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The Pluralism of Commitment: The New Zealand Fire Service

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ABSTRACT

This study examined the relationships between organizational commitment and three constituency-specific commitments for firefighters and station officers employed by the New Zealand Fire Service. The subjects were firefighters employed by the New Zealand Fire Service. Commitment to firefighters, station officers, senior management, and the Fire Service were measured using the Cook and Wall (1980) scale. We found that constituency-specific commitments explained approximately 30 percent of the variance in organizational commitment, four-fifths of which was explained by commitment to operational staff and the remaining fifth by commitment to senior management. The degree to which the results were a reflection of the industrial relations climate remains to be seen.

INTRODUCTION

Most researchers of commitment treat the business firm as a unitarist organization, with one set of goals, values, and beliefs to which all organizational members subscribe. It follows that the committed employee is someone who is committed to the whole organization, including upper management, front-line supervisors, and co-workers. Conversely, an uncommitted employee is someone who is not committed to anyone in the organization. Employee commitment is logically inseparable from organizational commitment. For instance, Mowday, Porter, and Steers (1982: 27) define employee commitment as 'the relative strength of an individual's identification with and involvement in a particular organization.' Similarly, Hall, Schneider, and Nygren (1970: 176) view commitment as 'the process by which the goals of the organization and those of the individual become increasingly integrated or congruent.' Sheldon (1971: 143) also sees it as 'an orientation toward the organization which links or attaches the identity of the person to the organization.'

This unidimensional conception of commitment has some intuitive appeal, given the monolithic portrayal of organizations in the media. It also has considerable appeal to researchers, because a unidimensional conception of commitment is relatively easy to measure and model as an explanatory factor in a range of organizational outcomes. As a result, many researchers have used organizational commitment, particularly as measured by the Organizational Commitment Questionnaire (OCQ), to explain absenteeism, turnover (Cohen, 1993; Cotton and Tuttle, 1986; Lum, Kervin, Clark, Reid, and Sirola, 1998; Somers, 1995), job satisfaction (Mowday et al., 1982;

Wimalasiri, 1995), prosocial organizational behaviors (Brief and Motowidlo, 1986), and even job performance (Brett, Cron, and Slocum, 1995; Cohen, 1991; Leong, Randall, and Cote, 1994; Randall, 1990).

Despite its appeal, the unitarist conception of the firm and corresponding unidimensional conception of commitment are fundamentally flawed for two reasons (Reichers, 1985). First, firms are comprised of competing groups, with conflicting values, beliefs, and interests (March and Simon, 1958). For example, departments compete for shares of the firm's resources and influence over its strategy. Likewise, employees and employers often clash over the distribution of rewards and over control of the work process. Groups usually reach compromise agreements in the interests of mutual survival, but they do this without fully adopting or accepting the same organizational goals (Cyert and March, 1963). As a result, conflict is endemic to organizational life. Harmony tends to be either a temporary state, arrived at through compromise, or else a cover for more insidious forms of conflict. A 'dominant coalition' of groups or individuals may provide the formal definition of the organization's goals and the appearance of unity (March and Simon, 1958), but diverse and conflicting agendas are the organizational reality (Friedlander and Pickle, 1968; Whetten, 1978).

Second, employees usually identify with and commit themselves to more than one group. Each employee normally has a range of social roles associated with participation in many, different groups. When judging the appropriateness of his or her own behavior, each employee is likely to make comparisons with the relevant reference group and, in so doing, will come to accept many of its goals, beliefs, and values. Thus, professionals can feel committed to both their profession and their employer. Similarly, employees in boundary spanning jobs can feel committed to groups outside and inside the organization. Union members can also feel committed to both their union and employer (Angle and Perry, 1986; Beauvais, Scholl, and Cooper, 1991; Bemmels, 1995; Fukami and Larson, 1984; Magenau, Martin, and Peterson, 1988; Scherer and Morishima, 1989). The extent of these commitments is most obvious when reference groups clash and the resulting inter-role conflict causes great personal distress to the individuals involved (Van Sell, Brief, and Schuler, 1981).

If employees can be committed to many different groups, are these types of commitment related? If they are, how are they related? Many researchers assume that the various forms of commitment are independent constructs. In their view, the organization is just another focus, among many, for the employee's commitment. Organizational commitment may complement other kinds of commitment to the extent that their forms of association and identification are similar. Alternatively, it may compete with other kinds to the extent that association and identification with the organization requires employees to relinquish competing associations and identifications.

Other researchers reject this perspective, preferring instead to see organizational commitment as the aggregation of commitments to various internal constituencies. In this view, the organization is nothing more than the sum of its parts. It follows that someone committed to the individual parts is likely to be committed to the whole. Conversely, someone with little commitment to any of the parts is unlikely to be committed to the whole. Variance in the constituency-specific commitments thus accounts for variance in organizational commitment.

Relatively few researchers have tested these competing views of multiple commitment. Where they have, most have tested the first theorization by using measures of various types of commitment to account for unique variance in organizational outcome variables (see, for example, Becker, 1992; Becker, Billings, Eveleth, and Gilbert, 1996; Becker, Randall, and Riegel, 1995; Meyer, Natalie, and Smith, 1993). If the different commitments do account for unique variance in outcomes, this is interpreted as evidence for the independence of these commitments.

Some researchers have tested the second view by incorporating organizational commitment as an intervening variable between constituency-specific commitments and various organizational outcomes in a LISREL analysis (see, for example, Hunt and Morgan, 1994). Evidence of path effects via organizational commitment corroborate the view that organizational commitment is

merely the sum of constituency-specific commitments.

Although these studies are of intrinsic interest, they do not directly address the question of how commitments are inter-related. Only Reichers (1986) has modeled organizational commitment as a function of constituency-specific commitments, including top management, the profession, funding agencies, and clients/the general public, in a study of 124 workers at a community health agency in the American Midwest. She found that commitment to top management accounted for just 5 percent of the variance in organizational commitment, and commitment to the other constituencies each explained none of the variance in organizational commitment (Reichers, 1986: 513). This suggests that the various types of commitment are essentially independent constructs, that organizational commitment is not simply the aggregation of commitment to its constituent parts.

THE STUDY

This study examines the relationships between organizational commitment and constituency-specific commitments at the New Zealand Fire Service. The three main constituency groups in the Fire Service are: the firefighters, the station officers, who are the firefighters' front-line supervisors, and senior management. The Fire Service provides a unique opportunity to test the two competing views of organizational commitment, because relations between two internal constituencies, the firefighters and senior management, have been strained. If, for example, the different kinds of commitment are unrelated, one would not expect ill feelings toward senior management to have a negative impact on organizational commitment. If, however, organizational commitment is an aggregation of internal constituency commitments, one would expect any resentment toward senior management to be reflected to some extent in resentment toward the organization.

Industrial relations were severely strained at the time of the survey because the Fire Service Commissioner had announced a restructuring plan, *The Way Forward*, to reduce fire engine crew sizes from four to three. This would have eliminated 300 jobs from a total workforce of a little less than 1,600. The restructuring plan followed from the National Government's elimination of the Fire Service subsidy as part of its neo-liberal agenda to limit the size of the state by reducing expenditures on core public services. Historically, the Fire Service was funded partly by the government and partly by a levy on insurance premiums. Complete responsibility for funding the Fire Service was transferred to the fire insurance companies through an increase in the levy on their premiums. As a result, the insurance companies, and their major clients, became more directly interested in cost savings at the Fire Service and supported the appointment of Roger Estall, a director of Marshall McLennan, New Zealand's largest fire insurance company, as Fire Service Commissioner in July 1997.

Estall told the firefighters and station officers they would all be dismissed and invited to re-apply for approximately 1,300 'new' individual contract positions as fire officers. He justified the proposed mass redundancies by arguing that the new fire officers would be different from the existing firefighters. They would require new skills to perform new tasks, particularly in fire prevention and public education.

The New Zealand Professional Firefighters' Union bitterly opposed the cuts and organized firefighter demonstrations in protest. The firefighters also lodged personal grievances against the Fire Service for unjust dismissal. Their case was referred to the Employment Court, which decided that the firefighter and fire officer positions were not sufficiently different to warrant mass redundancies. The Court declared the mass redundancies to be a threatened, illegal lockout and granted a permanent injunction. However, it did acknowledge management's right to make the 300 redundancies commensurate with the reduction in crew sizes.

METHODS

Data Sources

There are 1,575 professional firefighters in New Zealand, of whom about 80% are members of the New Zealand Professional Firefighters' Union. The Union supported the study and used its internal network to distribute 875 questionnaires to members in Auckland, Christchurch, and Wellington, where more than half are located. 168 questionnaires were returned for a response rate of 19 per cent. The survey was conducted prior to the decision of the Employment Court.

The respondents are operational staff and hold the rank of either Firefighter, Station Officer, or an equivalent. These people drive and operate the fire appliances from local fire stations and a quarter of them would have lost their jobs in the proposed restructuring. Each appliance is currently staffed by a crew of four, including three Firefighters and a supervising Station Officer.

Variables

We measured the operational staff' s commitment to four different foci, the Fire Service, fire service management, station officers, and firefighters, using four variations of the nine-item Cook and Wall (1980) scale. Minor changes to the items in each scale were necessary to reflect the focus involved, but the meanings of the statements remained unaltered.

The commitment scales provided data for four variables. COMMITMENT TO ORGANIZATION measures the commitment of each firefighter and station officer to the Fire Service. COMMITMENT TO MANAGEMENT measures the commitment of each firefighter and station officer to the senior management of the Fire Service, the non-operational staff. COMMITMENT TO PEERS measures each station officer' s commitment to the station officers as a group and each firefighter' s commitment to the firefighters as a group. COMMITMENT TO OTHER RANKS measures each station officer' s commitment to the firefighters and each firefighter' s commitment to the station officers.

Table 1 presents the standardized item Cronbach' s alphas for the scales, broken down by the rank of the respondent. The alphas from Cook and Wall' s (1980) two studies are presented for comparison purposes. The Cronbach' s alphas for COMMITMENT TO ORGANIZATION show a high degree of consistency across the items for both firefighters and station officers. The measures of consistency are similar for the firefighters' COMMITMENT TO OTHER RANKS and for the station officers' COMMITMENT TO PEERS. Cook and Wall (1980) reported comparable alphas in their two studies. However, the alphas are somewhat lower for the firefighters' COMMITMENT TO PEERS, the station officers' COMMITMENT TO OTHER RANKS, and for the station officers' and firefighters' COMMITMENT TO MANAGEMENT. The reasons for these differences are not obvious, given that the items in the three scales were identical except for the description of the foci. A systematic pattern does not appear to exist.

Table 1
Measures of Internal Reliability : Cronbach' s Alpha

	Firefighters (n=87)	Station Officers (n=46)	Cook & Wall	
			# 1 (n=390)	# 2 (n=260)
COMMITMENT TO ORGANIZATION	0.87	0.87	0.87	0.80
COMMITMENT TO MANAGEMENT	0.72	0.65		
COMMITMENT TO OTHER RANKS	0.82	0.75		
COMMITMENT TO PEERS	0.67	0.82		

Table 2 contains the average commitment levels for firefighters and station officers across the four foci: the organization, management, other ranks, and peers. It shows that station officers in the sample are generally more committed than firefighters. Station officers are more committed to firefighters than to themselves, but firefighters are more committed to themselves than station officers. Neither group is very committed to senior management. Both groups express moderate

commitment to the organization, but less than to their operational colleagues.

Table 2
Descriptive Statistics for the Variables

	Firefighters Station Officers	
	(n=87)	(n=46)
COMMITMENT TO ORGANIZATION	4.7	4.6
COMMITMENT TO MANAGEMENT	2.4	2.7
COMMITMENT TO OTHER RANKS	5.5	6.1
COMMITMENT TO PEERS	5.9	5.9

RESULTS FOR THE MULTIVARIATE ANALYSIS OF VARIANCE

We used a repeated measures multivariate analysis of variance to determine which, if any, of the observed differences between station officers and firefighters in commitment to the three employment foci are statistically significant (see Table 2).

There are three dependent variables. They are: COMMITMENT TO PEERS, COMMITMENT TO OTHER RANKS, and COMMITMENT TO MANAGEMENT. These variables have the potential to exhibit within-subject correlation and were therefore transformed into three dependent, orthogonal variables. These are as follows: (i) the Grand Mean, which is the average commitment across the three foci; (ii) Contrast #1, which is a comparison of COMMITMENT TO PEERS with COMMITMENT TO OTHER RANKS; and (iii) Contrast #2, which is a comparison of COMMITMENT TO MANAGEMENT with the average of COMMITMENT TO PEERS and COMMITMENT TO OTHER RANKS. In our later analysis, we refer to this average as COMMITMENT TO CREW. The rank of the respondent, firefighter or station officer, is the dichotomous, independent variable.

The results for the multivariate analysis of variance are provided in Table 3. Four effects were statistically significant. They were Rank by Grand Mean, Contrast #1, Rank by Contrast #1, and Contrast #2. The Grand Mean is the average commitment across the three foci. The Rank by Grand Mean effect shows that station officers are generally more committed than firefighters to these foci. The reasons for this remain unclear. Perhaps, station officers are selected for their roles, in part, because they are generally more committed to those working on all levels of the Fire Service. Alternatively, higher commitment could be their way of alleviating the cognitive dissonance between their negative attitudes towards management as former firefighters and their performance of some managerial functions as station officers.

Table 3
Multivariate Analysis of Variance Results

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio	P-value
Grand Mean					
Rank by Grand Mean	7.66	1	7.66	8.02	0.005
Residual	125.17	131	0.96		
Contrast #1					
Contrast #1	1.48	1	1.48	6.45	0.01
Rank by Contrast #1	5.30	1	5.30	23.14	<0.001
Residual	30.00	131	0.23		
Contrast #2					
Contrast #2	889.48	1	889.48	931.31	<0.001
Rank by Contrast #2	0.06	1	0.06	0.06	0.80
Residual	125.12	131	0.96		

Contrast #1 indicates that the COMMITMENT TO PEERS is higher than the COMMITMENT TO OTHER RANKS for the two ranks combined. This result is of limited interest given the significance of the Rank by Contrast #1 effect. As illustrated in Table 2, firefighters' COMMITMENT TO PEERS was higher than their COMMITMENT TO OTHER RANKS, this being the station officers. The reverse was observed for station officers. These results are not surprising. Each appliance is staffed by one station officer and three firefighters, who must work closely together as a team in all situations - either emergency or routine. Each fire station typically has two or three appliances and a similar number of station officers. As a result, the station officer is likely to interact primarily with firefighters rather than other station officers, particularly when performing the most critical and dangerous roles of the job. In these circumstances, station officers would more likely develop stronger bonds with, and feel greater loyalty to, the firefighters in their crew rather than to station officers at other stations or in other crews.

Contrast #2 confirms that COMMITMENT TO MANAGEMENT is lower than COMMITMENT TO CREW for the two groups combined. This was expected, given senior management's plans to restructure the Fire Service and to lay off more than 300 firefighters. The RANK by Contrast #2 is statistically insignificant and indicates that the difference between COMMITMENT TO MANAGEMENT and COMMITMENT TO CREW did not differ between firefighters and station officers. However, this does not imply that senior officers and firefighters are as equally uncommitted to senior management. The apparent paradox can be explained by the observation (Table 2) that, on average, station officers exhibited a higher overall commitment than firefighters to both senior management and crew (Rank by Grand Mean effect).

The multivariate analysis of variance shows that there are dramatic differences between firefighters and station officers in their commitment to the three foci. This leads naturally to the empirical question of whether or not the model of organizational commitment to the Fire Service, in terms of the three foci, differed between the two ranks. This is the question we address in the next section.

RESULTS FOR THE REGRESSIONS

Preliminary correlational analysis shows that COMMITMENT TO MANAGEMENT is orthogonal to both COMMITMENT TO PEERS (Pearson's $r = .01$) and COMMITMENT TO OTHER RANKS (Pearson's $r = .02$). In contrast, COMMITMENT TO PEERS was highly correlated with COMMITMENT TO OTHER RANKS (Pearson's $r = .59$). Such co-linearity makes interpretation of regression coefficients difficult. For this reason, and to achieve a more parsimonious model, the two measures of commitment to operational ranks were averaged to create a new variable, COMMITMENT TO CREW.

We used multiple regression to model COMMITMENT TO ORGANIZATION, the dependent variable, as a linear function of the two employee-related foci of commitment. We estimated three models. The results are presented in Table 4. The first model contains COMMITMENT TO MANAGEMENT, COMMITMENT TO CREW, RANK, RANK*COMMITMENT TO MANAGEMENT, and RANK*COMMITMENT TO CREW. RANK is a dichotomous variable representing the rank of the respondent, and coded 1 for firefighters and 0 for station officers. The last two variables in this empirical model measure the interactions of rank and commitments to management and crew. They are used to test for homogeneity of slopes. The evidence, from regression model #1, is that the homogeneity of slopes assumption was not denied.

Table 4
Multiple Regression Results
Organizational commitment is dependent variable
(Standard Errors in Parentheses)

				Regression Model		
				# 1	# 2	# 3
<hr/>						

INTERCEPT	-1.23 (1.02)	-1.45 (0.83)	-1.24 (0.83)
COMMITMENT TO MANAGEMENT	0.38** (0.12)	0.35*** (0.10)	0.32** (0.09)
COMMITMENT TO CREW	0.87*** (0.17)	0.92*** (0.14)	0.88*** (0.14)
RANK	-1.08 (1.83)	-0.39 (0.21)	
RANK*COMMITMENT TO MANAGEMENT	-0.10 (0.22)		
RANK*COMMITMENT TO CREW	0.16 (0.29)		
R-squared	0.31	0.31	0.29

Note: ***, **, and * represent significance at 0.1%, 1% and 5%, respectively.

The second model #2 contains COMMITMENT TO MANAGEMENT, COMMITMENT TO CREW, and RANK. The interest with this model is whether or not organizational commitment differed between the two ranks after commitments to the foci were taken into account. RANK is statistically significant at $p=0.06$. However, the practical importance of this result can be questioned. RANK explained only 2 percent of the observed variation in organizational commitment. Strictly interpreted, this indicates that firefighters are generally less organizationally committed than station officers.

The final model #3 contains the independent variables COMMITMENT TO MANAGEMENT and COMMITMENT TO CREW. This represents a more parsimonious model of organizational commitment. Both commitment variables are statistically significant and together explain 29 percent of the variance in COMMITMENT TO ORGANIZATION. One unit increase in COMMITMENT TO CREW is associated with an increase in COMMITMENT TO ORGANIZATION of almost 0.9 of a unit. Variance in COMMITMENT TO CREW explains 23 percent of the variation in COMMITMENT TO ORGANIZATION. The relationship between COMMITMENT TO MANAGEMENT and COMMITMENT TO ORGANIZATION is somewhat weaker, but still positive. A unit increase is associated with a 0.3 increase in COMMITMENT TO ORGANIZATION. Variance in COMMITMENT TO MANAGEMENT accounts for 6 percent of the variance in COMMITMENT TO ORGANIZATION.

DISCUSSION

Our multivariate analysis of variance results show that station officers are generally more committed than firefighters to the three employment foci. In addition, station officers are more committed to firefighters than themselves, whereas firefighters are more committed to themselves than station officers. Earlier we offered a possible explanation for this observation. However, both ranks are more committed to station officers and firefighters than to senior management. This latter result is not remarkable given the state of the industrial relations climate.

Our regression findings are not consistent with Reichers' (1986) findings in her study of a community health agency. She found that most constituency-specific commitments were not related to organizational commitment. Only commitment to top management accounted for any variation in organizational commitment and that was just 5 percent. Reichers' evidence suggests that organizational and constituency-specific commitments are different constructs, that organizational commitment is not simply the sum of commitments to the organization's constituency parts.

In contrast, we find that constituency-specific commitments and organizational commitment are associated. In particular, commitment to crew members is strongly related to commitment to the organization. A 10-unit increase in commitment to crew is associated with a 9-unit increase in

commitment to the organization. However, variation in the two constituency-specific commitments together accounts for less than a third of the variation in organizational commitment. Although related, organizational commitment appears to be more than the sum of its internal constituent parts. If not, there would have to be other important constituencies omitted from the analysis. This, however, does not appear likely. The Fire Service has a simple organizational structure, with relatively few foci competing for the employees' loyalty. There is no complex divisional or functional structure that subdivides employees by discipline or product group. Neither are there close and on-going relations with customers and suppliers outside the organization. The New Zealand Professional Firefighters' Union is possibly the only major focus for the employees' commitment not included in our study. The Union, of course, is quintessentially the operating crew, that is to say, the firefighters and their station officers.

Role theory may explain the relatively strong relationship between commitment to crew members and commitment to the organization and the weak relationship between commitment to senior management and commitment to the organization. Role theory posits that the greater the conceptual distance between the organization and the constituency, the less related they are likely to be (Rizzo, House, Lirtzman, 1970). It is often assumed that senior management and the organization are conceptually similar. One is usually identified with the other. However, there may be many circumstances where this is not true. The Fire Service is a single purpose organization, dominated by one occupational group, which is trained and socialized to perform this single purpose. As a result, most people, including the firefighters themselves, may perceive little conceptual distance between fire fighting as an occupation and the Fire Service as an organization. In contrast, the senior managers may not be seen as true firefighters. They may be perceived as having no direct operational presence at fires or emergency calls. Thus senior managers could be viewed as being conceptually distant from the Fire Service.

An interesting research question arises from this study. The question concerns the degree to which our results were influenced by the industrial relations climate at the time the data were collected. One in four of the respondents faced redundancy. Whether different results would emerge if the industrial relations climate were more harmonious is a question that cannot be answered by this study. It would appear to be a fruitful avenue for investigation.

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