



Exploring organizational citizenship behaviour from an organizational perspective: The relationship between organizational learning and organizational citizenship behaviour

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The present study explored the issue of organizational citizenship behaviour (OCB) as a context-related phenomenon, from a multidimensional perspective. More specifically, it was hypothesized that organizational learning (structures and learning values) would be positively related to (a) OCB that benefited the organization as a whole (OCBO) and (b) OCB that immediately benefited particular individuals (OCBI). The hypotheses identified the school as the unit of analysis; so all variables were aggregates of individual responses to the organizational level of analysis. Justification for aggregation was provided by a within-group similarity index (r_{wg}) and a within- and between-entities analysis (WABA). Results from a sample of 31 schools confirmed the main hypotheses, and generally supported the notion that OCB could be treated as a context-related phenomenon. These results should encourage researchers and practitioners to focus more attention on the organizational context and its characteristics as related to OCB.

As working under changing circumstances becomes an essential feature of organizations (Lee, Dedrick, & Smith, 1991), organizations will necessarily become more dependent on individuals who are willing to contribute to successful change, regardless of formal job requirements. Behaviours that exceed delineated role expectations but are important and even crucial for an organization's survival are defined as 'organizational citizenship behaviours' (OCBs) (e.g. Brief & Motowidlo, 1986; George, 1990; Katz & Kahn, 1966). These behaviours were first so named by Organ and his colleagues (cf. Bateman & Organ, 1983; Organ, 1988) in describing Katz's (1964) category of extra-role behaviours, but they have also been identified as prosocial organizational behaviours (cf. Brief & Motowidlo, 1986), organizational spontaneity (cf. George & Jones, 1997), and civic organizational behaviour (cf. Borman & Motowidlo, 1993).

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Previous research has mainly focused on OCB at the individual level, while neglecting the fact that OCB might grow in a context. Hence, the main purpose of this study was to examine the issue of OCB as a context-related phenomenon from a multidimensional perspective. Specifically, we chose to investigate the relationship between the organizational learning culture (structures and learning values) and OCB.

OCB: Definition and construct

Recently authors have pointed out that researchers continue to 'gloss over' differences among these various OCB constructs, and stress the necessity to adequately define the construct domain of OCBs (e.g. Podsakoff, MacKenzie, Paine, & Bacharach, 2000; Van Dyne, Cummings, & McLean Parks, 1995). In a thorough review of the OCB literature and other related constructs, Podsakoff *et al.* (2000) grouped the nearly 30 forms of potentially different behaviours into seven themes according to *the type of behaviour*: helping behaviours, sportsmanship, organizational loyalty, organizational compliance, individual initiative, civic virtue, and self development. Another approach to classifying the construct domain focused on the *target of the OCB* (McNeely & Meglino, 1994; Skarlicki & Latham, 1996; Somech & Drach-Zahavy, 2000; Williams & Anderson, 1991). Williams and Anderson (1991) designated two broad categories of OCB: (1) *OCBI*, or behaviours that immediately benefit particular individuals; (2) *OCBO*, or behaviours that benefit the organization as a whole. This distinction is important because it permits a link between different levels of antecedents (i.e. personal, contextual) with different levels of targets in the organization (i.e. individual/organization as a whole). For example, McNeely and Meglino (1994) showed that contextual antecedents (e.g. reward, equity) were related to OCBO, whereas personal dispositions (e.g. empathy) were related to OCBI.

Accordingly, in this study we defined OCB as discretionary behaviour directed at individuals or at the organization as a whole, which goes beyond existing role expectations, and benefits the organization and/or is intended to benefit it (Organ, 1988). This definition stresses three main features of OCB. First, the behaviour must be voluntary, that is, neither role-prescribed nor part of formal job duties. Second, the behaviour benefits the organization from the organizational perspective. The important point here is that OCBs do not simply occur haphazardly within an organization but are behaviours directed towards or seen as benefiting the organization (Van Dyne *et al.*, 1995). Third, this definition highlights the multidimensional nature of OCB. In this study, we traced attempts to define the construct domain of OCB according to its target: (1) OCBI or behaviours directed at particular individuals, and (2) OCBO or behaviours directed at the organization as a whole.

Antecedents of OCB

Most research on OCB has focused on individual antecedents. For example, researchers have suggested important relationships between OCB and satisfaction (Bateman & Organ, 1983), commitment (O'Reilly & Chatman, 1986), perceptions of fairness (Folger, 1993; Martin & Bies, 1991; Moorman, Niehoff, & Organ, 1993), perceptions of pay equity (Organ & Konovsky, 1989), and intrinsic and extrinsic job attitudes (Organ & Ryan, 1995; Williams & Anderson, 1991).

This literature implicitly assumes that people's personal characteristics and reactions in and to the workplace influence the extent to which they will go above and beyond the call of duty. Because OCBs are performed by individuals, it is appropriate to seek to understand them as individually manifested acts. However, some of these behaviours may be further understood by an investigation of how they are embedded in different contexts, such as the work group, the department, or the organization (George, 1990; George & Bettenhausen, 1990). In a literature review, Podsakoff *et al.* (2000) identified three contextual categories of OCB antecedents: task characteristics (e.g. task feedback: Podsakoff & MacKenzie, 1995); organizational characteristics (e.g. organizational formalization, staff support: George & Bettenhausen, 1990; Podsakoff & MacKenzie, 1995); and leadership behaviours (e.g. transformational leadership: Podsakoff, MacKenzie, Moorman, & Fetter, 1990).

The present study complemented this line of research by examining OCB as a context-related phenomenon and clarifying the structures and cultural antecedents responsible for OCB from an organizational perspective. We suggest that organizations may vary in terms of the extent to which OCBs are displayed by their members, and the incidence of these behaviours in organizations may be meaningfully associated with organizational characteristics (George & Jones, 1997).

Justification for considering OCB a context-related phenomenon can be drawn from two sets of literature: (a) studies on the situation-specific factors that have been found to influence OCB (Eisenberg & Fabes, 1988) and (b) the organizational culture literature.

The situation-specific approach suggests that situational factors determine when, and sometimes why, people engage or do not engage in OCBs. The assumption that appears to underlie such an approach is that OCBs are situationally specific and are influenced by a variety of contextual factors – for example, cultural, economic, and political – as well as organizational patterns (Eisenberg & Fabes, 1988). For example, George and Bettenhausen (1990) and Podsakoff and MacKenzie (1995) found that less highly formalized organizations created an atmosphere of group cohesiveness that encouraged employees to engage in OCBs, whereas bureaucratically structured organizations created an environment of employees' alienation that inhibited OCBs. Hence, individuals who perform or fail to perform OCB do not do so in a vacuum; the organizational context in which these behaviours are performed undoubtedly serves to encourage or discourage them.

As for the literature on organizational culture supporting OCB as a context-related phenomenon, Schein's (1990) model of culture, for example, has organizational culture as a normative system of shared values and beliefs that shape how organization members feel, think, and *behave*. The organizational culture defines the 'shoulds' and the 'oughts' of organizational life (Veiga, Lubatkin, Calori, & Very, 2000) by specifying behaviours that are deemed important in the organization. At least some of the beliefs, norms and values that make up organizational culture most probably do serve to provide opportunities for organizational OCB. For example, some organizations may value collaboration, whereas others may value competition; helping co-workers will be encouraged in the former and constrained in the latter. Some organizations may endorse social responsibility values that encourage the spreading of goodwill, while others may be more inwardly focused (George & Jones, 1997). As George and Bettenhausen (1990) suggested, groups are powerful instruments of social influence, and have substantial effects on the behaviour of individuals in organizations. Organizations are powerful suppliers of norms to their members, and exchange

relationships that form within organizations may determine, in part, the level of OCBs in the organization.

Having established the theoretical basis for viewing OCBs as a context-related phenomenon, we now turn to our hypothesized organizational antecedents. In the present study we focused on organizational learning as a relative property of organizations that denotes the extent to which 'an organization's members actively use data to guide behavior as to promote the ongoing adaptation of the organization' (Edmondson & Moingeon, 1998, p. 9).

The organizational learning approach posits both contextual and cultural facets, which were mentioned above as main justifications for inquiring into OCB as a context-related phenomenon. The structural facet consists of organizational learning mechanisms (OLMs), which are institutionalized structural and procedural arrangements, and informal systematic practices that allow organizations systematically to collect, analyse, store, disseminate, and use information that is relevant to the performance of the organization and its members (Popper & Lipshitz, 1999, 2000). In other words, they are concrete arenas in which the experiences of individual organization members are first analysed and shared by organizational members, and then become the property of the entire organization, either through distribution of lessons learned to relevant units or through changes in standard operating procedures (Popper & Lipshitz, 2000). OLMs come in many shapes and forms. The various forms of after-action (or post-project) review, which are well documented in the literature, may perhaps be considered prototypical OLMs (Carroll, 1995; Di Bella, Nevis, & Gould, 1996). Another example is periodic reviews, namely reviews of statistical indicators of effectiveness, which may lead to changes in strategies and procedures administered by the organization.

Such organizational learning mechanisms are likely to yield productive learning if they are embedded in an organizational culture of shared values that foster inquiry, accountability and trust (Argyris & Schon, 1978; Beer & Spector, 1993; Davis & Easterby-Smith, 1984; Di Bella *et al.*, 1996; McGill, Slocum, & Lei, 1993). These shared values and beliefs might ensure that the mechanisms produce actual learning (i.e. new insights and behaviours) and not mere rituals of learning (Popper & Lipshitz, 1999). According to Popper and Lipshitz's (1999) theory, organizational culture is composed of a hierarchy of five values. At the apex is continuous learning, which in turn requires four values. These are (1) *valid information*: the requirement for complete, undistorted, and verifiable information; (2) *transparency*: willingness to hold oneself (and one's actions) open to inspection in order to receive valid feedback; (3) *issue orientation*: evaluation of information strictly on its merits without regard to irrelevant attributes such as the social standing of its source or recipient; (4) *accountability*: holding oneself responsible for one's actions and their consequences and for learning from these consequences.

The theoretical connection between learning and OCB was proposed by Simon (1990, 1993). Simon maintains that rational self-interest precludes certain types of behaviours (OCBs) that provide no obvious benefit to the individual. The fact that OCBs actually do occur indicates that some net advantage is associated with them. Learning, which is expressed in suggestions, recommendations, and information obtained through social channels, helps overcome the bounded rationality of the individual and serves as major motive for OCBs. Simon makes a strong case that people who are disposed to exhibit these behaviours are more sensitive to information in their environment. Increased learning, Simon believes, will be associated with OCBs.

Specifically regarding organizational learning theory (Popper & Lipshitz, 1999, 2000), organizational learning demands the adoption of new cultural values and structural mechanisms, which eventually change the viewpoint and the role of the individual in the organization. Regarding the learning values, the focus on shared values for continuous learning alters the individual's preferences, such that decisions are now made within the new environment of information, and the consequences of this person's decision are now summed over the whole organization (Simon, 1993). Organizational learning values create an environment in which people widen the focus from the immediate outcomes of their performance to continuous learning by the organization as a whole. Hence, organizational learning values might foster OCBO, because by promoting strategic thinking, individuals develop an organizational system approach, which expands their perspectives beyond their formal role (Senge, 1990, 1993). This approach might thereby lead them to invest extra efforts in the organization as a whole by making innovative suggestions to improve the organization, and/or volunteering for roles and tasks that are not obligatory (OCBO). Moreover, learning values might also promote OCBI. Developing an organizational system approach and shared values encourages organizational members to help their colleagues in circumstances when the organizational performance level is threatened (e.g. overload, stress, and/or low capability) in order to achieve organizational goals (OCBI) (Lepine & Van Dync, 2001). Hence,

Hypothesis 1: Learning values will be positively related to OCBs that benefit the organization as a whole (OCBO) and to OCBs that immediately benefit particular individuals (OCBI).

Regarding learning structures, OLMs establish organizational decentralized and flexible structures, which provide opportunities for organizational members to learn through active participation (Armenakis, Harris, & Mossholder, 1993) and enhance involvement and commitment (Durham, Knight, & Locke, 1997). This in turn might lead individuals to engage in behaviours that will help the organization achieve its goals, whether or not these behaviours are part of the employee's role (OCBO). Similarly, establishing OLMs for continuous learning creates interdependence in tasks and processes, which leads to a reduction in formalized rules and procedures and a rise in group cohesion (Senge, 1993). Thus, influencing task and organizational characteristics may be the key to promoting OCBI (Organ, 1990; Podsakoff, MacKenzie, & Bommer, 1996), by encouraging individuals to cooperate, share and help co-workers in order to attain the organizational goals (Erez & Somech, 1996; Knutson & Miranda, 2000; Mitchel & Silver, 1991). Accordingly,

Hypothesis 2: The structures (OLMs) of organizational learning will be positively related to OCBs that benefit the organization as a whole (OCBO) and to OCBs that immediately benefit particular individuals (OCBI).

Method

Participants and procedure

Thirty-six elementary schools were recruited randomly from a list provided by the Institute of Training and Advancement of Teachers administered by the Israeli Ministry of Education. The list included all elementary schools in northern Israel. School settings were chosen because commentators (e.g. Brandes & Erickson, 1998) have suggested that the community of learning has seen a recent revival due to the necessity to develop a wide variety of collaborative structures that will create ideal learning and

teaching environments. This is in response to the growth of services, expansion of knowledge, and increase in specialization. Two of the original 36 schools had a policy of not participating in research, and three schools had to be dropped from the analysis because the principal did not rate teachers' OCB. Hence, survey questionnaires were distributed to a random sample of 751 school staff members. Of these, 450 questionnaires were returned usable, giving a response rate of 59.9%. About 75% of the participants were female (336 females and 114 males). Their average age was 33 years and average tenure 13 years. The average number of teachers per school was 34 and *SD* was 12. Data were collected through two questionnaires. The organizational learning questionnaire was distributed to a random sample of teachers at each school; the second questionnaire, which contained items measuring teachers' OCB, was distributed to the teachers' superiors (the school principals) personally by our research assistants. Each principal was asked to evaluate the OCB of each teacher at his or her school. In addition, the two samples were asked to provide demographic information. The written instructions accompanying the scales included a brief explanation of the purpose of the study. Subjects were assured that their confidentiality would be safeguarded and the results would be used only for research purposes.

Measures

OCB scale

To measure teachers' OCB, the 13-item scale of Williams and Anderson (1991) was used. The questionnaire consisted of two subscales: (1) seven items on OCB that immediately benefited particular individuals and indirectly benefited the organization (OCBI), for example, 'Helps others who have been absent'; reliability level was $\alpha = .81$. (2) Six items on OCB that benefited the organization as a whole and focused on the organization (OCBO), for example, 'Adheres to informal rules devised to maintain order'; reliability level was $\alpha = .80$.

We used a 7-point Likert-type scale ranging from 1 = never to 7 = always to assess the frequency with which subordinates engaged in each behaviour.

Organizational learning

As stated, organizational learning posits a structural facet, which consists of organizational learning mechanisms (OLMs), and a cultural facet, which contains four learning values (Popper & Lipshitz, 1999). Teachers were requested to estimate the frequency of occurrence of each characteristic in their organization on a 5-point Likert scale (1 = never, 5 = always).

- (1) *OLMs*. The structural facet was measured on a four-item scale. We followed Popper and Lipshitz's (1999) definition, and measured to what extent an organization established structural and procedural arrangements that allowed it systematically to collect information ("To what extent are there, in your organization, formal arrangements for collecting information?"), to analyse information ("To what extent are there formal forms of after-action to analyse processes and consequences?"), to document information ("To what extent is there documentation of information that is relevant to the performance of the organization and its members?"), and to disseminate information ("To what extent are there formal processes for disseminating information that is relevant to the performance of the organization and its members?"). Reliability level was $\alpha = .79$.

- (2) *Learning values*. The 35-item scale of Ellis, Caridi, Lipshitz, and Popper (1999) was used to measure organizational learning values.

The questionnaire consisted of four subscales.

- (1) *Valid information* (9 items) reflected the requirement of complete, undistorted, and verifiable information, for example, 'Organization members believe they have to tell their bosses of their (own) work-related errors'; with reliability level of $\alpha = .80$.
- (2) *Transparency* (5 items) reflected willingness to hold oneself (and one's actions) open to inspection in order to receive valid feedback, for example, 'Everybody in the organization feels free to express criticism'; with reliability level of $\alpha = .78$.
- (3) *Issue orientation* (10 items) referred to evaluation of information strictly on its merits without regard to irrelevant attributes such as the social standing of its source or recipient, for example, 'The organization encourages equality among (formal) ranks on professional discussions'; with reliability level of $\alpha = .78$.
- (4) *Accountability* (11 items) meant holding oneself responsible for one's actions and their consequences and for learning from these consequences, for example, 'Organizational members take responsibility for their actions'; with reliability level of $\alpha = .79$.

To ensure that all the items loaded on their hypothesized factors, an exploratory factor analysis was conducted on the 52 items of the questionnaires. Seven factors emerged, accounting for 65.2% of the variance, with eigenvalues >1 . The first factor was defined by seven items and reflected OCBI, accounting for 17.2% of the variance, with eigenvalue 6.22; the second factor was defined by six items and reflected OCBO, accounting for 13.4% of the variance, with eigenvalue 4.79; the third factor was defined by four items and reflected OLMs, accounting for 10.6% of the variance, with eigenvalue 3.77; and the fourth to seventh factors represented the four learning values: issue orientation (10 items, accounting for 9.4% of the variance, with eigenvalue 3.33), valid information (9 items, accounting for 6.3% of the variance, with eigenvalue 2.12), accountability (11 items, accounting for 5.1% of the variance, with eigenvalue 1.58), and transparency (5 items, accounting for 3.2% of the variance, with eigenvalue 1.14).

The factor pattern loadings for these data indicated that in all cases the items had their highest loading on the appropriate factor and this loading met the .35 criteria, with the exception of two items in the issue-orientation scale, one item in the accountability scale, and one in the OCBI scale. These results indicated that the hypothesized factor structure fitted the data well.

Control variables

Organizational size was treated as a control variable in our study because larger size of organization could affect organizational OCB indirectly, through its effects on organizational structures and processes, as well as on organizational culture (George & Jones, 1997). For example, Walz, Vandercook, Medwetz, Nelson, and Thurflow (1999) demonstrated the crucial role of school size in fostering change and creating inclusive learning environments in four Minnesota school districts. School size was measured as the total number of schoolteachers.

Level of analysis

The hypotheses identified the school as the unit of analysis, so all variables are aggregates of individual responses to the school level of analysis. Justification for aggregation

is provided by the demonstration of agreement within settings rather than differences across groups (George, 1990). Two different approaches have been strongly suggested for ascertaining these types of effects: (a) a within-group similarity or agreement index (r_{wg} ; James, Demaree, & Wolf, 1984, 1993), and (b) within- and between-entities analysis (WABA: Dansereau, Alutto, & Yammarino, 1984), and both were employed in the current research.

James *et al.* (1984) developed the r_{wg} as an agreement index. If a theoretical rationale is present supporting the use of aggregation, and agreement is shown among group members relative to the attitude or behaviour described, the variable can then be considered a work unit - or organizational-level variable, aggregated, and used in aggregated form in subsequent analyses (e.g. George, 1990). A value of .70 or above is suggested as a 'good' amount of within-group interrater agreement (James *et al.*, 1993).

WABA, developed by Dansereau *et al.* (1984), assesses both variation and covariation in variables within and between levels of analysis, and can lead to four different inferences. Briefly, the *E* and *F* tests conducted under WABA I indicate whether the variance is either between or within groups, or whether both or neither within- nor between-group levels are the appropriate inference. Similarly, in WABA II, *A* and *Z* tests are used to determine at which level covariance occurs. Lastly, the inferences from WABA I and WABA II are combined, and the within- and between-group correlation components are examined by an *A* test (Yammarino & Markham, 1992).

Because there are limitations in each of the above methods (e.g. George & James, 1993; Rousseau, 1985; Yammarino & Markham, 1992), Schriesheim, Coglisier, and Neider (1995) suggest using both r_{wg} and WABA together, a course we followed in this study.

r_{wg} results

Overall, the estimates of within-group agreement for organizational learning (structure and values), and OCB (OCBI, OCBO) generally, indicated a high level of agreement within groups. As indicated in Table 1, the average of within-group agreement for the organizational learning structures (OLMs) was .83 (ranging from .61 to .91, when 26 of the 31 r_{wg} coefficients [84%] met the agreement criterion of .70). The mean values of the r_{wg} coefficients for the four learning values, issue orientation, accountability, valid information, and transparency, were respectively .79 (ranging from .57 to .91, when 24 of the 36 r_{wg} coefficients [77%] met the agreement criterion), .86 (ranging from .61 to .93, when 28 of the 31 r_{wg} coefficients [90%] met the agreement criterion), .79 (ranging from .56 to .89, when 23 of the 31 r_{wg} coefficients [74%] met the agreement criterion), and .82 (ranging from .58 to .92, when 26 of the 31 r_{wg} coefficients [84%] met the agreement criterion). The average within-group agreement for OCBO and OCBI was .73 (ranging from .54 to .86, when 22 of the 31 r_{wg} coefficients [71%] met the agreement criterion) and .71 (ranging from .53 to .86, when 20 of the 31 r_{wg} coefficients [65%] met the agreement criterion), respectively. The r_{wg} results met James *et al.*'s (1984) heuristic, whereby r_{wg} values of at least .70 suggest that aggregation of individual responses is warranted.

WABA results

The WABA results are presented in Tables 2 (WABA I), 3 (WABA II), and 4 (summary and overall inferences). The decision rules for WABA I, WABA II, and overall inferences were adapted from Dansereau *et al.* (1984), who provided a set of guidelines for interpreting WABA findings based on the results obtained in the WABA I and WABA II.

Table 1. Descriptive statistics, reliabilities^a, and intercorrelation matrix for the study's variables

	M	SD	r_{wg}	1	2	3	4	5	6	7	8
(1) School size	30.90	10.90		1.00							
(2) OLMs	3.71	0.80	.83	.09	1.00						
(3) Issue orientation	3.54	0.37	.79	.14	.34*	1.00					
(4) Accountability	3.56	0.38	.86	.01	.31*	.60**	1.00				
(5) Valid information	3.18	0.50	.79	.19	.36*	.54***	.85***	1.00			
(6) Transparency	3.26	0.43	.82	.18	.35*	.62**	.80***	.82***	1.00		
(7) OCBO	5.15	0.75	.73	.02	.39*	.56**	.41*	.39*	.43*	1.00	
(8) OCBI	4.28	0.79	.71	.25	.49**	.14	.11	.25	.23	.40*	1.00

$N = 31$; * $p < .05$; ** $p < .01$; *** $p < .001$.

^aThe statistic r_{wg} represents an Agreement Index within groups averaged across all schools (James *et al.*, 1993); the OCB subscales range from 1 to 7, and the organizational learning subscales range from 1 to 5.

Table 2. WABA I results

Organizational learning	η		Tests	
	Between	Within	E	F
(1) OLMs	.79	.61	1.29	23.43*
(2) Accountability	.80	.59	1.36 ^a	25.83*
(3) Valid information	.80	.59	1.36 ^a	25.83*
(4) Transparency	.80	.60	1.34 ^a	25.07*
(5) Issue orientation	.87	.50	1.74 ^b	42.28*
(6) OCBO	.86	.51	1.69 ^a	39.89*
(7) OCBI	.88	.46	1.91 ^b	50.95*

* $p < .0001$.

^aSignificant by 15°; ^bSignificant by 30°.

WABA I results

Within- and between- η values and the associated E and F tests for each measure at the group level of analysis are shown in Table 2. With the exception of the OLMs, all the E and F tests suggested both practical and statistical significance. Thus these six measures displayed between-group variation. The remaining measure – OLMs – showed only statistical significance (F test) but not practical significance (E test), indicating that both individual and group conditions were viable from a statistical perspective.

WABA II results

The results of the between- and within-group correlations between OCBO and OCBI and the other variables (OLMs and learning values) at the group level of analysis are presented in Table 3. For all the relationships, with the exception of accountability/OCBO and accountability/OCBI, the between-group correlations were practically (A test) and statistically (Z test) different from the within-group correlations. These results indicated that the relationships between OCBO and OCBI and four of the learning culture measures were based on between-group covariation. The remaining

Table 3. WABA II results

	OCBO				OCBI			
	Correlation		Tests		Correlation		Tests	
	Between	Within	A	Z	Between	Within	A	Z
Organizational learning								
(1) OLMs	.43	-.01	.44 ^a	2.31*	.49	-.01	.51 ^a	2.69**
(2) Accountability	.41	.19	.23	1.21	.39	.19	.21	1.11
(3) Valid information	.43	-.01	.45 ^a	2.39**	.48	-.05	.49 ^a	2.61**
(4) Transparency	.42	.04	.39 ^a	2.03*	.40	.01	.41 ^a	1.97*
(5) Issue orientation	.52	.03	.52 ^b	2.79**	.50	-.01	.51 ^a	2.81**

* $p < .05$; ** $p < .01$.^aSignificant by 15°; ^bSignificant by 30°.**Table 4.** WABA components and overall inferences

Organizational learning	OCBO			OCBI		
	Components		Overall inference	Components		Overall inference
	Between	Within		Between	Within	
(1) OLMs	.29 ^a	-.01	Group	.34 ^a	-.01	Group
(2) Accountability	.28 ^a	.06	Group	.27 ^a	.05	Group
(3) Valid information	.30 ^a	-.01	Group	.34 ^a	-.01	Group
(4) Transparency	.29 ^a	.01	Group	.28 ^a	.03	Group
(5) Issue orientation	.39 ^a	.07	Group	.38 ^a	-.01	Group

^aSignificant by 15°.

relationships, accountability/OCBO and accountability/OCBI, were null based on test results.

Within- and between-group components (combining variation and covariation for the relationships between OCBO and OCBI and learning culture measures) are presented in Table 4. As shown in the table, the between-group component was significantly greater than (different from) the corresponding within-group component for each relationship. In line with our hypothesis, these findings indicated that the relationships between OCBO and OCBI and organizational learning measures were all based on between-group differences - whole group's view of OCB.

Results

The hypotheses identified the organization as the unit of analysis; so all variables were aggregates of individual responses to the school level of analysis. Table 1 presents the means, standard deviations, and intercorrelation matrix for all key variables included in the analysis.

Table 5. Results of hierarchical regression analysis predicting OCBO and OCBI from organizational learning (OLMs and learning values)

Variable	OCBO				OCBI			
	Equation 1		Equation 2		Equation 1		Equation 2	
	β	SE	β	SE	β	SE	β	SE
1. School size	.03	0.01	-.26	0.01	.25	0.02	-.10	0.02
2. OLMs			.46*	0.05			.52*	0.11
3. Culture								
Accountability			.44*	0.41			.06	0.89
Issue orientation			.27	0.66			-.17	1.43
Valid information			.38*	0.71			.49	1.81
Transparency			-.21	1.21			-.23	1.90
R ²	.00		.45		.06		0.28	
Adjusted R ²	.03		.32		.03		.10	
F	0.02		3.92**		2.02		2.92*	
ΔR^2			.45				.22	

* $p < .05$; ** $p < .01$.

Examination of the correlation pattern shown in Table 1 revealed several interesting insights. First, the correlation between OCBI and OCBO was .40 ($p < .05$), similar to the correlation of .43 found by Williams and Anderson (1991). This relation indicated that although the two dimensions had common variance, each contained a unique aspect of OCB. Second, concerning the two constructs of organizational learning, all the correlations between OLMs and the four learning values were positive and significant (ranging from .31 to .36, $p < .05$), indicating relatively independent measures of organizational learning. Finally, the correlations among the four learning values ranged from .54 to .85. This pattern of moderate to high intercorrelations among the four learning values was similar to the pattern found by Ellis *et al.* (1999).

The hypotheses of the study focused on the relationships between OCBO and OCBI and organizational learning variables. As noted earlier, we hypothesized that organizational learning variables would be positively related to OCBO, and would be positively related to OCBI. The hypotheses were tested by two hierarchical regression analyses (for OCBO and OCBI). The control variable (school size) was entered into the regression equation in Step 1, followed by two sets of predictor variables representing organizational learning, namely OLMs and learning culture, in Step 2. Table 5 displays the results of the hierarchical regression analyses for each dependent variable.

As shown in Table 5, regarding the prediction of OCBO, the control variable of school size accounted for a negligible proportion of the variance in scope (OCBO equation 1). The complete model accounted for 45% of the variance in OCBO (OCBO, equation 2). Regarding the variables predicting organizational learning, our results showed, in support of our hypothesis, that the OLMs variable significantly predicted OCBO ($\beta = .46$, $p < .05$), accounting for 15% of the explained variance in scope; likewise the variable of the group of learning values, which accounted for 30% of the explained variance. Among the four learning values, the β weights for accountability

and valid information were statistically significant ($\beta = .44, p < .05$; $\beta = .38, p < .05$, respectively).

As for the prediction of OCBI, the control variable of school size accounted for a negligible proportion of the variance in scope (OCBI equation 1). The complete model accounted for 28% of the variance in OCBI (OCBI, equation 2). Concerning the variables predicting organizational learning, our results demonstrated that the OLMs variable significantly predicted OCBI ($\beta = .52, p < .05$), accounting for 22% of the explained variance in scope; but in contrast to our hypothesis, the learning values variable did not contribute to the explained variance in OCBI.

Discussion

The present study explored the issue of OCB as a context-related phenomenon, from a multidimensional perspective. This is important, because despite repeated calls in the organizational behaviour literature for more attention to context (e.g. Cappelli & Sherer, 1991; Mowday & Sutton, 1993; O'Reilly, 1991; Wilpert, 1995), most research on OCB so far has focused on it as an individual phenomenon (e.g. Folger, 1993; Moorman *et al.*, 1993; Tierney & Bauer, 1996). Such an investigation, particularly of individual characteristics such as attitudes, mood states, and dispositions that foster OCB, seems to fall short of fully capturing the OCB phenomenon. Individuals who perform or fail to perform OCBs do not do so in a vacuum, and the organizational context very probably serves to encourage or discourage them (George & Jones, 1997). Accordingly, the present study, which chose to address the OCB issue by investigating it as a context-related phenomenon, contributed to the OCB literature in several respects.

First, the results of the WABA and the r_{wg} analyses, which indicated that all the between-group correlations were significant and the within-group correlations were not, generally supported the notion that although OCB is behaviour of individuals, organizations differ in their employees' tendency to engage in those behaviours. The present study contributed to the debate over whether organizational behaviour can be viewed as an internal organizational attribute, by demonstrating that OCB is really interactive or 'social' in nature. Our findings indicated that although most OCBs were performed by individuals, those behaviours conceptually could be extended to the organizational level. However, further research should utilize this context-related approach, by conceptualizing and operationalizing OCB as an element of organization characteristics (Salam, Cox, & Sims, 1996).

Second, most previous research, which focused on investigating OCB as individual-related, identified various characteristics of individuals that might foster the tendency of an organization's members to engage in OCB. Our results go an important step farther by identifying organizational factors that foster the common tendency of members of a certain organization to employ OCBs.

The occurrence of these behaviours within organizations was significantly related to the hypothesized organization-level antecedents, suggesting that variation in these behaviours across organizations was meaningfully related to organizational characteristics. This implies that we can find consistency in the way organizational members behave in an OCB manner because of the very nature of their organization (broadly defined to include organizational characteristics and practices).

Overall, we found that the organizational learning variable was positively related to the two dimensions of OCB (OCBO, OCBI), and accounted for 45% of the explained

variance in the OCBO dimension, and for 28% in the OCBI dimension. These findings demonstrated markedly stronger relationships than found in previous research, which reported explained variance not exceeding the 10% level (e.g. McNeely & Meglino, 1994; Williams & Anderson, 1991). Therefore, our results might support the notion that we could improve OCB predictions by paying more attention to characteristics of organizational context as related to OCB.

More specifically, we found that OCBO was positively related both to OLMs and to the values of organizational learning, whereas OCBI was positively related only to OLMs. This pattern of differential findings, although not hypothesized, illustrates the importance of distinguishing between different dimensions of OCB. This type of finding was not possible in the studies of George (1990) or George and Bettenhausen (1990), who took a unidimensional approach to measuring OCB. Hence, research should address OCB at the different levels of the organization, and consequently the predictions of the antecedents and the outcomes of OCB should be level-dependent (Van Dyne *et al.*, 1995; Williams & Anderson, 1991).

Regarding OCBI, namely behaviours directed at individuals but intended to benefit the organization, our results suggested that organizational learning mechanisms, which enhanced planned and unplanned human interactions, provided individuals and teams with more opportunities to work together, and therefore fostered the tendency of organization members to engage in OCBI. Individuals' readiness to help a colleague, and to share or cooperate with co-workers, might be developed through developing team identity and feelings of being a part of a team (Senge, 1993).

As for OCBO, the OLMs and learning culture that the organization established both proved important in predicting OCBO. In keeping with the organizational learning literature (e.g. Argyris & Schon, 1978; Beer & Spector, 1993; Di Bella *et al.*, 1996), these results suggest that to maximize OCBOs it is not sufficient to establish institutionalized OLMs. In addition, the organization's members have to internalize values of valid information, transparency, issue orientation and accountability so as to be ready to engage in OCBO. As Senge (1993) demonstrated, organizational learning fosters a sense of commonality of purpose and strategic thinking, and develops an organizational system approach. This in turn creates an environment that enhances one's tendency to expand one's role by engaging in OCBO.

Limitations

As with any study, this research is not without limitations. First, the data were largely gathered by questionnaires and subject to biases. Nevertheless, common method variance may not be a serious problem in our data because OCB was evaluated by superiors and organizational learning factors were evaluated by employees. However, because each superior provided the ratings for all his or her employees, there might have been a certain dependence among the ratings within organizations, which could potentially generate some appraisal biases. For example, some managers might evaluate employees in comparison with their counterparts, and not against an absolute standard; another bias could be the leader's personal tendency to provide overall high/low evaluations. In an attempt to reduce some of these potential limitations, we asked managers to complete the OCB appraisals on different days, instructing them to evaluate each employee independently. Second, considering the size of the sample (31 organizations) in this study, it would be advisable to replicate it with larger numbers of organizations. A third limitation concerns the uniqueness of the sample. While theory

cuts across organizational types, the question arises as to whether educational organizations and service organizations are sufficiently similar to other organizations, or if they are so distinct from them as to require different ways of viewing and measuring organizational phenomena. Nevertheless, two salient aspects of educational organizations have been identified that make them interesting for cross-industry comparisons (Fullan, 1997): they rely on knowledge workers, and they involve complex interdependent relationships among various professional groups (teachers, psychologists, social workers, etc.), as well as across organizations (e.g. psychological centres, learning centres, etc.). Together, these aspects might imply that results from well-executed research in the educational organizations should have applicability to organizations in other industries that share these characteristics.

Finally, the cross-sectional design of the present study raises the issue of causality. It is difficult to determine the nature of the relationship between the organizational learning variables and OCBs. Do organizations that engage in OCBs also tend to develop learning ways of working? Are these different organizational procedures and culture a determinant or a consequence of OCB? Nor could the data provide direct evidence of causal links between the organizational variables and OCB. It may well be that organizations that engage in OCB more frequently generate more opportunities to conduct organizational learning mechanisms and processes. Longitudinal studies are clearly required in order to explore the nature of these relationships further.

Conclusions

This research conducted an examination of OCB as an organization-related phenomenon, and highlighted the importance of OLMs and the assimilation of learning values as key variables fostering OCB. Moreover, our findings suggest that OCB should be addressed as a multidimensional concept, and consequently the predictions of the antecedents and the outcomes of OCB should be dimension-dependent.

This study should serve to encourage OCB researchers to focus more attention on characteristics of organizational context as related to OCB. Our results indicated that organization-level antecedents explained a considerable amount of variance in OCB. This finding sets a promising agenda for research and practice. First, the present findings emphasize the critical need to theorize and then test for levels of analysis in the study of organizational behaviour generally (Cogliser & Schriesheim, 2000; Dansereau *et al.*, 1995) and of OCB in particular to draw appropriate conclusions. Second, considering that this, we believe, is among the few studies (Podsakoff & MacKenzie, 1995; Podsakoff *et al.*, 1996) to investigate OCB as a context-related phenomenon, further research should explore various organizational antecedents of OCBs and their consequences for organizational effectiveness. Third, other research should continue investigating OCB from a multidimensional perspective, thereby identifying distinctive antecedents to each dimension of OCB.

What advice might we give managers on the basis of this research? Faced with the complex and uncertain nature of today's workplace, administrators should be prepared to experiment with alternative strategies, relying on the input of their employees and other stakeholders for feedback on successes and failures. This requires that administrators should institutionalize adequate structures for learning. Specifically, managers may develop formal mechanisms for collection, analysis, retention, and dissemination of information. These might come in the form of new forums or roles. The various forms of after-action (or post-project) review, and periodic reviews, might

be considered forums for analysis and retention of information, which may lead to changes in strategies and procedures administered by the organization. In regard to new roles required, knowledge managers might serve as a good example of a collection mechanism, while 'knowledge brokers' might serve as a dissemination mechanism. They exploit their position in multiple domains to innovate by moving ideas from where they are known to where they are not, creating in the process new combinations of existing ideas (Hargadon, 1999) and facilitating the creation of shared mental models (Cannon-Bowers, Salas, & Converse, 1993). Leaders should also become more aware of the effects of organizational structures and values on the willingness of employees to engage in OCBs. Our findings suggest that learning structures which enhance information accessibility and opportunities for collegial interactions are positively associated with OCBs regarding the organization as a whole, as well as individual members in the organization, by a reduction in formalized rules and procedures and a rise in group cohesion (Senge, 1993). Moreover, our findings suggest that there is a positive link between a culture that emphasizes values such as accountability and valid information, and a sense of common purpose and strategic thinking as well, as between learning culture and the developing of an organizational system approach (Senge, 1993). This in turn should encourage people to invest extra effort for important work outcomes, regardless of whether the formal job description requires it of them. Finally, our results highlighted the indirect consequences of organizational learning. It seems that developing OLMs and learning values promotes not only continuous learning but also enhanced OCB.

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