

The Benefits of Organizational Citizenship Behavior for Job Performance and the Moderating Role of Human Capital

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Abstract

This study aims to investigate the relationship between organizational citizenship behavior directed toward individuals (OCBI) and the organization (OCBO), and job performance. In addition, the moderating role of experiential/intelligent human capital on the above relationship was also examined. Data was collected from 585 R&D engineer supervisor-subordinate dyads currently employed at high-tech companies. OCBI and OCBO were found to be positively related to job performance. In addition, an engineer's experiential human capital would lessen the positive effect of OCB on job performance; in other words, OCB would be of greater benefit to less experienced employees than to experienced ones. Finally, the current study also found that employees engaging in OCBO would have even better job performance if they also had greater intelligent human capital.

Keywords: experiential human capital, intelligent human capital, organizational citizenship behavior

1. Introduction

Undoubtedly, organizational citizenship behavior (OCB) has been considered beneficial to individual, group, and organizational effectiveness (Podsakoff, Whiting, & Podsakoff, 2009), and has even been regarded as a dimension of performance evaluation (Rotundo & Sackett, 2002; Viswesvaran & Ones, 2000). OCB is a type of extra-role behavior which is above the employees' stated job description and outside the organizational formal reward system; however, Podsakoff, MacKenzie, Paine, & Bachrach (2000) observed and treated OCB as a substitute for contextual performance or extra role performance. Hence, OCB is obviously very closely related to the outcome of a firm's expectations and is desirable for an organization because it can increase emotional resources and decrease managerial cost. Therefore, I believe that additional research in this area is worthwhile and a deeper understanding of OCB can be obtained.

According to several meta-analyses and review articles (Ilies, Nahrgang, & Morgeson, 2007; LePine, Erez, & Johnson, 2002; Organ & Ryan, 1995; Podsakoff et al., 2009; Podsakoff et al., 2000), the majority of early OCB research has focused on the potential antecedents of OCB, including individual characteristics, task characteristics, organizational characteristics, and leadership behaviors (Podsakoff et al., 2000), but over the past decade, a growing number of studies have focused on the consequences of OCB, such as individuals' actual turnover (Chen, Hui, & Segó, 1998; Chen, 2005), supervisor liking (Allen & Rush, 1998; Vilela, Varela Gonzalez, & Ferrin, 2008), knowledge sharing (Lin, 2008), performance rating (Allen & Rush, 1998; Vilela et al., 2008), work performance record (Podsakoff, Ahearne, & MacKenzie, 1997), turnover rate (Sun, Aryee, & Law, 2007), unit performance (Dunlop & Lee, 2004), productivity (Sun et al., 2007) and profitability (Koys, 2001).

Although OCB literature has proliferated since the 1980's and many researchers have demonstrated the relationship between OCB and individual job performance (e.g., Allen & Rush, 1998; Bachrach, Powell, & Bendoly, 2006; MacKenzie, Podsakoff, & Fetter, 1991; Podsakoff, MacKenzie, & Hui, 1993; Wang, Law, Hackett, Wang, & Chen, 2005), the OCB-performance relationship is still insufficiently understood for moderators to examine whether the positive relationship would be different under different conditions. Most organizational behavior researchers agree that a work climate that encourages employees to engage in OCB is recommended; however, a recent article addresses the negative perspective of overloaded OCB. Since individuals have only a limited amount of time, spending time on OCB is costly and will diminish the time spent on their assigned tasks (Bergeron, 2007). In other words, the effect of OCB on job performance will vary according to the situation.

To follow Podsakoff et al. (2000) suggestion for future research investigating the potential moderating effects of individual factors, such as ability, this study proposes human capital as a variable to illustrate why OCB has a greater impact on job performance for some people than for others. Consequently, the aim of the current study is to improve the understanding of being in specific condition, OCB can maximize an individuals' work effectiveness.

Human capital refers to the sum of knowledge, skill, and experience of an individual (Becker, 1964). It is composed of inherent intelligence and ability accumulated over time. Therefore, based on the definition, I have divided human capital into two sub-constructs: intelligential human capital, and experiential human capital. Knowledge obtained from formal education represents intelligential human capital, whereas skill and experience gained through the undertaking of projects and practical duties represents experiential human capital. Most previous research treated human capital as a composite latent construct and hence the researchers compiled all human capital-related indicators into an overall score for measuring human capital. This study considers human capital to be a two-dimensional construct. This argument can explain the insignificant relationships between all human capital indicators in Saks and Waldman's (1998) study.

In summary, the purpose of this study was to test predictions as to whether R&D engineers' OCB would be associated with greater job performance. Furthermore, I have also identified human capital as a variable that influences the effects of OCB on performance.

2. Literature Review and Hypotheses

The literature on OCB during the past few decades can be divided broadly into two main categories. In the first category, OCB has been analyzed individually and collectively. OCB was originally conceived of and defined as an individual level construct that referred to employee behavior that goes above and beyond the call of duty, is discretionary and not explicitly recognized by the organization's formal reward system, and also contributes to organizational effectiveness (Organ, 1988; Smith, Organ, & Near, 1983). Afterwards, some researchers developed group level and organizational level OCB measurements or "aggregated OCB" to higher level for proving their theories (e.g., Bachrach, Bendoly, & Podsakoff, 2001; Koys, 2001; Lin & Peng, 2010; Podsakoff et al., 1997; Podsakoff & MacKenzie, 1997; Sun et al., 2007).

In the second category, OCB has been categorized into several types. Most researchers focused on OCB by following Organ's (1988) categories, using altruism, civic virtue, and sportsmanship as their variables. In addition, an alternative two-category approach was provided by Williams and Anderson (1991) for measuring OCB. They suggested OCB could be divided into interpersonal OCB (OCBI), which primarily involves helping coworkers at work, and OCBO, which can benefit the organization in general. The reason for using the OCBI/OCBO approach in the current study is to understand clearly whether model behavior toward organizations and individuals can provide mutual benefits. Using this approach is justifiable because the OCBI/OCBO categories can help to confirm whether human capital produces a catalytic affect for organization-oriented and interpersonal-oriented citizenship behaviors with regard to job performance.

2.1 OCB and Job Performance

OCB was expected to be positively related to an individual's work effectiveness for several reasons. A relational perspective can illustrate the relationship between OCB and organizational performance (Sun et al., 2007) and individual job performance (Chow, 2009). This perspective argues that employees engaging in OCB can create high quality ties among coworkers since helping behaviors satisfy the interpersonal needs of individuals in an organization. Furthermore, these ties can help employees perceive what they need for accomplishing their tasks. Thus, high involvement in OCB suggests strong ties and leads to greater job performance. The relational approach is especially favorable as an explanation for the relationship between OCBI and job performance because citizenship behaviors directed to individuals can facilitate interpersonal interactions, reduce friction and conflicts, lower time costs, and increase efficiency and effectiveness (Podsakoff & MacKenzie, 1997; Smith et al., 1983).

Other theoretical perspectives are consistent with and extend the positive relationship between OCB and individual job performance. For instance, social exchange theory (Blau, 1964) suggests employees would build up psychological contracts with their employers and colleagues. This "invisible" contract leads employees to spend more time and effort on in-role behaviors and even extra role behaviors since employees would expect help in return for their extra work. Based on reciprocal norm (Gouldner, 1960), people tend to help those who have helped them, therefore OCB would not necessarily represent a cost to employees, while still facilitating job effectiveness. In addition, a prior study indicated that OCB (especially OCBI) can foster the sharing and exchange of tacit knowledge among the coworkers (Evans & Davis, 2005; Lin, 2008), leading to an

improvement in task quality and greater productivity.

In terms of OCBO, Van Dyne, Graham and Dienesch (1994) indicated that the relationship between an employee and an organization may become a conventional relationship when it is characterized by shared values, organizational identification, and trust. In other words, employees tend to align their own objectives with those of their company. Thus, employees can recognize that they are helping themselves as they engage in OCBO. For instance, addressing constructive ideas and demonstrating concern can improve the work environment, resulting in immediate benefits to individuals' work effectiveness.

Direct and indirect evidence for the positive relationship between OCB and job performance was found in prior research (e.g. Chow, 2009; Diefendorff, Brown, Kamin, & Lord, 2002; Lee, Mitchell, Sablinski, Burton, & Holtom, 2004; Piercy, Cravens, Lane, & Vorhies, 2006; Wang et al., 2005). Thus,

Hypothesis 1: OCBI and OCBO are positively related to job performance.

2.2 The Moderating Role of Experiential Human Capital

This study claims that the positive relationship between OCB and job performance is moderated by human capital. As previously mentioned, human capital was subdivided into intelligential human capital and experiential human capital. The former refers both to in-born intelligence and also knowledge acquired from formal education. The latter refers to capabilities acquired from actual operation and routine practices. Consequently, intelligential human capital equips individuals with systematic knowledge and logical thinking to solve their problems whereas experiential human capital equips individuals with an approach which relies on observation, experimentation, and practical experience.

As mentioned above, knowledge exchange can link the relationship between OCB and job performance. From the same standpoint, however, experienced employees will receive less feedback during the process of knowledge exchange and sharing; in other words, knowledge asymmetry may occur in the workplace. Workable tacit knowledge, a contributor to job-related performance, is embedded in the actions and behaviors of individuals and so, not easily transferable (Liebeskind, 1996). It is generally accumulated through work experience and thus, less experience restricts the ability to share knowledge with coworkers. Meanwhile, it is limited in transferring individual tacit knowledge to others. On the contrary, experienced workers may transfer to co-workers more knowledge than can be gained from them, especially from less experienced colleagues. Accordingly, the positive effect of helping others on personal performance would more likely occur for those who have lower experiential human capital than for those who have higher experiential human capital.

Additionally, experienced employees might be more rigid and less open to changing their minds (Berlew & Hall, 1966) since they may still rely on some work habits and patterns which were beneficial during their prior jobs. In an earlier work, Saks and Waldman (1998) indicated that when hiring for an entry-level position, work experience was associated with a negative impact on the newcomers' work effectiveness. Therefore, higher human capital derived from work experience may restrict the ability of senior employees to develop innovative and productive ideas. The latent advantages of engaging in OCB will be mitigated by the inertia of experienced employees.

Social norms require less experienced employees to comply with experienced ones' advances in workplace, especially in Chinese society. Therefore, less experienced employees are unlikely to promote better ideas because they were conditioned to accept the ways of their more experienced colleagues without question. This might restrict knowledge flow from junior workers to senior workers. In summary, even though relational perspective and social exchange theory provide us a good reason to link OCBI and job performance, higher work experience may limit the benefit of knowledge sharing. Consequently, less experiential human capital of employees leads to a stronger influence of OCBI on their performance, whereas greater experiential human capital leads to a weaker positive relationship between OCBI and job performance. Thus, I hypothesize,

Hypothesis 2a: Experiential human capital weakens the positive relationship between OCBI and job performance.

In terms of OCBO, engaging in OCB at an organization, such as attending meetings and functions that are not required, might lead employees to obtain useful information from organizations or supervisors. This information may be relevant to organizational policies/systems, market demands, and could be valuable to individuals in performing their work. In achieving greater job performance through engaging in OCBO, the effect will be greater in less experienced employees than experienced ones. Since the information is embedded in organizational routines, less experienced employees can find the most effective ways to accomplish their tasks if they can learn the unwritten rules quickly. For the experienced employees, the information is still helpful but not

to the extent that it helps less experienced employees.

Another way to link OCBO and job performance is to find individuals who identify themselves with their organization when they see the organization as providing opportunities for personal achievement (Bolino, Turnley, & Bloodgood, 2002; Brown, 1969). OCBO can help individuals to establish or maintain a satisfying relationship with the organization and hence, it can be treated as a channel to increase identification with the organization; for instance, employees identifying themselves as a member of the organization by taking the initiative to recommend how the organization's operations can be improved.

To devote extra time and effort to benefit organizations may raise an employee's affective involvement in the organization. Sheldon (1971) verified that investment and involvement can increase the commitment of employees to their organizations. Thus, social exchange would occur between individuals and organizations in such a way that a "better" organization can provide employees a more effective work environment and a greater opportunity for career success. This study suggests that the effect of the psychological contract mentioned earlier in this paper would be stronger on those who have lower experiential human capital because experienced workers (regardless of whether their tenures were calculated in the same organizations or not) are usually stable and have higher organizational commitment (Hrebiniak & Alutto, 1972; Steers, 1977). Thus, it is more likely for less experienced employees to transfer the benefit of OCBO into individual objectives.

Hypothesis 2b: Experiential human capital weakens the positive relationship between OCBO and job performance.

2.3 The Moderating Role of Intelligential Human Capital

According to knowledge exchange assumption, investing in helping behaviors benefits individual job performance. I suggest that the greater the intelligential human capital, the stronger the relationship between OCBI and job performance will be. For example, a smart worker may deal with his or her assignment well due to knowledge obtained in past jobs. In other words, in any workplace, individuals need some firm-specific or industry-specific capability to satisfy customer demand and to complete their tasks.

However, intelligent employees can incorporate the knowledge acquired from co-workers faster than those of lower intelligence can. More specifically, employees who have high intelligential human capital reveal greater comprehension, inductive, deductive, and cognitive ability and these facilitate the learning and solving of problems. Hence, greater intelligential human capital can effectively transform the value of interpersonal relationships through helping others. Thus, I hypothesize

Hypothesis 3a: Intelligential human capital strengthens the positive relationship between OCBI and job performance.

Similarly, I propose that the higher the intelligence of employees, the greater the benefit of OCBO on individual job performance. This argument draws on intelligence to explain the variation of OCBO and job performance. Higher cognitive ability can let employees receive more useful information and make more useful observations by engaging in extra efforts which are worthwhile in performing their jobs. Hence, I suggest that intelligential human capital would moderate the positive relationship between OCBO and job performance in such a way that the relationship will be stronger when employees have greater intelligence related human capital.

Hypothesis 3b: Intelligential human capital strengthens the positive relationship between OCBO and job performance.

3. Methods

3.1 Sample and Data Collection

1,232 pairs of questionnaires were averagely distributed to 56 high-technology companies in Taiwan. Questionnaires were mailed directly to a contact (either the HR manager or the coordinator of R&D department) in each company, who then randomly distributed the questionnaires throughout the R&D departments. Data in this study was obtained from the engineers' immediate supervisor's matched surveys. For each dyad, two envelopes were bound and sent out, one to the engineer and one to his or her direct supervisor. A stamped and addressed envelope could be returned directly to the author or the sealed envelope could also be returned to the contact person specified. A number code was put on each questionnaire and envelope to allow for later matching the supervisor and subordinate responses.

643 supervisor versions and 638 engineer versions were returned. Although 631 supervisor-subordinate responses were successfully matched, I observed 46 matched surveys which lacked complete data or included obviously incorrect data. The final sample in this study consisted of 585 engineers and their immediate

supervisors from 40 high-technology companies in Taiwan. Seventy four percent of the engineers were male, reflecting the sample distribution. The majority of engineers were aged from 27 to 34 years (65.9%). The total job tenure and industry tenure of the engineers both ranged from 3 months to 39.25 years, and their organizational tenure ranged from 1 month to 35.83 years. In addition, their years of being formally educated ranged from 10 years to 26 years.

3.2 Subordinate Measures

Engineers provided human capital, impression management (IM), and their demographic data.

3.2.1 Experiential Human Capital (Moderator 1)

Following Saks and Waldman (1998), I used four variables to measure experiential human capital: (1) Total job tenure: was measured as the number of months of previous work experience; (2) Industry-specific tenure: was measured as the number of months of job-related work experience in this industry; (3) firm-specific tenure was measured as the number of months an incumbent was the respondent with the company; (4) Job number was measured as the number of previous jobs. To create a composite variable, I standardized the numbers and averaged the scores to be one variable.

3.2.2 Intellectual Human Capital (Moderator 2)

I used two variables to measure intellectual human capital: years of schooling and college ranking. SAT scores or undergraduate grade average (GPA) are a common source of intelligence measurements in the United States (e.g., Saks & Waldman, 1998). Even though I collected similar data in Taiwan, the meaning of the scores in years is different due to the diverse grading policy in different colleges. In addition, asking the respondents to answer sensitive questions is difficult, especially in managerial field studies, due to privacy issues. Furthermore, the respondents, particularly the older ones, might not remember their precise scores. For this reason, I used college ranking as the substitute variable. Previous studies have adopted similar measurement approaches (e.g., Hitt, Bierman, Shimizu, & Kochhar, 2001). Each employee was asked to fill out the college name from which he or she received his or her B.A. degree while simultaneously I coded data on rankings of college based on the sequence of Taiwanese high school students who participated in the joint college entrance examination. In Taiwan, normally a national university outranks a private university and a general university outranks a technological university. Hence, all colleges were categorized into eight groups in this study. If the respondent received a B.A. degree from a top tier national university, I coded "8" second tier was coded "7" and so on. A "1" represents a respondent who did not attend college. In addition, I also collected years of schooling to measure intellectual human capital. The respondents were asked to number their years of formal education (kindergarten was excluded). A higher score represents greater intellectual human capital. Ultimately, the two measures were standardized and combined into a composite variable.

3.2.3 Impression Management, IM (Control Variable)

IM has been verified as a predictor of a supervisor's rating of a subordinate's job performance; therefore, this was a control variable in the current study. I assessed IM using five items from a self-focused impression management scale of Wayne and Liden (1995). Two sample items are "Try to be polite when interacting with your supervisor" and "Work hard when you know the results will be seen by your supervisor." For the validation of IM measure, supervisors were also asked to respond to the same questions. I obtained positive and significant correlations between subordinate and supervisors' ratings ($\gamma = .12$ to $.22$, four of five coefficients are significant at the $p < .001$ level, one is at the $p < .01$ level). In order to avoid common method variance problem, I used the subordinate's responses to test the hypotheses.

In addition, I included gender as a control variable for variance in predicting performance outcomes. Age was excluded since age is collinearly related with tenure. Position was not collected since all subordinate respondents were frontline employees. This provided some control for variation across positions.

3.3 Supervisor Measures

Direct supervisors responded to the OCB and job performance rating for their subordinates because supervisors are a common source of these two measures (Podsakoff et al., 2000; Wayne & Liden, 1995).

3.3.1 Organizational Citizenship Behaviors, OCB (Independent Variable)

OCB referred to employees' extra-role behaviors which offer an intended benefit to their organizations. Using Lee and Allen's (2002) scale, the current study used two subscales to collect different types of OCB with which to distinguish the beneficiaries. Eight OCBI items were used to measure the extent of behaviors benefiting coworkers, and another eight OCBO items were used to measure the extent of behaviors benefiting the

organization. Two sample items are “Help others who have been absent” and “Offer ideas to improve the functioning of the organization,” reflecting OCBI and OCBO measures respectively. Following previous research (Chen et al., 1998; e.g., Moorman, Blakely, & Niehoff, 1998; Vilela et al., 2008; Williams & Anderson, 1991), supervisor ratings of employee OCB were obtained in this study.

3.3.2 Job Performance (Dependent Variable)

Four items, developed by Wayne and Liden (1995), were used to ask supervisors to evaluate their employees' overall work performance. Sample items are “This subordinate is superior to other new subordinates that I've supervised before” (where 1 = strongly disagree and 5 = strongly agree) and “What is your personal view of your subordinate in terms of his or her overall effectiveness?” (where 1 = very ineffective and 5 = very effective). I combined ratings across the five items to create the measure.

All data was obtained from surveys administered in Chinese. Responses were on a Likert-style five-point scale (e.g., 1, “strongly disagree,” to 5, “strongly agree”) unless otherwise specified. Scale items were averaged. Higher scores indicated a greater degree of the underlying construct.

3.4 Measurement Validity and Reliability

All scales in this study were originally developed in English. For the survey in Taiwan, the back-translation method (Brislin, 1986) was used to translate the items from English to Chinese. For high-quality measurement, I accepted Brislin's (1986) suggestion of having a monolingual rewrite the Chinese version so that the statements could be clear to native speakers. Then, I asked a bilingual to translate the rewrite version to English and compared this with the original. There were some extensive discussions among the translators about the dissimilar wordings. After further discussion, I made minor changes to minimize the possible differences between the original and Chinese version.

In addition, I consulted six professors who teach business and conduct organizational behavior/human capital research about the content validity of this study. These professionals provided some valuable suggestions for items modification to match the definition of the constructs. After minor changes, the final version was pre-tested by 15 engineers who were independent of our final sample to ensure the clarity of all items.

Before data analysis, I conducted confirmatory factor analysis (CFA) of the two aspects of human capital, the two types of OCB, and job performance. Overall, the CFA results suggested that the five-factor measurement model provided an acceptable fit for the data ($\chi^2 = 982.46$, $p < .05$, RMSEA = 0.064, GFI = .89, AGFI = .86, CFI = .92). Moreover, since the standardized loadings of all the measurement items on their respective constructs were significant (t values range from 3.89 to 31.2, $p < .001$) and none of the confidence intervals of the phi values contained a value of one. I concluded that the constructs exhibited convergent and discriminant validity (Montoya-Weiss, Massey, & Song, 2001). I also estimated constructs reliability by calculating Cronbach's alpha value for each construct. All of the scales were above the suggested value of .7 (from .75 to .91). The alpha values are presented on the diagonal of Table 1.

4. Results

Table 1 shows the descriptive statistics and correlations obtained. As seen, two independent variables (OCBI and OCBO) and a main control variable (impression management) were positively correlated with the dependent variable. Interestingly, the results show no evidence to support the positive relationship between individual human capital and job performance. Furthermore, the correlations between the three tenure indicators and experiential human capital were highly correlated and significant since experiential human capital was measured by tenure. This was also seen in the relationship between years of schooling, college ranking, and intelligential human capital.

Table 1. Descriptive statistics and bivariate correlations (n=585)^a

	variables ^b	mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Gender	.74	.44	--													
2	Age	3.83	1.38	.09	--												
3	Job tenure	92.9	68.3	-.11	.82	--											
4	Industry tenure	68.7	58.4	-.08	.74	.85	--										
5	Firm tenure	53.5	52.1	-.07	.63	.72	.83	--									

6	Job number	2.59	1.73	-.11	.29	.38	.14	-.05	--								
7	Years of schooling	16.6	1.87	.25	-.11	-.43	-.34	-.29	-.26	--							
8	College ranking	3.74	2.24	.21	-.05	-.29	-.22	-.18	-.25	.61	--						
9	IM	4.17	.53	-.16	-.01	.03	.03	.03	-.01	-.02	-.10	(.85)					
10	OCBI	3.75	.54	-.03	.06	.05	.05	.03	-.01	.01	-.02	.12	(.91)				
11	OCBO	3.53	.57	-.03	.15	.14	.15	.11	.01	-.03	-.08	.09	.73	(.91)			
12	Experiential HC	0	.78	-.12	.80	.95	.90	.80	.47	-.42	-.30	.03	.04	.13	(.82)		
13	Intelligential HC	0	.90	.26	-.09	-.40	-.31	-.26	-.28	.90	.90	-.07	-.01	-.06	-.40	(.75)	
14	Job performance	3.81	.65	-.05	.04	.06	.07	.06	.02	-.04	-.02	.12	.62	.55	.07	-.03	(.90)

Note. ^a Coefficient alp has for constructs that could be computed are located on the diagonal. Correlations $|r| \geq .08$ are significant at the $p < 0.05$ level; correlations $|r| \geq .11$ are significant at the $p < 0.01$ level.

^b Categorical variables coded as: gender: 0 = female, 1 = male; age: 1 = less than 23 years, 2 = 24-26 years, 3 = 27-30 years, 4 = 31-34 years; 5 = 35-38 years, 6 = 39-42 years. Three measures of tenure were collected by months. College ranking: 1 = 2-years or 5-year junior college, 2 = private technology college or newly technology university, 3 = third tier private university, 4 = second tier private university, 5 = national technology university or top tier private university, 6 = Third tier national university, 7 = Second tier national university, 8 = Top tier national university in Taiwan. Experiential HC was calculated from standardized all tenure and job number. Intelligential HC was calculated from standardized years of schooling and college ranking.

4.1 Hypotheses Testing

The results for the hierarchical regression analysis are summarized in Table 2. Hypothesis 1 claims that OCB can predict individual job performance. As shown, the significant coefficients in Models 1 and 4 show support for the hypothesized main effects of OCBI and OCBO on job performance. It should be noted that the two types of human capital were not significantly related with job performance even though they were both variables in our analysis.

Table 2. Results of regression analyses: influence of human capital and OCB on job performance ^{a, b}

variables	DV: Job performance					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<i>Control variables</i>						
Gender	-.02	-.02	-.02	-.02	-.02	-.02
IM	.04	.04	.04	.04	.05	.04
<i>IV</i>						
OCBI	.47***	.47***	.48***	.47***	.47***	.47***
OCBO	.20***	.21***	.20***	.20***	.20***	.20***
<i>Moderator</i>						
Experiential HC	.02	.02	.03			
Intelligential HC				-.01	-.00	-.01
<i>Interaction</i>						
Experiential HC × OCBI		-.09**				
Experiential HC × OCBO			-.09**			
Intelligential HC × OCBI					.06+	
Intelligential HC × OCBO						.09**
Δ R ²	--	.01	.01		.01	.01
Δ F		7.30**	8.15**		3.77+	7.79**
Overall R ²	.41	.42	.42	.41	.42	.42
Overall F	80.90***	69.37***	69.61***	80.82***	68.30***	69.44***

Note. ^a Standardized coefficients are reported;.

^b IM=image management; Experiential HC=experiential human capital; Intelligential HC=intelligential human capital;

[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Models 1 and 2 were evaluated to test Hypothesis 2a which argued that experiential human capital would lessen the positive relationship between OCBI and job performance. As can be seen in Model 2, the interaction is significant at the $p < .01$ level ($\beta = -.09$; $\Delta F = 7.30$, $p < .01$). The significant effect of interaction of experiential human capital and OCBI on job performance is plotted in Figure 1a. As indicated by both positive slopes, employees who engaged in OCBI can achieve better job effectiveness. However, the significant two-way interaction indicates that the link between OCBI and job performance was stronger when the employees lacked work experience. Thus support was found for Hypothesis 2a, indicating that experiential human capital mitigates the positive effect of OCBI on job performance.

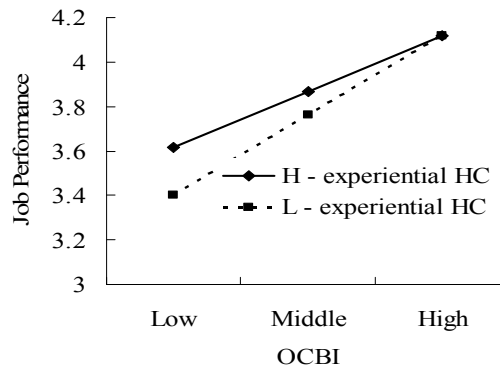


Figure 1a. Interactive effect of experiential human capital and OCBI on job performance

Similarly, Models 1 and 3 were evaluated to test Hypothesis 2b which stated that experiential human capital would lessen the positive relationship between OCBO and job performance. The result of Model 3 indicated that experiential human capital was a significant moderator to predict the variation of OCBO-job performance linkage ($\beta = -.09$, $p < .01$). As plotted in Figure 1b, the significant two-way interaction indicates that the positive relationship between OCBO and job performance was stronger for the employees with less work experience than those with more. Hence, the result provides support for Hypothesis 2b that the OCBO-job performance link, as well as the OCBI-job performance link, can be moderated by experiential human capital.

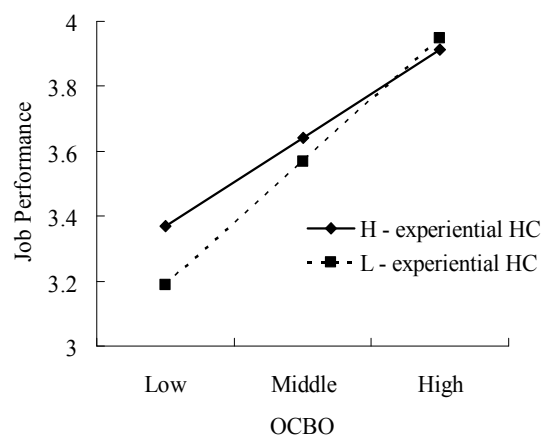


Figure 1b. Interactive effect of experiential human capital and OCBO on job performance

Hypothesis 3a states that intelligential human capital would enhance the positive relationship of OCBI and job performance. As shown in Table 2, the moderating effect was not found in Model 5 ($\beta = .06$, $p < .1$ but $> .05$); thus, Hypothesis 3a was not supported. On the other hand, the regression result supported Hypothesis 3b, that

intelligential human capital would enhance the positive relationship of OCBO and job performance. The interaction coefficient displayed in Table 2 (Model 6) was significant and positive ($\beta = .09, p < .01$). As Figure 2 illustrates, the interaction involving intelligential human capital as the moderator of the relationship between OCBO and job performance was consistent with what had been hypothesized in this study. Specifically, the relationship between OCBO and job performance is even higher than that expected when the employees' intelligential human capital is high.

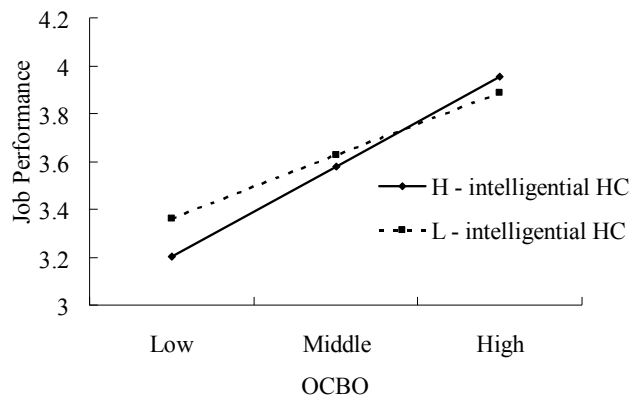


Figure 2. Interactive effects of intelligential human capital and OCBO on job performance

It was observed that there was no significant direct effect for two kinds of human capital on job performance. This result indicated that human capital was not a predictor of job performance.

5. Discussion and Conclusions

The results of this study provide support for my hypothesis that both OCBI and OCBO can predict individual job performance. Furthermore, this study provides evidence that human capital is a conditional factor in illustrating the positive relationship between OCB and job performance. This paper suggests that the effect of OCB on job performance depends on the extent of experiential human capital and intelligential human capital. Specifically, the findings clearly show that employees who have less work experience or more intelligence are more likely to transform the value of OCB into performing better at their job than those with more work experience or less intelligence.

Finally, the results also indirectly suggest that there is no relationship between human capital and job performance. It was found that individuals are not predicted to achieve greater job performance from having knowledge and experience.

5.1 Theoretical Implications

The main implication of this study is that its results support the relational perspective, social exchange between coworkers, and knowledge acquisition. This in turn can explain the positive relationship between OCB and job performance. In other words, OCBI and OCBO were proved to be predictors of employee job performance. This finding was consistent with previous research revealing that any potential costs of engaging in OCB are offset by the improvements in employee work performance. This feedback effect was apparent on OCB both toward interpersonal relationship and also toward organizations.

The major finding of this study was the interaction effect of human capital and OCB on performance ratings. Human capital and OCB interacted through their influence on supervisor ratings of employee job performance. The research findings indicated that less experienced employees were far more likely to receive high performance ratings through OCB engagement than the experienced employees were. This research also found that it is easier for employees with above average intelligence to transfer the benefits of OCBO to their performance rating. This study, distinct from prior research, regarded human capital as a significant antecedent for predicting individual job performance and verified that the contingent role of human capital is more significant than its traditional predictor role.

According to the traditional perspective, employers are willing to provide incentive pay to those with greater

human capital in anticipation of higher productivity. Unfortunately, the results of this study did not provide support for the above assumption. This, in turn, illustrates the unstable causality between human capital and work achievement. I interpreted this finding to mean that higher human capital is not the “must have” character for an effective worker; however, it plays a catalytic role, which can improve the value of OCB in different ways.

This study thus follows Podsakoff et al.’s (2000) suggestion for future research: “OCB might have different effects on performance in units where employees are low in ability, experience, training, or knowledge, than in units where employees have high levels of ability, experience, training, or knowledge,” to determine the contingent relationship between OCB and job performance.

From these research findings, I have discovered that the two types of human capital represent the reverse moderating effects of OCB job performance. Although in previous research, human capital was regarded as a single dimension construct, we argue that, based on the definition and the results of this research, staff ability is derived from at least two different sources: accumulated actual work experience, and knowledge acquired from formal education. These two concepts should be discussed separately in order to fully understand the role of human capital.

5.2 Managerial Implications

Although the benefit of OCB is larger on less experienced employees than on experienced ones, OCB can foster individual job performance on both sides. It is my recommendation that managers should cultivate a climate that encourages seniors to lead juniors in order to solve work related problems, and also find more efficient ways of performing their jobs. In addition, the less experienced employees should be inspired to help co-workers and participate in voluntary functions as well as helping them understand the benefits they can derive from this. Over time, both senior and junior staff should be willing to actively engage in OCB, which should in turn create a stable organizational culture. At the same time as they raise their own levels of performance, staff will deliver a high level of efficiency for the entire organization.

This research discovered that while the level of education does not have a direct positive effect on job performance, it is a critical situational factor. In other words, outstanding student performance is no guarantee that an individual will be able to translate that success to work. According to our research recommendations, intelligent and talented staff should not assume any superiority as a result of their high level of education or specialized knowledge because, in the working world, possessing those attributes will not necessarily translate into good job performance. In order to carry out tasks in the workplace, workers must understand many tacit rules. Information channels necessary for the job and a way of working unique to each individual cannot be learned from school and specialized theory.

However, through participating in jobs and activities outside their normal responsibilities, staff can gain a profound knowledge of many unwritten rules, thereby raising their level of performance in the workplace. Therefore, human resource management policy within companies can make OCB one item in assessing work performance, giving star employees an incentive to show a willingness to participate in company affairs. This will not only increase star employees’ identification with the company, but also help individual work performance.

Managerial implications addressed from previous OCB research were not from an employee perspective. The findings of prior works indicated that forming a positive OCB climate in organizations can reduce managerial cost, increase group cohesiveness, and lead to better organizational effectiveness. Management should put themselves in employees’ shoes to encourage employees to demonstrate model behavior. For instance, the connection between OCB and job performance can be made explicit in training programs and OCB related evaluation can be included in performance appraisals. In addition, supervisors can set a good example and initiate the engagement in OCB. Subordinates should be encouraged or even trained to volunteer in some of the activities of the experienced employees’ regardless of whether these pertain to personal or company benefits. When the employees are well aware that engaging in OCB can benefit their jobs, they will be more involved in relevant extra-role behaviors.

5.3 Limitations and Directions for Future Research

As with any study, this study has limitations. Firstly, the cross sectional research design limits the extent to which causality can be inferred from our findings. Future research should implement longitudinal designs in order to determine the causal relationship of the variables. Secondly, collecting data from a single industry potentially limits the applicability of the findings to other industries even though a single-industry study can control for industrial variation of the hypothesized relationship. To enhance external validity, future research

should obtain data from different industries. Thirdly, job characteristics of the sample may have limited the applicability of the findings because the participants in this study were R&D engineers. Different jobs reflect distinct level of job completeness, autonomy, and feedback which may result in different findings. Future research should focus on diverse jobs for certifying the conclusions of this study. Finally, future researchers should be encouraged to further test the dual role of human capital.

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