

Can Union Commitment Be Developed? An Exploratory Analysis

Greg K. Cole 1994

**Submitted in partial fulfillment of the requirements
for the degree of MASTER of SCIENCE in APPLIED PSYCHOLOGY**

**Department of Psychology
Saint Mary's University
Halifax, Nova Scotia
May, 1994**



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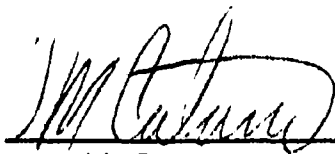
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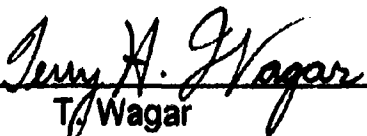
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**Saint Mary's University
Halifax, Nova Scotia**

Approved 
V. Catano
Thesis Advisor

Approved 
S. Desmarais
Committee Member

Approved 
T. Wagar
Committee Member

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Abstract

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This study evaluated a program designed to increase union commitment among rank-and-file members of a public service union. Two-day workshops, held over an 18 month period, involved discussions and presentations of material related to union instrumentality and union socialization. Compared to both a non-intervention control and an archival baseline, longitudinal data obtained from workshop participants showed that the workshop led to significant increases in Union Loyalty and Responsibility to the Union that persisted over time. Changes in Willingness to Work for the Union were less consistent. Similar changes occurred on measures related to union commitment. The data supported the multidimensional nature of the union commitment measure and replicated the construct validity of these three union commitment dimensions (Kelloway, Catano, & Southwell, 1992). These results establish that union commitment can be influenced and provide support for future applied research.

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Can Union Commitment Be Developed?

An Exploratory Analysis

This study represents an attempt to expand the existing knowledge of the union commitment construct. Although the construct and its antecedents and consequences have been the subject of much recent investigation, no one has yet demonstrated that union commitment can be developed in rank-and-file union members. Given the linkage between union commitment and outcomes such as union participation, the ability to increase union commitment becomes important. This project examined whether a training workshop developed for rank-and-file members of a civil service union led to increases in union commitment, and whether any changes in commitment were stable over time. As well, it examined whether any increases occurred on a series of measures which are correlated to union commitment.

Union Commitment

The underlying principle of I / O psychology is the attempt to understand human motivation and behaviour in the workplace. As pointed out by both Barling (1988) and Fullagar

(1984), it is impossible to fully comprehend organizational behaviour without being aware of exactly what role(s) unions play within their respective organizations. One key factor to understanding unions is understanding the concept of union commitment. Gordon, Philpot, Burt, Thompson and Spinner (1980) summed up the importance of union commitment to unions in the following statement:

“Since the ability of union locals to attain their goals is generally based on members loyalty, belief in the objectives of organized labor, and willingness to perform services voluntarily, commitment is part of the very fabric of unions.”
(pg. 480).

Although the importance of commitment to unions is clear, it was not until 1980 that the construct was adequately defined. Previous research, in particular the research conducted in the 1950's, had centered on union commitment in the context of dual allegiance to both union and organization; a formal criterion of union commitment has never been developed. Stagner (1954) differentiated between the terms “loyalty” and “allegiance”, proposing that the former carried more connotation of depth and

intensity than did the latter. Purcell (1954) defined allegiance as, "...an attitude of favorability towards the company or union as institutions, or general approval of their over-all policies." (pg.49). Kerr (1954) accepted Stagner's (1954) earlier definition but distinguished between four kinds of allegiance: to the purpose of the enterprise, to the supervisor, to the stockholders of the enterprise, and to the consumers of the products or services of the enterprise. Throughout this research, the terms "loyalty", "allegiance" and "commitment" were used interchangeably without any attempt made to define clearly or to differentiate between them.

Gordon *et al.* (1980) were the first to investigate union commitment beyond the bounds of dual allegiance research. Their work followed a conceptual approach developed by sociologists and I/O psychologists which focussed on commitment as the binding of a worker to an organization. Their Union Commitment Scale was a 48 item measure composed of items derived from Porter and Smith's (1970) Organizational Commitment Scale in which the word "union" was substituted for the word "organization". Factor analysis suggested that union commitment could best be represented by four underlying dimensions (see Barling, Fullagar

and Kelloway, 1992 for review).

The first dimension, *union loyalty*, refers to a sense of pride in the association with the union and to an awareness of benefits resulting from individual union membership. The awareness of benefits reflects the exchange relationship highlighted in previous research on organizational commitment (Steers, 1977) . Chadwick-Jones (1965) has also highlighted the social and material rewards to be gained from union membership. This research holds that individuals become and remain loyal to the union in exchange for the union satisfying various needs of the individual. As well, loyalty implies a continued desire to remain a member of a given union. In Gordon *et al.* 's scale, items such as, "I feel a sense of pride being part of this union" and "The record of this union is a good example of what dedicated people can get done" were used to measure this dimension.

Responsibility to the Union measures the degree of willingness to carry out a member's day-to-day obligations and duties to the union in order to protect the interests of the union. This dimension was tapped by items such as, "It's every member's responsibility to see to it that management 'lives up to' all the

terms of the Articles of Agreement", "It is the duty of every worker 'to keep his/her ears open' for information that might prove useful to the union" and "It's every member's duty to support or help another worker use the grievance procedure."

Willingness to Work for the union measures a member's willingness to do special work on behalf of the union. It represents the degree to which a member is prepared to act "above and beyond the call of duty" for the union. "If asked, I would serve on a committee for the union" and "I am willing to put in a great deal of effort beyond that normally expected of a member in order to make the union successful" are examples of items measuring this dimension.

The final subscale is *Belief in Unionism* which defines the member's belief in the concept of unionism. This dimension was made up of negatively worded items such as, "The only reason I belong to the union is to make sure I get promotions or other transfers of job assignment."

The factor structure outlined above has been replicated in a variety of samples (Ladd, Gordon, Beauvais & Morgan, 1982;

Fullagar, 1986; Klandermans, 1989; Tetrick, Thacker & Fields, 1989; Thacker, Fields & Tetrick, 1989).

Although the Gordon *et al.* (1980) model is widely used, concerns were raised over its dimensionality, interpretation and utility, particularly the meaning of the Belief in Unionism subscale. Kelloway, Catano and Southwell (1992) used confirmatory factor analysis of two versions of the union commitment scale (a 20-item scale by Friedman & Harvey, 1986 and the 30-item item scale developed by Gordon *et al.*, 1980) to show that the best fit for both scales was a model which hypothesized four meaningful oblique factors and a fifth orthogonal method factor composed of negatively worded items. The orthogonal method factor comprised the Belief in Unionism subscale. Their confirmatory factor analysis led to a shorter, 13-item union commitment scale measuring union loyalty, willingness to work for the union and responsibility to the union as defined by Gordon *et al.* (1980). The use of this shorter scale avoids the influences of construct irrelevant covariance and is more amenable for use in larger surveys of union members.

Confirmatory factor analysis of data obtained from use of the 13-item scale with a large (N=925) independent sample supported the tridimensional definition of the scale. As well the item-factor loadings showed clear and unambiguous support to the hypothesized factor structure. The criterion correlations also supported the conceptual interpretation of the three dimensions. The 13-item scale provided a superior, psychometrically sound instrument to measure the construct validity of union commitment. An update of union commitment research by Gordon and Ladd (1993) further supports the 13-item scale.

Consequences of Union Commitment

Concomitant with the development of a research instrument to measure union commitment was an interest in defining the antecedents and consequences of that commitment (Fullagar & Barling, 1987; Barling, McElvie & Kelloway, 1992; Fullagar & Barling, 1989; Fullagar, McCoy & Shull, 1992; Thacker, Fields & Barclay, 1990; Kelloway & Barling, 1993). An understanding of the antecedents and consequences of union commitment clearly shows the importance of this construct.

Past research of union commitment has identified several consequences of this construct. Participation in union activities, propensity to strike including attitudinal and behavioural militancy and support for endorsement of political candidates are of particular interest in the current study and are reviewed below. Research of perceived industrial climate and rate of turnover have also been identified as consequences but findings thus far have been somewhat inconclusive.

Participation in Union Activities

Gordon *et al.* (1980) found that union commitment correlated highly with such union activities as serving in an elected office, voting, grievance-filing behaviour and attending general meetings. As well union commitment and support of union activities were strongly correlated. Although this study was only cross-sectional and therefore only provided a static view of the relationship, a later longitudinal study by Fullagar and Barling (1989) supported the causal direction of the relationship between union commitment and participation in union activities. In testing the 13-item union commitment scale, Kelloway *et al.* (1992) similarly found that their three factors correlated highly with

union activities such as attending meetings, voting, holding office, serving on committees, contacting officials and filing grievances.

It would, therefore, be advantageous for unions to seek to increase their members' commitment thereby increasing members' likelihood to serve in office, to attend meetings, to vote and to take part in union activities. In this way, increasing union commitment would only serve to increase the overall strength of the union as a whole.

Propensity to Strike

It is particularly important for union executives to understand the degree of militancy of their members. Militant activities, such as grievance filing, require the individual involved to go beyond normally required role behaviours. As well, any union is only as strong as its ability to impose sanctions on the employer through grievances and strike action. When controlling for union tenure, union loyalty predicts propensity to strike. Kelloway *et al.* (1992) determined that propensity to strike was strongly associated with responsibility to the union but less so than loyalty.

As with participation in union activities, being able to predict and influence the degree to which union members support militant activities would serve to strengthen the union as a whole. A training workshop which could successfully increase union commitment and keep the increase stable over time would be a great advantage to any union.

Support for Political Action and Endorsement of Political Candidates

Member support for political action and the support for endorsement of political candidates are other consequences of union commitment. Unions will often take part in political activities to influence legislation that affects workplace and social conditions. To this end, unions will support a particular political candidate who is known to be sympathetic to their position. Union loyalty is correlated significantly to these political activities (Fields, Masters & Thacker, 1987; Thacker *et al.*, 1990).

The consequences of union commitment are directly relevant to unions. Union commitment is linked to issues such as serving in elected office, attending general meeting and voting.

Militant actions such as grievance-filing behaviour and members' willingness to strike are also correlated with union commitment. Other factors such as support for political actions, endorsement of political candidates and the ability of a union to attract and retain members are also linked to union commitment. Thus both researchers and unions themselves should place greater emphasis on an examination of interventions which might lead to the development of union commitment.

Antecedents of Union Commitment

Barling *et al.*, (1992) classify the antecedents of union commitment according to demographic characteristics, personality/work beliefs, union attitudes/beliefs, role experiences, work experiences, structural characteristics or environmental characteristics. These will be briefly reviewed in the context of their utility towards designing an intervention which could develop union commitment.

Demographic Characteristics

Sex was the most consistent demographic correlate of union commitment (Gordon *et al.*, 1980). Females expressed more union loyalty than males. However, females do not participate more in union activities even though union loyalty is an antecedent of participation (Fullagar & Barling, 1989). Barling *et al.* (1992) believe this discrepancy results from situational factors that may limit the extent to which females actualize their feelings of loyalty to the union. Race is also an antecedent of positive union attitudes (Hills, 1985; Kochan, 1979). Non-whites are more likely to express positive attitudes towards a union. This should not be viewed as a racial bias, however, but as an expression of the strength of discrimination in the workplace over time and the attempts by unions to overcome these policies and attitudes.

In the context of developing a training program to increase union commitment demographic variables cannot actually be manipulated in order to bring about a change. It would be useful to know membership make-up in terms of sex so that the workshop could be targeted for a specific group. Since females have been shown to participate less, a workshop could aim at increasing this

variable. It would also be helpful to know if a union membership is made up of individuals who are more likely to hold pro-union views.

Personality/Work Beliefs

Personality and work beliefs also influence union commitment. Belief systems, such as Marxism and a Protestant Work Ethic predict union attitudes (Barling, Kelloway & Bremermann, 1991; Fullagar & Barling, 1989). Individual worker perceptions of the degree to which the goals of the union mirror personal goals are also tied to union commitment, as well as the extent to which the union is perceived as being instrumental in the achievement of those goals. Feelings of union loyalty may increase among less privileged members of the blue-collar labour force as feelings of alienation and exploitation increase (Fullagar & Barling, 1989).

In designing a training system aimed at increasing union commitment it would therefore be advantageous for the union, first, to be aware of the personal goals of their members and then to demonstrate that these personal goals are comparable to the goals of the union. As well, it should emphasize that

achieving personal goals as a member of the union would be much easier than achieving them alone as individuals.

Union Instrumentality

The perceived effectiveness of a union in improving work conditions or a member's general welfare is instrumental in an individual's support for a union (Lowe & Krahn, 1989 as cited by Barling *et al.*, 1992; Kochan, 1979; Youngblood, DeNisi, Molleston & Mobley, 1984). Beliefs about union instrumentality predict commitment to the union (Catano, McDonald, & Hébert, 1994; Catano, Pretty, Southwell, & Cole, 1993; Fullagar & Barling, 1989). Employees may even vote for a union which they believe to be undemocratic and corrupt if they also believe it will still be instrumental in gaining better wages and job security (Keaveny, Rose & Fossum, 1988). In North America the main body of research tends to suggest that workers will join a union based on instrumental rather than ideological reasons (Barling *et al.*, 1992). This clearly demonstrates that any training program must address the issues of how the union improves working conditions, such as pay and benefits, both in the past and plans for the future. These would seem to be especially important issues in times of economic

depression when job security is foremost in the minds of many unionized workers. The instrumentality of the union cannot be taken for granted; rank-and-file members may not be aware of the role played by their union in achieving economic gains. Catano, et al. (1994) found that only workers who believed their public service union was instrumental in implementing a pay equity program were more committed to the union; overall, workers who actually received a pay equity increase expressed less commitment to the union. The benefits of a union negotiated program may not necessarily be attributed to the efforts of the union. The rank-and-file must appreciate that their economic benefits and working conditions are derived through the direct efforts of their union.

Role Experiences

Role experiences include such factors as socialization and leadership. The way in which an individual is introduced to, and interacts with, the union is the main way in which that individual learns the expected norms of the union as well as their expected roles. Gordon et al. (1980) showed that positive socialization which occurred in the first year of employment was positively

correlated to union commitment. The “positive” socialization events included such things as clearly setting out goals and encouraging and supporting new members. Organizational practices that communicate core values, norms, and roles have a positive impact on the organizational commitment of new members (Van Maanen & Schein, 1979). Tetrick (1993) holds that in a union context, history, organizational goals and values, people and politics are aspects of socialization that should have the most influence on union commitment.

Fullagar *et al.* (1992) also found that the socialization process played a role in determining union loyalty. Through linear structural equations modeling (LISREL) they showed significant correlations between training satisfaction and union loyalty, union socialization and union attitudes and union attitudes and union loyalty. The relationship between union loyalty and socialization experiences was indirect and was moderated by attitudes towards organized labour. Fullagar *et al.* (1992) suggested that the direct relationship between training satisfaction and union loyalty showed that a socialization process which allowed the new member to directly take part in union activities would have a greater immediate effect on union loyalty.

In considering role experiences when implementing a training program, the status of the members attending the training session come into play. If they were new members, then the program could focus on the exchange of information regarding the union's goals, history, climate, work relevance and utility (Fullagar *et al.*, 1992). If the program was designed for workers who had been members for some time, then it could focus on training them to relay this information to new members as they began in the union.

Work Experiences

Work experiences play perhaps the most important role in the unionization process (Barling *et al.*, 1992). Workers join unions because of dissatisfaction with various conditions of their job (Bigoness, 1978; Premack & Hunter, 1988; Schriesheim, 1978; Zalesny, 1985). Job dissatisfaction has been linked to union commitment (Barling & Fullagar, 1989), however, this relationship has not been found consistently (Barling *et al.*, 1990). Barling *et al.* (1990) suggested that situational factors may account for this inconsistency. For example, in their particular study unionized teachers had been on strike and had been legislated back to work; it

seemed likely that the perceived source of dissatisfaction was the Board of Regents rather than the actual job or their supervisors.

Other factors in work experience have been associated with union commitment. Wage equity issues such as perceived wage differentials between unionized and non-unionized employees affect pro-union attitudes and union membership (Duncan & Stafford, 1980; Farber & Saks, 1980; Maxley & Mohrman, 1980; as cited by Barling *et al.*, 1992).

Work experiences should, therefore, play an equally important role in a training program aimed at increasing union commitment. The training program could deal with issues in the workplace that are concerns of the membership, perhaps the same concerns that caused them to join the union in the first place. If wage inequity exists, or did exist and was resolved by the union, then union education on this issue could be instrumental in increasing union commitment.

Structural Characteristics

Structural characteristics include such factors as span of control, size, the extent of functional dependence and decentralization of the organization (Stevens, Beyer & Trice, 1978). An important structural factor is whether association with the union is voluntary. Gallagher & Wetzel (1990) asked workers who were required to join a union if they would have joined the union if they were given a choice. Those individuals who reported that they would not have joined voluntarily also reported lower levels of union loyalty, willingness to work for the union and responsibility to the union. Based on past research, this variable does not appear relevant when designing a training workshop to increase union commitment. These variables exist within the organization and would be beyond the union's ability to manipulate. With the union that comprised the sample for the current study, all members are required to join the union as a condition of employment. Low levels of commitment should be expected, this providing more incentive for a training program that is designed to improve union commitment.

Environmental Characteristics

Environmental characteristics also influence union commitment. During periods of economic recession pro-union views increase (Moore & Pearce, 1976). Unions also prosper during times of extreme employment conditions, either rapid growth or severe unemployment (Ashenfelter & Pencavel, 1969; Roomkin & Juris, 1978). Unions could take advantage of these conditions by emphasizing the benefits which the union can bring about during these times and incorporating this into a training workshop.

As much of the past research has shown, many antecedents of union commitment are determined prior to the worker entering the workplace. Demographic factors such as age, sex and race are beyond the ability to manipulate in terms of attempting to develop union commitment of workers already employed within an organization. As well, employees may enter the work force predisposed to a certain work ethic which influences their feelings towards unions. Once again, it is impractical to attempt to influence something as ingrained as a work ethic in order to influence union commitment. Environmental characteristics such as prevailing economic conditions are also out

of the control of either the researcher or the union executive. One factor that can be addressed is the socialization process which a worker undergoes upon entering an organization. As previously mentioned, there is a relationship between positive socialization process in the first year of employment and union commitment. As well, a training workshop would profit by also focusing on showing the union's instrumentality in improving work conditions. Overall most antecedents of union commitment are not amenable to change through an intervention strategy.

Conducting Training and Development

Conducting any type of training session ultimately involves the expenditure of time and/or money. It is therefore sensible to first determine if change is necessary and whether a systematic training program is the best way to bring the change about. In designing a training system the primary issue of concern is to conduct an organizational needs assessment. This assessment provides the researcher (or organization) with a thorough picture of what type of training is needed, how the training should be implemented and who would benefit from training (Wexley, 1984).

The groundwork in training and development conducted by McGehee and Thayer (1961) introduced a framework that is still used today. This framework is made up of three components: organizational analysis, task/job analysis and person analysis. Organizational analysis examines the organization's goals and the extent to which they are being achieved. As well, organizational analysis determines the resources and constraints and limitations, both within and outside of the organization. In doing so, it examines the organization as a whole to determine if training is a feasible method for attaining the organization's objectives. For the current study this would mean that before carrying out any type of training program the union would first formally examine their overall goals, their current resources that could be assigned to implementing a training program and any constraints or limitations that could hinder such a project.

Following an organizational analysis a task/job analysis is used to determine the activities or work operations performed on the job and the conditions in which the job is performed. The first step is to determine if existing jobs produce outcomes that are consistent with the organization's goals. The second step of the task analysis is to identify the actual

behaviours required of individuals to successfully carry out their job. In translating this to a union context, the union would want to determine if the way in which they are currently operating is conducive to achieving their goals. What is the union actually doing on a day-to-day basis to achieve these goals?

The final phase, the person analysis, determines what training is required by examining the level at which employees are currently operating. Methods such as performance appraisals (for people already on the job) or information from selection procedures (for job incumbents) may be used to determine these operating levels. In the current situation, in which levels of union commitment are the primary concern, past or current records could be used in the place of performance appraisals or selection procedure data.

The union which was the focus of the current study maintains an Education Committee, run by an Education Officer, which is responsible for carrying out the union's education program. This program is the union's commitment to involving its members in the operation of the union. Courses are available on an annual basis for both the general membership and for members who

hold elected positions within the union. The general courses were designed to aid in the understanding of the structure and purpose of the union. Specialized courses such as contract clause interpretation, leadership development, occupational health and safety are offered and cover such topics as leadership skills, political economy, running effective occupational health and safety meetings, simulation exercises in grievance investigation and topics of concern to retirees. These programs are ongoing on a continual basis. As well, it was the Education Committee and the union's Education Officer who were responsible for conducting organizational analysis, the task/job analysis and the person analysis as part of developing both the current workshop and the various other programs offered throughout the year.

Training and Development in the Current Study

Much attention has been paid to the antecedents and consequences of union commitment, as well as to Gordon *et al.*'s (1980) scale. To date, however, there has never been an effort to determine if union commitment can be developed in union members. At present, there is only one study (Barling & Kelloway, expected to begin 1993) underway to investigate this possibility in a sample

of union stewards. Even considering this, the question of whether or not union commitment can be developed is and will be unexplored in terms of the rank-and-file workers who make up the bulk of union membership. The investigation of this phenomena is the next logical step in union commitment research. High levels of union commitment are instrumental to member participation in, and support of, union activities.

Research Questions

The present study used a longitudinal, quasi-experimental design to investigate whether union commitment, and related constructs, could be developed through the intervention of a training workshop. Could a training program be implemented which would bring about a significant increase in union members' feelings of commitment to their union? If so, would this change remain stable over time or would the effects only be temporary?

Correlates of Union Commitment

Southwell (1990) showed significant correlations between the Union Commitment Scale and several other constructs contained in his questionnaire. Specifically, these constructs were: 1) attitude towards union, 2) extrinsic priorities, 3) responsibility to members, 4) perception of union power, 5) perception of union service, 6) union satisfaction, 7) propensity to strike and 8) militancy. This study will also investigate the relationship between these constructs and union commitment.

It follows from this that because of the correlations between union commitment and these constructs that the individuals who participated in the training workshops should show similar changes in these measures as with the Union Commitment Scale. If these measures also show results similar to those found with the Union Commitment Scale, then the argument can be made that the observed changes were, in fact, caused by the intervention and not simply by some other change which occurred over time.

Method

Design

This research employed a quasi-experimental design to investigate whether union commitment could be developed through training and whether any changes would be stable over time. The present investigation began after the training project had already begun. The Nova Scotia Government Employee's Union (NSGEU) had designed a workshop for the purpose of developing union commitment in its members. No pretest, however, had been made on participants prior to their involvement in the workshop. Data from Southwell's (1990) earlier research were used as baseline data in the absence of a pretest. Southwell's (1990) study used a large sample (N=914) drawn randomly from the same population (N=10,000). Southwell's data were, in fact, specifically collected to serve as baseline data for future union-based research.

By definition, a quasi-experimental study has,

"...treatments, outcome measures and experimental units but does not use random assignment to create the comparisons from which treatment-caused change is inferred. Instead, the comparisons depend on nonequivalent groups that differ from each other in many ways other than the presence of a treatment whose effects are being tested." (Cook and Campbell, 1979, pg.6)

This study meets this definition. In this design, the NSGEU ran the workshops throughout a set time period. In this way, the treatments were administered at varying points, with the post-test data collected following the treatment for half the participants. By making use of an additional post-test to measure the stability of any changes observed following the treatment, the research design becomes a variation of the interrupted time-series design with switching replications. By administering treatments at different times, each earlier group can serve as a control group for every group which follows it. The addition of a non-intervention control group also improves the design.

This design controls for most threats to internal validity and has the potential for extending external and construct validity. External validity is enhanced because an effect can be shown with two samples in at least two settings at different moments in history (Cook, Campbell & Peracchio, 1990). The design for this research is show in Figure 1.

Figure 1: Research Design

Group	Baseline	Workshop	Groups	
G1	B2	W	P1	T1
G2	B2	W	—	T2
G3	B1	—	—	T3

In this design, three groups were used for comparison. Group G1 attended the union workshop and filled out a questionnaire immediately after at its completion. Subsequently this group also received and completed a second questionnaire approximately six months to one year after the workshop. Group G2 attended the workshop but was not required to complete a questionnaire when they left. This group also received a follow-up

questionnaire at the same time as G1. Group G3 was used as a control group. Individuals in this group did not attend the union workshops but were tested at the same time that G1 and G2 received follow-up questionnaires. This control group allowed a comparison with the baseline archival data to examine whether any changes had occurred in union commitment solely as a function of time. This control group also allowed an examination of differences between the three groups following the intervention.

B1 represents baseline data taken from Southwell (1990). Southwell's data were obtained from a random sample of members from the same union used in the present study. However, members who participated in the union workshops were not selected randomly. Rather, they were relatively nonactive members who had never held office in the union or served on committee. For this reason, two additional baselines, B2 and B3 were constructed. B2 was a subgroup from Southwell's sample made up of nonactive members; B3 consisted of active members. In this way, responses from nonactive and active members could be identified and an appropriate baseline developed for comparison with data obtained from workshop participants.

The NSGEU implemented workshops throughout the province designed to improve members awareness and perception of union membership and union commitment. The data from some of these workshops, P1, were collected by the NSGEU immediately following the workshops using a questionnaire partially derived from Southwell's (1990) study. The remaining data , T1, T2 and T3 were collected as part of this study using the same questionnaire as used at P1. The questionnaire is detailed below. The data collected at P1 had not been coded or analyzed prior to this research.

Workshop Participants

Newer, nonactive members of the union who had attended a general membership workshop within the past year were invited to attend the training workshops. Those invited to participate were chosen by a union staff member responsible for training and education. Nonactive status was defined as any member who had no previous official involvement with the union, such as serving on the executive, on committees or as union stewards. Generally, only newer members attend general membership workshops; however, all members who had attended

were invited and all who accepted the invitation were accommodated at the workshop. Members who chose to attend the workshops were paid a stipend to cover lost earnings and any expenses associated with the workshop. Payment of this stipend is a standard practice for any workshop which the union sponsors.

Demographic information collected from workshop participants at P1 is presented in Table 1. Compared to the general membership of the union as reflected in B1 data, G1 workshop participants were younger ($\chi^2 = 10.78$, $df=4$, $p<.05$), more likely to be a member for less than five years ($\chi^2=17.48$, $df=3$, $p<.001$), and marginally less likely to have gone to university ($\chi^2 = 11.89$, $df=6$, $.10>p>.05$). However, G1 participants differed from other nonactive members (B2 data) only in terms of length of membership; as expected, they were newer members with less than five years experience ($\chi^2=13.75$, $df=3$, $p<.01$). These demographics reflect the target audience for the training workshops. There is no reason to believe that G2 workshop participants differed in any way from those in G1.

Survey Respondents

At least one year after but no longer and a year and a half following the last workshop the questionnaire administered at the workshop to G1 was mailed to all workshop participants, i.e. G1 and G2. As well, the questionnaire was mailed to a random sample control group drawn from the union membership list, G3. Members of the control group had not attended any of the training workshops. There were 141 questionnaires mailed to G1 with a response rate of 25.53 % (N=36); 378 questionnaires were mailed to group G2 with a response rate of 31.75% (N=120) and 400 questionnaires were mailed out to the control group, G3, with a with a response rate of 24.75% (N=99).

Table 1 summarizes the demographic variables of the respondents. Based on the overall sample, 60.4% of the participants were female and 39.6% were male which approximates the composition of the union. Respondents tended to be well educated with 65.1% having continued their education to varying extents past high school. Only 9.4% of the sample did not finish high school. The majority (57.3%) of the sample was married with

61.0% having children. The sample was comprised of relatively young members with 75.5% being under 44 years of age. In terms of union members, most of the participants were new members, 45.3% had been members less than five years. These last two demographics reflect the targeted group for the workshops.

Chi-squares were calculated on the demographic variables to ensure that the baseline (B1) data did not differ significantly from the control group (T3) and to determine if the combined T1/T2 group differed significantly from control conditions (T3). A Wilcoxon Matched-Pair Signed-Ranks test was performed to determine if the combined T1/T2 group differed significantly from P1. A chi-square was not used in this instance because the two groups are not independent. The chi-square results are contained in Tables 2, 3 respectively; Table 4 contains the results from the Wilcoxon Matched-Pair Signed-Ranks test. In comparing the baseline data to the control group, the two groups did not differ significantly on any of the demographic variables. In comparing groups T1/T2 to the control group the groups differed significantly on age and education. Groups T1/T2 and P1 did not differ significantly on any of the demographic variables.

Workshop participants completed the post-workshop questionnaire anonymously. Therefore, a comparison could not be made between individuals who responded at P1 and T1. Comparisons could only be made between P1 and T1 on a group basis.

Table 1
Summary of Demographic Variables

Variable	Overall		T1		T2		T3		P1	
	%	N	%	N	%	N	%	N	%	N
Sex										
Female	60.4	250	71.4	25	53.9	62	58.1	54	63.7	109
Male	39.6	164	28.6	10	46.1	53	41.9	39	36.3	62
Age										
24 years and under	4.9	21	0.0	0	2.5	3	2.1	2	8.9	16
25 to 34	35.9	154	63.9	23	26.9	32	18.9	18	45.3	81
35 to 44	34.7	149	16.7	6	43.7	52	40.0	38	29.6	53
45 to 54	19.6	84	13.9	5	23.5	28	30.5	29	12.3	22
55 to 64	4.9	21	5.6	2	3.4	4	8.4	8	3.9	7
Education										
< grade 8	0.5	2	0.0	0	0.0	0	2.1	2	0.0	0
< grade 12	9.0	38	8.3	3	9.5	11	5.3	5	10.7	19
grade 12	16.7	71	16.7	6	17.5	20	6.4	6	21.9	39
grade 12, vocational	12.7	54	16.7	6	11.2	13	13.8	13	12.4	22
community college, didn't graduate	0.9	4	0.0	0	1.7	2	1.1	1	0.6	1
community college, graduated	13.7	58	5.6	2	11.2	13	16.0	15	15.7	28
university, didn't graduate	11.1	47	13.9	5	7.8	9	17.0	16	9.6	17
university, graduated	16.0	68	11.1	4	19.8	23	17.0	16	14.0	25
university, honours	1.7	7	2.8	1	0.9	1	3.2	3	1.1	2
post-graduate study	2.6	11	2.8	1	4.3	5	1.1	1	2.2	4
post-graduate degree	6.4	27	2.8	1	6.0	7	14.9	14	2.8	5
other	8.7	37	19.4	7	10.3	12	2.1	2	9.0	16
Marital Status										
single, never married	18.1	77	22.2	8	19.7	23	11.6	11	19.7	35
single, living with partner	10.1	43	11.1	4	5.1	6	3.2	3	16.9	30
married	57.3	244	55.6	20	57.3	67	72.6	69	49.4	88
divorced/ separated	13.4	57	8.3	3	17.9	21	11.6	11	12.4	22
widowed	1.2	5	2.8	1	0.0	0	1.1	1	1.7	3

Table 1
Summary of Demographic Variables (cont.)

Variable	Overall		T1		T2		T3		P1	
	%	N	%	N	%	N	%	N	%	N
<i>Children</i>										
yes	61.0	258	61.1	22	66.7	78	72.0	67	51.4	91
no	39.0	165	38.9	14	33.3	39	28.0	26	48.6	86
<i>Dependents</i>										
none	43.6	181	48.6	17	44.3	51	34.1	31	47.1	82
one	21.7	90	25.7	9	19.1	22	22.0	20	22.4	39
two	19.0	79	17.1	6	18.3	21	28.6	26	14.9	26
three	11.6	48	5.7	2	11.3	13	12.1	11	12.6	22
four to seven	4.1	17	2.9	1	7.0	8	3.3	3	2.9	5
<i>Length of Union Membership</i>										
<one year	11.6	48	0.0	0	6.0	7	8.5	8	19.9	33
2 to 5 years	33.7	139	50.0	18	18.8	22	28.7	27	43.4	72
6 to 9 years	17.2	71	27.8	10	23.1	27	16.0	15	11.4	19
10 to 13 years	18.9	78	13.9	5	25.6	30	19.1	18	15.1	25
14 to 17 years	9.2	38	5.6	2	13.7	16	13.8	13	4.2	7
18 to 21 years	6.8	28	2.8	1	9.4	11	9.6	9	4.2	7
22 to 30 years	2.4	10	0.0	0	2.6	3	4.3	4	1.8	3
> 30 years	0.2	1	0.0	0	0.9	1	0.0	0	0.0	0

Table 2
Calculated Chi-Squares for Demographic Variables
at Baseline (B1) and Control (T3)

Variables	Value	DF	Significance
Sex	0.00	1	n.s
Age	6.41	4	n.s.
Education	17.68	8	n.s.
Marital	2.25	4	n.s.
Children	0.36	1	n.s.
Dependents	1.83	4	n.s.

Table 3
Chi-Square for Demographic Variables
at T1/T2 and Control (T3)

Variables	Value	DF	Significance
Sex	0.00010	1	n.s.
Age	9.83008	4	.04339
Education	15.93968	3	.00117
Marital	7.01786	4	n.s.
Children	1.18516	1	n.s.
Dependents	5.85301	5	n.s.
Membership	5.97527	7	n.s.

Table 4
Wilcoxon Matched-Pairs Signed-Ranks Test
for Demographic Variables at T1/T2 and
First Post-Workshop Measure (P1)

Variables	N in cell	T value	Significance
Sex	2	n/a	n.s
Age	4	5	n.s.
Education	7	9	n.s.
Marital	5	7	n.s.
Children	2	n/a	n.s.
Dependents	8	15	n.s

The Workshop

Workshops were held approximately every other week during a 1 1/2 year period with between 10 and 25 members attending each workshop. The workshops were located across the province to make them geographically accessible to all members. Each workshop was held over a two day period and was run by a union staff member. The union provided a summary of workshop topics to be discussed (see Appendix A). The workshops were designed to help the members answer questions such as "Are unions worthwhile?", "Have they outlived their usefulness?" and "Are there any reasons why we should remain in a union?". The workshops consisted of four sessions. The first session looked at the structure of the union and explained how members' dues were used in implementing union services and benefits. The session concluded with an examination of current union policies. The second session dealt with union members' basic rights under their collective agreement. Discussion centered on grievance procedures members could follow if they believed their employer had violated the collective agreement. The third session presented an overview of privatization. This session was included as the union believed the employer (i.e. the government) was in the process of having

private companies take over the provision of government services. The fourth session introduced occupational health and safety in the workplace. Workers' rights and responsibilities under the Nova Scotia Occupational Health and Safety Act was the focus with special attention given to the three R's of health and safety in the workplace: the right to know, the right to participate and the right to refuse.

Questionnaire Content

The questionnaire used in the post-test (see Appendix B) contained ten scales and ten demographic items. All scale items were measured on a five point Likert-type scale with possible responses ranging from "1-strongly agree" to "5-strongly disagree". The scales included the following measures:

- 1) Union Commitment was measured with the 13 item modified version of the Gordon *et al.* (1980) Union Commitment Scale as developed by Kelloway *et al.* (1992). Past research has proven this scale to be a reliable and valid measurement of an individual's commitment to their union. The scale is comprised of three subscales measuring Loyalty, Willingness to Work and

Responsibility to the Union. The Loyalty subscale measures a member's sense of pride in belonging to the union and appreciation of the benefits that membership provides. Willingness to Work measures the member's willingness to participate in activities beyond those normally called for on the job. Responsibility to the Union measures the degree to which a member is willing to take on the responsibilities of union membership. Past studies have reported Cronbach's alpha for the Union Commitment Scale ranging from .79 to .92. In the present study, the Union Commitment Scale's alpha was .92, for Loyalty, alpha = .94, for Responsibility to the Union, alpha = .76 and for Willingness to Work, alpha = .81.

2) Attitude toward the Union (Martin, 1986), Extrinsic Priorities (Chacko, 1985), Perceived Union Responsibility to Members (Chacko, 1985), Perceived Union Power (Chacko, 1985), and Perceived Union Service (Chacko, 1985) each contained four items. Attitude Toward the Union measured the members' opinions of union governance, such as whether the union lives up to its agreements. Extrinsic Priorities measured the members' feelings on better wages, fringe benefits, job security and job safety. Perceived Union Responsibility consisted of members' views on how the union gave its members a role in union grievance

procedures, kept the membership informed to what the union is doing, how the union handled the members' grievances and bargained on behalf of its members. Perceived Union Power evaluated the ability of the union to influence public elections, the passing of legislature, the respect given to the union from the employer and how much say the union had in managing the workplace. Perceived Union Service examined the extent to which the union protects the worker against unfair actions by the employer, how much the union is able to improve job security, wages and working conditions for its members and if members feel they are getting their money's worth from their union dues. Martin (1986) reported $\alpha = .87$ for the Attitude Toward Union compared to $\alpha = .83$ for the current study. Alpha levels for the remaining four measures have been reported as follows: Extrinsic Priorities, $\alpha = .81$; Perceived Union Responsibility, $\alpha = .71$; Perceived Union Power, $\alpha = .74$; Perceived Union Service, $\alpha = .76$. In the present study the alpha levels were .77, .85, .77 and .85 respectively.

3) Satisfaction with the union was measured with a seven item Union Satisfaction Scale developed by Glick, Mirvis and Harder (1977). This scale measures the extent to which members are

satisfied or dissatisfied with the union. Previous research has reported alpha levels ranging from .76 to .86 (Southwell, 1990; Kelloway, 1987; Glick et al., 1977). For the current study, alpha = .87.

4) Propensity to strike was evaluated using a modified version of Martin's (1986) Propensity to Strike Scale developed by Barling, Fullagar, McElvie & Kelloway (1992). This 10-item scale measures the willingness of members to participate in a strike in general and for specific reasons, including a too heavy workload, a chance of losing their job, to receive a pay increase (10% or 24%), dissatisfaction with working conditions, reduction in status from full-time to part-time or a reduction in fringe benefits. Earlier research reports alpha levels of about .92 (Southwell, 1990; McElvie, 1987); from the present study, alpha = .84.

5) Militancy was evaluated using ten items developed in part by the Nova Scotia Government Employee's Union Education Committee and based on items developed by Martin (1986). Militancy measures member's willingness to participate in actions such as engaging in violence or crossing a picket line while on strike. Southwell (1990) reported an alpha = .83 for this research;

in the current study, a much lower alpha = .53 was found therefore militancy was dropped for further analysis due to this low level of reliability and since previous work showed it to be highly correlated with propensity to strike (Southwell, 1990).

As shown above in the design diagram, the same questionnaires were re-administered to G1 to determine if any changes were stable over time, and if so, to what degree. Since the workshops were held over a one year period, re-administering the survey gave new data on Union Commitment and the other scales at varying intervals following the workshops. In this way, the study simulated longitudinal results.

Results

Data Analysis

The reported means, standard deviations and number of individuals per group are shown in Tables 5 and 6. Table 7 shows the means, standard deviations and N's for the combined results of T1 and T2. This composite measure was calculated for a comparison of the baseline to the reported levels taken one year prior to the workshops.

Due to the way in which the data were coded a lower reported mean value actually represents a higher degree of the given construct. For example in Table 6 the reported mean of Union Commitment at Baseline2 was 37.28 and at P1 it was 25.44. Although the numerical value has decreased, this represents a rise in reported feelings of Union Commitment from the baseline to the test following the intervention.

Table 5
Means, Standard Deviations and N's for the
Union Commitment Scale and its Subscales

	Base1 Overall	Base2 Non	Base3 Active	T1	T2	T3	P1
<u>Union Commitment</u>							
M	36.57	37.75	31.09	30.23	28.53	36.90	25.44
s	9.10	8.53	9.76	8.82	8.99	10.00	5.86
N	877	718	149	35	116	94	178
<u>Loyalty</u>							
M	17.22	17.66	15.05	14.06	13.26	17.01	11.06
s	5.01	4.77	5.52	4.71	5.05	6.23	3.17
N	893	732	150	35	117	96	182
<u>Responsibility</u>							
M	9.83	10.07	8.70	6.11	5.87	7.15	5.18
s	3.12	3.07	3.13	2.15	2.01	2.47	1.67
N	905	742	151	36	120	98	181
<u>Willingness to Work</u>							
M	9.60	10.05	7.43	10.00	9.39	12.80	9.18
s	2.62	2.39	2.67	3.23	3.49	3.01	2.42
N	918	752	152	36	117	98	180

Table 6
Means, Standard Deviations and N's for the
Scales Reported to be Correlated to Union Commitment

	Base1 Overall	Base2 Non	Base3 Active	T1	T2	T3	P1
<u>Attitude Toward Union</u>							
M	10.20	10.30	9.66	9.67	9.09	10.63	8.23
s	2.96	2.94	2.95	2.91	3.06	3.49	1.90
N	910	747	149	36	119	97	177
<u>Extrinsic Priorities</u>							
M	7.07	7.20	6.40	6.14	6.19	7.00	6.11
s	2.31	2.30	2.20	2.10	1.86	2.41	1.87
N	914	749	151	36	120	98	183
<u>Responsibilities to Members</u>							
M	6.48	6.59	5.88	4.17	4.06	4.73	5.58
s	1.91	1.90	1.83	1.65	1.28	1.54	1.71
N	920	754	152	36	120	98	180
<u>Perception of Union Power</u>							
M	12.67	12.67	12.56	12.44	12.30	12.34	11.24
s	2.75	2.74	2.80	2.75	3.40	2.98	2.73
N	911	745	151	36	118	95	178
<u>Perception of Union Power</u>							
M	10.02	10.17	9.19	9.77	9.34	10.40	7.91
s	2.82	2.77	2.88	3.17	3.22	3.54	2.04
N	915	751	151	35	119	97	181
<u>Union Satisfaction</u>							
M	19.66	19.73	19.21	18.97	18.19	19.53	17.00
s	4.57	4.57	4.55	4.27	5.07	5.25	4.13
N	902	738	150	34	118	96	174
<u>Propensity to Strike</u>							
M	29.42	29.69	28.10	24.03	23.73	27.29	21.70
s	8.90	8.74	9.60	8.42	7.07	8.58	6.07
N	878	724	144	36	120	99	174

Table 7
Means, Standard Deviations and N's for all
Scales for Combined T1 and T2

Union Commitment	M=28.92 s=8.95 N=151	Responsibility To Members	M=4.08 s=1.37 N=156
Loyalty	M=13.44 s=4.97 N=152	Perception of Union Power	M=12.34 s=3.25 N=154
Responsibility	M=5.93 s=2.04 N=156	Perception of Union Service	M=9.44 s=3.21 N=154
Willingness to Work	M=9.54 s=3.43 N=153	Union Satisfaction	M=18.37 s=4.90 N=152
Attitude Toward Union	M=9.23 s=3.03 N=155	Propensity to Strike	M=23.80 s=7.37 N=156
Extrinsic Priorities	M=6.18 s=1.91 N=156		

Correlates of the Union Commitment Scale

Southwell's (1990) data reported several correlates of Union Commitment. These included Attitude Towards Union, Extrinsic Priorities, Responsibilities to Members, Perception of Union Power, Perception of Union Service, Union Satisfaction and Propensity to Strike. To examine these correlations, data from T1, T2 and T3 were combined into one overall group since the data were obtained at the same point in time and from the same population. Table 8, which shows the zero-order correlation matrix for all study variables combined from T1 to T3, further confirmed the previously established relationship with union commitment. The correlations are very similar to those for the overall baseline (Kelloway, *et al.*, 1992). As can be seen in Table 8, Attitude Toward Union, Extrinsic Priorities, Responsibility to Members, Perception of Union Power, Perception of Union Service, Union Satisfaction and Propensity to Strike correlated with union commitment ($p < .01$). Further, these correlations were also computed for the combined workshop group (T1/T2, see Table 9) and the control group (T3, see Table 10) to determine if the correlations were effected by the workshop. Table 11 compares the relationship between each union commitment subscale and the

remaining criterion measures for baseline (B1: N=925), control (T3: N=99) and workshop (T1 and T2 combined: N=156) groups. Given the difference in the three sample sizes, there is a high degree of consistency in the relation of each commitment subscale to the criterion measures. In all cases, Loyalty was the strongest correlate of attitude toward the union (Base: $r=.69$; Control: $r=.78$; Workshop: $r=.72$), satisfaction with the union (Base: $r=.67$; Control: $r=.85$; Workshop: $r=.62$), perception of union power (Base: $r=.50$; Control: $r=.65$; Workshop: $r=.48$), and perception of union service (Base: $r=.65$; Control: $r=.82$; Workshop: $r=.66$). Responsibility was the strongest correlate of members' extrinsic priorities (Base: $r=.42$; Control: $r=.34$; Workshop: $r=.29$) and union responsiveness (Base: $r=.32$; Control: $r=.52$; Workshop: $r=.28$). Although Responsibility had been the strongest correlate of strike propensity in the baseline data ($r=.42$), this was not the case for the control or workshop groups; in these cases Willingness to Work was the strongest correlate (Control: $r=.40$; Workshop: $r=.47$).

The correlations between the union commitment dimensions of Loyalty and Responsibility, but not Willingness to Work, and each of the seven criterion measures are lower for the workshop group compared to the control, suggesting that these two

groups represent different populations (Sign test: Loyalty, $p < .05$; Responsibility, $p < .05$). The workshop group was more homogeneous than the control on the second posttest measure of Loyalty (SD: 4.97 vs. 6.23) and Responsibility (SD: 2.04 vs. 2.47) but not Willingness to Work. When the criterion correlations in the workshop group are corrected for this range restriction, the coefficients approach control group levels.

Comparison of baselines

The first concern in conducting the analyses was to determine if there were any differences between the responses of active and nonactive union members. Southwell's (1990) data were obtained from a random sample which included both active and nonactive members. By contrast, the training workshop participants were drawn from a nonactive population, that is they had not been active in union committees. Southwell's (1990) data were divided into active (B3) and nonactive (B2) groups and tested for differences between these two groups. The Union Commitment Scale ($t=8.43$, $df=865$, $p < .002$) and its subscales: Loyalty ($t=5.93$, $df=880$, $p < .002$), Responsibility ($t=5.07$, $df=891$, $p < .002$) and Willingness to Work ($t=11.91$, $df=902$, $p < .002$) all showed

significant differences between the active and nonactive members. Attitude Towards Union ($t=2.46$, $df=894$, $p<.02$), Extrinsic Priorities ($t=4.00$, $df=898$, $p<.002$), Responsibility to Members ($t=4.18$, $df=904$, $p<.002$) and Perception of Union Service ($t=3.92$, $df=900$, $p<.002$) also showed a significant change between the two groups. Perception of Union Power ($t=0.44$, $df=894$, n.s.), Union Satisfaction ($t=1.27$, $df=886$, n.s.) and Propensity to Strike ($t=1.96$, $df=866$, n.s.), however, did not exhibit any significant difference between active and nonactive members. For this reason a second baseline (B2, see Tables 5 and 6) was constructed using only the responses of the nonactive members for the analyses of the scales which did show this significant difference between groups. For the groups which did not show a significant difference, as well as for the random sample control group G3T3, the overall baseline data (B1, see Tables 5 and 6) was used.

T-tests and the Bonferonni Procedure

This first research question was assessed through a series of t-tests which compared changes on the first posttest after the workshop (P1) to baseline; differences on the second posttest (P2) between the workshop and both baseline and control

groups; and differences between control and baseline groups. Stability of changes were examined by comparing the changes from the first to second posttest within G1. Since difference scores could not be calculated, this change was also evaluated by independent t-tests. In cases like this, where a positive correlation is expected between P1 and P2, the independent t-test will underestimate the t-value obtained from a dependent t-test, providing a conservative estimate (Kenny & Judd, 1986). A Bonferroni procedure was used to adjust the type I error per comparison (PC) to control for familywise (FW) error. In doing this, the Union Commitment Scale and its three subscales were taken as one "family" and the seven correlated scales as another "family". The familywise alpha was set at .05 for significance. Thus, for the Union Commitment Scale, its subscales and the seven correlated scales an adjusted alpha level of .002 was used. All t-tests were two-tailed; a summary of the test results can be found in Table 12.

Table 8
Internal Consistency and Zero-Order Correlations For Questionnaire
Scales At Overall Second Post-Test (Combined T1-T3)

	Union Comm.	Loyalty	Resp.	Willingness to Work	Att. Toward Union	Extrinsic Priorities
Union Comm.	(.81)					
Loyalty	.91**	(.94)				
Responsibility	.80**	.59**	(.76)			
Willingness to Work	.84**	.58**	.65**	(.81)		
Att. To Union	.72**	.76**	.48**	.46**	(.83)	
Extrinsic Priorities	.36**	.30**	.35**	.29**	.23**	(.81)
Respon. to Members	.37**	.25**	.42**	.38**	.16*	.50**
Percep. of Union Power	.43**	.53**	.27**	.21**	.54**	.15*
Percep. of Union Service	.65**	.74**	.38**	.40**	.77**	.17**
Union Satisfaction	.66**	.73**	.40**	.40**	.80**	.21**
Propen. to Strike	.51**	.44**	.41**	.46**	.30**	.35**
Mean	31.98	14.82	6.40	10.81	9.77	6.50
SD	10.12	5.75	2.28	3.63	3.28	2.15

N=255

* - signif. LE .05 (two-tailed)

** - signif. LE .01 (two-tailed)

Table 8 (cont.)
Internal Consistency and Zero-Order Correlations For Questionnaire
Scales At Overall Second Post-Test (Combined T1-T3)

	Resp. to Members	Percep. of Union Pow.	Percep. of Union Ser.	Union Satisfaction	Propensity to Strike
Union Comm.					
Loyalty					
Responsibility					
Willingness to Work					
Att. To Union					
Extrinsic Priorities					
Respon. to Members	(.71)				
Percep. of Union Power	.14*	(.74)			
Percep. of Union Service	.18**	.60**	(.76)		
Union Satisfaction	.11	.59**	.82**	(.87)	
Propensity to Strike	.30**	.21**	.33**	.30**	(.84)
Mean	4.73	12.34	9.81	18.82	25.13
SD	1.54	3.14	3.37	5.06	8.03

N=255

* - signif. LE .05 (two-tailed)

** - signif. LE .01 (two-tailed)

Table 9
Internal Consistency and Zero-Order Correlations For Questionnaire
Scales At Second Post-Test (Combined T1-T2)

	Union Comm.	Loyalty	Resp.	Willingness to Work	Att. Toward Union	Extrinsic Priorities
Union Comm.	(.81)					
Loyalty	.91**	(.94)				
Responsibility	.76**	.53**	(.76)			
Willingness to Work	.84**	.59**	.59**	(.81)		
Att. To Union	.68**	.72**	.40**	.49**	(.83)	
Extrinsic Priorities	.24**	.19*	.29**	.17*	.12	(.81)
Respon. to Members	.26**	.17*	.28**	.25**	.14	.47**
Percep. of Union Power	.38**	.48**	.22**	.18*	.54**	.18*
Percep. of Union Service	.60**	.66**	.32**	.42**	.79**	.09
Union Satisfaction	.57**	.62**	.31**	.39**	.79**	.13
Propen. to Strike	.43**	.36**	.35**	.40**	.24**	.33**
Mean	28.92	13.44	5.93	9.54	9.23	6.18
SD	8.95	4.97	2.04	3.43	3.03	1.91

N=156

* - signif. LE .05 (two-tailed)

** - signif. LE .01 (two-tailed)

Table 9 (cont.)
Internal Consistency and Zero-Order Correlations For Questionnaire
Scales At Second Post-Test (Combined T1-T2)

	Resp. to Members	Percep. of Union Pow.	Percep. of Union Ser.	Union Satisfaction	Propensity to Strike
Union Comm.					
Loyalty					
Responsibility					
Willingness to Work					
Att. To Union					
Extrinsic Priorities					
Respon. to Members	(.71)				
Percep. of Union Power	.14*	(.74)			
Percep. of Union Service	.15*	.56**	(.76)		
Union Satisfaction	.12	.55**	.82**	(.87)	
Propensity to Strike	.20**	.16*	.22**	.20*	(.84)
Mean	4.08	12.34	9.44	18.37	23.80
SD	1.37	3.25	3.21	4.90	7.37

N=156

* - signif. LE .05 (two-tailed)

** - signif. LE .01 (two-tailed)

Table 10
Internal Consistency and Zero-Order Correlations For Questionnaire
Scales At Experimental Control Group (T3)

	Union Comm.	Loyalty	Resp.	Willingness to Work	Att. Toward Union	Extrinsic Priorities
Union Comm.	(.81)					
Loyalty	.91**	(.94)				
Responsibility	.82**	.58**	(.76)			
Willingness to Work	.76**	.48**	.67**	(.81)		
Att. To Union	.71**	.78**	.50**	.31**	(.83)	
Extrinsic Priorities	.40**	.33**	.34**	.34**	.29**	(.81)
Respon. to Members	.40**	.23**	.52**	.44**	.09	.48**
Percep. of Union Power	.60**	.65**	.36**	.32**	.57**	.13
Percep. of Union Service	.71**	.82**	.41**	.31**	.73**	.22
Union Satisfaction	.79**	.85**	.48**	.39**	.82**	.27**
Propen. to Strike	.52**	.45**	.41**	.47**	.29**	.33**
Mean	36.90	17.01	7.15	12.80	10.63	7.00
SD	10.00	6.23	2.47	3.01	3.49	2.41

N=99

* - signif. LE .05 (two-tailed)

** - signif. LE .01 (two-tailed)

Table 10 (cont.)
Internal Consistency and Zero-Order Correlations For Questionnaire
Scales At Experimental Control Group (T3)

	Resp. to Members	Percep. of Union Pow.	Percep. of Union Ser.	Union Satisfaction	Propensity to Strike
Union Comm.					
Loyalty					
Responsibility					
Willingness to Work					
Att. To Union					
Extrinsic Priorities					
Respon. to Members	(.71)				
Percep. of Union Power	.16	(.74)			
Percep. of Union Service	.15	.69**	(.76)		
Union Satisfaction	.11	.68**	.82**	(.87)	
Propensity to Strike	.34**	.31**	.42**	.39**	(.84)
Mean	4.73	12.34	10.40	19.53	27.29
SD	1.54	2.98	3.54	5.25	8.58

N=99

* - signif. LE .05 (two-tailed)

** - signif. LE .01 (two-tailed)

Table 11
Comparison of correlations between union commitment dimensions
and other measures for baseline, control, and workshop
participants.

	Base	Control	Workshop	Workshop*
Loyalty				
Att. To Union	.69	.78	.72	.79
Extrinsic Priorities	.34	.33	.19	.23
Respon. to Members	.21	.23	.17	.20
Percep. of Union Power	.50	.65	.48	.53
Percep. of Union Service	.65	.82	.66	.73
Union Satisfaction	.67	.85	.62	.67
Propen. to Strike	.34	.45	.36	.41
Responsibility				
Att. To Union	.43	.50	.40	.44
Extrinsic Priorities	.42	.34	.29	.33
Respon. to Members	.32	.52	.28	.32
Percep. of Union Power	.39	.36	.22	.25
Percep. of Union Service	.41	.41	.32	.36
Union Satisfaction	.37	.48	.31	.35
Propen. to Strike	.42	.41	.35	.39
Willingness to Work				
Att. To Union	.33	.31	.49	- -
Extrinsic Priorities	.30	.34	.17	- -
Respon. to Members	.28	.44	.25	- -
Percep. of Union Power	.25	.32	.18	- -
Percep. of Union Service	.36	.31	.42	- -
Union Satisfaction	.29	.39	.39	- -
Propen. to Strike	.40	.47	.40	- -

B1: N=925; T3: N=99; T1/T2: N=156

* Adjusted for range restriction.

Table 12
Summarized T-Test Results

<u>Variable</u>	<u>Comparison</u>	<u>t-value</u>	<u>df</u>	<u>Sig.</u>
Union Commitment	B2 vs B3	8.43	865	<.002
	T3 vs B1	0.33	969	n.s.
	P1 vs B2	-18.10	894	<.002
	T1 vs P1	4.03	211	<.002
	T1/T2 vs B2	-11.47	867	<.002
	T1/T2 vs T3	-6.49	243	<.002
Loyalty	B2 vs B3	5.93	880	<.002
	T3 vs B1	0.38	987	n.s.
	P1 vs B2	-17.84	912	<.002
	T1 vs P1	4.69	215	<.002
	T1/T2 vs B2	-9.81	882	<.002
	T1/T2 vs T3	-4.96	246	<.002
Responsibility	B2 vs B3	5.07	891	<.002
	T3 vs B1	-7.82	1001	<.002
	P1 vs B2	-20.38	921	<.002
	T1 vs P1	2.91	215	n.s.
	T1/T2 vs B2	-15.92	896	<.002
	T1/T2 vs T3	-4.21	252	<.002
Willingness to Work	B2 vs B3	11.91	902	<.002
	T3 vs B1	11.43	1014	<.002
	P1 vs B2	-4.35	930	<.002
	T1 vs P1	1.74	214	n.s.
	T1/T2 vs B2	-2.22	903	n.s.
	T1/T2 vs T3	-7.76	249	<.002

Table 12 (cont.)
Summarized T-Test Results

<u>Variable</u>	<u>Comparison</u>	<u>t-value</u>	<u>df</u>	<u>Sig.</u>
Attitude Toward Union	B2 vs B3	2.46	894	n.s.
	T3 vs B1	1.34	1005	n.s.
	P1 vs B2	-9.00	922	<.002
	T1 vs P1	3.79	211	<.002
	T1/T2 vs B2	-4.12	898	<.002
	T1/T2 vs T3	-3.33	250	<.002
Extrinsic Priorities	B2 vs B3	4.00	898	<.002
	T3 vs B1	-0.28	1010	n.s.
	P1 vs B2	-6.06	930	<.002
	T1 vs P1	0.09	217	n.s.
	T1/T2 vs B2	-5.10	903	<.002
	T1/T2 vs T3	-3.04	252	<.002
Responsibility to Members	B2 vs B3	4.18	904	<.002
	T3 vs B1	-8.75	1016	<.002
	P1 vs B2	-6.73	932	<.002
	T1 vs P1	-4.55	214	<.002
	T1/T2 vs B2	-15.69	908	<.002
	T1/T2 vs T3	-1.53	252	n.s.
Perception of Union Power	B2 vs B3	0.44	894	n.s.
	T3 vs B1	-1.10	1004	n.s.
	P1 vs B2	-6.22	921	<.002
	T1 vs P1	-2.21	212	n.s.
	T1/T2 vs B2	-1.32	897	n.s.
	T1/T2 vs T3	0.00	247	n.s.

Table 12 (cont.)
Summarized T-Test Results

<u>Variable</u>	<u>Comparison</u>	<u>t-value</u>	<u>df</u>	<u>Sig.</u>
Perception of Union Service	B2 vs B3	3.92	900	<.002
	T3 vs B1	1.23	1010	n.s.
	P1 vs B2	-10.27	930	<.002
	T1 vs P1	4.43	214	<.002
	T1/T2 vs B2	-2.92	901	n.s.
	T1/T2 vs T3	-2.30	249	n.s.
Union Satisfaction	B2 vs B3	1.27	886	n.s.
	T3 vs B1	-0.26	996	n.s.
	P1 vs B2	-7.18	910	<.002
	T1 vs P1	2.53	206	n.s.
	T1/T2 vs B2	-3.32	888	<.002
	T1/T2 vs T3	-1.76	246	n.s.
Propensity to Strike	B2 vs B3	1.96	866	n.s.
	T3 vs B1	-2.27	975	n.s.
	P1 vs B2	-11.41	896	<.002
	T1 vs P1	1.96	208	n.s.
	T1/T2 vs B2	-7.85	878	<.002
	T1/T2 vs T3	-3.46	253	<.002

Union Commitment

Individuals who participated in the workshops reported significantly increased levels of union commitment ($t=-18.10$, $df=894$, $p<.002$) over baseline conditions. There was no significant difference noted between baseline and control conditions ($t=-0.33$, $df=969$, n.s.). A significant decrease was observed from the time of the workshop to the time of the second post-test one year later ($t=4.03$, $df=211$, $p<.002$), however, even with this decrease the new levels were still significantly higher than both base ($t=-11.47$, $df=867$, $p<.002$). and control ($t=-6.49$, $df=243$, $p<.002$) conditions.

Loyalty

The Loyalty subscale showed similar results to the overall Union Commitment Scale. Levels of loyalty significantly increased following the workshops ($t=-17.84$, $df=912$, $p<.002$). Again there was no significant difference between base and control conditions ($t=-0.38$, $df=987$, n.s.). Reported levels did decrease significantly from the time of the workshops ($t=4.69$, $df=215$, $p<.002$) but were still significantly higher than both baseline ($t=-$

9.81, $df=882$, $p<.002$) and control ($t=-4.96$, $df=246$, $p<.002$).

Responsibility

The results for Responsibility were somewhat different than for overall commitment and Loyalty. Responsibility increased above baseline following the workshops ($t=-20.38$, $df=921$, $p<.002$). While the control group reported more Responsibility than baseline ($t=-7.82$, $df=1001$, $p<.002$), workshop participants still reported higher levels than either the baseline ($t=-15.92$, $df=896$, $p<.002$) or control ($t=-4.21$, $df=252$, $p<.002$). Also different, Responsibility did not decrease over time ($t=2.91$, $df=215$, n.s.).

Willingness to Work

Willingness to Work was more like Responsibility than Loyalty. It increased above baseline following the workshops ($t=-4.35$, $df=930$, $p<.002$). However, the control group reported less Willingness to Work than baseline ($t=11.43$, $df=1014$, $p<.002$). Workshop participants reported higher levels of Willingness to Work than the control control ($t=-7.76$, $df=249$, $p<.002$) but not the

the baseline ($t=-2.22$, $df=903$, $p<.002$). Similarly to Responsibility, Willingness to Work did not decrease over time ($t=2.91$, $df=215$, n.s.).

Did the Workshop Produce Changes in Other Constructs?

Investigation of the second research question followed the procedure outlined for union commitment. All comparisons related to this question were considered a family for the purposes of the Bonferroni procedure with the per comparison alpha again set at .002, two-tailed. The nonactive and active baselines differed for Attitude Towards Union ($t=2.46$, $df=894$, $p<.002$), Extrinsic Priorities ($t=4.00$, $df=898$, $p<.002$), Responsibility to Members ($t=4.18$, $df=904$, $p<.002$) and Perception of Union Service ($t=3.92$, $df=900$, $p<.002$). There were no differences between these two baseline groups on Perception of Union Power ($t=0.44$, $df=894$, n.s.), Union Satisfaction ($t=1.27$, $df=886$, n.s.) and Propensity to Strike ($t=1.96$, $df=866$, n.s.). To maintain consistency, B2 was used to evaluate changes on the posttests administered to workshop groups for all the measures. Again, the overall baseline (B1) was used for comparisons with the control group.

Attitude Toward Union

Attitude Toward Union also showed a significant increase following the workshops ($t=-9.00$, $df=922$, $p<.002$). There was no significant difference between base and control conditions ($t=1.34$, $df=1005$, n.s.). As with the Union Commitment Scale, there was a significant decrease over time ($t=3.79$, $df=211$, $p<.002$). Again this new level was still significantly higher than baseline ($t=-4.12$, $df=898$, $p<.002$) and control ($t=-3.04$, $df=252$, $p<.002$) groups.

Extrinsic Priorities

Extrinsic Priorities improved upon baseline following the workshops ($t=-6.06$, $df=930$, $p<.002$). There was no significant difference between baseline and control conditions ($t=-0.28$, $df=1010$, n.s.). Extrinsic Priorities did not change from the first to second posttest ($t=0.09$, $df=217$, n.s.) and remained above both baseline ($t=-5.10$, $df=903$, $p<.002$) and control ($t=-3.04$, $df=252$, $p<.002$).

Responsibility to Members

Responsibility to Members also improved upon baseline following the workshops ($t=-6.73$, $df=932$, $p<.002$). However, so did the control group ($t=-8.75$, $df=1016$, $p<.002$). Responsibility to Members also changed from administration of the first posttest to the second ($t=-4.553$, $df=214$, $p<.002$); however, unlike other measures, the change here reflects a continued increase. Responsibility to Members remained above the baseline ($t=-15.69$, $df=908$, $p<.002$) but not the control ($t=-1.53$, $df=252$, n.s.).

Perception of Union Power

Perception of Union Power also showed a significant increase over baseline ($t=-6.22$, $df=921$, $p<.002$) levels following the workshops. Base and control conditions did not differ significantly ($t=-1.10$, $df=1004$, n.s.). In examining the stability of the increase over time, no significant change was found to occur over the interval between intervention and the second post-test ($t=2.21$, $df=212$, n.s.); neither did it differ from the baseline ($t=-1.32$, $df=897$, n.s.) or the control ($t=0.00$, $df=247$, n.s.).

Perception of Union Service

Perception of Union Service also showed a significant increase following the workshops ($t=-10.27$, $df=930$, $p<.002$). As was the trend, there was no significant difference between base and control conditions ($t=1.23$, $df=1010$, n.s.). This measure did show a significant decrease over time ($t=4.43$, $df=214$, $p<.002$), a decrease which resulted in a new level of Perception of Union Service that was not significantly different from base ($t=-2.92$, $df=901$, n.s.) or control ($t=-2.30$, $df=249$, n.s.). This was the only measure for which the second post-test resulted in a decrease back to base and control conditions.

Union Satisfaction

A significant increase was observed in this measure following the intervention ($t=-7.18$, $df=910$, $p<.002$). Control and base conditions were not significantly different ($t=-0.26$, $df=996$, n.s.). This increase was also found to be stable over time ($t=2.53$, $df=206$, n.s.). While this measure remained above baseline at the second post-test ($t=-3.32$, $df=888$, $p<.002$), it was similar to levels found in the control group ($t=-1.76$, $df=246$, n.s.).

Propensity to Strike

Post-tests following the intervention showed that Propensity to Strike significantly increased ($t=-11.41$, $df=896$, $p<.002$) above baseline. Control and base conditions did not differ significantly ($t=-2.27$, $df=975$, n.s.). As with most of the other measures, reported levels of Propensity to Strike were found to be stable over time ($t=1.96$, $df=208$, n.s.). Propensity to Strike remained higher for the workshop participants compared to both baseline ($t=-7.85$, $df=878$, $p<.002$) and control ($t=-3.46$, $df=253$, $p<.002$).

Discussion

This study examined the effects of a union-sponsored training workshop on its members' feelings of union commitment and several other correlated measures. It also investigated whether or not any changes which occurred were stable over time.

The longitudinal study reported here strongly supports the view that relatively stable increases in union commitment can be developed in rank-and-file members through training workshops. The workshop intervention was based on known antecedents of union commitment, particularly union instrumentality and formal socialization components. The study also replicated the construct validity evidence reported previously by Kelloway *et al.* (1992), further supporting the conceptual interpretation of the Loyalty, Responsibility, and Willingness to Work dimensions advanced by Gordon *et al.* (1980). Additional evidence for the conceptual distinctness of the three scales is reflected in the fact that the workshop had differential effects on the three union commitment scales. The intervention resulted in participants being more homogeneous on Loyalty and Responsibility but had less effect on Willingness to Work. This would be expected from an intervention

based primarily on instrumentality and formal socialization (Fullagar *et al.*, 1993). These points are discussed in greater detail.

The overall Union Commitment Scale as well as its subscales (Loyalty, Responsibility and Willingness to Work) were increased through the intervention of the workshops. Even given the decreases which occurred over time, the effects remained relatively stable in comparison to the baseline measure. In examining the Responsibility and Willingness to Work subscales, however, the baselines and control conditions were found to differ. Responsibility was significantly higher from the baseline at the time the control group data was obtained. Willingness to Work levels, however, were significantly lower from baseline at the time which the control group data was taken. The fact that baselines differed in some areas and not others can be explained in terms of situational factors that came into play in the time between post-tests. Changes within the union, such as the privatization of companies which were once government-run organizations, caused many union members to lose their jobs. Even those fortunate enough to maintain employment still felt uncertainty as the job security promised and maintained by the union faltered. Given these circumstances, it would not have been

unusual or unexpected to have seen more dramatic drops in other measures as well. The fact that the differences were small and not widespread, as well as the Responsibility subscale's increase, further supports the many training programs that the union sponsors on an on-going basis.

All of the correlated scales showed a significant increase over baseline following the workshops. Only Responsibility to Members showed a difference between levels taken at baseline and control conditions. At the time the control group data were obtained, levels of this measure were higher than reported at the time of Southwell's (1990) research. Extrinsic Priorities, Perception of Union Power, Union Satisfaction and Propensity to Strike were all found to be stable from the time of the first post-test (P1) to the time of the follow-up study (T1). Only Attitude Toward Union, Perception of Union Service showed a decrease over time, however, the new level of Attitude Toward Union was still higher than baseline and control where Perception of Union Service decreased to the point that the new levels were no longer significantly different from B2 or T3. Responsibility to Members actually showed a significant increase over time.

Although the results from any quasi-experimental study are open to alternative interpretation, the consistent nature of the results and the pattern of changes that occurred not only over the commitment dimensions, but also associated constructs, argue quite strongly in support of the intervention as a causal factor. The quasi-experimental design used here is considered one of the strongest in protecting against threats to validity (Cook, et al., 1990). Both the baseline and control data were obtained through random samples of rank-and-file members from the same union, taken approximately three years apart. There were no differences between baseline and control on eight of the eleven measures. In one case, Willingness to Work, the control group decreased below baseline, leaving only two scales, Responsibility and Responsiveness to Members, subject to the suggestion that any increase may have resulted from intervening events over the three year period. All workshop participants still reported higher levels of union commitment on the second posttest, overall and on each subscale, compared to the random control group which had not attended workshops. Similar changes were reflected in Attitude Toward the Union, Extrinsic Priorities, and Propensity to Strike. Workshop participants improved on every measure taken immediately after the workshop, compared to baseline. Review of

the changes in the workshop group from the first (P1) to second (T1) posttest show that there were decreases on nine of the eleven measures during the period between pretests, with five of these significant. This pattern of results argues for the potency of the intervention. Attending the workshop led to an increase in union commitment and related measures, although not as consistently on the related measures. These levels decreased as a function of time, but after a period of up to 2 1/2 years they were still significantly higher than levels found in randomly selected members.

The difference in magnitude of the criterion correlations for union commitment between the workshop and control groups provides further evidence for the effectiveness of the intervention. The workshop emphasized the instrumentality of the union in achieving economic gains and improved working conditions (Barling *et al.*, 1992); it included aspects of socialization through discussion of union goals, values and policies (Tetrick, 1993). If this intervention were successful, participants should become more homogeneous with respect to union commitment, particularly Loyalty and Responsibility (Fullagar, *et al.*, 1993). This homogeneity should lead to lower correlations

between these two commitment dimensions and criterion measures. As shown in Table 11, this is what happened. Correcting the criterion correlation for range restriction brought on by the greater homogeneity of the workshop groups restores the coefficients to levels found in both the control and baseline groups. If the workshops were effective, there should have been more of an improvement on Loyalty and Responsibility than Willingness to Work (Fullagar, et al., 1993); this is what occurred. For Loyalty, the workshop group showed significant increases compared to both the control and baseline with no difference between these latter two conditions. For Responsibility, the workshop group also showed significant increases compared to control and baseline; even though Responsibility was higher in the control compared to baseline. However, there was no change in Willingness to Work that can be attributed to the intervention. While the workshop group showed a significant increase over the control group, it did not improve over baseline. In fact, Willingness to Work in the control group significantly decreased from baseline, rather than increasing beyond it for workshop participants.

These results not only support the position that the workshop was effective but add to the growing evidence that

union commitment is a multidimensional variable. They replicate the construct validity of the three dimension, union commitment measure proposed by Kelloway *et al.*, 1992) and support the conceptual definitions of these dimensions proposed by Gordon *et al.* (1980). Loyalty correlated strongly with union satisfaction and attitude toward the union, strengthening the evidence that this dimension is measuring affective commitment to the union (Gordon *et al.*, 1980). Loyalty presumably develops in exchange for the union satisfying member needs; Loyalty correlated strongly with members' perceptions of the union's power and service to members, measures of perceived instrumentality. Responsibility to the Union correlated strongly with both extrinsic priorities and responsiveness to members; correlations which are also consistent with Gordon *et al.*'s (1980) definition of this dimension. Willingness to Work correlated strongly with propensity to strike, arguably the best measure of a rank-and-file member's willingness to exert special effort to help the union (Gordon *et al.*, 1980). The correlational data presented in Tables 8, 9, 10 and 11 also suggest that a composite measure based on the three separate subscales is inappropriate. The overall composite correlated most strongly ($r=.91$) with Loyalty and had the same pattern of criterion correlations. The composite provides little information beyond

Loyalty. If a researcher is only interested in an overall measure of commitment, Union Loyalty will give an excellent indication of that construct.

Limitations of the Study

With the current study the training workshops had already begun when the researcher became involved in the project. Because of this, certain aspects of the design were not optimal. One area was the lack of pre-workshop data to serve as baseline data. Cook and Campbell (1979) support the use of Southwell's (1990) data in their discussion of quasi-experimental design, specifically their discussion of post-test only designs with nonequivalent groups. In this discussion, they state:

"Often a treatment is implemented before the researcher can prepare for it, and so the research design is worked out after the treatment has begun... However, research of this kind does not necessarily imply the absence of pretest observation, for archival records can often be used to establish what the pretest scores of the various experimental units were." (pg. 98).

As well, the sample that participated in the workshop was not a random sample drawn from the union membership; only members classified as nonactive were offered the chance to attend. The union's reasoning was that these members would benefit the most from such a training program. While this may be true, past research has neither confirmed nor denied this hypothesis. Future research into training programs could benefit from including both active and nonactive members in the training programs and then comparing the differences in commitment levels in both groups to each other. The case may be made that active members can benefit equally from such a training program. It could be further hypothesized that in active members, presumably members already possessing a higher degree of union commitment, the changes produced by the workshop would tend to be more stable over time.

Another limitation was in the way in which the follow-up questionnaire was conducted. Although mail-out surveys are a commonly used means for collecting data in organizational settings, the questionnaire used in this instance was quite lengthy, containing over 70 items and running six pages in length. As well, these questionnaires had to be completed on the member's own

personal time and not while at work. Had it been possible for the members to complete the questionnaire either on company time or in such a way that they were compensated for their time, a more favorable response rate may have occurred.

Variables such as union commitment or propensity to strike are subjective variables, unlike relatively straightforward indices of behaviour like units produced per hour. In order to obtain this type of data, questionnaires or interview must be used. When examining self-report data, Golembiewski, Billingsley and Yenger (1976) report three types of change which may occur: alpha change, beta change and gamma change. Alpha change refers to a true change when an intervention is actually responsible for an observed difference between pre- and post-test measures. Beta change occurs when an observed change is due to a recalibration of the scale(s) used. For example prior to a workshop a manager rates himself/herself as average. Following the workshop the manager becomes more competent and realizes how much more there is to being a good manager so he then rates himself/herself as average again. The intervention appears to have failed but it actually worked. Gamma change refers to an individual's understanding of a construct changing as a result of training. This may result in a

post-test measuring something different than it did on the pre-test. All three of these changes can occur simultaneously. Goldstein (1989) reports several methods for determining which of these changes occur and to what extent as well as how to correct for them. Unfortunately, these methods all assume conditions which were not available in the current study. Most importantly, individual subject scores on both pre- and post-test must be available which was not the case in this study.

Since this was a quasi-experimental design, it is possible that members who were more committed to the union chose to attend workshops. This is unlikely; the prospect of two paid days off work should have been an attractive incentive to attend the workshop regardless of commitment level. Furthermore, as noted, the workshop participants were mostly younger and newer members; previously, Southwell (1990) found a significant negative relationship between age and overall union commitment for members of this union. If anything, workshop participants should have been less committed, as a group, to the union. Nonetheless, this argument cannot be ruled out entirely as an alternative explanation. Equally unlikely as an explanation for these results is a union commitment bias among survey

respondents from the workshop groups. Workshop respondents were similar to both the control and baseline groups on all demographic measures except those associated with the target audience. There is no reason to believe that percentage of committed members returning surveys differed across the groups. More likely, the same percentage of committed members completed the questionnaire but those in the workshop groups had higher levels of commitment.

While these results are persuasive in showing that the intervention was effective in improving union commitment, the increases were not permanent. They decreased over time. While they were still above control and baseline levels at the second posttest, it is likely they will continue to erode unless additional efforts are taken to maintain the changes. This illustrates the need for the union to continue to offer training workshops on an ongoing basis for rank-and-file members, or to put in place some other means of maintaining the increased levels of commitment that were developed through the workshops. Barling and Kelloway (1993) have proposed training shop stewards in commitment-enhancing strategies. The stewards, as informal socialization agents and providers of information, would play a central role in

influencing members' perception of the union. Ideally, the trained steward would reinforce the information, values, and goals presented to the rank-and-file member at a general training workshop of the type used in this study.

The results of this study can greatly contribute to the union commitment literature. This present research shows that union commitment can be developed through the implementation of training workshops. Union commitment and its three subscales, as well as the union-correlated scales, all showed significant increases following the training workshops. This suggests that future studies in union commitment would benefit by continuing to investigate the implementation of interventions designed to increase these constructs.

There is also a need in future applied research to establish programs that will develop increased levels of Willingness to Work (Barling, et al., 1992; Fullagar, et al., 1993; Kelloway & Barling, 1993; Kelloway et al., 1992). This dimension predicts active participation by members in the life of their union. Serving on committees, running for office, acting as a steward are the lifeblood of unions. To survive, unions must continually find

committed people who are willing to work on the union's behalf. Willingness to Work was the least affected by the intervention evaluated here. As Fullagar *et al.* (1993) suggest, this dimension is likely to be influenced by individual socialization which comes through one-on-one contact with shop stewards and other union leaders. This is another reason why using stewards to reinforce lessons from a more general workshop of the type presented here should be given consideration.

By showing that union commitment can be developed through a theoretically based intervention, this study helps remove union commitment research from the "endangered species" list (Gordon & Ladd, 1993). It sets the stage for future applied work and establishes that union commitment research is more than an academic exercise. It does offer promise for "keeping the union patient alive" (Gordon & Ladd, 1993).

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Appendix A

NSGEU GENERAL MEMBERSHIP WORKSHOP

January 13 & 14, 1992

WHY UNIONS?

A provocative session that will look at the evolution of unions and will examine whether unions are necessary today. It will pose and challenge some basic questions: Are unions worthwhile? Have they outlived their usefulness? Are there any reasons why we should remain in a union? These are some of the questions that will be addressed in this session and should prove to be an excellent opportunity to challenge our traditional attitudes on this lively topic.

THE STRUCTURE OF THE NSGEU - SOME POLICIES

The first part of this session will explain the structure of the NSGEU and its many services and benefits available to the members - a look at where your dues dollars go. The second part of the session will examine some contemporary policies of the NSGEU.

YOUR RIGHTS UNDER THE COLLECTIVE AGREEMENT

This session will introduce and explain your basic rights under the collective agreement and will also explain the "what to do" should the Employer violate your rights under the collective agreement. This session offers an excellent introduction to understanding how the collective agreement can work for you through the use of the grievance procedure.

PRIVATIZATION

An overview on the topic of "privatization". What is privatization? How is it accomplished? Are there advantages to privatization? Who benefits? Who does not benefit? Is it an acceptable public policy?

OCCUPATIONAL HEALTH AND SAFETY

Besides introducing the subject of Occupational Health and Safety in the workplace, this workshop will also focus on workers' rights and responsibilities under the Nova Scotia Occupational Health and Safety Act. It will examine, in some detail, what are known as the three R's of Health and Safety in the workplace: the right to know, the right to participate, and the right to refuse.

Appendix B

The following are things people might say, there is no correct or incorrect answers. Please indicate how you feel, that is whether you Strongly Agree (SA), Agree (A), Neither Agree nor Disagree (N), Disagree (D) or Strongly Disagree (SD) with the following statements:

This section contains statements which allow you to express your views on the NSGEU:

I feel a sense of pride in being a part of this union. SA...A...N...D...SD

Based on what I know and what I believe I can expect in the future, I plan to be a member of the union for the rest of the time I work. SA...A...N...D...SD

The record of this union is a good example of what dedicated people can get done. SA...A...N...D...SD

I will talk up the union to my friends as a great union to belong to. SA...A...N...D...SD

There's a lot to be gained by joining this union. SA...A...N...D...SD

Deciding to join this union was a smart move on my part. SA...A...N...D...SD

It is the duty of every worker to keep his/her ears open for information that might be useful to the union. SA...A...N...D...SD

It is every member's duty to support or help another worker to use the grievance procedure. SA...A...N...D...SD

It is every member's responsibility to see that the other members "live up to" the terms of the collective agreement. SA...A...N...D...SD

Every member must be willing to make the effort to file a grievance. SA...A...N...D...SD

I am willing to put in a great deal of effort beyond that normally expected of a member in order to make the union successful. SA...A...N...D...SD

If asked I would serve on a committee. SA...A...N...D...SD

If asked I would run for elected office.	SA...A...N...D...SD
The NSGEU has the support of the workers.	SA...A...N...D...SD
The NSGEU Executive is interested in the welfare of the rank-and-file worker.	SA...A...N...D...SD
My Local Bargaining Representatives are interested in the welfare of the rank-and-file worker.	SA...A...N...D...SD
The NSGEU tries to live up to its agreements.	SA...A...N...D...SD
The NSGEU should make every effort to get better wages for its members.	SA...A...N...D...SD
The NSGEU should make every effort to get better fringe benefits for its members.	SA...A...N...D...SD
The NSGEU should make every effort to improve job security for its members.	SA...A...N...D...SD
The NSGEU should make every effort to improve safety and health on the job for its members.	SA...A...N...D...SD
The NSGEU should make every effort to give members a say in how the NSGEU is run.	SA...A...N...D...SD
The NSGEU should make every effort to tell members what the NSGEU is doing.	SA...A...N...D...SD
The NSGEU should make every effort to bargain on its members behalf.	SA...A...N...D...SD
The NSGEU has a lot of influence over who gets elected to public office.	SA...A...N...D...SD
The NSGEU has a lot of influence over what laws are passed.	SA...A...N...D...SD
The NSGEU is respected by the employer.	SA...A...N...D...SD
The NSGEU has a lot to say about how the work place is run.	SA...A...N...D...SD

The NSGEU protects workers against unfair actions by the employer.	SA...A...N...D...SD
The NSGEU improves the job security of the members.	SA...A...N...D...SD
The NSGEU improves the wages and working conditions of the members.	SA...A...N...D...SD
The NSGEU gives members their money's worth for the dues they pay.	SA...A...N...D...SD
I am satisfied with union meetings held by the NSGEU.	SA...A...N...D...SD
I am satisfied with the way bargaining is handled in the NSGEU.	SA...A...N...D...SD
Overall, I am satisfied with the operation of the NSGEU.	SA...A...N...D...SD
I am satisfied with the bargaining process.	SA...A...N...D...SD
I am satisfied with the communication of the NSGEU.	SA...A...N...D...SD
I am satisfied with the support for grievances in the NSGEU.	SA...A...N...D...SD
I am satisfied with the amount of member's participation in the NSGEU.	SA...A...N...D...SD
This section contains statements which allow you to express your views on strike issues:	
If my Bargaining Unit was on strike, it would cause me and my family serious problems or hardships.	SA...A...N...D...SD
I would be willing to strike if I felt my workload were too heavy.	SA...A...N...D...SD
I would be willing to strike if there was a chance I would lose my job.	SA...A...N...D...SD
I would be willing to strike to receive a 10% wage increase.	SA...A...N...D...SD
I would be willing to strike if dissatisfied with health, safety, or working conditions.	SA...A...N...D...SD

I would be willing to strike if my job was being changed from full-time to part-time.	SA...A...N...D...SD
I would be willing to strike if my wages would be reduced due to cutbacks.	SA...A...N...D...SD
I would be willing to strike if my fringe benefit plan was to be reduced.	SA...A...N...D...SD
I would be willing to strike if I was unhappy with management.	SA...A...N...D...SD
I would be willing to strike to receive a 24% wage increase.	SA...A...N...D...SD
I would be willing to go on an illegal strike.	SA...A...N...D...SD
I would be willing to go on an illegal strike to protest against layoffs.	SA...A...N...D...SD
I would return to work from a legal strike if government ordered me to return.	SA...A...N...D...SD
I would return to work from an illegal strike if government ordered me to return.	SA...A...N...D...SD
I would engage in violence during a strike if management used outside employees.	SA...A...N...D...SD
I would work to rule to support NSGEU bargaining positions.	SA...A...N...D...SD
I would participate in rotating absence to support NSGEU bargaining positions.	SA...A...N...D...SD
I would help to create chaos in my work place to support NSGEU bargaining positions.	SA...A...N...D...SD
I would cross a picket line of another NSGEU bargaining unit.	SA...A...N...D...SD
Picket Line violence would not be justified even if management used outside employees (scabs) to try to break a strike.	SA...A...N...D...SD

General Information

- > Gender (please circle) (1) Female (2) Male
- > Please circle the age group you are presently in:
- | | |
|------------------------|-----------------------|
| (1) 24 years and under | (4) 45 to 54 years |
| (2) 25 to 34 years | (5) 55 to 64 years |
| (3) 35 to 44 years | (6) 65 years and over |
- > What is the highest level of education you have completed? (Please circle the highest grade obtained)
- | | |
|---|-----------------------------------|
| (1) Less than Grade 6 | (7) Community College (graduated) |
| (2) Less than Grade 8 | (8) University (didn't graduate) |
| (3) Less than Grade 12 | (9) University Degree |
| (4) Grade 12 | (10) Honours University Degree |
| (5) Grade 12 and Vocational | (11) Post-Graduate Study |
| (6) Community College (didn't graduate) | (12) Post-Graduate Degree |
- 13) Other (please specify) _____
- > Marital status (please circle)
- | |
|---|
| (1) Single (never married/living alone) |
| (2) Single (living with partner) |
| (3) Married |
| (4) Divorced/Separated |
| (5) Widowed |
- > Do you have children? (please circle): (1) Yes (2) No
- > Number of dependents living with you (please circle):
- | | |
|-----------|---------------------|
| (1) None | (5) Four |
| (2) One | (6) Five to seven |
| (3) Two | (7) More than seven |
| (4) Three | |

> How long have you been a member of the NSGEU? (please circle)

- (1) Less than one year**
- (2) Two to five years**
- (3) Six to nine years**
- (4) Ten to thirteen years**
- (5) Fourteen to seventeen years**
- (6) Eighteen to twenty-nine years**
- (7) Twenty-two to thirty years**
- (8) More than thirty years**

> Which one of the following groups do you work for? (Please circle the number in front of the statement that applies to you.)

- (1) Government department or a government run hospital - in short the Nova Scotia Civil Service. (Example: Department of Finance, etc. the V.G. Hospital, the Nova Scotia Hospital, Drug Dependency, etc.)**
- (2) A board or commission (Example: municipal school board, liquor commission, Workers' Compensation Board, APRCHH, I.W. Akerley Campus, Halifax Library Assistants, TUNS, UCCB, Nova Scotia College of Art and Design, Public Archives of Nova Scotia, etc.)**
- (3) A hospital other than the V.G. or the Nova Scotia Hospital. (Example: I.W.K., Kentville Hospital, Cancer Treatment and Research Foundation, Halifax Infirmary, Camphill Medical Centre.)**
- (4) A private sector employer (Example: Moosehead Brewery, T.S. Sims, RRSS.)**