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Expanding the Criterion Domain? A Quantitative Review of the

OCB Literature

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The authors investigate the construct validity of the organizational citizenship behavior (OCB)–task performance distinction by providing a quantitative review of the OCB literature. The authors extend previous meta-analytic reviews of the OCB literature by (a) using confirmatory factor analysis (CFA) to investigate the dimensionality of OCB, (b) using CFA to examine the distinction between OCB and task performance, and (c) examining the relationship between a latent OCB factor and task performance and attitudinal variables. Results support a single factor model of OCB that is distinct from, albeit strongly related to, task performance. In addition, results show that OCB consistently relates more strongly to attitudes than does task performance and shares a modest amount of variance with attitudinal correlates beyond task performance.

*Keywords:* organizational citizenship behavior, meta-analysis, job performance, contextual performance

The last two decades of job performance research have seen a marked increase in empirical studies investigating work-related behavior outside the domain of traditional task statements and formal organizational reward systems (frequently referred to as *discretionary work performance*). In a business environment char- acterized by flattened organizational structures, competition from international economies, and increased employee autonomy and responsibility, the performance of discretionary work behaviors has been deemed essential to effective organizational functioning (Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

Of the multiple conceptualizations of discretionary work per- formance (e.g., contextual performance, prosocial organizational behavior, extra role behavior), organizational citizenship behavior (OCB; Organ, 1988; Smith, Organ, & Near, 1983) has received the preponderance of research attention (cf. Organ & Ryan, 1995; Podsakoff, MacKenzie, & Bommer, 1996; Podsakoff et al., 2000). Although OCB is a relatively recent construct, its conceptualiza- tion has seen multiple iterations over the past 20 years. For example, Smith et al. (1983) proposed a two-factor model, Organ (1988) delineated a five-factor model, and still others have opera- tionalized OCB as a unidimensional construct (Allen & Rush,

1998). In addition, although OCB as discretionary work perfor- mance is clearly conceptually distinguished from required work performance (i.e., task performance), the empirical differentiation between these two constructs is far less clear. In sum, despite a fair amount of research attention, it appears that questions remain

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regarding the dimensionality of the OCB construct as well as its differentiation from task performance.

The purpose of the current article is to extend previous research on the dimensionality of the OCB construct and to examine the extent to which OCB is empirically distinct with respect to task performance. We meta-analytically summarize the existing OCB literature and extend previous reviews by providing a direct test of different models of the OCB construct. We also extend previous meta-analytic reviews by quantitatively summarizing the observed relationship of OCB with task performance as well as examining the pattern of relations between both OCB and task performance and several job-related attitudinal variables.

Conceptualizations of OCB

Smith, Organ, and Near’s (1983) seminal conceptualization of OCB delineated a two-dimension framework including altruism (behavior targeted specifically at helping individuals) and gener- alized compliance (behavior reflecting compliance with general rules, norms, and expectations). Organ (1988) subsequently pro- posed an expanded five-dimension model of OCB consisting of altruism (more narrowly defined than by Smith et al.), courtesy, conscientiousness, civic virtue, and sportsmanship. Podsakoff, MacKenzie, Moorman, and Fetter (1990) extended the work of Organ (1988) by developing a measure of OCB that consisted of subscales for each of the five dimensions proposed. The OCB scales developed by Podsakoff et al. (1990) are among the most widely used in the OCB literature. Yet, as noted above, the appropriateness of Organ’s five-dimension conceptualization of the OCB construct has been the subject of a considerable amount of attention. L. J. Williams and Anderson (1991), for example, proposed an alternative two-dimensional conceptualization of OCB, suggesting that OCB be viewed in terms of behaviors directed toward individuals (OCB-I) versus those directed toward the organization (OCB-O). Here it is important to note that Wil- liams and Anderson’s dimensions were largely based on Organ’s (1988) five-dimension taxonomy. Specifically, L. J. Williams and

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Anderson (1991) suggested that Organ’s (1988) taxonomy should be reduced such that two of the five dimensions (altruism and courtesy) comprise OCB-I and the remaining three dimensions (conscientiousness, civic virtue, and sportsmanship) comprise OCB-O. Still other researchers have utilized a unidimensional or overall OCB measure in their research (Allen & Rush, 1998; X. P. Chen, Hui, & Sego, 1998; Decktop, Mangel, & Cirka, 1999). In large part, these aggregate OCB applications have taken items from the Smith et al. (1983) or Podsakoff et al. (1990) measures and computed an aggregate score across OCB responses.

LePine, Erez, and Johnson (2002) directly investigated the di- mensionality of the OCB construct. Specifically, LePine et al. conducted a meta-analytic review and found that (a) measures of Organ’s five OCB dimensions were strongly related (mean

.67); (b) measures of the different OCB dimensions did not dif- ferentially correlate with various attitudinal measures (i.e., job satisfaction, commitment, etc.); and (c) the different dimensions of OCB did not explain variance beyond an overall measure in any of the attitudinal constructs they examined. On the basis of these findings, LePine et al. suggested that measures of the five dimen- sions of OCB are best viewed as “equivalent indicators of OCB” and that “scholars begin to explicitly think of Organ’s (1988) OCB as a latent construct” (p. 61). One limitation of the LePine et al. review, however, was that they did not explicitly test a model in which OCB is represented as a single latent factor, nor did they examine the relation between an OCB latent factor and related attitudinal measures. Rather, they based their conclusions on a rational examination of the pattern of meta-analytically derived correlations among the OCB dimensions.

OCB and Task Performance

Relevant to the issue of the dimensionality of the OCB construct is the nature of job performance in general. A wealth of prior research has focused on developing models of job performance (cf. Borman & Brush, 1993; Campbell, McHenry, & Wise, 1990; Hunt, 1996; Komaki, Zlotnick, & Jensen, 1986; K. R. Murphy,

1989; Viswesvaran, 1993). This research suggests that various dimensions of task performance may actually reflect an overall or “general performance” construct. However, this line of research has focused almost exclusively on task-related job performance. In addition, although LePine et al. (2002) and others (e.g., Organ & Ryan, 1995; Podsakoff, MacKenzie, & Bommer, 1996; Podsakoff et al., 2000) have provided meta-analytic reviews of the OCB literature, these reviews have not included task performance, nor have they examined the comparative nomological networks sur- rounding OCB and task performance.

Conway (1999) provided a meta-analytic summary of the rela- tionship between contextual and task performance and found that the two constructs are empirically related, yet distinct. However, although we agree with Conway’s contention that “Contextual performance is virtually identical to Organ’s (1997) recent con- ception of organizational citizenship behavior” (p. 3) at a concep- tual level, the operationalization of contextual performance is far less consistent than that of OCB. Nearly all measures of OCB focus on some more or less inclusive subset of the five OCB dimensions suggested by Organ (1988). Alternately, no similar operationalization of contextual performance has emerged. Con- way’s (1999) analysis collapsed 83 different performance dimen-

sion labels into five performance categories. Conway’s results reflect relationships among widely divergent operationalizations categorized post hoc with respect to contextual performance. Thus, although Conway (1999) provided some support for the indepen- dence of contextual and task performance, it is difficult to draw conclusions regarding the relationship between prespecified mea- sures of OCB and task performance.

Additionally, the meta-analysis by Conway (1999) was based on a relatively small number of studies (14) and did not address the relationship between task and contextual performance and concep- tually related variables. Thus, although some supporting evidence was provided for the task and contextual performance distinction, Conway’s (1999) study sheds little light on the construct-related validity of the two performance domains in question here. Given the prominence of OCB in recent organizational research, a greater understanding of the dimensionality of OCB measures as well as the discriminability between measures of OCB and task perfor- mance is an important research question.

Nomological Networks of OCB and Task Performance

In addition to the empirical discriminability between OCB and task performance, it is important to consider the pattern of rela- tionships between both OCB and task performance and other work-related variables. More specifically, it has been proposed that research finding weak relationships between work-related attitudes and task performance may be explained by the depen- dence of task performance on both ability and motivation. In that the performance of discretionary work behaviors typically does not require specific knowledge, skills, and abilities, and is viewed primarily as a motivational phenomenon, it is expected that OCB will be more strongly related to attitudes than will task perfor- mance (Bateman & Organ, 1983; Organ & Ryan, 1995). In other words, one tenet of the OCB literature is that measures of OCB will demonstrate stronger relationships with work-related attitudes than will measures of task performance.

In essence, the utility of the OCB–task performance distinction is predicated on OCB representing an expansion or augmentation of the job performance domain and demonstrating a different pattern of relationships with motivational variables than task per- formance. A meta-analysis by Hurtz and Donovan (2000) demon- strated that contrary to widely held expectations, discretionary work behaviors were no more strongly related to the five-factor model of personality than was task performance. In contrast, previous empirical research suggests that OCB and task perfor- mance often display a differential pattern of relationships with work attitudes (Moorman, Niehoff, & Organ, 1993; Wayne, Shore, Bommer, & Tetrick, 2002). However, to date, there has been no comprehensive quantitative review exploring the nomological net- work of both OCB and task performance.

The Present Study

Our goal is to extend previous research focusing on the con- struct validity of measures of OCB. Similar to previous reviews (e.g., LePine et al., 2002), we begin by providing a meta-analytic examination of the observed relationships among measures of OCB. In addition, we seek to examine the dimensionality of the OCB construct. Similar to LePine et al. (2002), our focus is on the

framework of OCB forwarded by Organ (1988), as well as other models relevant to this conceptualization (e.g., L. J. Williams & Anderson, 1991). Unlike previous reviews, however, we explicitly test competing models underlying OCB measures by using a meta-analytically derived correlation matrix as input for a confir- matory factor analytic comparison of the different models.

Our second goal is to examine the observed relationship be- tween OCB and task performance and between OCB, task perfor- mance, and measures of job satisfaction, organizational commit- ment, and three dimensions of organizational justice. Toward this end, we expand both our meta-analytic review of the literature and confirmatory factor analytic model tests to include these variables.

Method

We conducted a search of the OCB literature by using a number of online databases (e.g., Web of Science, PsycINFO) as well as by examining the reference lists of previous reviews. Our search resulted in 361 studies that dealt with OCB. Next, we evaluated each of these studies for inclusion in the meta-analysis. In accor- dance with our a priori definition of the population and relation- ships of interest, we established several rules for the inclusion and exclusion of data. First, we excluded studies that did not provide quantitative data (e.g., qualitative reviews and theoretical works). Additionally, we eliminated studies that did not provide a corre- lation between at least two of the variables of interest or that did not provide a statistic that could be converted into a correlation (e.g., *t*-test results) between the variables of interest. Further, correlations among dimensions of discretionary work behavior that were conceptually dissimilar to the five dimensions of OCB pro- posed by Organ (1988) were excluded. Finally, we chose to limit our data to data based on explicit measures of the construct of interest. That is, we included only measures that explicitly as- sessed one or more dimension(s) of OCB, task performance, or the attitudinal variables. It is worthwhile to note that for a study to be included, it did not have to report the correlation among all variables of interest. We excluded ratings of “overall job perfor- mance” or objective measures that might reflect both OCB and task components of job performance. On the basis of these criteria, we identified 112 studies reporting 1,111 independent correlations with a total sample size of 41,650 for inclusion in the meta- analysis. Of the studies included, 70 (62.5%) were published and

42 (37.5%) were unpublished manuscripts or dissertations.1

Each of the studies was coded with respect to the dimension of OCB (altruism, courtesy, civic virtue, conscientiousness, and sportsmanship), task performance, organizational commitment, job satisfaction, and organizational justice (procedural justice, distributive justice, and interactional justice). Each study was coded by at least two individuals. Comparison across coders indi- cated a high level of initial agreement (i.e., 90%). Any discrepan- cies were resolved through a consensus discussion.

One specific difficulty emerged when coding the OCB dimen- sions. Specifically, previous research has incorporated a variety of conceptualizations and measures of OCB. For example, for the purposes of the current study, it would have been inappropriate to include a measure of altruism based on Smith et al.’s (1983) original framework because at the time, altruism was a much broader construct than present day conceptualizations of altruism. When the full set of items was not available in the study, we

attempted to contact the authors to obtain a copy of the full scale. Then, we reviewed the item content of each scale to ensure that it adequately captured the construct space of the OCB dimension in question and was not contaminated (i.e., by tapping multiple dimensions). For example, Moorman and Blakely’s (1995) scale is commonly used as a measure in the OCB literature, yet this scale is not directly based on Organ’s (1988) conceptualization. How- ever, an examination of the items of the scale reveals that two of the dimensions, “helping behavior” and “loyal boosterism,” are essentially parallel to Organ’s (1988) conceptualization of altruism and civic virtue. Consequently, data incorporating Moorman and Blakely’s helping behavior subscale as a dimension of OCB was included as a measure of altruism, and loyal boosterism was included as a measure of civic virtue.

Once all of the study data were coded we used Arthur, Bennett, and Huffcutt’s (2001) SAS 9.1 PROC MEANS program to analyze the data. This approach follows the meta-analysis procedure rec- ommended by Hunter and Schmidt (1990). This analysis was used to generate an 11 11 matrix containing population correlation estimates among each of the five OCB dimensions, task perfor- mance, and the five attitude variables. Typically, meta-analysis includes corrections for multiple artifacts such as sampling error and unreliability. Although we did correct correlations for sam- pling error (i.e., sample size weighting) in our meta-analysis, we did not correct for unreliability. Rather, correction for unreliability was addressed in the subsequent confirmatory factor analyses (CFAs; described below). As recommended by Viswesvaran and Ones (1995), we used the harmonic mean (3,052) of the sample sizes for the individual mean correlations as the sample size for the CFA.

Results

*Meta-Analysis*

The sample-size-weighted mean intercorrelations and standard errors are presented in Table 1. The total sample size (*N*), number of samples (*K*), and the average sample size per correlation are presented in Table 2. Reliability estimates for each of the non- OCB variables are also presented in Table 1. These values were collected as part of the meta-analysis and represent the mean reliability for each variable across all studies reporting reliability information (i.e., we generated the typical meta-analytic artifact distribution).

Given that the correlations in the overall matrix were combined across independent data sets, the appropriateness of using these aggregated values as the basis for subsequent factor analyses is a potential concern (Cheung & Chan, 2005; Viswesvaran & Ones,

1 A subgroup analysis was conducted to test for differences between published and unpublished studies (i.e., dissertations). We generated two full (11 11) correlation matrices, one for the published studies and another for the unpublished studies. We then used a LISREL multiple- groups analysis to evaluate whether the two matrices could be equated. Results of this analysis indicate that constraining the two matrices to be equal provides an adequate representation of the data, that is, 2(55, *N*

3,052) 365.18, *p*  .05, ECVI .17, RMSEA .055, NNFI .98, CFI .99. Accordingly, we determined that there was no significant difference between published and unpublished studies.

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Table 1

*Meta-Analytic Intercorrelations (and 95% Confidence Intervals) Among Study Variables*

Variable 1 2 3 4 5 6 7 8 9 10 11

1. Altruism

95% confidence

interval —

2. Civic virtue

95% confidence

interval .53 .059 —

3. Conscientiousness

95% confidence

interval .61 .039 .51 .039 —

4. Courtesy

95% confidence

interval .66 .039 .49 .039 .59 .039 —

5. Sportsmanship

95% confidence

interval .46 .059 .36 .039 .46 .039 .55 .039 —

6. Task performance

95% confidence

interval .56 .059 .53 .039 .60 .078 .50 .078 .49 .039 .86

7. Satisfaction

95% confidence

interval .19 .039 .19 .039 .21 .039 .21 .020 .23 .039 .17 .039 .86

8. Commitment

95% confidence

interval .16 .059 .21 .078 .15 .039 .14 .020 .17 .039 .11 .039 .47 .059 .88

9. Distributive justice

95% confidence

interval .10 .039 .09 .059 .10 .039 .13 .039 .17 .059 .14 .059 .54 .118 .25 .137 .87

10. Interactional justice

95% confidence

interval .14 .078 .18 .059 .18 .078 .23 .078 .24 .078 .18 .078 .54 .059 .45 .098 .54 .039 .91

11. Procedural justice

95% confidence

interval .19 .039 .16 .059 .19 .039 .23 .059 .26 .039 .15 .059 .50 .039 .43 .059 .48 .098 .58 .078 .89

*Note.* Values on the diagonal represent the mean (across studies) coefficient alpha reliability estimate for these variables. Confidence intervals (which represent the variance in the correlations after correcting for artifacts over and above sampling error) were not calculated, as no artifact corrections were applied.

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Table 2

*Total Sample Size, Mean (SD) Sample Size, and Number of Studies (K) on Which Correlations Are Based*

Variable 1 2 3 4 5 6 7 8 9 10 11

1. Altruism

*N* —

*M* (*SD*)

*K*

2. Civic virtue

|  |  |  |
| --- | --- | --- |
| *N* | 10,909 | — |
| *M* (*SD*) | 253 (268) |  |
| *K* | 43 |  |
| 3. Conscientiousness |
| *N* | 10,647 | 10,091 | — |
| *M* (*SD*) | 242 (263) | 246 (272) |  |
| *K* | 44 | 41 |  |
| 4. Courtesy |  |  |  |
| *N* | 9,247 | 8,462 | 9,135 | — |
| *M* (*SD*) | 257 (290) | 242 (267) | 254 (289) |  |
| *K* | 36 | 35 | 36 |  |
| 5. Sportsmanship |  |  |  |  |
| *N* | 9,468 | 12,597 | 9,096 | 9,450 | — |
| *M* (*SD*) | 256 (286) | 293 (311) | 253 (290) | 263 (291) |  |
| *K* | 37 | 43 | 36 | 36 |  |
| 6. Task performance |
| *N* | 4,831 | 6,688 | 4,958 | 4,197 | 6,134 | — |
| *M* (*SD*) | 345 (385) | 446 (425) | 381(396) | 420 (436) | 511 (455) |  |
| *K* | 14 | 15 | 13 | 10 | 12 |  |
| 7. Satisfaction |  |  |  |  |  |  |
| *N* | 7,031 | 6,705 | 7,487 | 5,808 | 5,510 | 9,001 | — |
| *M* (*SD*) | 334 (349) | 335 (357) | 323 (333) | 387 (402) | 324 (347) | 333 (307) |  |
| *K* | 21 | 20 | 23 | 15 | 17 | 27 |  |
| 8. Commitment |  |  |  |  |  |  |  |
| *N* | 8,309 | 6,512 | 8,289 | 5,358 | 5,822 | 12,016 | 16,081 | — |
| *M* (*SD*) | 277 (270) | 283 (308) | 276 (270) | 315 (354) | 323 (342) | 227 (237) | 273 (226) |  |
| *K* | 30 | 23 | 30 | 17 | 18 | 53 | 59 |  |
| 9. Distributive justice |
| *N* | 2,526 | 2,632 | 2,642 | 1,932 | 2,038 | 2,554 | 2,393 | 2,012 | — |
| *M* (*SD*) | 180 (86) | 175 (85) | 189 (114) | 161 (42) | 157 (44) | 284 (149) | 263 (102) | 183 (53) |  |
| *K* | 14 | 15 | 14 | 12 | 13 | 9 | 9 | 11 |  |
| 10. Interactional justice |
| *N* | 1,649 | 1,649 | 1,203 | 1,055 | 1,055 | 1,108 | 1,758 | 751 | 2,584 | — |
| *M* (*SD*) | 206 (107) | 206 (107) | 172 (50) | 176 (54) | 176 (53) | 221 (96) | 251 (77) | 188 (79) | 215 (106) |  |
| *K* | 8 | 8 | 7 | 6 | 6 | 5 | 7 | 4 | 12 |  |
| 11. Procedural justice |
| *N* | 2,766 | 2,759 | 2,882 | 2,059 | 3,153 | 3,157 | 3,240 | 2,459 | 4,949 | 3,794 | — |
| *M* (*SD*) | 184 (112) | 184 (111) | 192 (132) | 172 (94) | 225 (237) | 287 (144) | 270 (109) | 176 (100) | 225 (129) | 223 (122) |  |
| *K* | 15 | 15 | 15 | 12 | 14 | 11 | 12 | 14 | 22 | 17 |  |

1995). Consequently, we examined the variability of the correla- tions that were aggregated within each cell of the 11 11 matrix relative to the total variability across all correlations. Use of the aggregated values is appropriate only if the within-cell variance is (a) small in absolute terms and (b) small relative to the between cell variance. In essence, this would be consistent with a similar pattern of relationships among the various constructs across stud- ies. To test this, we examined the mean within-cell variance (i.e., average variance across correlations contributing to each cell of the matrix) relative to the total variance across all of the correla- tions. The variance across all of the correlations was .064, whereas the mean within-cell variance was .014, indicating that the (a) the within-cell variance itself is quite small and (b) the within-cell variance is small relative to the between-cell variance (i.e., reduces the overall variability by approximately 80%). Thus, we used the meta-analytic correlation matrix presented in Table 1 as input for the subsequent CFA.

*CFAs*

To assess the dimensionality of OCB, we sequentially evaluated the fit of several competing models of OCB and task performance dimensionality with the meta-analytically derived correlation ma- trix using a confirmatory factor analytic application of LISREL

8.70 (Jo¨ reskog & So¨ rbom, 2004).

We first evaluated the fit of the general measurement model presented in Figure 1. In this model, two latent variables were operationalized to correspond to L. J. Williams and Anderson’s (1991) two-factor conceptualization of OCB such that the OCB dimensions altruism and courtesy served as manifest indicators of

.33

.36

.58

.45

.63

.03

.07a

.08a

.07a

.05a

.06a

Altruism Courtesy Civic Virtue

Conscientiousness Sportsmanship Task Performance Job Satisfaction Commitment

Distributive Justice

Interactional Justice

Procedural Justice

.82

.80

.64

.74

.61

.98

.96 b

.96 b

.96 b

.97 b

.97b

OCB-I

OCB-O

Task Performance

Job Satisfaction

c

Commitment Distributive Justice Interactional Justice Procedural Justice

an OCB-I factor and the OCB dimensions conscientiousness, civic virtue, and sportsmanship served as manifest indicators of OCB-O. Six additional latent variables were included corresponding to task performance, job satisfaction, organizational commitment, distrib- utive justice, interactional justice, and procedural justice. Each of these variables was defined with a single manifest indicator.

As noted above, we chose not to correct the summary correla- tions for unreliability as part of the meta-analysis. Rather, we incorporated reliability corrections in the CFA measurement model. Specifically, for the two OCB latent variables with multiple indicators, the CFA includes estimates of correlations among fac- tors corrected for unreliability in the manifest variables (i.e., cor- rection for measurement error is implicitly conducted as part of the CFA). For those factors with only one manifest indicator, however, we constrained the factor loading of the indicator on the factor to be equal to the square root of the reliability and the error term to be 1 minus the square root of the reliability. Thus, all correlation estimates among the latent factors in the measurement model (i.e., the phi matrix) represent relationships among factors corrected for unreliability.

As mentioned previously, the harmonic mean sample size (*N*

3,052) was used in all model testing. Examination of the overall fit indices indicates that the correlated eight-factor measurement model presented in Figure 1 provides a good fit to the data,

 2(22) 258.65, *p*  .05, root-mean-square error of approxima-

tion (RMSEA) .059, expected cross-validation index (ECVI)

.11, nonnormed fit index (NNFI) .98, comparative fit index (CFI) .99, and supports the hypothesized three-factor concep- tualization of OCB (OCB-I and OCB-O) and task performance.

*Figure 1.* Structural model of the relationships among organizational

citizenship behavior (OCB) dimensions, task performance, and work atti- tudes. aError loadings on work attitudes were fixed as 1 minus the square root of the reliability of its corresponding factor loading. bFactor loadings of work attitudes were fixed to the values of the square root of their reliabilities. cFactor intercorrelation parameter estimates are presented in Table 3. OCB-I OCB directed toward individuals. OCB-O OCB directed toward the organization.

However, the estimated correlation between the two latent OCB factors is .98, indicating little if any empirical differentiation between the two factors. Consequently, we evaluated a modified version of the measurement model (Model 2) in which the corre- lation between the two latent OCB factors was constrained to equal

1. In essence, Model 2 represents a one-factor model of OCB and corresponds to LePine et al.’s (2002) contention that all five of the OCB dimensions represent a single OCB construct. Examination of the fit indices for Model 2, 2(23) 258.84, *p*  .05, RMSEA .058, ECVI .11, NNFI .98, CFI .99, indicates that the added constraint does not result in a significant reduction in fit from Model 1, 2(1) .19, *p*  .05. This supports a single-factor model of OCB as the best representation of the relationship among the OCB dimensions. Examination of esti- mated factor intercorrelations (i.e., the phi matrix as presented in Table 3) for the modified model indicates a relatively high corre- lation between OCB and task performance (*r*  .74). Conse- quently, we further modified the model to constrain the correlation between OCB and task performance to be equal to 1 (Model 3). Examination of the fit indices for Model 3, however, indicates that

Table 3

*Confirmatory Factor Analysis-Based Factor Intercorrelations*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1. OCB-I2. OCB-O | —1.0a | — |  |  |  |  |  |  |
| 3. Task performance4. Satisfaction | .74b.28c | .74b.28c | —.18 | — |  |  |  |  |
| 5. Commitment | .23d | .23d | .13 | .51 | — |  |  |  |
| 6. Distributive justice | .16e | .16e | .15 | .58 | .32 | — |  |  |
| 7. Interactional justice | .26f | .26f | .19 | .57 | .48 | .57 | — |  |
| 8. Procedural justice | .29g | .29g | .16 | .53 | .46 | .51 | .61 | — |

*Note.* Similarly subscripted parameters were constrained to be equal in model evaluation. OCB organizational citizenship behavior. OCB-I OCB

directed toward individuals. OCB-O OCB directed toward the organization.

*a* Parameter fixed to 1 in the model evaluation.

this model did not fit the data well, 2(25) 568.05, *p*  .05, RMSEA .084, ECVI .21, NNFI .94, CFI .97, and resulted in a significant reduction in fit relative to both Model 1,

 2(3) 309.40, *p*  .05, and Model 2, 2 (2) 309.21, *p*

.05. This pattern of results suggests that OCB is best viewed as a single factor and is empirically distinguishable from task perfor- mance.

We next sought to examine the relationship between the attitu- dinal variables and OCB and task performance. Examination of the correlations presented in Table 3 indicates that although OCB and task performance are relatively highly correlated, the attitude vari- ables demonstrate consistently stronger correlations with OCB than with task performance (mean correlations were .24 and .16, respectively). We also used the correlations presented in Table 3 as input into a series of regression analyses. We regressed both OCB and task performance on all of the 5 attitudinal variables. Results of the regression analyses (presented in Table 4) indicate that collectively the attitudinal variables account for approximately

12% of the variance in OCB and 4.5% of the variance in task performance. However, in order to estimate the extent to which the attitudinal variables explain unique variance in OCB beyond that shared with task performance, we conducted a set of hierarchical regression analyses in which OCB was regressed first on task

performance and then on both task performance and the attitudinal variables. Results (also presented in Table 4) indicate that after controlling for the variance shared with task performance, the attitudinal variables account for 4.2% of the unique variance in OCB. Alternately, when task performance was first regressed on OCB and then on both OCB and the attitudinal variables, less than

1% unique variance is accounted for in task performance by attitudes over that shared with OCB.

Discussion

Our study sought to investigate the construct validity of the OCB–task performance distinction by providing a quantitative review of the OCB literature. We extended previous meta-analytic reviews of the OCB literature by (a) using CFA to investigate the dimensionality of OCB, (b) using CFA to examine the distinction between OCB and task performance, and (c) examining the rela- tionship between a latent OCB factor and task performance and attitudinal variables. The results support a single factor model of OCB that is distinct, albeit strongly related, with task performance. In addition, results show that OCB consistently relates more strongly to attitudes than does task performance and shares a

|  |  |
| --- | --- |
| Table 4*Regression Results* |  |
|  |  |  |  | Criteria |  |  |  |
| Predictor | 1. Task | 2. OCB | 3a. OCB |  | 3b. OCB | 4a. Task | 4b. Task |
| Task performance | — | — | .74\* |  | .70\* | — | — |
| OCB | — | — | — |  | — | .74\* | .76\* |
| Job satisfaction | .09\* | .16\* | — |  | .11\* | — | .04 |
| Commitment | .01 | .06\* | — |  | .04 | — | .03 |
| Distributive justice | .02 | .09\* | — |  | .10\* | — | .09 |
| Interactional justice | .10\* | .09\* | — |  | .16\* | — | .04 |
| Procedural justice | .03 | .16\* | — |  | .14\* | — | .09 |
| Multiple *R*2 | .045 | .120 | .55 |  | .59 | .55 | .56 |
|  *R*2 | — | — | — |  | .042 | — | .01 |

*Note.* Analysis 1: Task performance was regressed on the full set of attitudinal variables. Analysis 2: Organizational citizenship behavior (OCB) was regressed on the full set of attitudinal variables. Analysis 3: OCB was regressed first on task performance (3a) and then task performance plus the full set of attitudinal variables (3b). Analysis 4: Task performance was regressed first on OCB (4a) and then OCB plus the full set of attitudinal variables (4b). OCB-I OCB directed toward individuals. OCB-O OCB directed toward the organization.

\* *p*  .05.

modest amount of variance with attitudinal correlates beyond task performance.

This study answers the call to investigate OCB with a latent construct methodology (LePine et al., 2002). The latent construct approach may be contrasted with the aggregate approach, which is typically used in the OCB literature. In contrast to the aggregate approach, which entails averaging items taken from multidimen- sional OCB scales to form an overall OCB measure, the latent construct methodology involves treating existing OCB dimensions as imperfect indicators of a single construct. Examining OCB from this perspective allows for estimation of the relationship between the communality among OCB dimensions and other variables, such as attitudes. Thus, this approach represents a more accurate estimate of the relationship between OCB and other variables.

This study has several implications for our understanding of OCB. We reinforce previous findings that current operationaliza- tions of OCB are best viewed as indicators of a general OCB factor. As such, there is likely little to be gained through the use of separate dimensional measures as opposed to an overall composite measure. In addition, our findings present somewhat of a mixed picture with respect to the OCB construct. On the one hand, we found that OCB is both empirically distinguishable from measures of task performance and, as expected, more strongly related to work-related attitudinal measures. On the other hand, we found that although OCB and task performance are best viewed as distinct factors, these factors are highly correlated (i.e., .74). Consequently, although the covariation between OCB and the attitudinal variables is over twice that of the covariation between task performance and the attitudinal variables, differences in the relationship between work-related attitudinal measures and OCB and work-related attitudes and task performance are relatively small (i.e., multiple *R*2’s of .120 and .045, respectively).

Certainly an important question for future research is whether the observed covariance between OCB and task performance is “real.” That is, does the correlation between OCB and task per- formance primarily reflect a true or an illusory halo? It is possible that employees who are high-task performers are also high with respect to OCB; thus, the correlation would reflect true halo. Alternatively, the correlation between task performance and OCB may be the result of raters’ inability to distinguish between OCB and task performance, thus the correlation would reflect illusory halo. Similarly, many raters may consider OCB a necessary part of effective task performance and, as a result, may knowingly incor- porate aspects of OCB when rating targets’ task performance (Borman, White, & Dorsey, 1995; MacKenzie, Podsakoff, & Fet- ter, 1991; Motowidlo & Van Scotter, 1994; Podsakoff & Mac- Kenzie, 1994).

Along these lines, previous research has demonstrated that frame of reference (FOR) training is an effective method of re- ducing halo and results in more accurate ratings of performance (Woehr & Huffcutt, 1994). We were able to locate only one study that has incorporated FOR training prior to raters assessing OCB and task performance. In a laboratory setting, Sulsky, Skarlicki and Keown (2002) demonstrated that raters who received FOR training prior to making ratings made more accurate ratings than untrained raters. In other words, the results of their study indicated that trained raters are better able to distinguish OCB from task perfor- mance than are untrained raters. Importantly, Sulsky and his col- leagues used an overall measure of OCB. Thus, the results of their

study do not speak to the extent to which FOR training increases the discrimination among the dimensions of OCB. In addition, we were unable to locate any field studies that incorporated FOR training when assessing OCB and task performance. Thus, one important avenue for future research is to investigate whether existing approaches of improving the quality of performance rat- ings (e.g., FOR training) also result in increased discrimination between measures of task performance and OCB in field settings and increased discrimination among the dimensions of OCB.

As with any study there are several caveats and limitations that should be noted. First, it is important to note that the primary focus of this study was OCB. Accordingly, we restricted our literature search to studies that assessed OCB. A subset of these studies also assessed task performance and thus served as the basis for our estimates of the OCB–task performance and task performance– attitude relations. Certainly many, many more studies that assessed task performance–attitude relations without assessing OCB were not included in our analysis. This leads to the question of how generalizable our results are with respect to the larger task perfor- mance literature. One indication that our results are representative is the fact that our findings are commensurate with previous meta-analyses that have examined the relationship between task performance and job satisfaction (Iaffaldano & Munchinsky,

1985), organizational commitment (LePine et al., 2002), and or- ganizational justice (Colquitt, Conlon, Wesson, Porter, & Ng,

2001). Thus, although many studies examining task performance– attitude relationships were excluded, this decision did not appear to impact our results.

It is also important to emphasize that the theoretical meaning- fulness of our CFA-based parameter estimates is predicated on the appropriateness of our meta-analytically aggregated correlation matrix. This approach assumes that the pattern of correlations among the OCB dimensions, task performance, and the attitudinal measures in the aggregate correlation matrix is a meaningful representation of the individual correlation matrices contributing to the aggregate. We believe that the pattern of variability among the primary correlations (i.e., small within category variance rel- ative to across cell variance) supports this assumption. Nonethe- less, this is a potential point of concern with respect to our approach.

Further, we found far fewer studies examining the relationship between task performance and OCB than the number of studies examining the intercorrelations among the dimensions of OCB. Specifically, whereas the sample-weighted correlations among the dimensions of OCB were each based on approximately 40 sam- ples, the correlations among the dimensions of OCB and task performance were based on approximately 12 samples. Thus, additional research might be directed toward examining the pattern of relationships between OCB and task performance as well as potential moderators of this relationship. For example, none of the studies located for this meta-analysis examined both OCB and task performance with a multidimensional conceptualization of task performance. Thus, future research should investigate the extent to which the relationship between task performance ratings and rat- ings of OCB is moderated by particular dimensions of task per- formance.

Finally, it is important to note that we found only five studies in which ratings of both OCB and task performance were not pro- vided by the same source. Thus, it is likely that the correlation

between OCB and task performance reflects to some extent com- mon method variance. Given the small number of studies incor- porating different sources we were not able to directly compare a matrix based on same source ratings with one based on different source ratings (i.e., we were not able to provide meta-analytic estimates for the different source studies and thus we were unable to directly compare correlations based on different source ratings and same source ratings). However, the pattern of results did not change when the subset of different source studies was excluded from the full data set. Still, future research might examine the extent to which the commonality between traditional measures of OCB and task performance reflects common method variance.

Summary and Conclusions

We extended previous meta-analytic reviews of the OCB liter- ature by using CFA to investigate the dimensionality of OCB and by examining the relationship between a latent OCB factor and task performance as well as work-related attitudinal variables. Our results support a single factor model of OCB that is distinct from, albeit strongly related to, task performance. Moreover, OCB and task performances’ differential relationships with attitudinal con- structs and OCB’s consistent explanation of significant variance in attitudinal correlates beyond task performance underscores the importance of considering OCB when assessing job performance. Despite these relatively positive findings, the overlap between OCB and attitudes is still quite small. It is our hope that this meta-analysis will stimulate awareness of issues with current pro- cedures of assessing OCB as well as research on methods to enhance the construct validity of the work performance domain.

References

References marked with an asterisk indicate studies included in the meta-analysis.

Allen, T. D., & Rush, M. C. (1998). The effects of organizational citizen- ship behavior on performance judgments: A field study and a laboratory experiment. *Journal of Applied Psychology, 83,* 247–260.

\*Alotaibi, A. G. (2001). Antecedents of organizational citizenship behav- ior: A study of public personnel in Kuwait. *Public Personnel Manage- ment, 30,* 363–376.

\*Ang, S., Van Dyne, L., & Begley, T. M. (2003). The employment relationships of foreign workers versus local employees: A field study of organizational justice, job satisfaction, performance, and OCB. *Journal of Organizational Behavior, 24,* 561–583.

\*Aquino, K. (1995). Relationships among pay inequity, perceptions of procedural justice, and organizational citizenship. *Employee Responsi- bilities and Rights Journal, 8,* 21–33.

Arthur, W., Bennett, W., & Huffcutt, A. I. (2001). *Conducting meta- analysis using SAS.* Mahwah, NJ: Erlbaum.

\*Aryee, S., Chen, Z. X., & Budhwar, P. S. (2004). Exchange fairness and employee performance: An examination of the relationship between organizational politics and procedural justice. *Organizational Behavior and Human Decision Processes, 94,* 1–14.

Bateman, T. S., & Organ, D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee “citizenship.” *Academy of Management Journal, 26,* 587–595.

\*Baxter, M. J. (1994). *Consciousness, conscience, and conscientiousness: Self-development, moral development, and organizational citizenship.* Unpublished doctoral dissertation, Maharishi International University.

\*Becker, T. E., & Billings, R. S. (1993). Profiles of commitment: An empirical test. *Journal of Organizational Behavior, 14,* 177–190.

\*Berman, L. M. (1998). *When flexibility ‘works’ and when it ‘fails’: An in-depth analysis of alternatives to the nine-to-five work week*. Unpub- lished doctoral dissertation, University of Maryland, College Park.

\*Bishop, J. W., Scott, K. D., & Burroughs, S. M. (2000). Support, com- mitment, and employee outcomes in a team environment. *Journal of Management, 26,* 1113–1132.

\*Bolon, D. S. (1993). *Beyond job satisfaction: A multidimensional inves- tigation of the relationship between organizational commitment and organizational citizenship behaviors.* Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University.

Borman, W. C., & Brush, D. H. (1993). More progress toward a taxonomy of managerial performance requirements. *Human Performance, 6,* 1–21. Borman, W. C., White, L. A., & Dorsey, D. W. (1995). Effects of ratee task performance and interpersonal factors on supervisor and peer perfor-

mance ratings. *Journal of Applied Psychology, 80,* 168 –177.

\*Bultena, C. D. (1998). *Social exchange under fire: Direct and moderated effects of job insecurity on social exchange.* Unpublished doctoral dis- sertation, University of North Texas.

Campbell, J. P., McHenry, J. J., & Wise, L. L. (1990). Modeling job perfor- mance in a population of jobs. *Personnel Psychology, 43,* 313–333.

\*Carmeli, A., & Freund, A. (2002). The relationship between work and workplace attitudes and perceived external prestige. *Corporate Reputa- tion Review, 5,* 51– 68.

\*Charbonneau, D., & Nicol, A. A. M. (2002). Emotional intelligence and prosocial behaviors in adolescents. *Psychological Reports, 90,* 361–370.

\*Chen, X. P., Hui, C., & Sego, D. L. (1998). The role of organizational citizenship behavior in turnover: Conceptualization and preliminary tests of key hypotheses. *Journal of Applied Psychology, 83,* 922–931.

\*Chen, Z. X. (1998). *Loyalty to supervisor, organizational commitment, and employee outcomes: The Chinese case.* Unpublished doctoral dis- sertation, Hong Kong University of Science and Technology.

\*Chen, Z. X., & Francesco, A. M. (2003). The relationship between the three components of commitment and employee performance in China. *Journal of Vocational Behavior, 62,* 490 –510.

Cheung, M. L., & Chan, W. (2005). Meta-analytic structural equation modeling: A two-stage approach. *Psychometric Methods, 10,* 40 – 64.

\*Chiu, W. C. K., & Ng, C. W. (2001). The differential effects of work and family-oriented women-friendly HRM on OC and OCB: The case for single female employees in Hong Kong. *International Journal of Human Resource Management, 12,* 1347–1364.

Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O. L. H., & Ng, K. Y. (2001). Justice at the millennium: A meta-analytic review of 25 years or organizational justice research. *Journal of Applied Psychology,*

*86,* 425– 445.

Conway, J. M. (1999). Distinguishing contextual performance from task performance for managerial jobs. *Journal of Applied Psychology, 84,* 3–13.

\*Coyle, S., & Jacqueline, A. M. (2002). A psychological contract perspec- tive on organizational citizenship behavior. *Journal of Organizational Behavior, 23,* 927–946.

\*Cropanzano, R., Rupp, D. E., & Byrna, Z. S. (2003). The relationship of emotional exhaustion to work attitudes, job performance, and organizational citizenship behaviors. *Journal of Applied Psychology, 88,* 160 –169.

\*Daly, C. L. (1999). *Explaining the extra-role behavior of part-time and full-time workers: A matter of support?* Unpublished doctoral disserta- tion, Michigan State University.

Decktop, J. R., Mangel, R., & Cirka, C. C. (1999). Getting more than you pay for: Organizational citizenship behavior and pay-for-performance plans. *Academy of Management Journal, 42,* 420 – 428.

\*Decuir, A. D. (2000). *Satisfaction and performance: The exploratory role of the task vs. contextual performance distinction.* Unpublished doctoral dissertation, Texas A & M. University.

\*Deluga, R. J. (1995a). The relation between trust in the supervisor and

subordinate organizational citizenship behavior. *Military Psychology, 7,*

1–16.

\*Deluga, R. J. (1995b). The relationship between attributional charismatic leadership and organizational citizenship behavior. *Journal of Applied Social Psychology, 26,* 1652–1669.

\*Diefendorff, J. M., Brown, D. J., Kamin, A. M., & Lord, R. G. (2002). Examining the roles of job involvement and work centrality in predicting organizational citizenship behaviors and job performance. *Journal of Organizational Behavior, 23,* 93–108.

\*Drimmer, L. B. (1999). *Job stress: An investigation of professional and organizational commitment as moderators and relationships to organi- zational citizenship behavior and misbehavior (values, information sys- tems, professionals).* Unpublished doctoral dissertation, Cleveland State University.

\*Egan, T. D. (1994). *Multiple dimensions of organizational justice per- ceptions and individual level performance.* Unpublished doctoral disser- tation, University of California, Irvine.

\*Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D., & Rhoades, L. (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology, 86,* 42–51.

\*Ensher, E. A., Grant-Vallone, E. J., & Donaldson, S. I. (2001). Effects of perceived discrimination on job satisfaction, organizational commit- ment, organizational citizenship behavior, and grievances. *Human Re- source Development Quarterly, 12,* 53–72.

\*Findley, H. M. (1996). *Fairness in social exchange: The relationships of leader-member exchange and performance.* Unpublished doctoral dis- sertation, Auburn University.

\*Findley, H. M., Giles, W. F., & Mossholder, K. W. (2000). Performance appraisal process and system facets: Relationships with contextual per- formance. *Journal of Applied Psychology, 85,* 634 – 640.

\*Foote, D. A. (2000). *Policy commitment in work organizations.* Unpub- lished doctoral dissertation, University of Kentucky.

\*Gebbia, M. I. (1999). *Transforming the work environment: Do norms influence organizational citizenship behavior?* Unpublished doctoral dissertation, City University of New York.

\*George, J. M. (1991). State or trait: Effects of positive mood on prosocial behaviors at work. *Journal of Applied Psychology, 76,* 299 –307.

\*Haworth, C. L., & Levy, P. E. (2001). The importance of instrumentality beliefs in the prediction of organizational citizenship behaviors. *Journal of Vocational Behavior, 59,* 64 –75.

\*Hense, R. L. (2001). *The Big Five and contextual performance: Expand- ing person-environment fit theory.* Unpublished doctoral dissertation, University of South Florida.

\*Holke, J. A. (1997). *Predicting job performance: The effects of goal setting and organizational fairness.* Unpublished doctoral dissertation, University of Maryland, College Park.

\*Holtom, B. C. (2000). *Organizational attachment among core and con- tingent workers.* Unpublished doctoral dissertation, University of Wash- ington.

\*Holtom, B. C., Lee, T. W., & Tidd, S. T. (2002). The relationship between work status congruence and work-related attitudes and behaviors. *Jour- nal of Applied Psychology, 87,* 903–915.

\*Hopper, H. (1998). *The effects of standard clarity, type of standard and being held to account on behavior and attributions.* Unpublished doc- toral dissertation, University of Washington.

\*Howes, J. C. (1996). *Total quality teams: How multiple levels of social climate perceptions impact team member attitudes, behaviors, stress, and team performance.* Unpublished doctoral dissertation, Colorado State University.

Hunt, S. T. (1996). Generic work behavior: An investigation into the dimensions of entry-level, hourly job performance. *Personnel Psychol- ogy, 49,* 51– 83.

Hunter, J. E., & Schmidt, F. L. (1990). *Methods of meta-analysis: Cor- recting error and bias in research findings.* Thousand Oaks, CA: Sage.

Hurtz, G. M., & Donovan, J. J. (2000). Personality and job performance: The Big Five revisited. *Journal of Applied Psychology, 85,* 869 – 879. Iaffaldano, M. T., & Muchinsky, P. M. (1985). Job satisfaction and job performance: A meta-analysis. *Psychological Bulletin, 97,* 251–273.

\*Jones, M. D. (2002). *Conceptualizing satisfaction and performance more broadly: What can be gained by the addition of life satisfaction and citizenship behavior?* Unpublished doctoral dissertation, Claremont Graduate University.

Jo¨ reskog, K., & So¨ rbom, D. (2004). LISREL 8.70 [Computer software and manual]. Chicago: Scientific Software International.

\*Keller-Glaze, H. (2001). *Organizational citizenship behavior as impres- sion management.* Unpublished doctoral dissertation, Central Michigan University.

\*Kickul, J., & Lester, S. W. (2001). Broken promises: Equity sensitivity as a moderator between psychological contract breach and employee atti- tudes and behavior. *Journal of Business and Psychology, 16,* 191–217.

\*Kickul, J., Lester, S. W., & Finkl, J. (2002). Promise breaking during radical organizational change: Do justice interventions make a differ- ence? *Journal of Organizational Behavior, 23,* 469 – 488.

\*Kidder, D. L. (2002). The influence of gender on the performance of organizational citizenship behaviors. *Journal of Management, 28,* 629 –

648.

\*Kidwell, R. E., Jr., Mossholder, K. W., & Bennett, N. (1997). Cohesive- ness and organizational citizenship behavior: A multilevel analysis using work groups and individuals. *Journal of Management, 23,* 775–793.

\*Klein, D. J., & Verbeke, W. (1999). Autonomic feedback in stressful environments: How do individual differences in autonomic feedback relate to burnout, job performance, and job attitudes in sales people? *Journal of Applied Psychology, 84,* 911–924.

Komaki, J. L., Zlotnick, S., & Jensen, M. (1986). Development of an operant-based taxonomy and observational index of supervisory behav- ior. *Journal of Applied Psychology, 71,* 260 –269.

\*Konovsky, M. A., & Organ, D. W. (1996). Dispositional and contextual determinants of organizational citizenship behavior. *Journal of Organi- zational Behavior, 17,* 253–266.

\*Lam, S. S. K., Hui, C., & Law, K. S. (1999). Organizational citizenship behavior: Comparing perspectives of supervisors and subordinates across four international samples. *Journal of Applied Psychology, 84,*

594 – 601.

\*Latham, G. P., & Skarlicki, D. P. (1995). Criterion-related validity of the situational and patterned behavior description interviews with organiza- tional citizenship behavior. *Human Performance, 8,* 67– 80.

LePine, J. A., Erez, A., & Johnson, D. E. (2002). The nature and dimen- sionality of organizational citizenship behavior: A critical review and meta-analysis. *Journal of Applied Psychology, 87,* 52– 65.

\*Liang, K. G. (2000). *Fairness in Chinese organizations.* Unpublished doctoral dissertation, Old Dominion University.

\*Liden, R. C., Wayne, S. J., Kraimer, M. L., & Sparrow, R. (2003). The dual commitments of contingent workers: An examination of contin- gents’ commitment to the agency and the organization. *Journal of Organizational Behavior, 24,* 609 – 625.

\*Lue-King, C. C. (2003). *Value added of psychological contracts: A direct comparison against organizational commitment.* Unpublished doctoral dissertation, State University of New York at Albany.

\*MacKenzie, S. B., Podsakoff, P. M., & Ahearne, M. (1998). Some possible antecedents and consequences of in-role and extra-role sales- person performance. *Journal of Marketing, 62,* 87–98.

\*MacKenzie, S. B., Podsakoff, P. M., & Fetter, R. (1991). Organizational citizenship behavior and objective productivity as determinants of man- agerial evaluations of salespersons’ performance. *Organizational Behav- ior and Human Decision Processes, 50,* 123–150.

\*MacKenzie, S. B., Podsakoff, P. M., & Paine, J. B. (1999). Do citizenship behaviors matter more for managers than for salespeople? *Journal of the Academy of Marketing Science, 27,* 396 – 410.

\*MacKenzie, S. B., Podsokoff, P. M., & Rich, G. A. (2001). Transforma- tional and transactional leadership and salesperson performance. *Journal of the Academy of Marketing Science, 29,* 115–134.

\*Marler, J. H., Barringer, M. W., & Milkovich, G. T. (2002). Boundaryless and traditional contingent employees: Worlds apart. *Journal of Organi- zational Behavior, 23,* 425– 453.

\*Marrs, M. E. M. (2000). *Antecedents and outcomes of verbal aggression in the workplace.* Unpublished doctoral dissertation, University of Missouri-Columbia.

\*McCook, K. D. (2003). *Organizational perceptions and their relation- ships to job attitudes, effort, performance, and organizational citizen- ship behaviors.* Unpublished doctoral dissertation, Louisiana State Uni- versity.

\*McNeely, B. L. (1992). *An investigation of prosocial organizational behavior: A field study.* Unpublished doctoral dissertation, University of South Carolina.

\*Midili, A. R. (1996). *Predicting self, peer, and supervisor ratings of organizational citizenship behavior: An analysis of situational and per- sonality influences.* Unpublished doctoral dissertation, University of South Florida.

\*Moorman, R. H. (1991). Relationship between organizational justice and organizational citizenship behaviors: Do fairness perceptions influence employee citizenship? *Journal of Applied Psychology, 76,* 845– 855.

\*Moorman, R. H. (1993). The influence of cognitive and affective based job satisfaction measures on the relationship between satisfaction and organizational citizenship behavior. *Human Relations, 46,* 759 –776.

Moorman, R. H., & Blakely, G. L. (1995). Individualism-collectivism as an individual difference predictor of organizational citizenship behavior. *Journal of Organizational Behavior, 16,* 127–142.

\*Moorman, R. H., Niehoff, B. P., & Organ, D. W. (1993). Treating employees fairly and organizational citizenship behavior: Sorting the effects of job satisfaction, organizational commitment, and procedural justice. *Employee Responsibilities and Rights Journal, 6,* 209 –225.

\*Morris, M. L. (2001). *The relational-interdependent self-construal at work: An examination of relations to employee attitudes and behaviors.* Unpublished doctoral dissertation, Iowa State University.

\*Morrison, E. W. (1994). Role definitions and organizational citizenship behavior: The importance of the employee’s perspective. *Academy of Management Journal, 37,* 1543–1567.

Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task perfor- mance should be distinguished from contextual performance. *Journal of Applied Psychology, 79,* 475– 480.

\*Murphy, G., Anthanasou, J., & King, N. (2002). Job satisfaction and organizational citizenship behavior: A study of Australian human- service professionals. *Journal of Managerial Psychology, 17,* 287–297. Murphy, K. R. (1989). Dimensions of job performance. In R. Dillon & J. Pelligrino (Eds.), *Testing: Applied and theoretical perspectives* (pp.

218 –247). New York: Praeger.

\*Murphy, S. M. (1998). *Organizational justice: An examination of ante- cedents and consequences.* Unpublished doctoral dissertation, Univer- sity of Illinois at Chicago.

\*Murray, C. L. (1999). *Testing a model of work/family fit.* Unpublished doctoral dissertation, University of Massachusetts.

\*Neuman, G. A., & Kickul, J. R. (1998). Organizational citizenship be- haviors: Achievement orientation and personality. *Journal of Business and Psychology, 13,* 263–279.

\*Niehoff, B. P., & Moorman, R. H. (1993). Justice as a mediator of the relationship between methods of monitoring and organizational citizen- ship behavior. *Academy of Management Journal, 36,* 527–556.

\*Nikolaou, I., & Robertson, I. T. (2001). The five-factor model of person- ality and work behavior in Greece. *European Journal of Work and Organizational Psychology, 10,* 161–186.

Organ, D. W. (1988). *Organizational citizenship behavior: The good solider syndrome.* Lexington, MA: Lexington Books.

Organ, D. W. (1997). Organizational citizenship behavior: It’s construct clean-up time. *Human Performance, 10,* 85–97.

Organ, D. W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Per- sonnel Psychology, 48,* 775– 802.

\*Podsakoff, P. M., & MacKenzie, S. B. (1994). Organizational citizenship behaviors and sales unit effectiveness. *Journal of Marketing Research,*

*31,* 351–363.

\*Podsakoff, P. M., & MacKenzie, S. B. (1995). An examination of sub- stitutes for leadership within a levels-of-analysis framework. *Leadership Quarterly, 6,* 289 –328.

\*Podsakoff, P. M., MacKenzie, S. B., & Bommer, W. H. (1996). Trans- formational leader behaviors and substitutes for leadership as determi- nants of employee satisfaction, commitment, trust, and organizational citizenship behaviors. *Journal of Management, 22,* 259 –298.

\*Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers’ trust in leader, satisfaction, and organizational citizenship behaviors. *Leadership Quarterly, 1,* 107–142.

Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management, 26,* 513–563.

\*Pond, S. B. III, Nacoste, R. W., Mohr, M. F., & Rodriguez, C. M. (1997). The measurement of organizational citizenship behavior: Are we assuming too much? *Journal of Applied Social Psychology, 27,*

1527–1544.

\*Praslova, L. N. (2003). *Organizational citizenship behaviors: Influence of culture-related variables.* Unpublished doctoral dissertation, University of Akron.

\*Puffer, S. M. (1986). *Altruism in organizations: An examination of extra-role behavior in retail store context.* Unpublished doctoral disser- tation, University of California, Berkeley.

\*Randall, M. L., Cropanzano, R., Bormann, C. A., & Birjulin, A. (1999). Organizational politics and organizational support as predictors of work attitudes, job performance, and organizational citizenship behavior. *Journal of Organizational Behavior, 20,* 159 –174.

\*Rioux, S. M. (1999). *Assessing personal motives for engaging in orga- nizational citizenship behaviors: A functional approach (prosocial).* Unpublished doctoral dissertation, University of South Florida.

\*Rioux, S. M., & Penner, L. A. (2001). The causes of organizational citizenship behavior: A motivational analysis. *Journal of Applied Psy- chology, 86,* 1306 –1314.

\*Rogg, K. L. (1998). *Organizational commitment in the post-loyalty era: Perceived organizational support, multiple commitments, and other an- tecedents’ effects on turnover intentions and job performance.* Unpub- lished doctoral dissertation, Kansas State University.

\*Ryan, J. J. (1998). *Testing moral reasoning and the Protestant work ethic as determinants of organizational citizenship behaviors.* Unpublished doctoral dissertation, Temple University.

\*Salomon, L. M. (2000). *The impact of personality variables on different facets of contextual performance.* Unpublished doctoral dissertation, University of Houston.

\*Schappe, S. P. (1998). The influence of job satisfaction, organizational commitment, and fairness perceptions on organizational citizenship be- havior. *Journal of Psychology, 132,* 277–290.

\*Schaubroeck, J., & Fink, L. S. (1998). Facilitating and inhibiting effects of job control and social support on stress outcomes and role behavior: A contingency model. *Journal of Organizational Behavior, 19,* 167–195.

\*Schnake, M., Cochran, D., & Dumler, M. (1995). Encouraging organiza- tional citizenship: The effects of job satisfaction, perceived equity, and leadership. *Journal of Managerial Issues, 7,* 209 –221.

\*Schnake, M., Dumler, M. P., & Cochran, D. S. (1993). The relationship

between “traditional” leadership, “super” leadership, and organizational citizenship behavior. *Group and Organization Management, 18,* 352–365.

\*Shore, L. M., Barksdale, K., & Shore, T. H. (1995). Managerial percep- tions of employee commitment to the organization. *Academy of Man- agement Journal, 38,* 1593–1615.

\*Shore, L. M., Tetrick, L. E., Shore, T. H., & Barksdale, K. (2000). Construct validity of measures of Becker’s side bet theory. *Journal of Vocational Behavior, 57,* 428 – 444.

\*Shull, C. K. (1995). *The effects of leader-member exchange relations on organizational citizenship behaviors.* Unpublished doctoral dissertation, Kansas State Univeristy.

\*Sinclair, R. R. (1996). *Citizenship in companies and unions: Extending the nomological net.* Unpublished doctoral dissertation, Wayne State University.

Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizen- ship behavior: Its nature and antecedents. *Journal of Applied Psychol- ogy, 68,* 653– 663.

\*Suazo, M. M. (2003). *An examination of antecedents and consequences of psychological contract breach.* Unpublished doctoral dissertation, Uni- versity of Kansas.

Sulsky, L. M., Skarlicki, D. P., & Keown, J. L. (2002). Frame-of-reference training: Overcoming the effects of organizational citizenship behavior on performance rating accuracy. *Journal of Applied Social Psychology,*

*32,* 1224 –1240.

\*Sun, S. (2001). *Predicting job satisfaction and organizational citizen- ship behavior with individualism-collectivism in P. R. China and the United States.* Unpublished doctoral dissertation, University of South Florida.

\*Tang, T. L. P., Ibrahim, A. H. S. (1998). Antecedents of organizational citizenship behavior revisited: Public personnel in the United States and in the Middle East. *Public Personnel Management, 27,* 529 –550.

\*Tansky, J. W. (1993). Justice and organizational citizenship behavior: What is the relationship? *Employee Responsibilities and Rights Journal,*

*6,* 195–207.

\*Tompson, H. B., & Werner, J. M. (1997). The impact of role conflict/ facilitation on core and discretionary behavior: Testing a mediated model. *Journal of Management, 23,* 583– 601.

\*Unckless, A. L. (1999). *Survivor reactions to organizational downsizing: An application of threat rigidity theory.* Unpublished doctoral disserta- tion, Pennsylvania State University.

\*Vandewalle, D., Van Dyne, L., & Kostova, T. (1995). Psychological ownership: An empirical examination of its consequences. *Group and Organization Management, 20,* 220 –226.

\*Van Yperen, N. W., Van Den Berg, A. E., & Willering, M. C. (1999). Towards a better understanding of the link between participation in decision-making and organizational citizenship behavior: A multilevel analysis. *Journal of Occupational and Organizational Psychology, 72,*

377–392.

Viswesvaran, C. (1993). *Modeling job performance: Is there a general factor?* Unpublished doctoral dissertation, University of Iowa.

Viswesvaran, C., & Ones, D. S. (1995). Theory testing: Combining psy- chometric meta-analysis and structural equation modeling. *Personnel Psychology, 48,* 865– 885.

\*Wagner, S. L., & Rush, M. C. (2000). Altruistic organizational citizenship behavior: Context, disposition, and age. *Journal of Social Psychology,*

*140,* 379 –391.

\*Wayne, S. J., Shore, L. M., Bommer, W. H., & Tetrick, L. E. (2002). The role of fair treatment and rewards in perceptions of organizational support and leader-member exchange. *Journal of Applied Psychology,*

*87,* 590 –598.

\*Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organiza- tional support and leader-member exchange: A social exchange perspec- tive. *Academy of Management Journal, 40,* 82–111.

\*Wech, B. A. (2002). *Team-member exchange and trust contexts: Effects on individual level outcome variables beyond the influence of leader- member exchange.* Unpublished doctoral dissertation, Louisiana State University.

\*Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organi- zational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management, 17,* 601– 617.

\*Williams, M. (2000). *When is personality a predictor of job performance? The moderating role of autonomy.* Unpublished doctoral dissertation, Florida International University.

\*Williams, S., Pitre, R., & Zainuba, M. (2002). Justice and organizational citizenship behavior intentions: Fair rewards versus fair treatment. *Jour- nal of Social Psychology, 142,* 33– 44.

\*Wilson, J. W. (2000). *The relation of individual political behavior, perceptions of organizational politics, and organizational citizenship behavior: Integrating organizational justice.* Unpublished doctoral dis- sertation, University of Houston.

Woehr, D. J., & Huffcutt, A. I. (1994). Rater training for performance appraisal: A quantitative review. *Journal of Occupational and Organi- zational Psychology, 67,* 189 –205.

\*Wong, C. S., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *Leadership Quarterly, 13,* 242–274.

\*Wright, C. L. (2001). *A multiple constituency analysis of the relationship employee commitment and job performance.* Unpublished doctoral dis- sertation, University of Tulsa.

\*Youssefnia, D. (2004, April). *Is organizational survey response an OCB? An explanation.* Poster presented at the 19th annual meeting of the Society for Industrial-Organizational Psychology, Chicago.

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