

Workplace deviance, organizational citizenship behavior, and business unit performance: the bad apples do spoil the whole barrel

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Summary

The influences of organizational citizenship behavior (OCB) and workplace deviant behavior (WDB) on business unit performance were investigated using data from branches of a fast food organization. Data included measures of WDB and OCB obtained from staff, ratings of performance provided by supervisors, and objective measures of performance. It was found that WDB was negatively and significantly associated with business unit performance measured both subjectively and objectively. OCB, however, failed to contribute to the prediction of business unit performance beyond the level that was achieved by WDB. It appeared, therefore, that the presence of deviant employees among business units impinges upon the performance of the business unit as a whole, whereas OCBs had comparatively little effect. Copyright © 2004 John Wiley & Sons, Ltd.

Introduction

While there has been much contention over the precise definition of the performance criterion, in recent years researchers have come to accept that performance is best defined as being a function of employees' workplace behaviors (e.g., Borman & Motowidlo, 1993; Campbell, McHenry, & Wise, 1990). Rotundo and Sackett (2002), for example, defined performance as 'those actions and behaviors that are under the control of the individual and contribute to the goals of the organization' (p. 66).

A recent review of the job performance literature indicates that there are three distinct components of work behaviors in the job performance sphere. They have been identified as task performance, organizational citizenship behavior (OCB), and workplace deviant behavior (WDB) (see Rotundo & Sackett, 2002, for a review). Of these, task performance has long been recognized by researchers as the most important aspect of work behaviors, and has sometimes been regarded as being

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synonymous with overall job performance. The importance of the two non-task behaviors (OCB and WDB) in determining overall job performance, however, has also been well documented in the literature. For example, Motowidlo and Van Scotter (1994) found that OCB plays as important a role as task performance does in determining employee's overall job performance. Similar findings were reported recently by Rotundo and Sackett (2002) with respect to WDB.

The two types of work behaviors that do not directly contribute to the technical core of the job figure prominently in determining overall job performance *at the individual level*. What is not clear, however, is whether there will be an isomorphic transfer of these relationships to the business unit level. The present research was conducted to shed some light on this issue by investigating the extent to which the prevalence of OCB and WDB within a business unit is related to the overall functioning of that business unit. Given that members within a business unit should interact at varying levels of interdependency in order to achieve common objectives (Salas, Dickinson, Converse, & Tannenbaum, 1992), and the implications that OCB and WDB may have to social surroundings in which core task activities should occur (e.g., Robinson & O'Leary-Kelly, 1998), overall business unit performance is likely to be strongly influenced not only by task performance of each individual but also by non-task performance. Accordingly, some researchers have examined the link between unit-level OCB and business unit performance, which is briefly reviewed in the following section. Very little (if any) research to date, however, has examined such links involving unit-level WDB.

Organizational citizenship behavior and business unit performance

Organ (1988, 1997) defined OCB as being voluntary and discretionary behavior of individual organizational members that, in the aggregate, is expected to promote overall organizational efficacy. Examples of OCB include defending the organization when other employees criticize it and assisting co-workers with their duties. Borman and Motowidlo (1993) suggested that OCB (or 'contextual performance') of workers would serve to improve overall organizational performance. They argued that this would occur because OCBs, while not directly supportive of the technical core of the organization, are supportive of the social environment in which the technical core exists. Furthermore, unlike task behaviors, OCBs are not job-specific; that is, similar 'sets' of OCBs can be exhibited in many work settings, and thus these behaviors should serve to improve organizational performance in almost any work setting.

Given this theoretical link between OCB and organizational effectiveness, a considerable amount of research on OCB has been centered on identifying the antecedents of such behavior, although mostly at the individual-level only (e.g., Brief & Motowidlo, 1986; George & Bettenhausen, 1990; Organ, 1988; Smith, Organ, & Near, 1983). In one group-level study, Bommer, Miles, and Grover (2003) found a strong relationship between individual employees' OCBs and the aggregated OCBs of their respective work groups, suggesting that individual employees will tend to exhibit similar levels of OCB to the other members of the workgroup.

Recent research has shed some light on the importance of employees' positive interpersonal behaviors in determining team and organizational effectiveness (see De Dreu, Harinck, & Van Vianen, 1999). According to the conflict management literature, for instance, there are many different ways in which business unit members deal with conflicts within the unit (De Dreu et al., 2001), and these different conflict management tactics might be differentially associated with organizational effectiveness. Tjosvold, Hui, Ding, and Hu (2003) indeed found that employees' positive attitudes toward, and open approach to, conflict were positively associated with organizational effectiveness.

Nevertheless, there are only a small number of studies that directly examined the relationship between OCB and business unit performance, which is one of the major research questions in the present study. In one of these studies, Podsakoff, Ahearne, and MacKenzie (1997) examined the influence of three specific OCBs, namely Helping behavior (a willingness to help other employees), Civic Virtue (displaying a sense of responsibility and commitment to the organization), and Sportsmanship (a willingness to tolerate less than ideal circumstances without complaining), on the performance of small workgroups of paper mill employees, measured in terms of the quality and quantity of paper produced by the work groups. Podsakoff et al. argued that these three OCBs would promote the development of a positive interactional base and facilitate group member interdependency and thus they predicted that these OCBs would relate positively to performance.

When testing the influences of these OCBs on work group performance, Podsakoff et al. (1997) found that Sportsmanship and Helping behavior were positively predictive of performance at a quantitative level, and that Helping was also positively predictive of performance at the qualitative level. No such effects were found, however, for Civic Virtue.

In a similar study, Podsakoff and MacKenzie (1994) investigated the effects of Sportsmanship, Civic Virtue, and Helping behavior of insurance agents on overall agency performance, also measured objectively. Podsakoff and MacKenzie found positive relationships of Sportsmanship and Civic Virtue with measures of agency performance, although curiously the relationship between Helping behavior and performance was negative.

While the *specific* findings of the two published studies discussed above (i.e., the findings regarding the relationships between specific OCBs and performance) were marginally inconsistent, there does appear to be a generally positive influence of OCBs on overall business unit performance. In light of these findings, it was predicted in the present study that the aggregate OCB of individual employees within a business unit would be a significant and positive predictor of various objective and subjective measures of business unit performance.

Workplace deviant behavior and business unit performance

Robinson and Bennett (1995) defined WDB as 'voluntary behavior [of organizational members] that violates significant organizational norms and in doing so threatens the well-being of an organization, its members, or both' (p. 556). WDB can take many different forms from minor acts such as spreading rumors and embarrassing co-workers to serious acts such as theft and sabotage.

Similar to the research on OCB, considerable effort has been put towards determining the antecedents of WDB. Such research has linked WDB to personality (Giacalone & Knouse, 1990; Lee, Ashton, & Shin, in press), perceived injustice or inequity (Greenberg, 1990, 1993), and social processes occurring amongst employees (Greenberg, 1997; Robinson & O'Leary-Kelly, 1998). Although research has focused also on the psychological consequences of some types of WDB such as mobbing, bullying (e.g., Hoel, Rayner, & Cooper, 1999), and sexual harassment (e.g., Schneider, Swan, & Fitzgerald, 1997), very little research has examined the effects of WDB on work performance.

Most researchers would concede that deviant behavior at the workplace has significant negative consequences to the overall efficacy of the organization. Bourke (1994), for example, cited evidence to suggest that workplace theft alone costs organizations between U.S. \$10 and 120 billion annually. Additional costs of WDB might also be incurred through loss of capital through equipment sabotage, compensation payments for injury, and, perhaps even more importantly, the losses due to lower productivity levels, which may be especially difficult to quantify in dollar

terms. Quite clearly, these costs are all losses to the organization that would be reduced with an absence of WDB.

Recall that performance is defined as being the behaviors of workers who contribute to the goals of the organization (or business unit, as is the case in the present study). It is not difficult then to imagine how WDB, whether the behavior is directed at the organization or individuals, would contribute negatively to the goals of an entire business unit. For example, if employees within a business unit on whom the unit is heavily reliant fail to keep up because they are being slack, or taking an extended break, this will almost inevitably result in a decline in performance of the business unit as a whole. Likewise, if employees within business units are not getting along well together due to frequent incidents of interpersonal WDB (e.g., exchanging insults or threats), it is likely that this type of behavior will contribute to a negative interactive base within a business unit, thus overall performance will suffer.

It seems, therefore, that there is good reason to suspect that WDB, when aggregated within business units, would have a negative influence on overall business unit productivity. It was predicted, therefore, that in the present study, both organizationally and interpersonally targeted WDB would have a significantly negative influence on overall business unit performance, measured both objectively and subjectively.

Present research

The present study aimed to determine the effects of OCB and WDB on the performance of business units. The unit of analysis in the present study was group level, that is, the points of investigation were the relationships of group-level OCB and WDB with business unit effectiveness. The present study can contribute to the literature in three important ways. First, although group-level effects of OCB on performance have been empirically evaluated, no such investigation has been conducted with respect to WDB. As mentioned earlier, there are good reasons why we might suspect that a prevalence of WDB within a business unit would hold implications for business unit effectiveness (e.g., for maintaining a positive interactive base or for saving resources required to solve problems arising due to these behaviors). Podsakoff and MacKenzie (1997) also recommended that future research should investigate how this type of behavior might influence overall business unit effectiveness.

Second, because both WDB and OCB were included in the present research, it was possible to shed some light on the issue of which type of behavior plays a more important role in influencing business unit performance. Although Kelloway, Loughlin, Barling, and Nault (2002) recently provided empirical evidence suggesting that OCB and WDB are two distinct constructs, these two types of behaviors are significantly correlated. Given the substantial overlap between the two variables, it is very important to evaluate the unique contribution of OCB and WDB to the prediction of business unit performance over and above each other.

Third, business unit performance in the present research was measured both subjectively and objectively. Most studies investigating the OCB–unit effectiveness relation included either subjective ratings (e.g., Karambaya, 1990, cited in Podsakoff & MacKenzie, 1997) or objectively quantifiable measures of effectiveness (e.g. Podsakoff et al., 1997) but not both. As Podsakoff and MacKenzie (1997) suggested, subjective ratings of performance are subject to many kinds of rater biases (e.g., raters' implicit theories between two variables). On the other hand, it has been criticized that objective measures often tap quite narrow aspects of job performance (Bommer et al., 1995) and hence may not provide an overall picture of performance. In the present study, by including both supervisor ratings of staff performance and several objective measures of effectiveness, we provided a more complete understanding of how OCB and WDB influence business unit effectiveness.

Organizational Context

The Organization

The organization was founded in Perth, Australia, in 1971, and since then has expanded across Australia. At the time the study was conducted, there were 36 branches operating in Western Australia. The organization provides excellent short-term employment opportunities for young adults, but also offers careers in management for people from all backgrounds. Indeed, the organization prides itself on its equal opportunity policies.

The fast food industry is a highly competitive industry in Australia, with many branches of the organization around the state operating in close proximity to competitors' branches. Therefore, competitive advantage must be maintained through offering speedy and friendly service, nutritional food, and good value for money.

The Participants

The wages and benefits of staff members in the organization are strongly regulated by union awards and the organization tends to recruit younger employees who earn a lower hourly wage than older employees. For this reason, most staff members commence their work for the organization, which in many cases is their first job, while they are in the later years of their schooling. The organization offers a great deal of flexibility in terms of working hours, and consequently also attracts and employs many tertiary students seeking to supplement their incomes. The majority of staff members therefore typically do not regard their job in the organization as a 'career job,' but rather see it as a means to an end. This is reflected by the fact that the majority of staff members are employed on a part-time or casual basis and that turnover rates are fairly high.

While a small proportion of supervisors are employed on a casual basis, in order to be promoted in the organization supervisors need to be employed on a full-time basis. Many of the supervisors commence their tenure in the organization as staff members, although it is possible to complete a supervisory traineeship without first working as a staff member. Supervisor pay rates are largely determined as function of the position within the branch hierarchy, although some differences exist between branches.

Method

Samples

Data in this study were obtained from two samples of employees from 36 branches of a Western Australian fast-food chain (the number of staff per branch ranged from 31 to 90 with an average of 57). The first sample consisted of the staff members of each branch ($n = 364$) and the second consisted of the supervisors of each branch ($n = 96$). Response rates for these two samples are reported below. All employees were being paid at an hourly rate indexed according to their age, tenure, and skills. The organization operates primarily using a shift-work policy. The staff members working a particular shift may change from week to week. Each shift is supervised by at least one supervisor.

All subjective measures used in the study were obtained through the use of self-report questionnaires. Two types of questionnaires were used: one for the staff members and the other for the supervisors. Both types of questionnaires were distributed to each branch of the organization and all staff and supervisors were invited to collect one of the appropriate type and complete it at their leisure. Upon completion, the participants were able to return the questionnaire to the researchers via a stamped return-addressed envelope. All participants were assured through written information included with the questionnaire package that responses would be used for research purposes only and were all anonymous and confidential. Parental consent was obtained for participants under the age of 18 years.

The 364 responses obtained from the staff members represented 17.5 per cent of the total number of staff working for the organization in Western Australia at the time the survey was administered. The mean number of responses by branch was 10. Of all the staff respondents, 62 per cent were female and the mean age was 17.2 (SD = 3.2) years. The mean organizational tenure of staff was 2.0 years. Two pieces of information about the population (age and organizational tenure) available to us were found not to differ significantly from those obtained from the current sample (population mean age: 17.1 years and population mean organizational tenure: 1.56 years). Such low age and short tenure are not uncommon characteristics of fast food employees (e.g. Hollinger, Slora, & Terris, 1992).

The 96 responses obtained from supervisors represented 53.6 per cent of all supervisors working for the organization in Western Australia. Twenty-eight of the 36 branches provided responses from more than one supervisor, and in these cases supervisors' responses were aggregated to form a branch-level team performance variable. Of all supervisor responses, 47 per cent were female and the mean age was 29.6 (SD = 10.4) years. The mean organizational tenure of all supervisors was 6.25 years. The mean number of hours worked by the supervisors in the 4 weeks prior to the commencement of the study was 42 (SD = 9).

Measures

Workplace deviant behavior

Bennett and Robinson's (2000) Workplace Deviant Behavior scale was used to measure WDB. The original scale included 19 items; however, two of them were removed, as they were deemed inappropriate for the sample being studied.¹ This scale was expected to make a distinction between deviant behavior directed against the organization (WDBO: 10 items) and that against individuals at work (WDBI: 7 items). Responses to these items were made on a 5-point scale (1 = Never, 5 = Always). The coefficient alphas for the WDBO and WDBI scales used in this study were 0.82 and 0.86, respectively. Sample items from the WDBO scale include 'Intentionally work slower than you could have worked' and 'Come in late to work without permission.' Sample items from the WDBI scale include 'Act rudely toward someone at work' and 'Make fun of someone at work.'

Organizational citizenship behavior

A 16-item self-report scale previously adapted by Lee and Allen (2002) was used to measure OCB. This measure was expected to distinguish OCB directed towards the organization (OCBO: 8 items) from that directed towards fellow employees (OCBI: 8 items). Such a distinction, although different from the three-component distinction adopted by Podsakoff et al. (1997), has been adopted by many researchers (e.g., McNeely & Meglino, 1994; Williams & Anderson, 1991) and was chosen here

¹Items removed from the Bennett and Robinson (2000) WDB scale were: 'Falsified a receipt to get reimbursed for more money than you spent on business expenses' and 'Discussed confidential company information with an unauthorized person.'

because of its structural similarity to the Bennett and Robinson (2000) WDB scale. Responses to these items were made on a 5-point scale (1 = Never, 5 = Always). The coefficient alphas of the OCBI and OCBO scales were 0.83 and 0.77, respectively. Sample items from the OCBO scale include 'Attend functions that are not required, but that help the organizational image' and 'Show pride when representing the organization in public.' Sample items from the OCBI scale include 'Assist others with their duties' and 'Go out of the way to make newer employees feel welcome in the work group.'

Principal components analysis involving all of the WDB and OCB items ($N = 364$) was conducted. The varimax rotated two-factor solution showed a clear distinction between WDB (WDBI and WDBO combined) and OCB items (OCBI and OCBO combined), and the varimax rotated four-factor solution indicated that each of WDB and OCB can be split further into their subfactors as expected.

Supervisor ratings of business unit staff performance

Supervisors provided subjective ratings of business unit staff performance using an 18-item Performance scale (Alper, Tjosvold, & Law, 2000). Supervisors responded to these items on a 5-point scale (1 = Strongly disagree, 5 = Strongly agree). The coefficient alpha of this scale was 0.94. Sample items from this scale include 'The staff at my store work effectively' and 'The staff at my store put considerable effort into their jobs.' Supervisors were unaware of the purposes of the present research.

Objective indicators of business unit performance

Objective measures of business unit performance were obtained directly from the head office of the organization, and were all collected and aggregated over the 1-month period that the questionnaires were administered. The first of these measures, counter service time, refers to the amount of time, in seconds, it takes for a customer to place, pay for, and finally receive their order. The counter service times were collected and stored by the computer that drives the organization's till system. The computers store information pertaining to each individual order placed by a customer, including the products ordered, prices, and time taken to deliver the products.

Most ($n = 32$) branches were also equipped with a drive-through service outlet. In these branches, it was possible to obtain service times for the drive-through outlets in addition to the counter service times. The drive-through service times were collected electronically via a machine fitted with vehicle sensors that was capable of measuring the time, in seconds, between a vehicle arriving and leaving the branch's drive-through lane.

Service time is regarded as one of the most critical performance indicators in the fast-food industry. Indeed, empirical studies have demonstrated significant negative relationships between customer satisfaction and waiting times in contexts of fast-food organizations (e.g., Davis & Heineke, 1998; Davis & Vollmann, 1990). These findings highlight the importance of service time, especially given that success in the service industry is largely driven by customer loyalty and satisfaction (Reichheld & Sasser, 1990).

A third objective measure, unexplained food figures, was also collected from each branch. These unexplained food figures represented the amounts of food products that could not be accounted for through either sales or recorded wastage. This 'missing' food can primarily be attributed to such factors as employee theft, over-portioning, and unrecorded waste.

Aggregation

In order to obtain an overall measure of business unit characteristics from a sample of individual members' responses, an aggregative process was undertaken. According to Chan (1998), the present context requires us to use a 'Direct-Consensus' composition model and, as such, the aggregation process

involved taking the means of the individual scores for each business unit. Although the self-report measures used in this study did not refer to the work group as the referent, a similar procedure (i.e., taking the mean self-report behavior score of all individuals with a group) has been adopted in previous research to assess group-level antisocial workplace behavior by Robinson and O'Leary-Kelly (1998). A test of the statistical justification of this aggregation was conducted by performing one-way ANOVAs on each of the four independent measures (i.e., two WDB and two OCB variables) to determine whether there was significantly greater variance between groups than within groups. This was the case for both measures of WDB (WDBO: $F(35, 328) = 2.06$, $p < 0.001$, $\eta^2 = 0.180$; WDBI: $F(35, 328) = 2.08$, $p < 0.001$, $\eta^2 = 0.182$). The results of this analysis on measures of OCB, however, yielded some mixed results. The measure of OCBI did not exhibit greater between-group variance than within-group variance ($F(35, 328) = 0.93$, n.s., $\eta^2 = 0.090$). Unfortunately, this meant that the aggregation of the measure of OCBI had to be abandoned, as it was not empirically justifiable (Klein, Dansereau, & Hall, 1994) and, as such, this measure had to be excluded from the final analysis.

The measure of OCBO yielded between-group differences that were only marginally greater than the within-group differences ($F(35, 328) = 1.31$, $p < 0.12$, $\eta^2 = 0.122$). After some deliberation it was decided, for two reasons, that the OCBO measure was still salvageable. First, as indicated by Table 1, the standard deviation of OCBO at the group level was greater than the standard deviations of the other independent measures, suggesting that non-trivial between-group differences existed, despite the substantial within-group differences at the individual level. It was felt that it was possible that this between-group variance could still be meaningfully related with team performance variables. Second, Organ (1988) suggested that the consequences of OCB on performance could, logically, only be considered when such behaviors were treated in an aggregate form. It should be noted, though, that results pertaining to the OCBO measure would have to be interpreted with caution.

Results

Table 1 displays descriptive statistics and correlations between all variables examined at the group level. There are a few correlations that should be noted. First, WDBO correlated very highly and positively with WDBI ($r = 0.80$, $p < 0.001$), questioning the meaningful distinction of the two

Table 1. Correlations and descriptive statistics of team-level variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. WDBO	1.81	0.315	—							
2. WDBI	1.87	0.336	0.80***	—						
3. OCBO	2.67	0.338	-0.46**	-0.32*	—					
4. Supervisor ratings of performance	2.89	0.469	-0.36*	-0.38*	0.31*	—				
5. Drive-through service time	172	17.1	0.67***	0.52***	-0.22	-0.62***	—			
6. Counter service time	116	17.8	0.36*	0.15	-0.28	-0.01	0.44**	—		
7. Unexplained food figures	201	61.7	0.40**	0.30*	-0.08	-0.02	0.37*	0.26	—	
8. Combined measure of WDB	1.84	0.306	—	—	-0.43**	-0.38*	0.62***	0.28	0.38*	—

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; $n = 36$ except for drive-through service time, where $n = 32$.

WDB variables *at the group level*. OCBO correlated negatively with the two WDB variables, but the sizes of the correlations were not high enough to indicate empirical redundancy. Second, with the exception of drive-through service time, which significantly and negatively correlated with supervisor ratings of performance ($r = -0.62$, $p < 0.001$) and positively with counter service time ($r = 0.44$, $p < 0.01$) and unexplained food figures ($r = 0.37$, $p < 0.05$), the variables measuring business unit effectiveness did not correlate strongly with each other, and thus appeared to measure somewhat distinct aspects of effectiveness. Third, in general, both forms of WDB tended to show somewhat stronger correlations with the effectiveness variables than did OCBO.

Multiple regression analyses were performed to evaluate the relative contribution of each type of workplace behavior to the prediction of the various measures of business unit performance. In doing this, measures of the two subtypes of deviant behavior were combined into a single WDB measure. The coefficient alpha for this combined measure was 0.90 and group-level correlations for this measure are presented in Table 1. As mentioned above, WDBO and WDBI were found to correlate very highly with each other *at the group level*. Furthermore, there were no important differential relations that these two variables showed with respect to the outcome variables in question. Therefore, it was decided that entering these two variables separately into a regression equation would only obscure the results of the analyses due to the high level of multicollinearity. Consequently, we conducted four multiple regression analyses involving only two work behaviors as predictors (i.e., WDB and OCBO). The results of these analyses are shown in Table 2.²

WDB and OCBO together significantly explained the variance in the supervisor ratings of business unit staff performance ($R^2 = 0.17$, $p < 0.05$) although this occurred mainly because of WDB, which was a significant negative predictor for this variable ($\beta = -0.304$, $p < 0.05$), in contrast to OCBO, which was not a significant predictor ($\beta = 0.179$, n.s.). A similar pattern of findings was observed with respect to two of the objective measures, namely drive-through service time and unexplained food figures. Specifically, WDB significantly and positively contributed to the prediction of these two objective variables ($\beta = 0.640$ for drive-through service time, and $\beta = 0.419$ for unexplained food figures; both $p < 0.05$), whereas OCB failed to do so ($\beta = 0.035$ for drive-through service time, and $\beta = 0.099$ for unexplained food figures; both n.s.). In the analysis of counter service time, neither predictor was found to be significant ($\beta = 0.199$ for WDB, $\beta = -0.190$ for OCBO, both n.s.) and the amount of variance in this variable explained by WDB and OCB was quite small ($R^2 = 0.108$, n.s.). In sum, it seems that irrespective of how business unit performance is measured, the present data point to WDB as the type of work behavior that strongly influences overall unit performance.

Table 2. Multiple least squares regression analyses

	Supervisor ratings of performance β	Drive-through service time β	Counter service time β	Unexplained food figures β
WDB	-0.304*	0.640*	0.199	0.419*
OCBO	0.179	0.035	-0.190	0.099
R^2	0.171*	0.393*	0.108	0.150

Note: * $p < 0.05$ (one tailed); $n = 36$, except for Drive-through service time, where $n = 32$.

²We also conducted multiple regression analyses with group-level demographic variables included as a set before adding OCB and WDB variables. The pattern of results obtained from these analyses did not differ substantially from that of the results reported here.

Discussion

To our knowledge, this is the first investigation to demonstrate that unit-level WDB significantly affects overall business unit functioning. One important implication of this finding is that WDB affects organizational effectiveness at levels that are not considered when an organization looks only at the 'monetary' costs of WDB. That is, in addition to the costs directly incurred from deviant behaviors such as stealing and fraud (e.g., Bourke, 1994), there would appear to be a considerable amount of 'hidden' costs incurred as a result of business units in organizations not operating at peak efficiency due to the presence of WDB.

Before discussing other implications of the present findings, we would like to note a potentially interesting finding that was not expected a priori. In the present dataset, the ratios of the between-unit variance to within-unit variance were much greater for the WDB variables than those for the OCB variables. The ratio involving OCBI, in particular, was too small to provide empirical justification for aggregation of the data on this variable. Given the relatively short average tenure of the present employee sample, one may explain these findings by hypothesizing that within-group OCB 'communality' takes longer to develop than the WDB 'communality.' Interestingly, the experimental gaming literature involving the prisoner's dilemma situation has indicated that, in the short term, competitive (or exploitative) behavior tends to be more 'contagious' than cooperative behavior (see Pruitt & Kimmel, 1977, for a review). This can be tested empirically in future research, which will provide important implications in examining work behaviors at the group level.

WDB and business unit performance

Supervisor ratings

One particularly important finding in the present research is that the unit level of WDB strongly correlated with supervisor ratings of business unit staff performance. Interestingly, this finding is consistent with those reported in the two recent studies that investigated the relationship between WDB and supervisor ratings of job performance *at the individual level*. Rotundo and Sackett (2002) found, in their policy-capturing study, that supervisors gave heavier weights on either task performance or WDB than on OCB in determining overall job performance of individuals. In addition, Mount, Johnson, Ilies, and Barrick (2002) found that self-reports of WDB are significantly correlated with supervisor ratings of job performance. The present study extends these findings to the business unit level.

WDB appeared to play a relatively more important role than OCB in determining supervisor ratings of business unit staff performance. Although it is necessary to replicate this finding before drawing any firm conclusions, a preliminary speculation regarding this interesting finding is offered here. As Borman and Motowidlo (1993) mentioned, OCB primarily influences organizational effectiveness indirectly by improving 'the broader organizational, social, and psychological environment' (p. 73) in which the organization must function. As with OCB, WDB could disrupt these broader environments (e.g., by harassing coworkers, spreading rumors). Some WDBs such as sabotage, neglecting the orders of one's boss, and damaging organizational property, however, do not only influence the broader social and psychological environments within a business unit but also influence the task-related performance of the business unit. It could well be that it was this latter aspect of WDB that served to escalate the impact of WDB on perceived business unit staff effectiveness.

Objective measures

Unit-level WDB was positively associated with drive-through service times and the unexplained food figures. These results complement the findings involving supervisor ratings of business unit staff performance discussed above in that the effects of unit-level WDB were not confined to subjective ratings of performance, which are arguably susceptible to many types of judgmental biases. The demonstrated effects of WDB on performance are *substantive*, and are not purely perceptual effects that exist only in supervisors' minds.

Neither WDB nor OCBO were found to be predictive of counter service times. While, at first light, these results appear to be inconsistent with the remaining findings, upper management of the organization voiced some concerns over the use of counter service time as a measure of performance. Specifically, upper management indicated that although the computer controlling the till is responsible for storing the figures, it is the user of the till that 'declares' an order as being received by the customer by pressing a button on the till. Therefore, the counter service time measure is subject to operator manipulation and carelessness. This should lower the reliability of the counter service measure, which would likely have attenuated the overall correlations involving this measure.

OCBO and business unit performance

It was found that OCBO did not significantly contribute to the prediction of unit performance beyond the level that is achieved by WDB. These findings may be seen to be somewhat inconsistent with the previous findings reported by Podsakoff and MacKenzie (1994) and Podsakoff et al. (1997), who found that some OCBOs (Sportsmanship in both studies and Civic virtue only in Podsakoff & MacKenzie, 1994) are significantly correlated with some measures of group effectiveness.

While these inconsistent findings may appear a little surprising, it is worth commenting on one of the OCB dimensions, Sportsmanship, which has been shown to correlate significantly and consistently with unit effectiveness measures in the studies conducted by Podsakoff and MacKenzie (1994) and Podsakoff et al. (1997). The Sportsmanship scale consisted of three negatively keyed items whose content reflects fault finding and complaining (see Podsakoff et al., 1997, Table 1, p. 266). It could be argued that these items might measure some aspects of the WDB construct as well. Considering this, the present findings involving OCBO may not be as inconsistent with the previous findings as first thought. Further empirical evidence is needed about the conceptual link of Sportsmanship to WDB (or OCB) before firm conclusions can be drawn.

A second possibility may lie in the differences in the nature of the groups being studied here and those studied previously. In contrast to the previous OCB research, whose participant samples were characterized by high tenure and low turnover rate, the present research involved business units where the average tenure was only 2 years and turnover rates were high. It may be that employees must have a certain amount of experience in the job and in their groups before their good intentions (i.e., OCBOs) will actually translate into improved performance.

As Podsakoff and McKenzie (1997) implied, the relationships of OCB and WDB with unit performance might be moderated by the type of job being studied. Interestingly, the objective indicators of business unit performance that this fast-food chain organization considers to be key parameters (e.g., food waste, and drive-through service time) are those that are conceptually and empirically intertwined to WDB rather than to OCB. This might reflect the fact that, in fast-food organizations, WDB is inherently more critical than is OCB in determining unit effectiveness. Considering this, the relative importance of OCB and WDB should be further evaluated in other work contexts.

Limitations and future research

One potential limitation to the present study is that the sample size it considered was relatively small. Although it is not uncommon to find group-level investigations that are based on relatively small sample sizes, we wish to emphasize that findings from these 'small' studies should always be interpreted with caution.

Second, the effects of extremely deviant employees on performance may be stifled to a degree in the aggregation process. In other words, aggregating WDB within a branch can conceal the disproportionate impact that a small number of extremely deviant employees may have on business unit performance. To determine whether the present findings were strongly influenced by employees with extreme levels of deviance, the data were reanalyzed after removing all participants with extreme scores on the WDB measure (greater than two standard deviations above the mean). The results pattern that emerged was almost identical to the pattern that emerged with the full sample, which undermines the claim that it is a small number of extremely deviant employees who are responsible for the present findings.

Finally, although workplace behavior was implied to cause unit performance in the present research, it is important to note that the links between workplace behavior and unit performance may well be recursive in that poor unit performance acts as a precipitator of WDB. For example, the supervisors of branches that are performing poorly may blame their subordinates and apply extra undue pressure to perform, thus increasing their feelings of injustice and job dissatisfaction. Such negative attitudes of employees may prompt the formation of group norms espousing WDB, which was seen to be essential for acts of WDB to occur (Bennett & Robinson, 2003). Increased levels of WDB within a business unit in this way, in turn, contribute to the decrement of unit performance. Should such a vicious circle exist, it has very important practical and theoretical implications. Therefore, it would be of critical importance to re-examine this issue in a longitudinal design to elucidate the nature of possible recursive links between unit performance and workplace behavior (particularly WDB).

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