development of emotions by building a theory of the dynamics of emotional capital in work groups. Although continued investment in human, social, and intelligence capital is necessary, it may no longer be enough in the global environment. Resources put into cultivating and sustaining employees' emotional capital would offer substantial returns compared to those offered by other traditional capitals.

This empirical study provides evidence that individual emotional capital has significant impacts both on job satisfaction and organizational citizenship behavior. Due to the critical roles of contextual effects of higher level, we further examined the context of group emotional capital and found that group emotional capital enhance both job satisfaction and organizational citizenship behavior. Finally, the moderating effect of group emotional capital on individual emotional capital and job satisfaction is significant. We found that individual emotional capital associates more positively with job satisfaction for employees within low group emotional capital than for high emotional capital.

## **5.2 Managerial Implications**

Individual emotional capital is as crucial as other traditional capitals as it becomes a vital predictor for a person's achievement in life. Managers should be aware of this trend and do whatever is necessary to help employees accumulate and sustain their emotional capital at both the individual and the group level. The evidence in our study shows employees who have greater well-being, passion and optimism may be more likely to confront global environmental contexts than their colleagues with lower emotional capital.

Through understanding group emotional capital, managers should effectively monitor and control its development and application. The contextual effects discussed in this study may offer some suggestions for managers to manage and shape group emotional capital. In sum, managing group emotional capital may allow managers to benefit from group emotion and avoid the negative consequences of group emotion. Group emotional capital will direct their work groups towards effective task achievements.

## **5.3 Limitations and Future Research**

Although individual emotional capital has increasingly been the object of research in recent years, few attempts to establish a conceptual framework contains both individual and group level emotional capital in management research. Our research is a start and hope to induce more similar research to make the emotion-related theory complete. This study is an explorative one and some

limitations identified as follows.

First, for HLM, it is necessary that each firm contains sufficient employees to reliably examine within-group effects and a larger sample of groups. If the sample of firms is insufficient, this would lead to problems with the testing of HLM models (Hofmann, 1997; Tse, Dasborough, and Ashkansy, 2008). Even our sample contained 750 employees nested within 25 firms, it still left space to enlarge the sample size. Second, we used the method of data aggregation in order to reduce common method variance (Tse, Dasborough, and Ashkansy, 2008) in this study. Fortunately, our data showed the stable features and shared perceptions among employees in a firm regarding their group emotional capital. But if the data is not stable, it is biased to aggregate directly. Third, this study only concerned cross-sectional, and did not examine the dynamic nature of relationships between emotional capital and employees' behaviors with longitudinal data.

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