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Sarosh Kuruvilla
Cornell University, sck4@cornell.edu

Roderick D. Iverson
University of Melbourne

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Abstract

This paper evaluates the applicability of the different factor structures of union commitment identified in previous studies to the Australian case. Confirmatory factor analysis results using LISREL VII suggest that union commitment is best represented by four distinct factors, 'union loyalty', 'responsibility to the union', 'willingness to work for the union', and 'belief in unionism' in this sample of Australian workers. OLS regression results indicate that the four factors are differentially related to a set of common predictor variables. White-collar workers reported higher levels of commitment than blue-collar workers. Participation in leadership positions and previous experience with union handling of grievances significantly increased commitment to the union. The results suggest support for the generalizability of the factor structure of union commitment to Australia. Implications for future research are discussed.

Keywords

labor unions, commitment, Australia, white collar workers, blue collar workers

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A Confirmatory Factor
Analysis of Union Commitment
In Australia

Sarosh Kuruvilla
Cornell University

Roderick D. Iverson
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This paper evaluates the applicability of the different factor structures of union commitment identified in previous studies to the Australian case. Confirmatory factor analysis results using LISREL VII suggest that union commitment is best represented by four distinct factors, 'union loyalty', 'responsibility to the union', 'willingness to work for the union', and 'belief in unionism' in this sample of Australian workers. OLS regression results indicate that the four factors are differentially related to a set of common predictor variables. White-collar workers reported higher levels of commitment than blue-collar workers. Participation in leadership positions and previous experience with union handling of grievances significantly increased commitment to the union. The results suggest support for the generalizability of the factor structure of union commitment to Australia. Implications for future research are discussed.

Given the general decline in union density in most countries (Deery & Plowman, 1991), unions are examining strategies to boost union membership. Increased member participation in union activities has been a critical part of most union strategies. As voluntary organizations, unions depend on their members to act voluntarily in ways that facilitate the achievement of organizational goals. Increasing member commitment to the union has been viewed as a necessary precursor to greater member activism. However, research on union commitment is still in the early stages. Much of the research to date has focused on the primary steps of defining and measuring the commitment construct. The reason for the concentration on measurement is clear, that is, without the precise operationalization of the union commitment construct, research cannot move forward.

The issues of definition and measurement are far from resolved, however. Although there is some agreement as to the definition of the construct, there is still major disagreement as to the factor structure of the concept. For instance, the first work in this field, that of Gordon, Philpot, Burt, Thompson, and Spiller (1980), suggested that union commitment is composed of four underlying factors or dimensions, namely, union loyalty; responsibility to the union; willingness to work for the union; and beliefs in unionism. Since then, researchers in other countries have argued that there may be as few as two factors and as many as five factors underlying union commitment (Friedman & Harvey, 1986; Fullagar, 1986; Klandermans, 1989).

Speculation regarding the reasons for differences in union commitment dimensions has suggested diverse explanations, ranging from differences in national culture to differences in the number and nature of questionnaire items used to measure the concept, to differences in analytical methods used to uncover the number of dimensions. However, psychological constructs such as union or company commitment are implicitly assumed to be universal, that is, generalizable to different contexts.

Given that replicative studies in different cultural and union contexts are necessary for measurement clarification, this study

examines the factor structure of union commitment in Australia. Apart from providing an additional cultural context, this sample is also different in that it is governed by a 'union shop' clause, where membership in the union is compulsory. The primary aim of our analysis is to ascertain the extent to which different factor structures are applicable to the Australian case.

Our aim implies that the method we use is also different from those of previous studies. While previous studies have used exploratory factor analysis to identify the number of different dimensions, this study uses confirmatory factor analysis. This technique provides a significant advantage, since it allows us to test, in empirical terms, the applicability of different factor structures to Australia. Therefore, this study extends union commitment dimensions research in two ways: it examines it in a unique cultural and union context, and it uses a different analytical technique that enables comparisons between different dimensional models.

Review of the union commitment literature

Although research on union commitment has also included studies that examine the antecedents and consequences of union commitment (e.g. Fullagar & Barling 1987, Kuruvilla, Gallagher & Wetzel, 1993), we review the relevant literature connected with issues of definition, measurement and the factor structure of union commitment.

The definitions of union commitment have largely been derived from the extensive literature on organizational commitment (Sverke, 1992). A number of different theoretical approaches have been used to study organizational commitment including the concepts of attitudinal commitment, behavioural commitment, calculative commitment and normative commitment. Although it is beyond the scope of this paper to discuss these approaches in detail, a brief description is provided (see Mowday, Porter & Steers, 1982 for a fuller description).

Attitudinal commitment, also called affective organizational commitment, refers to the degree of loyalty an individual has for an organization. It focuses on an individual's identification with and involvement in the organization (Porter, Steers, Mowday & Boulian, 1974). Behavioral commitment, in contrast, represents the process by which individuals link themselves to an organization and focuses on the actions of the individuals. Salancik (1977), for example, provided a dissonance explanation of the process in which employees become attached to organizations by being obligated to the implications of their actions. According to Salancik (1977), through volition (free choice), revocability (the fact that decisions, once made, are not easily reversed), and publicness (the awareness of significant others) employees remain employed in the organization by the actions of accepting the job. Becker (1964) offers another view. Becker focused on what he termed the 'side bet theory', according to which employees attach themselves to organizations through investments such as time, effort, and rewards. These investments, however, have costs which reduce to some degree an employee's freedom in his or her future activity. That is, employees may choose not to change their present job, even though in doing so they may be forfeiting a higher salary and better working conditions elsewhere. Instead, they remain tied to their present job and therefore committed to it, by rewards apart from these that make the job too painful to give up. More recently, Allen and Meyer (1990) and Meyer, Allen and Gellatly (1990), building on the side-bets tradition, focus on the concept of continuance commitment (sometimes termed 'calculative commitment'), defined as the 'commitment based on the costs that employees associate with leaving the organization' (Allen & Meyer, 1990:1). Another theoretical view is that offered by normative commitment proponents, where normative commitment is defined as that aspect of commitment that is the 'right or moral thing to do' (Weiner, 1982:421). Normative commitment concentrates on the obligation and/or moral attachment of employees, which is produced by the socialization of employees to the organization goals and values (Allen & Meyer, 1990; Dunham & Grube, 1990; Weiner, 1982).

Although there is some disagreement and debate over the definition of organizational commitment as discussed above (e.g. Farrell & Rusbult, 1981; Meyer & Allen, 1984; Salancik, 1977), researchers generally agree that a common theme runs through the various different approaches, that is, the term 'commitment' can be employed to describe two distinct but related concepts, attitudinal and

behavioural commitment, both of which reflect a bond between the individual and the organization. This bond is also evident in the concept of union commitment.

Gordon et al. (1980) asserted that the union commitment concept should be similar to the accepted definition of organizational commitment (Porter et al., 1974) and subsequently defined union commitment as the extent to which an individual (a) has a strong desire to remain a member of the union, (b) is willing to exert high levels of effort on behalf of the union, and (c) has a definite belief in and acceptance of the values and goals of the union. Similar to organizational commitment, this definition of union commitment suffers from two basic problems: (a) the attitudinal and behavioural components prevent the definition from being unidimensional, and (b) the factor structure has different time dimensions, from maintaining membership in the union to willingness to work hard on behalf of the union (Sverke, 1992). In attempting to surmount these obstacles researchers have tended to isolate the different components of union commitment.

As previously outlined, Gordon et al. (1980) represented the first effort at identifying the factor structure of union commitment using the above definition. Using the responses of United States white-collar union members to forty-eight different items, their exploratory factor analysis uncovered four dimensions of union commitment: 'union loyalty', 'responsibility to the union', 'willingness to work for the union' and 'belief in unionism'. Although their results evidenced support for the reliability and construct validity of the dimensions of commitment, the authors called for additional research to investigate the properties of the commitment questionnaire they had used (1980:497).

In studies of United States white-collar workers by Ladd, Gordon, Beauvais and Morgan (1982), United States engineers by Gordon, Beauvais, and Ladd (1984), and United States blue-collar workers by Thacker, Fields and Tetrick (1989), application of the Gordon et al. (1980) scale yielded a similar four- factor structure. Nevertheless, Friedman and Harvey (1986), in a re-analysis of the Gordon et al. (1980) data suggested that two factors might better represent union commitment. Using a different factor rotation technique (orthoblique rotation), their results provided support for the existence of a more parsimonious representation of union commitment with two factors, 'union attitudes and opinions' and 'pro-union behavioural intentions'. Based on these results, the authors suggested that a shorter nineteen-item version of the Gordon et al. questionnaire could be used practically.

Attempted replications of the factor structure found in United States-based studies in alternative cultural contexts have produced varying results. In a study of white and black blue-collar workers in South Africa, Fullagar (1986) extracted five different factors using a shorter (28-item) version of the Gordon et al. scale. His factors were called 'union loyalty', 'responsibility to the union', 'organization/work loyalty', 'belief in the union' and 'perceived union instrumentality'. More recently, Klandermans (1989) investigated the factor structure of union commitment among blue-collar workers in the Netherlands using the Gordon et al. instrument. Although he was able to identify six different factors, analysis of internal consistency and construct validity supported the existence of two strong factors: 'willingness' and 'loyalty'. Finally, in a recent examination of union commitment in Australia, Savery, Soutar and Dufty (1990) selected items more specific to the Australian context and found four factors, two of which were similar to the Gordon et al. result that is 'loyalty' and 'willingness to work', and two which they argued related to 'pride in union membership' and 'personal commitment to the union'.

The previous research, therefore, exhibits numerous different factor structures for the union commitment construct in different studies. These inconsistencies between studies in terms of the underlying factor structure of the construct of interest make future research problematic.

There are three possible explanations for the differences in factor structures between studies. First, the construct of union commitment differs critically between cultures. However, it has been impossible to clearly evaluate this explanation, given the potential confounding caused by other more plausible explanations such as differences in questionnaire wording and differences in

analytical technique. A major reason for discounting the cultural-differences explanation is the fundamental assumption that attitudes such as company commitment and union commitment are universal attitudes. Although the type of company and union may vary, the process of attitude formation ought to be similar. Second, the differences in the factor structure found can be attributed to the number of items used in the questionnaire. For instance, it can be argued that the different factor structure found in the Australian study is primarily due to the differences in the questionnaire items between Savery et al.'s (1990) study and Gordon et al.'s questionnaire.[1] Third, the differences in results are due to the variation in factor analysis techniques used. When using factor analysis, a number of parameters (e.g. the type of factor rotation) are required to be specified, and variation in parameters could yield different results. Another significant problem is that most researchers have used exploratory factor analysis, which yields primarily one factor solution. The use of exploratory factor analysis to determine dimensionality presents several problems. The researcher has little control over the factor structure to be tested, is unable to test the ability of a hypothesized structure to fit the data, and is limited to retrospective interpretation of the number of factors (Marsh & Richards, 1987).

This article uses a methodology that accounts for the last two possibilities. First, we use a questionnaire that includes representative items from the Gordon questionnaire. Second, our analytical method allows the testing of alternative factor structures found in previous international research to identify which structure is most representative of this Australian sample. The confirmatory factor analysis methods of LISREL VII (Joreskog & Sorbom, 1988) are used on a sample of blue and white-collar union members of three Australian unions. Once the number of factors that best represent the data are identified, the construct validity of the factors is assessed.   '

Methods

Subjects

Participants in this study consisted of union members evenly distributed among three unions. Surveys were administered to 420 members of the Amalgamated Metal Workers Union (AMWU), Electrical Trades Union (ETU) and Municipal Officers Association (MOA) employed in a power generating plant located in the south-east region of Australia. A response rate of 43 per cent was achieved. After case-wise deletions for missing values, 181 responses were available for the analysis. An examination of the respondents and nonrespondents did not yield evidence that there were meaningful differences between them. The sample comprised 91 per cent male workers, with blue- collar workers accounting for 58 per cent. Education levels were moderately high, 45 per cent of the sample having completed sixth grade, 50 per cent having graduated with a diploma in a technical trade, and 5 per cent having obtained undergraduate degrees. The mean education was 11.34 (SD = 2.69). The mean age and tenure were 31.92 years (SD = 9.80) and 7.26 years (SD = 1.27), respectively.

Measures

The questionnaire was designed to collect data about the demographic characteristics of the union members, their participation in various union activities, various job-related variables, such as their occupational status and their satisfaction with their job, and their commitment to the union.

Demographics

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[1] Savery et al. (1990) used twenty items from the original forty-eight items in the Gordon et al. (1980) questionnaire. Also, it should be noted that items 9, 10, 11 and 12 used in our questionnaire (see appendix) were not incorporated in the Savery et al. questionnaire.

Demographic variables included age, gender (coded 1 = male, 0 = female) and education.

Job-related variables

These included a measure of occupational status (OCCUP) coded 1 = blue-collar, 0 = white-collar) and job satisfaction. Job satisfaction was assessed by using a four-item modified version of the Hoppock (1935) scale; for example 'How often do you feel satisfied with your job?' (1 = never, 5 = all of the time). Although it is a dated measurement instrument, we adopted it given the constraints imposed by time and space on our questionnaire. McNichols, Stahl and Manley (1978:741) suggest that the Hoppock scale has been found to perform well in terms of distribution, construct, convergent, concurrent validity and reliability and should be used 'as a compromise between lengthy, sophisticated job satisfaction instruments and the invalidated satisfaction questionnaire often found in survey questionnaires'. The mean level of job satisfaction was 2.76 (SD = 0.79). The scale evidenced a satisfactory level of reliability, with Cronbach's alpha of 0.75.

Union participation variables

We used two measures of participation in union activities. The first was a composite measure of participation in the union consisting of items reflecting attendance at union meetings (1 = never, 5 = always) and voting in union elections (1 = never, 5 = always), M = 3.11 (SD = 1.05). The second measure (LEADER) assessed whether the respondent has held a union position in the past (1 = yes, 0 = no), M = 0.13 (SD = 0.34).

Objective experience with the union

One variable (GRIEVE) reflects how often members request assistance from the union (1 = never, 5 = always) and how often they consider grievances through the union (1 = never, 5 = always.) People who score high on these measures are assumed to have greater experience with the union's ability to solve their problems. The mean on this variable was 3.68 (SD = 0.76).

Union commitment

Union commitment was measured by eighteen items chosen from the forty-eight items identified by Gordon et al. (1980). Given space constraints in the administration of the questionnaire, we were not able to use all forty-eight items. The items with the highest factor loadings on each of the four factors in Gordon's results were chosen after examining whether they were appropriate for the Australian context. This rule resulted in eighteen items from the Gordon et al. questionnaire. These items were further broken down into the four sub-scales as reported by Gordon and his colleagues. In each case, the scales exhibited acceptable levels of reliability. Union loyalty (8 items: M = 3.40, SD = 0.75, Alpha = 0.87); responsibility to the union (4 items: M = 3.92, SD = 0.56, Alpha = 0.68); willingness to work for the union (4 items: M = 2.87, SD = 0.76, Alpha = 0.79); and belief in unionism (2 items: M = 3.34, SD = 0.85, Alpha = 0.62).[2]

Since Friedman and Harvey (1986) and others (e.g. Klandermans, 1989; Kuruvilla, 1989) suggest that union commitment is better represented by two factors, we also grouped the eighteen items into two sub-scales, combining the loyalty and belief items into one scale, and the willingness to work and responsibility items into the other. These were called, respectively, union attitudes and opinions (10 items: M = 3.38, SD = 0.72, Alpha = 0.87), and behavioural intentions (8 items: M = 3.40, SD = 0.58, Alpha = 0.82).[3] A list of the

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[2] In the case of the two-item belief-in-unionism scale the reliability was assessed by the KR-20 (Kuder-Richardson-20) method.

[3] It is worth noting that our items differ somewhat from the items used by Friedman and Harvey in their representation of the two sub-scales. Their

items used is provided in the appendix.

Analytical methods

As noted, the purpose of our analysis was to examine the factor structure of union commitment in this Australian sample. This involves two steps. First we test the applicability of alternative factor structures. Confirmatory factor analysis techniques of LISREL VII are appropriate for this purpose. Essentially, this method involves specifying models with different factor structures and then examining the extent to which they 'Fit' the data. Consequently, we specify four different models. The first model is a null model, that is, a model that hypothesizes that each of the items in the questionnaire represents a single factor by itself. Estimating the null model is useful, since it provides a baseline with which other models are compared in terms of the 'fit' to the data.

Second, we specify three other models based on the previous research. Accordingly, the second model hypothesizes that only one general factor underlies the commitment construct (that is, the concept is unidimensional). The third model comprised the Friedman and Harvey (1986) model, which hypothesizes that two factors best represent union commitment, while the Final model is the Gordon et al. (1980) model, suggesting a four-factor solution.

LISREL VII is a computer program that permits a test of the goodness of fit of different hypothesized models, using confirmatory factor analysis techniques based on maximum likelihood estimators. LISREL VII method involves analysis of a measurement model and a structural equation model (Joreskog & Sorbom, 1988). The measurement model specifies the hypothesized relationships between the latent (unobserved) constructs and the manifest (observed) variables, whereas the structural equation model specifies the hypothesized causal relationships among the latent (unobserved) constructs. We are interested in the underlying or latent union commitment constructs; hence, we focus on the measurement model in this analysis. One additional advantage in using confirmatory factor analysis techniques of LISREL (apart from allowing us to test alternative models for Fit) is that LISREL automatically corrects for measurement error (lack of reliability) in the scales. Given that the factors of commitment are part of the general commitment construct, in the parameter specifications, we allowed the different factors to be correlated.

Normally, the chi-square is used to evaluate the fit of confirmatory factor analysis models (small and non-significant chi-squares indicate better fit), but because the significance of the chi-square is also sensitive to sample size, it is possible to obtain large chi-squares for well-fitting models, making interpretation of the results problematic. Therefore, we rely on various conventionally used 'goodness of fit' indicators. These are: the goodness-of- fit index (GFI)—a measure of the relative amount of variance and covariance jointly accounted for by the model; the adjusted goodness-of-fit (AGFI)— representing the amount of variance and covariance accounted for by the model adjusted for the degrees of freedom in the model; the normed fit index (NFI)—which compares the fit of the model to the null model when all items are constrained to be independent of each other (Bentler & Bonett, 1980); the parsimonious fit index (PFI)—which corrects the NFI by adjusting for the degrees of freedom for the model (James, Mulaik & Brett, 1982); and the root mean square residual (RMSR)—the subtraction of hypothetical covariance matrix from the sample covariance matrix (Joreskog & Sorbom, 1988). For the GFI, AGFI, NFI and PFI the values range from zero to one, with higher values representing better fit.

The second step in our analysis involves demonstrating the construct validity of the dimensions. Using the best fitting model identified by the confirmatory factor analysis results, the purpose of validation is to show that the factors of commitment identified, although closely related, are significantly different from each other. The conventional method of doing this is by examining the relationship between these factors and several 'external' variables. Although it is conventional to demonstrate validity by examining

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scale did not include three items used in our questionnaire (items 3,4, and 14; see appendix), and our questionnaire did not include three questions that they used. It is not clear whether this substitution had an effect on the results.

the first-order correlations with other variables, we prefer to use a multivariate framework using OLS regression to better demonstrate the differences in relationships between commitment factors and the external variables. Accordingly, we regress the four factors on external predictors of union commitment. The external variables include the demographics of age, gender and education, occupational status, job satisfaction, and two measures of union participation, all of which have been found to be related to union commitment in previous research (Fullagar & Barling, 1987; Gallagher & Clark, 1989). If the factors of commitment are distinct, we would expect to see differences in the relationships between the factors and the external variables, that is, there would be differences in the extent to which these variables explain the variance in the commitment factors.

Results

The confirmatory factor analysis results reported in table 1 suggest that four factors of union commitment provide the best fit to the data in this sample.[4] Relative to alternative factor models, the four-factor model provided a significant improvement. Note that all the goodness-of-fit indicators reported in table 1 consistently support this model.

Table 1 Goodness of fit of alternative factor model specifications in Australia

Model	χ^2	df	p<.	GFI	AGFI	RMSR	NFI	PFI
Null	1456.36	153	000	.293	.210	.351	–	
1 Factor	307.33	135	000	.834	.790	.060	.789	.761
2 Factor	265.52	134	000	.855	.815	.057	.818	.792
4 Factor	221.41	129	000	.877	.838	.055	.848	.820

For evaluation purposes we rely on the NFI developed by Bentler and Bonett (1980). Researchers focus on the NFI as it can be interpreted to indicate the difference between the fit of competing models (e.g. McGee, Ferguson & Seers, 1989; Widman, 1985). The NFI in table 1 show a steady increase in fit as we move from the null model to the four-factor model. Each of the higher factor models is significantly different (through chi-square difference tests) from the previous lower factor model. For example, the one-factor model had a significant improvement in fit over the null model (x^2 (18) = 1149.03, p<0.05). The two-factor model represented a better fit of the data than the one-factor model ($x^2(1)$ = 41.81, $p<0.05$). The four-factor model was significantly different from the two-factor model ($x^2(5)$ = 44.11, p <0.05), with a much higher NFI, that is 0.848 relative to the NFI for a two-factor model of 0.818. These results clearly indicate that the four-factor solution best fits the data (for example, the model exceeded Widman's (1985) 0.01 criterion for differences), and is consistent with previous studies (e.g. Gordon et al. 1980). One could conclude from these results that the Gordon et al. four-factor solution is the best fitting model in this sample. LISREL estimates of the factor loadings for each of the four factors are provided in the appendix. As expected, the factors were correlated with each other.

The correlations (see table 2) between the factors range from 0.50 to 0.63 ($p<$ 0.001), suggesting that these factors are moderately-to-highly correlated, but are still significantly different from each other. Evidence of the difference between the factors is available in our regression results, reported in table 3.

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4 Note that since we are following a confirmatory factor analysis procedure, which tests the applicability of alternative models to the Australian case, we do not use exploratory factor analysis in this approach. However, an exploratory factor analysis yielded a solution similar to the results reported in this paper.

Table 2 Correlations between union commitment factors

	1	2	3	4
Loyalty	1.00			
Responsibility	.54	1.00		
Willingness to work	.63	.54	1.00	
Belief in unionism	.58	.49	.50	1.00

Note: All correlations were significant (p<.001).

As table 3 indicates, the four factors appear to be differentially related to the predictor variables. The strength of the relationship between factors and the external variables also varies considerably. The adjusted R-square for each commitment factor is markedly different, suggesting that in terms of their relationship to these external variables, the four factors are distinct. The models explain about 29 per cent of the variance in union loyalty, 13 per cent of the variance in responsibility to the union, 26 per cent of the variance in willingness to work for the union, and 5 per cent of the variance in belief in unionism.

However, we conducted a more formal test of the differences between these four factors by examining the hypothesis that the non-intercept parameters are the same for all four-factor equations.[5] The hypothesis that the non-intercept parameters between equations are the same can be rejected at the p<0.001 level, *(df* 8,167, F = 4.54), further suggestive that the factors are distinct.

Table 3 OLS estimates for determinants of union loyalty, responsibility to the union, willingness to work for the union and belief in unionism

	LOYALTY	*RESP.*	*WILLING.*	*BELIEF*
AGE	-.008*	.001	-.006	-.007
	(.003)	(.004)	(.005)	(.007)
GENDER	-.134	-.223	-.193	-.274
	(.141)	(.159)	(.205)	(.261)
EDUC	-.084*	-.033	-.027	-.028
	(.040)	(.045)	(.058)	(.074)
OCCUP	-.025***	-.017***	-.021***	-.018*
	(.004)	(.004)	(.005)	(.007)
JOBSAT	.004	.006	.001	.058
	(.032)	(.036)	(.047)	(.060)
LEADER	.240*	.227*	.603***	.175
	(.107)	(.102)	(.155)	(.197)
GRIEVE	.170***	.148***	.268***	.202*
	(.049)	(.055)	(.071)	(.090)
PARTIC	.032	.025	.098	.041
	(.036)	(.041)	(.052)	(.067)
R-SQUARE	.323	.170	.294	.091
ADJ-R-SQ	.289	.128	.258	.045
N	181	181	181	181

Note: standard errors in parentheses.
* p<.05
** p<.01
*** p<.001

Although the results for each of the independent variables show that they differentially related to the four commitment factors

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5 The formula for the cross-equation test is given below. This tests the hypothesis that all parameters except the intercept are the same for all the dependent variables. In matrix algebra terms, the hypothesis that can be estimated is of the form:

$$(L\beta-cj)M = 0$$

where L is a linear function on the regressor side, β is a matrix of parameters, c is a column vector of constants, j is a row vector of ones, and M is a linear function on the dependent side. Each linear function extends across either the regressor variables or the dependent variables. If the equation is across the dependent variables, then the constant term, if specified, must be zero. The equations for the regressor variables form the L matrix and the c vector in the above formula. The equations for the dependent variables form the M matrix. Within this framework, one can specify various hypotheses to be tested, including the hypothesis that all parameters except the intercept term are equal to zero, or equal to each other across the dependent variables.

and constitute further evidence of the difference between the four factors, these results are interesting in their own right. They provide some information regarding the determinants of the factors, and also permit comparison with other research on union commitment. Several interesting relationships can be noted.

In contrast with some previous research that has hypothesized a positive age-union commitment relationship (Conlon & Gallagher, 1987), the results indicate that age is weakly though negatively related to union loyalty. This suggests that the younger employees in our sample demonstrated higher union loyalty. Nonetheless, as Gallagher and Clark (1989) show in a review of the literature, the inconsistent results between age and the dimensions of union commitment make it impossible to draw any conclusions regarding the relationship. Gordon et al. (1980) noted that women tend to exhibit greater loyalty to the union, but are less inclined to be willing to work for the union. Gallagher and Clark (1989) suggest that the relationship between gender and union commitment is also inconclusive. Our results do not indicate any support for a significant gender-commitment relationship, and are' consistent with the view that gender is not linked to union commitment in any theoretical way (Kuruvilla et al., 1993). It would be unwise to generalize from this result, however, given that women comprised only 9 per cent of the sample in this analysis.

The finding that education was negatively (and significantly) related to union loyalty is consistent with results reported by Deery, Erwin and Iverson (1992). The more highly educated the employee, the lower the union loyalty. It is worth noting, however, that most other investigators who have examined the effect of education have found no relationship with union commitment (see Gallagher & Clark, 1989, for a review of the literature).

One fairly consistent finding in these results is that white-collar workers generally showed higher levels of commitment than blue-collar workers. OCCUP (1 = blue-collar, 0 = white-collar) evidenced negative and significant relationships with all four factors, although OCCUP was only weakly related to the belief factor. A plausible explanation for the negative relationship of OCCUP centres around differences between the three unions in this sample. All of the white-collar workers in this sample belonged to the MOA union, while blue-collar members were distributed between the other two unions. Of the three unions, the MOA had the largest number of shop stewards and the highest ratio of members to stewards, that is, one steward for every twenty members, while the other two unions (the AMWU and the ETU) had one for every sixty-five members and one for every thirty-seven members, respectively (Benson, 1991). Elsewhere, Benson (1991:76) observed in his study that blue- collar union shop stewards tended to be oriented 'towards the wider union movement rather than their particular membership', whereas the MOA shop stewards were more concerned with the workplace. This may account for the MOA members consistently reporting higher scores on all union commitment factors.[6] The difference in commitment is also reflected in differences in union participation; union members belonging to the MOA were more likely to participate in union activities than were union members in the other two blue- collar unions.

Although previous research has tended to find a positive relationship between job satisfaction and union loyalty (e.g. Gordon et al.,

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[6] Although our sample was too small to compare models across unions, we were able to examine the differences in means on the union commitment factors between the three unions in this analysis. The means on all the commitment items were not significantly different between both the blue-collar unions (the AMWU and ETU), but the means for the white-collar workers, represented by the MOA, were significantly higher, as is apparent below.

Variable	AMWU	ETU	MOA
Loyalty	3.46	3.14	3.69
Responsibility	3.81	3.70	4.14
Willingness	2.76	2.72	3.02
Belief	3.23	3.18	3.49

1980), this study did not yield an association between job satisfaction and any of the commitment dimensions. There are two plausible reasons for this result. One is that job satisfaction is an affective response to job conditions, which may change in the short run, whereas union commitment is an attitude that develops over a long period. It is possible that short-term variations in objective job conditions have little to do with the long-term development of union commitment. Kuruvilla et al. (1993) suggest that job satisfaction is significantly related to one's satisfaction with the union, but not to one's commitment to the union. A second possible explanation for the absence of a significant relationship centres around the fact that union membership was involuntary in this plant, since employees worked under a union shop clause. Lack of choice means that job dissatisfaction would not be a cause of the unionization decision. Therefore, it is possible that although they are union members, the employees would rely less on the union to make improvements in their jobs. However, more data are required to investigate this aspect further.

Having held a union position in the past appears to have a significant and positive impact on union loyalty, responsibility and the willingness to work for the union. This suggests that individuals who are union stewards and leaders have greater information about the union from their experience and are more likely to be loyal, responsible, and willing members. In addition, people who have had positive experiences with their grievances are, as expected, more likely to be highly committed to the union. Clearly, previous experience with the union appears significantly to improve commitment to it. This is consistent with previous research, in that satisfaction with the union appears to be positively related with commitment to the union, and that those with more experience and knowledge about the working of the union appear more committed (Kuruvilla et al., 1993). In this study, white-collar workers belonging to the MOA scored higher than their blue-collar counterparts on these measures.

In contrast with much of the previous research, participation in union activities was not strongly related to any of the commitment factors. Given the strong participation-commitment results noted in the literature (see Kuruvilla et al., 1993), this is surprising. Perhaps the union shop condition that forces both willing and unwilling members to be part of the union is responsible for the lack of a significant relationship. Some supporting evidence for this explanation can be drawn from mean levels of participation, which suggest that participation in meeting attendance and voting was extremely low in this sample.

In summary, the relationships between the independent variables and the four union commitment factors did evidence discriminant validity. This was demonstrated by the differences in the strength of the relationships of the independent variables with the factors, the different R-squares they produced, and the result of the cross-equation test indicating that the non-intercept parameters were significantly different.

Conclusions

This study examined the application of different factor structures of union commitment obtained in previous research to the Australian case. The results obtained using eighteen items from the Gordon et al. (1980) scale indicate support for four factors of union commitment: loyalty, responsibility to the union, willingness to work for the union, and belief in unionism. The similarity between this result and previous applications of the Gordon et al. (1980) scale provide support for the robustness of their instrument, although the scale used in this study is a more parsimonious one.

Using the Gordon et al. questionnaire, it would seem that the factor structure of union commitment in Australia is similar to the factor structure identified in the United States and Canada, suggesting that cultural and occupational differences do not significantly affect the factor structure of union commitment. A direct comparison between our results and those of Savery et al. (1990) is unfortunately not possible, given their use of a number of different items in their commitment scale. The similarity of our results with previous United States and Canadian findings in terms of the factor structure emphasizes further that cross-cultural studies must use standardized measures and techniques if comparative work is to be meaningful.

This study is not without limitations. Although the four-factor model is supported, this does not exclude the possibility of there being more than four factors to union commitment in Australia. In addition, there are likely to be many other variables that significantly influence union commitment factors (such as socialization) that have not been measured in this study. The relatively small sample size precluded an evaluation of differences in commitment across other meaningful sub-samples, such as within the blue-collar and white-collar occupations.

The focus of our regression analysis was to show that the factors are different, and not to develop a model of determinants. Nevertheless, the results indicated that young and less educated employees exhibited greater loyalty to their union. White-collar employees were found to be more loyal, responsible and willing union members, and display a higher degree of belief in unionism. Moreover, employees who had previously held a union position and who were satisfied with the grievance procedures of their union were more loyal, responsible and willing to work for the union. Furthermore, employees who had previously had positive experiences with their union in dealing with grievances demonstrated greater belief in unionism.

These Findings are not unimportant. The issue of commitment has become increasingly salient to trade unions. The passage of legislation to proscribe closed-shop arrangements in the states of Victoria and New South Wales has meant that unions will be forced to build stronger bonds with their members at the workplace. If trade unions do not, they will find it difficult to maintain their membership and bargaining power. Developing strategies to increase commitment will be integral to the future success of trade unions.

Future research may wish to address the model development of union commitment in more detail. Given that the determinants of the commitment factors such as loyalty and willingness to work appear to be different, this would seem to be a worthwhile direction for research. The study of union commitment is of more than theoretical significance. An understanding of its properties and determinants is important in attempting to arrest the slide of union membership in Australia.

Appendix Union commitment items and factor loadings for the four-factor solution

Union commitment items	Maximum likelihood estimates of factor loadings				Item reliability
	1	2	3	4	
1. I feel a sense of pride in being part of this union.	.826				.682
2. The record of this union is a good example of what dedicated people can get done.	.712				.507
3. The union's problems are my problems.	.607				.368
4. I feel very little loyalty to my union.*	.821				.673
5. I have little confidence and trust in most members of my union.*	.324				.105
6. There's a lot to be gained from joining the union.	.784				.615
7. My values and the union's values are not very similar.*	.742				.551
8. A member does not gain enough benefits or returns for the money taken in union fees.	.584				.342
9. It's every union member's responsibility to see that management lives up to the terms of the 'Awards and Agreements'.		.616			.380
10. It's every member's duty to support or help another worker with their grievances.		.604			.365
11. It's every member's duty to know exactly what the union's 'Awards and Agreements' entitle them to.		.423			.179
12. Every union member must be prepared to take the time and risk of making a complaint.		.689			.474
13. I am willing to put a great deal of effort beyond that normally expected of a member in order to make the union successful.			.705		.497
14. I would not do special work to help the union.*			.588		.346
15. If asked, I would serve on a committee for the union.			.814		.663
16. If asked, I would run for an elected office in my union.			.721		.520
17. My loyalty is to my work and not my union.*				.531	.282
18. As long as I'm doing the kind of work I enjoy, it does not matter if I belong to a union. *				.569	.324

Note: Total coefficient of determination is .986.
* Reverse coded.

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