

Organizational Citizenship Behavior and Performance Evaluations: Exploring the Impact of Task Interdependence

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Abstract

The influence of task interdependence on the importance attributed to Organizational Citizenship Behavior (OCB) in evaluations of employee performance was investigated in three studies. In Study 1, 238 undergraduates were exposed to a task interdependence manipulation and a unit-level performance manipulation, and provided citizenship ratings. In study 2, 148 MBA students were exposed to a task interdependence manipulation and then rated the importance of OCB in their evaluations of employee performance. In study 3, 130 managers rated the task interdependence in their unit of principle responsibility and the importance of OCB in their overall evaluations of employee performance. The results suggest task interdependence may affect the importance attributed to OCB by evaluators. Implications of these results are explored.

Introduction

Organizational citizenship behavior (OCB) researchers (cf. Smith, Organ, and Near, 1983; Pearce and Gregersen, 1991) have for years recognized that task interdependence may affect employee OCB. In his seminal work Organ (1988) argued that task interdependence should moderate the impact OCB has on unit-level performance. Despite this early and consistent recognition, none of the work examining the relationship between OCB and employee performance evaluations has accounted for the influence of task interdependence. In this study we explore the impact of task interdependence on perceptions of OCB importance in employee performance evaluations. Organ (1988) defined OCB as “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in aggregate promotes the effective functioning of the organization” (p. 4). Given this definition, it is not surprising that the literature examining the effects of OCB on managerial evaluations (cf. Borman, White, and Dorsey, 1995; Kiker and Motowidlo, 1999; VanScotter and Motowidlo, 1996; Werner, 1994) suggests that managers incorporate OCB into their overall ratings of employee performance, and that the effects of OCB are at least as great as those of task performance (cf. Podsakoff, MacKenzie, Paine, and Bachrach, 2000).

Some researchers (cf. Conway, 1999) have argued that overall employee performance ratings correspond to an employee’s overall value to an organization. This argument suggests that the weight managers attach to OCB when forming evaluations corresponds to the impact these behaviors have on performance (cf. Podsakoff et al, 2000). Although little has been published addressing this question directly, the available empirical evidence suggests that in some contexts there may be a misalignment between the value managers attach to OCB and the measurable impact of these behaviors on unit-level performance. In speculating upon this inconsistency Podsakoff and MacKenzie (1994) argued that managers might not realize the impact OCB has on performance. In

the current study we develop a cross-levels argument (cf. Schnake and Dumler, 2003) that unit-level task interdependence may play a role in the inconsistencies noted by Podsakoff and MacKenzie (1994) between the value managers attached to employee OCB, and the impact of these behaviors on unit-level performance. Podsakoff et al. (2000) suggested that observed differences in the effects of OCB on unit-level performance may be a function of differences in the level of task interdependence amongst employees. If observed differences in the effects of OCB are indeed a function of task interdependence as the arguments of Organ (1988) suggest, it is crucial to determine whether the importance attached to these behaviors by managers in their evaluations of employee performance reflects these differences. Therefore, our ultimate goal was to determine whether task interdependence influenced the reported importance ascribed to employee OCB in the overall evaluations of employees formed by managers.

Background and Hypotheses

The relationship between task interdependence and OCB has been receiving increasing attention in the OCB literature (cf. Van Der Veegt, Van De Vliert, and Oosterhof, 2003). In their discussion of the dissimilar effects of OCB on unit-level performance reported in the literature, Podsakoff et al. (2000) argued the impact of employee OCB may be influenced by task interdependence. Quoting Organ (1988), these authors noted: "...one would expect OCB to have more importance in connection with intensive...technologies, because ...mutual dependencies among members.... require spontaneous give-and-take....in order to achieve effective coordination." (p. 109).

There are several different conceptions of interdependence. Some researchers (e.g., Johnson and Johnson, 1989) distinguish task from resource interdependence, while others (e.g., Thompson, 1967; Van de Ven and Ferry, 1980) focus on the processes by which inputs are combined to create outcomes. Thompson (1967) viewed interdependence as a characteristic of work, inherent in the technology of the task, while Shea and Guzzo (1989) viewed interdependence as an attribute of

employee behavior in the completion of job tasks. Task interdependence, as defined by Van der Vegt and Janssen (2003) is the extent to which employees depend on other members of their team to carry out their work effectively (cf. Brass, 1985; Kiggundu, 1983). Task interdependence has been shown to increase communication (cf. Johnson, 1973), helping and information sharing (cf. Crawford and Haaland, 1972) and employee OCB (cf. Pearce and Gregersen, 1991). Task interdependence may also influence unit members' expectations of help (Thomas, 1957; Spilerman, 1971) and norms of cooperation (cf. Kiesler and Kiesler, 1970; Shaw, 1981) making OCB more likely to be demonstrated (cf. Krebs, 1970), expected (cf. Lam, Hui, and Law, 1999), and valued (cf. Miller and Hamblin, 1963).

Task interdependence may also make OCB more important in the completion of job tasks (cf. Organ, 1988; Smith, et al. 1983; Wageman, 1995). The empirical record is consistent with this expectation. Research suggests that task interdependence may affect the extent to which OCB contributes to measurable increases in unit level performance outcomes. For example, Podsakoff et al., (1997), in a study of paper mill work crews, reported that OCB was significantly, positively related to the amount and quality of paper produced by these work crews. In contrast, Podsakoff and MacKenzie (1994) reported that the helping dimension of OCB was significantly, negatively related to quantitative sales records among insurance agency units. Indeed, despite having a positive effect on managers' evaluations of employees, these authors noted, "surprisingly...the effects of the OCBs on unit performance were not always positive, as hypothesized....Helping behavior actually had a significant negative impact on unit performance (standardized $\gamma_{1,1} = -.494$, $p < .05$)" (p. 358).

The empirical record suggests that task interdependence may affect the influence OCB has on unit-level performance. In addition, the empirical record also suggests that managers attribute substantial weight to OCB in their overall employee performance evaluations. Finally, the arguments of several researchers suggest that employee performance evaluations reflect the overall

value of an employee's contributions to the unit. The above arguments imply, therefore, that task interdependence should both affect the impact of OCB on unit-level performance outcomes, as well as influence the behaviors to which managers attribute unit-level performance outcomes. Given this implication, we argue task interdependence should affect the weight managers give to OCB in their overall evaluations of employee performance. Therefore, the following hypotheses were proposed:

Hypothesis 1) Task interdependence will moderate the effects of unit-level performance feedback on OCB ratings evaluators provide to explain unit-level performance outcomes. Specifically, we expect significantly higher OCB ratings for the high performance-high task interdependence condition than for the high performance low task interdependence condition, with no significant difference in OCB ratings across low performance conditions.

Hypothesis 2) Task interdependence will have a positive effect on the reported importance attributed to OCB in evaluations of employees' overall performance.

In order to provide a rigorous investigation of these hypotheses, we conducted three studies: two lab studies and a field study. Because we were interested in the unique effects of task interdependence on attributions of the importance of OCB, we controlled for the effects of task performance in all analyses. However, because we found no evidence in the literature indicating task interdependence would affect perceptions of the importance of task performance, no hypotheses regarding this category of behaviors were generated.

Study 1: Moderating Effects of Task Interdependence on Attributions of the Causes of Performance

We argue that, because the effects of OCB on unit-level performance depend on task interdependence, evaluators will weight OCB differently in their evaluations of employee performance in contexts characterized by different levels of task interdependence. This argument relies on evidence that evaluators believe that OCB has different effects on unit-level performance that depend on task interdependence. To show that evaluators have this belief, in study 1 we tested

whether task interdependence would moderate evaluators' attributions of the causes of unit-level performance. Therefore, in an experiment we manipulated the overall performance and task interdependence of a cellular phone production unit, and measured performance attributions. Given the arguments presented above, we expected that ratings of OCB would be higher in the high-performance/high-interdependence condition than in the high-performance/low-interdependence condition. Further, because OCB tends to be associated in the minds of evaluators with high unit-level performance (cf. Bachrach, Bendoly, and Podsakoff, 2001), we predicted there would be little or no difference in OCB ratings across the two low-performance conditions.

Method

Design and Participants

A 2 x 2 between-groups design was used with 2 levels of interdependence (hi-low) and 2 levels of unit-performance (hi-low). Participants were 238 undergraduate students; the sample was 21.39 years of age ($sd = 2.53$), 56% were male, 96% were born in the U.S., and English was the 1st language of 97%. Participants had 3.34 years of undergraduate education ($sd = .64$), 4.32 years of part-time work ($sd = 2.74$), and 1.01 years of full-time work ($sd = 2.01$). Participants had been direct supervisors of 1.13 ($sd = 5.11$) and indirect supervisors of 3.95 employees ($sd = 12.78$) in their most recent positions.

Procedure and Experimental Manipulations

Subjects participated in this study in partial completion of course requirements. Once seated in the behavioral lab, participants were informed of the confidentiality of their responses, randomly assigned to a task interdependence (hi or low) and a performance (hi or low) condition taking the form of a written case, and instructed not to communicate with one another. Participants were then informed they were participating in a decision making task, the goal of which was to examine how managers form impressions of employees in production settings. Participants were asked, as

supervisors of the production unit, to indicate the extent to which employees in the production unit described in the case demonstrated the behaviors described below. Participants were given a chance to ask questions. Then they were exposed to the manipulations, provided ratings, were debriefed, and released. Participants were given descriptions of a production process in a cellular phone factory. Pilot studies were conducted to test whether the manipulations had their intended effects. Results supported the use of the manipulations, which are presented in the appendix.

Dependent Variables

In all cases established, validated measures were used. Participants were instructed to respond regarding the extent to which employees in the cellular phone production unit demonstrated the behaviors presented in the scales. Participants were asked to indicate their agreement with the statement: "Employees in this production unit (insert item)." Responses to all items were based on a 7-point scale ranging from 1 (highly disagree) to 7 (highly agree), and scores were averaged across the items to form each scale score. In order to remain consistent with previous research assessing OCB and task performance in laboratory studies, OCB was measured using Podsakoff et al.'s (1997) seven-item helping and three-item civic virtue scales (cf. Bachrach, et al., 2001). Helping captures actions taken by employees to help coworkers with work-related problems, and gestures that help prevent problems. Examples of items used to measure helping are: "Help other employees out if someone falls behind in his/her work," and "Take steps to prevent problems with other unit members." Podsakoff et al. (1997) reported an α of .95. Civic virtue is defined as behavior indicating an employee responsibly participates in the life of the organization. Examples of civic virtue items included: "Are willing to risk disapproval to express their beliefs about what's best for the unit," and "Attend and actively participate in team meetings." Podsakoff et al. (1997) reported an α of .96. Task performance was measured with 5-items from the 7-item scale developed by Williams and Anderson (1991) (cf. Allen and Rush, 1998). This scale captures performance

related directly to the job. Examples of items used to measure task performance are, "...perform tasks that are expected," and "...fail to perform essential duties." Williams and Anderson reported a reliability estimate of .91.

Results and Discussion

Manipulation Checks and Confirmatory Factor Analysis

Van der Vegt and Janssen's (2003) five-item scale was used to evaluate the task interdependence manipulation. Examples of items included: Employees in this unit "...need information and advice from their colleagues to perform their jobs well," and "...need to collaborate with colleagues to perform their jobs well." The reliability of the scale in the current study was ($\alpha = .91$). Results from an independent-samples t-test indicated that the high (6.14, $sd = .83$) and low (3.14, $sd = 1.54$) conditions were significantly different, $t(236) = 19.17$, $p < .001$, and in the expected direction. The five-item scale developed by Allen and Rush (1998) to capture assessments of the overall performance of employees was used to measure overall performance. However, in the current study unit-level performance was manipulated. Therefore, scale items were modified to reflect the unit as the focus of evaluation. Examples of items used to measure overall performance in this study included, "This unit is indispensable to the organization," and "This unit is extremely valuable to the organization." The reliability of this scale was ($\alpha = .92$). Results from an independent-samples t-test indicated that the high (6.02, $sd = .79$) and low (3.31, $sd = 1.34$) performance conditions were significantly different $t(236) = 18.37$, $p < .001$, and in the expected direction. Participants completed these manipulation checks immediately following exposure to the manipulations.

Confirmatory factor analysis was then conducted on the three performance variables to ensure that a three factor solution (e.g., helping, civic virtue, and task performance) was warranted. Results indicated that a three factor solution fit the data well (the GFI for the three-factor model was .92, the CFI was .98, and the RMSEA was .06) and significantly better than either a one- ($\Delta\chi^2(3, N$

= 238) = 1015.63, $p < .001$), or a two-factor solution in which helping and civic virtue loaded on one factor and task performance another ($\Delta\chi^2(2, N = 238) = 138.152, p < .001$).

Grand Means, Standard Deviations, Reliabilities, Correlations, and Condition Means- Study 1

Grand means, standard deviations, reliability estimates, and correlations are reported in the top half of Table 1. The means, standard deviations, and ranges of OCB and task performance across the four experimental conditions are presented in the bottom half of the table. The OCB condition

Insert Table 1 about here

Insert Figure 1 about here

means are plotted in Figure 1. As one can see, it appears that ratings of citizenship behavior were lower in the low performance conditions than in the high performance conditions. In addition, it also appears that OCB ratings were higher in the high task interdependence conditions than in the low task interdependence conditions. Finally, the effects of unit-level performance on ratings of both helping and civic virtue appear to have been moderated by task interdependence. Consistent with the visual data presented in figure 1, results from multivariate analyses of variance revealed significant main effects of task interdependence, Hotelling's approximate $F(2, 232) = 39.03, \eta^2 = .25, p < .001$ and unit-performance, Hotelling's approximate $F(2, 232) = 54.87, \eta^2 = .32, p < .001$, as well as a significant interaction effect, Hotelling's approximate $F(2, 232) = 6.53, \eta^2 = .05, p < .005$. Univariate analyses of variance were then executed to examine effects on the OCB subscales. These analyses indicated significant main effects of task interdependence for both civic virtue, $F(1, 233) = 57.19, \eta^2 = .19, p < .001$, and for helping, $F(1, 233) = 66.67, \eta^2 = .22, p < .001$. In support of hypothesis 1, this analysis also revealed a significant interaction effect for helping, $F(1, 233) =$

12.75, $\eta^2 = .05$, $p < .001$. No interaction effects were found for civic virtue, $F(1, 233) = 2.54$, (n.s). These results provide partial support for hypothesis 1, and suggest evaluators may be more likely to attribute high unit-level performance to helping behavior in high vs. low task interdependence contexts. Study 2 built on this result by exploring whether the observed moderation of unit-level performance attributions extended to the reported importance ascribed to OCB in employee performance evaluations. Evaluators in study 2 were exposed to the task interdependence manipulation from study 1, and were asked to rate the importance of OCB for their overall performance evaluations of employees in the production unit described above.

Study 2: Reported Importance of OCB for Overall Evaluations of Employee Performance

Method

Design and Participants

A between-groups design was used, with 2 levels of task interdependence. Participants were 148 MBA students; 25.76 years in age ($sd = 3.87$), 67% were male, 83% were born in the U.S., and English was the 1st language of 87%. Participants had 1.36 years of graduate education ($sd = 1.79$), 3.46 years of full time work ($sd = 3.63$), 2.62 years with their previous employer ($sd = 2.24$) and 1.66 years in their most recent positions ($sd = 1.35$). Participants had been direct supervisors of 1.54 ($sd = 3.34$) and indirect supervisors of 10.36 employees ($sd = 57.64$).

Procedure and Experimental Manipulations

Aside from a shift in the instructions given to participants in study 2 to provide ratings of importance rather than ratings of behavior, the procedures in studies 1 and 2 were identical. In addition, the task interdependence manipulation used in study 1 was also used in study 2. The unit-level performance data were removed from the descriptions read by participants in this study.

Dependent Variables

The helping ($\alpha = .83$), civic virtue ($\alpha = .73$), and task performance ($\alpha = .70$) scales used in study 1 were again used in study 2. However, in study 2 participants were instructed to respond regarding the importance of the behaviors in the scales for their overall evaluations of employees.

Participants were asked to indicate their agreement with the statement: “In providing overall performance evaluations of the employees in this work unit, it is important that these employees (insert item)”. Responses were based on a 7-point scale ranging from 1 (highly disagree) to 7 (highly agree).

Results and Discussion

Manipulation Checks and Confirmatory Factor Analysis

The scale used to measure task interdependence in study 1 was used in study 2 ($\alpha = .85$). Results from an independent-samples t-test indicated that interdependence for high (5.47, $sd = 1.44$) and low (4.12, $sd = 1.48$) conditions were significantly different, $t(144) = 5.54$, $p < .001$, and in the expected direction. Subjects completed these checks immediately following exposure to the manipulations. Results from the CFA indicated that a three factor solution fit the data well (the GFI for the three-factor model was .91, the CFI was .97, and the RMSEA was .04) and significantly better than a one- ($\Delta\chi^2(3, N = 148) = 281.64$, $p < .001$), or a two-factor solution ($\Delta\chi^2(2, N = 148) = 18.84$, $p < .001$).

Grand Means, Standard Deviations, Reliabilities, Correlations, and Condition Means- Study 2

Grand means, standard deviations, reliability estimates, and correlations are reported in the top half of table 2. The experimental condition means, standard deviations, and ranges of OCB and task performance are presented in the bottom half. Results from independent-samples t-tests

Insert Table 2 about here

indicated the importance attributed to helping ($t(146) = 3.95, p < .001$) and civic virtue ($t(146) = 1.79, p < .05$) were significantly different across the two conditions, and in the expected direction. Results from omega-squared tests indicated medium (helping ($\omega^2 = .09$)) and small (civic virtue ($\omega^2 = .02$)) treatment effects (cf. Keppel, 1991). The results from study 2 provide support for hypothesis 2, and suggest that the reported importance of OCB for overall performance evaluations may depend on task interdependence. These results suggest that evaluators may place more emphasis on OCB when evaluating the overall performance of employees in work units whose tasks require close coordination of employee activities. While these findings are encouraging, the data were collected from MBA students in a laboratory setting. In order to address questions regarding the generalizability of these results, we carefully replicated this study in a field setting using professional managers.

Study 3: Field Study: Interdependence and Importance Attributed to OCB in Evaluations

Method

Participants and Procedure

Participants in study 3 were alumni of an executive MBA program, and all were managers with ongoing supervisory responsibility for multiple subordinates. One-hundred and thirty managers participated. The sample was 41 years old ($sd = 8.8$ yrs.), 71% male, 96% born in the U.S., and English the first language of 98%. The managers had 2.2 yrs. of graduate education ($sd = 1.14$), 19.76 yrs. of full time work ($sd = 9.65$), 10.36 yrs. with their current organizations ($sd = 8.99$) and 4.53 yrs. in their current positions ($sd = 5.19$). Managers were direct supervisors of 11.36 ($sd = 23.17$) and indirect supervisors of 93.24 employees ($sd = 373.51$). We asked 342 managers to rate the task interdependence of the employees in their unit of primary responsibility, and to then rate the importance of both OCB and task performance in their overall performance evaluations of these

employees. Upon completion, participants mailed surveys back to the primary researcher. One hundred and thirty surveys were returned for a response rate of 38%.

Measures and Demographic Variables

Task interdependence ($\alpha = .89$), helping ($\alpha = .77$), civic virtue ($\alpha = .71$) and task performance ($\alpha = .73$) were measured using the scales from Study 2. We asked about gender as this has been shown to influence perceptions of the extent to which OCB is discretionary (cf. Kidder, 2002). Information about tenure and supervisory responsibility were collected as organizational experience has also been shown to affect perceptions of the in-role vs. extra-role status of OCB (cf. Morrison, 1994).

Results and Discussion

Assessment of Common Method Bias and Confirmatory Factor Analysis

In order to test for common method bias, we conducted a procedure used by Williams, Cote, and Buckley (1989). In this approach a multifactor measurement model, a model with a single method factor, and a measurement model with an additional method factor are tested. Results from this test indicated that a method factor added into the original measurement model accounted for only 14% of the total model variance, which suggests that common method variance was not a pervasive problem in our analyses. Results from the CFA (which included task interdependence) indicated that a four factor solution fit the data well, and significantly better than a one- ($\Delta\chi^2 (5, N = 130) = 385.56, p < .001$) or a two-factor solution ($\Delta\chi^2 (4, N = 130) = 228.74, p < .001$). The GFI for the four-factor model was .91 the CFI was .92, and the RMSEA was .06.

Construct Means, Standard Deviations, Reliabilities, Correlations and Regression Analysis

Grand means, standard deviations, reliability estimates, and correlations are presented in the top half of Table 3, and the results from hierarchical regression analysis conducted to test

Insert Table 3 about here

hypothesis 2 are presented in the bottom half. As shown in the table, task interdependence had a significant relationship with the importance attributed to both helping ($\beta = .38, \Delta R^2 = .14, p < .001$) and civic virtue ($\beta = .32, \Delta R^2 = .10, p < .001$). This result provides additional support for hypothesis 2, and indicates that the relationships uncovered in study 2 may be generalized to contexts beyond the laboratory. Specifically, these findings support the proposition that the importance managers ascribe to OCB in their evaluations of employees' performance may be affected by task interdependence.

General Discussion

The results from these studies lead to several conclusions, and to several additional questions. The results from study 1 suggest that task interdependence may moderate the effects of unit-level performance feedback on the behavioral attributions made by evaluators to explain this performance. Specifically, study 1 indicated that high unit-level performance was more likely to be attributed to employee helping when task interdependence was also high. This finding is meaningful because it provides evidence that task interdependence may influence the behaviors to which evaluators attribute overall performance at the unit level. The results from study 2 indicate the reported importance attributed to OCB in overall evaluations of employee performance may also depend on task interdependence. The cross-sectional results reported in study 3 provide evidence that managers may also take task interdependence into account when weighting the importance of OCB in evaluations of employee performance. Taken together, the results from these three studies indicate both that: 1) it is possible for evaluators to account for task interdependence when weighting OCB in overall employee performance evaluations; and 2) that they believe that they do so. Clearly, the reported importance of OCB in overall performance evaluations is not the same thing as its "true" importance. Although the results from the current study are promising, no field

research measuring the “true” effects of OCB on employee evaluations has controlled for task interdependence. Further, results from the empirical literature (cf. Podsakoff and MacKenzie, 1994), coupled with the arguments of Podsakoff et al. (2000) suggest there may be contextual influences on managers’ ability to either interpret or perceive these relationships in work-unit settings. It will be important for future OCB research to explore how to facilitate the incorporation of information about task relationships into the calculus of performance evaluators, and the role of organizational factors in this process.

Theoretical Implications

Throughout the current discussion we have argued that, consistent with the arguments of Organ (1988) and Podsakoff et al. (2000), task interdependence moderates the potency of OCB. Although the arguments of these researchers are compelling, it should be noted that no direct empirical tests of this assumption have been conducted. Therefore, it will be important for future research to determine whether as we argue task interdependence does indeed moderate the effects of OCB on unit-level performance outcomes. Further, OCB research continues to expand into collective cultural contexts (cf. Farh, Zhong, and Organ, 1994). Interestingly, in these contexts helping behaviors such as OCB are recognized as relatively ubiquitous (cf. Chen, Chen, and Meindl, 1998). For example, Lam, et al. (1999) reported that employees in collective cultural contexts are more likely to view OCB as a taken-for-granted part of their performance than are employees in individualistic contexts; and are as a result more likely to demonstrate these behaviors (cf. Morrison, 1994). If indeed OCB is an assumptive requirement of employees (and supervisors) in collective cultural contexts, the effects of culture on employees’ perceptions of responsibility may contribute to systematic misalignments between employee behavior and task requirements (cf. Podsakoff and MacKenzie, 1994). Future research exploring the saliency of task interdependence

to evaluators in collective contexts, and subsequent effects on patterns of employee evaluation, would seem to be called for.

Limitations

As noted above, the current study explored the effects of task interdependence on the reported importance of OCB for employee performance evaluations. These data allow only tentative inferences to be drawn regarding the effects of task interdependence on weight given to OCB in employee evaluations. Therefore, future research in which the effects of task interdependence on the weight given to OCB in actual performance evaluations in the field is called for.

Conclusions and Future Research

The results from the current study suggest that task interdependence may influence perceptions of the importance of OCB in overall evaluations of employee performance for evaluators in the U.S., where individualistic (as opposed to collectivistic) cultural norms predominate (cf. Hofstede, 1980). In more collectivistic settings (cf. Triandis, 1989) strong normative expectations of cooperation (cf. Earley, 1989) could outweigh in salience information about task relationships (cf. Wagner, VanDyne, LePine, and Hollenbeck, 1997), leading to a diminished sensitivity of contextual moderators of the utility of OCB, and subsequent misalignments in the performance evaluation process (cf. Podsakoff and MacKenzie, 1994). As increasing attention to questions of cooperation across cultures suggests (cf. Chen, et al., 1998), it may be important for future research to explore how culture influences apparent moderating effects of task interdependence on managers' perceptions of the importance of OCB for overall employee performance, as well as for unit-level performance outcomes.

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Table 1

Grand Means, Standard Deviations, Reliabilities, Correlations, and Condition Means for Hypothesis Testing – Study 1

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | | |
|------------------------|------|------|-------------|-------------|-------------|-------------|-------------|-----------|------|
| 1. Interdependence | 4.83 | 1.91 | (.91 / .83) | | | | | | |
| 2. Overall performance | 4.77 | 1.70 | -.04 | (.92 / .82) | | | | | |
| 3. Helping | 4.11 | 1.64 | .32** | .45** | (.95 / .86) | | | | |
| 4. Civic virtue | 4.18 | 1.72 | .31** | .44** | .74** | (.87 / .83) | | | |
| 5. Task performance | 5.10 | 1.65 | -.00 | .62** | .49** | .56** | (.92 / .84) | | |
| | | | Minimum | Maximum | M | SD | | | |
| | | | High Perf. | Low Perf. | High Perf. | Low Perf. | High Perf. | Low Perf. | |
| High interdependence | | | | | | | | | |
| Helping | | 3.14 | 1.29 | 7.00 | 6.86 | 5.75 | 3.55 | .79 | 1.19 |
| Civic virtue | | 2.67 | 1.00 | 7.00 | 7.00 | 5.65 | 3.79 | .97 | 1.41 |
| Task performance | | 4.00 | 1.00 | 7.00 | 7.00 | 6.26 | 3.77 | .72 | 1.56 |
| Low interdependence | | | | | | | | | |
| Helping | | 1.14 | 1.00 | 7.00 | 6.86 | 3.84 | 2.76 | 1.27 | 1.71 |
| Civic virtue | | 1.00 | 1.00 | 7.00 | 6.67 | 3.97 | 2.69 | 1.46 | 1.75 |
| Task performance | | 1.00 | 1.67 | 7.00 | 7.00 | 6.06 | 3.89 | .91 | 1.33 |

Note: Reliability estimates appear in parenthesis along the diagonal. The first entry inside the parenthesis is Cronbach's index of internal consistency (α) and the second entry is Fornell and Larcker's (1981) rho. ** $p < .01$, one-tailed.

Table 2

Grand Means, Standard Deviations, Reliabilities, Correlations, and Condition Means for Hypothesis Testing – Study 2

| Variable | M | SD | 1 | 2 | 3 |
|---------------------|------|------|-----------------|-----------------|-----------------|
| 1. Interdependence | 4.79 | 1.61 | (.85/.76) | | |
| 2. Helping | 5.43 | .93 | .33** (.83/.62) | | |
| 3. Civic virtue | 5.76 | .95 | .22** | .58** (.73/.69) | |
| 4. Task performance | 6.03 | .84 | .03 | .14 | .21** (.70/.67) |

| | Minimum | Maximum | M | SD |
|----------------------|---------|---------|------|------|
| High interdependence | | | | |
| Helping | 3.71 | 7.00 | 5.72 | .74 |
| Civic virtue | 4.00 | 7.00 | 5.90 | .77 |
| Task performance | 3.40 | 7.00 | 6.02 | .92 |
| Low interdependence | | | | |
| Helping | 2.71 | 7.00 | 5.13 | 1.03 |
| Civic virtue | 2.67 | 7.00 | 5.62 | 1.08 |
| Task performance | 3.80 | 7.00 | 6.04 | .86 |

Note. Reliability estimates appear in parenthesis along the diagonal. The first entry inside the parenthesis is Cronbach's index of internal consistency (α) and the second entry is Fornell and Larcker's (1981) rho. ** $p < .01$, one-tailed

Table 3

Grand Means, Standard Deviations, Reliabilities, Correlations, and Hierarchical Regression for Field Study – Study 3

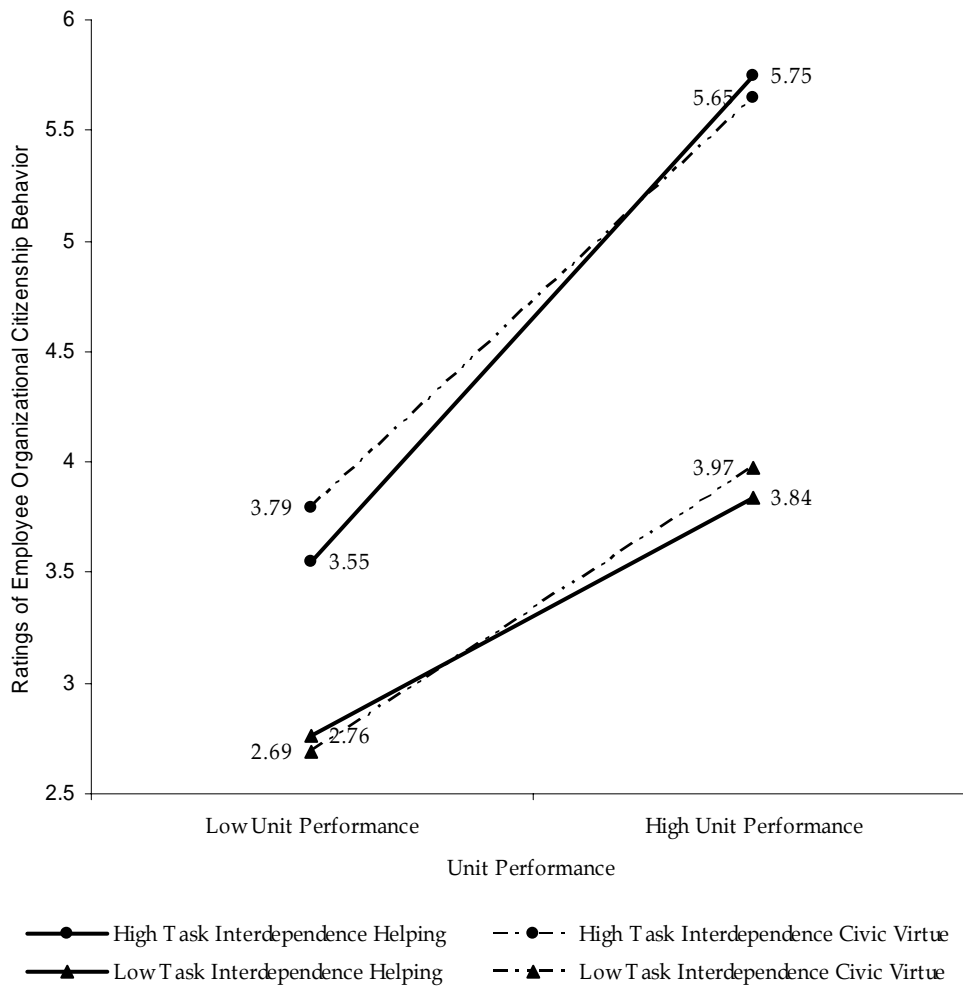
| Variable | M | SD | 1 | 2 | 3 |
|---------------------|------|-----|-----------------|-----------------|-----------------|
| 1. Interdependence | 6.26 | .91 | (.89/.78) | | |
| 2. Helping | 5.69 | .78 | .40** (.77/.56) | | |
| 3. Civic virtue | 6.11 | .83 | .32** | .59** (.71/.69) | |
| 4. Task performance | 6.53 | .58 | .12 | .32** | .39** (.73/.61) |

| Variable | Helping | | Civic virtue | | Task performance | |
|---------------------------|---------|----------|--------------|----------|------------------|--------|
| | Step 1 | Step 2 | Step 1 | Step 2 | Step 1 | Step 2 |
| Gender | -.08 | -.10 | -.05 | -.07 | .06 | .05 |
| Age | .29 | .20 | .07 | -.00 | -.15 | -.19 |
| Education | -.03 | .00 | .04 | .07 | .03 | .05 |
| Country | -.00 | .02 | .02 | -.04 | -.11 | -.09 |
| First language | .11 | .09 | .15 | .13 | .28* | .27* |
| Years of full-time work | -.15 | -.12 | .07 | .08 | .09 | .10 |
| Years with organization | .06 | .10 | .07 | .10 | .25* | .28* |
| Years in position | -.04 | -.03 | -.06 | -.04 | -.10 | -.09 |
| Direct supervision | .15 | .14 | .07 | .06 | .09 | .08 |
| Indirect supervision | .14 | .12 | .08 | .07 | .00 | -.01 |
| Interdependence | | .38*** | | .32*** | | .20* |
| R ² | .10 | .24 | .07 | .17 | .12 | .16 |
| F† | 1.34 | 3.34*** | .90 | 2.18** | 1.62 | 2.00* |
| Δ R ² , step 2 | | .14 | | .10 | | .04 |
| F for Δ R ² | | 21.40*** | | 14.04*** | | 5.26* |

Note. Reliability estimates appear in parenthesis along the diagonal. The first entry inside the parenthesis is Cronbach's index of internal consistency (α) and the second entry is Fornell and Larcker's (1981) rho. ** $p < .01$, one-tailed. Entries in the bottom half of table 3 are standardized regression coefficients – * $p < .05$; ** $p < .01$; *** $p < .001$; † degrees of freedom for model 1 = (10, 119); degrees of freedom for model 2 = (11, 118)

Figure 1

Effects of Task Interdependence and Unit-Level Performance Feedback on Ratings of Employee Organizational Citizenship Behavior



Appendix

High Interdependence

A production unit in a small factory produces several cellular phone models for Nokia. The ten members of the production unit rotate responsibility for each of ten sequential operations. Factory policy allows no buffer stocks of work-in-process to be maintained between operations. Although the unit's members are required to work eight hours each day, they must work together to determine work schedule because of the buffer-stock policy. Workers at this factory have to communicate information regarding color, stock, and equipment to each other because the phone that they make leaves the factory in five colors and cabinet styles with ten functionality packages. Because half of the workers at this factory share equipment, they have to coordinate their use of production facilities. Over the last several years, both the design of the product and the production process has changed extensively.

Low Interdependence

A production unit in a small factory produces a single cellular phone model for Nokia. Each of the ten members of the production unit is responsible for one of ten sequential operations. Factory policy allows large buffer stocks of work-in-process to be maintained between operations. Although all ten individuals are required to work eight hours each day, they can begin and end their activities according to a flexible work schedule because of the buffer-stock policy. Workers at this factory do not have to communicate information regarding color, stock, or equipment to each other because the phone that they make leaves the factory in only one color, cabinet style, and functionality package. All of the workers at this factory have their own equipment, and so do not have to coordinate their use of production facilities. Over the last several years, neither the product design nor the production process has changed.

High Unit-Level Performance

Last year, this production unit was the most productive unit in its region, producing at a rate 25% higher than the next closest factory. Of the 15 other factories producing similar products, this unit had the lowest materials cost % (waste), highest operating efficiency, fewest customer complaints, highest customer satisfaction, and fewest returns. **(added to the end of the interdependence manipulation)**

Low Unit-Level Performance

Last year, this production unit was the least productive unit in its region, producing at a rate 25% lower than the next closest factory. Of the 15 other factories producing similar products, this unit had the highest materials cost % (waste), lowest operating efficiency, most customer complaints, lowest customer satisfaction, and most returns. **(added to the end of the interdependence manipulation)**