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Union commitment: A two-sample multivariate analysis of a professional white-collar union local and a typical blue-collar manufacturing union local

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UNION COMMITMENT: A TWO-SAMPLE MULTIVARIATE

ANALYSIS OF A PROFESSIONAL WHITE-COLLAR

UNION LOCAL AND A TYPICAL BLUE-COLLAR

MANUFACTURING UNION LOCAL

by

Arthur L. Pevahouse, B.S., M.B.A.

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Business Administration

COLLEGE OF ADMINISTRATION AND BUSINESS
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_____ Blue Collar Manufacturing Union Local _____

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Director of Graduate Studies   Dean of Graduate School

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ABSTRACT

This study assesses union commitment using a quasi-experimental methodology to determine and test the hypothesis that there is no difference in commitment levels of white-collar and blue-collar union workers. A self reporting pencil and paper survey instrument was used to gather the data. Two specific union locals in the same area were chosen to participate in the survey. One local was a white-collar, engineering local and the other was a tire manufacturing local. These two locals were chosen on the basis of location and attributes that met the research requirements.

There were ten hypotheses formulated that contended that the level of commitment was the same for both white and blue-collar workers. Such attributes as loyalty, participation, family history, fair treatment, attitudes, (toward work, the organization, and the union) and other opportunities were hypothesized to be the same. The data was analyzed using Hotelling's T^2 statistic, a special form of MANOVA. The tests of significance at a .01 level determined all hypotheses should be rejected. There was a significant statistical difference in white-collar and blue-collar workers based on level of commitment.

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The implications of this research is that this kind of finding can lead to better decision making by both unions and companies. Unions in organizing efforts and companies in determining the needs and wants of their work-force can benefit from this type of research.

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I am thankful that God gave me the strength and determination needed to complete this study as well as the other work necessary in a doctoral program. I am thankful to my parents who taught me early in life the value of education. I am sorry my mother did not live long enough on this earth to see the completion of this work, but I am sure in her Heavenly home she knows.

I am especially thankful for my family's support during this time. The sacrifices they made for me can never be repaid. I cannot even imagine reaching this point without the love and support of my wife, Reba. My two daughters, Tracy and Kristy, also understood the importance of this work and never complained.

I would also like to thank my committee chairman, Dr. Anthony Jurkus, for always keeping me focused when the end seemed completely out of sight. His professionalism gave me the confidence I needed. I extend my thanks to my other committee members, Dr. James Callaway and Dr. Edward O'Boyle, for their comments and suggestions.

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CHAPTER I

INTRODUCTION

The general consensus is that unions are in a crisis situation, with declining membership and a loss of power. Union opposition is growing and more and more organizing efforts are falling short. The loss of political clout and a weakened economic position has unions on the defensive in most Western countries, and this decline has occurred more rapidly in the United States than in any other Western nation (Strauss, Gallager, and Fiorito, 1991).

There has been much discussion as to the nature of the problem and how it can be solved. There is also the speculation that the trend is just possibly the prelude to an eventual demise of unions in the United States. These questions have ultimately translated into a complete reexamination of the role of unions. Both academic researchers and union analysts agree there must be a re-focused interest into the future of unionism in Western countries, and particularly, in the United States. Many senior scholars, with experience and knowledge dating back to periods of rapid union growth, see parallels and

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contrasts that are significant between the past and the present (Strauss, Gallagher, & Fiorito, 1991). Their continued interest provides a sense of perspective with the present union crisis.

Contemporary scholars have also become interested in unions, after a period during the 1960s and 1970s when union research was out of fashion. This new revival has its roots in the 1980s; and with the technological development of more advanced computers along with better data collection methods and skills, a new generation of researchers are beginning to reexamine in systematic detail, many of the existing union concepts. In particular, the attitudes and opinions of workers and union members are the focus of this re-examination. These new studies have taken advantage of previous theoretical concepts that have in the past been used almost exclusively from a managerial and employer perspective.

Since the 1970s the methods used to study unions have changed as much as the problems themselves. This research will attempt to bring together past theoretical contributions and the new problems facing unions by applying existing behavioral research theory in a way that can hopefully help solve contemporary union problems. Specifically, this study will focus on union commitment. The central elements of this focus will be the analysis of two union types: professional white collar engineers and

more traditional blue collar manufacturing workers. This research will compare and contrast these union types based on union commitment.

The analysis and understanding of union commitment involves an understanding of both complex organizations and individual group processes. Unions are inherently different from commercial organizations in terms of their historical development, the voluntary nature of their membership, their sources of power, their objectives, and overall social and political position (Warner, 1975). Consequently, this demands separate scrutiny from that of commercial organizations. The study of unions as organizations requires an awareness of the unique functions of these organizations and the nature of members' attachment to their union.

An important consideration in selecting union commitment as the focus of this research is the increasing complexity of union structure as an institution and the crisis facing union membership, now and in the future.

Unions in Crisis

The depth of the crisis can best be captured in the numbers. In 1975, membership stood at an all-time high of 22 million. That translated into a union density of 28.9%, which was off some 3.1% from its 1953 high of 32.5%. By the early 1960s the density had fallen below

19%, a drop of one-third. Union membership lost four million members between 1975 and 1984. If it had not been for the public sector the picture would have been worse. In the private sector union density was at 15% in the mid-1980s and had dropped below 13% in the early 1990s (Brody, 1992).

Peter Drucker (1982) once wrote a commentary on the problems of declining union membership in which he asked the question: "Are Unions Becoming Irrelevant?" He went on to write that "The labor union will have to transform itself drastically." In his insightful way, Drucker defined the issue as it would characteristically be posed in the ensuing debate over the future of American trade unionism, i.e., that its capacity for transformation would be the ultimate test of whether or not organized labor would become, to use Drucker's word, irrelevant.

While the assessment of member perceptions and behaviors in the union is complex, the viability of the labor union as a functional part of the United States economic system has also been questioned. Farber (1987: p.915) reports that the percentage of workers who report that unions are effective in improving wages and working conditions fell significantly from 1977 to 1984. Environmental factors have often been cited as the cause of the decline in unionism (Fiorito & Greer, 1982). However, a closer look at the underlying issues points to

union and workplace issues. Farber (1987: p.915) found that only a "small fraction of the decline in unionization could be accounted for by shifts in the labor force structure." Peak union representation occurred in 1962 when unions represented 30.4% of the United States work-force. In 1985 this percentage had declined to 14.1% (Farber, 1987).

Recognized shifts in the labor force structure include the following: a higher percentage of women in the work force who have historically been less unionized, a regional shift from the heavily unionized Northeast and North Central industrial regions to the South where there is less concentration of unions, a shift from blue collar to white collar employment, and a shift from manufacturing to service sector dominance. However, Farber (1987) points out that less than half of the decline in union membership between the mid 1950s through 1970 can be accounted for by demographic, regional, occupational, and industrial composition.

Reportedly, workers are less interested in unionization. The number of NLRB supervised representation elections has fallen sharply since 1980 (Farber, 1987). In addition, the union win rate, identified as the fraction of elections held where a union won bargaining rights, has declined substantially since 1970 (Farber, 1987).

The social and political environment of the 1970s and 1980s has been conducive to anti-union activities. There has been an increase in employer resistance to union organizing as quantified by the number of unfair labor practice charges filed with the NLRB. In 1960, the average number of unfair labor practice charges was 1.78 per election. In 1977, that number had risen to 3.99 and by 1982, it had grown to an average of 7.45 charges per election (Farber, 1987). This number demonstrates the acceptance of anti-union behavior in the corporate community. Until 1970, "overt" anti-union behavior was not socially or politically acceptable (Strauss et al., 1991). However, for as long as there have been unions and attempts to unionize, "covert" anti-union behavior has existed, and sometimes on a larger and more violent scale than the "overt" behavior after the 1970's discussed in this study. The economic recessions of the 1970s and 1980s have fostered anti-union sentiments (Strauss et al., 1991).

The corporate community responded to increased competition and difficult economic conditions by attempting to control labor costs and circumvent unionization by developing innovative non-union personnel systems. Actively pursuing resistance to organizing efforts and often relocating production facilities to non-union regions were some of these responses (Strauss et

al., 1991). Despite these clear external infringements upon unionism, there remain important internal reasons for the decline in membership. In a survey comparing worker attitudes from 1977 to those of 1984, Farber (1987) found that overall levels of job satisfaction rose significantly while the perceptions of union instrumentality declined.

Workers seem less convinced that unionism offers sufficient benefits for pro-union activities to warrant heightened risks of reprisal by management. Kochan, Katz, and McKersie (1986) separated union activities into general attitudes about unionism and specific workplace attitudes toward unionism. They found that 75% of non-unionized employees believed that unions generally improve wages and working conditions. However, most of these respondents did not believe that the presence of a union in their workplace would improve their own wages and working conditions. Workers perceive unions to have less power and instrumentality in their situations (Lipset, 1986).

So, it would appear that there are two converging forces that threaten the existence of unions in the United States. One is bureaucracy of union structure, and the second is worker perceptions regarding the effectiveness of unions in their workplace.

Kochan and Wever (1992) and Piore (1992) have common themes in their assessment and explanations of the

stagnation and decline of United States unions. Both
emphasize the multiple changes in the environment of
industrial relations which have undermined established
points of reference: major problems in the internal
characteristics of the United States economy and its
linkages with the world economy; sectorial, occupational,
and demographic shifts in the working population; an
increasingly hostile legal and political framework; and a
sustained managerial drive for enhanced flexibility by
excluding or bypassing trade unions. They also stress the
damaging conservatism of union organization and policy: a
vacuum of leadership and a failure of strategic
imagination in the face of unprecedented challenges.
Accordingly, they agree that to survive in the 1990s with
credibility and effectiveness, unions must radically
transform themselves: for example, adopting more
progressive and creative political programs; re-orienting
their concerns to disadvantaged and marginalized segments
of the labor market; and constructing a new organic
relationship with the rank-and-file members at the local
union level (Hyman, 1992).

Piore (1992) offers a longer historical perspective
and suggests that past union successes have been founded
on successful adaptation to the needs of new and pivotal
groups within the labor force. Moreover, industrial
unions in the 1930s and public sector unions in the 1960s,

managed to present themselves as representatives of a broad social interest and not merely the specific concerns of their immediate constituencies. To an important extent, the fate of unions in the 1990s will depend on whether they can repeat this achievement (Hyman, 1992).

At the very core of this issue is the need to construct and represent interests: in particular, the relationships between individuals and groups, among different groups, between smaller groups and larger collectives, and between the various identities and involvement's of the same individuals and groups. The future of unions will reflect patterns of communality, competition, and conflict within the sphere of employment; the connections between the world of work and people's broader social existence's; and the different ways in which collective organization may be perceived as relevant to the challenges and opportunities facing members and potential members. Unions have to address a structure of identities and interests which exist in part independently, but which are also open to redefinition through organization itself (Hyman, 1992).

The current status of the union as a form of worker organization and the changes which occurred in recent decades points to the need for a better understanding of unionism from a behavioral science perspective. A critical component of this is the psychological process

that an individual undertakes in joining and participating in a union. Again, it is this union commitment and how two different union types are compared and contrasted, that will be the focus of this research.

Behavior: Why Is It So Hard to Predict?

Why, despite the predictions to the contrary have certain groups grown in union membership or at least remained steady while others have declined? There have been many explanations about this phenomenon but they basically fall into two categories: external factors or internal factors. The external factors have been well documented: the shift from an industrial based society to an information/technological society; the changes have been numerous and drastic. However, the internal factors have not lent themselves well to explanation. Internal psychological and behavioral factors are complex and many faceted, and there is hardly a consensus among researchers just how much effect these factors have.

A Graphical Representation of Union Membership: Committed Member

To help answer the question of whether there is a measurable difference in commitment levels among different union types, it is necessary to develop a visual representation of how this difference can be seen in a

two-dimensional plane. If union types can be seen to occupy a continuum with the more basic industrial and farm labor unions occupying one end, and high skilled and/or educated professional unions occupying the other end, a visual distinction can be established. Blue-collar unions occupy one end and white-collar unions occupy the other. (See Figure 1 in Appendix A.) In this research, it is contended that as levels of commitment are compared, controlling for certain geographic and demographic variables, a measurable difference due to union type may be seen. This difference may also show a higher level for white collar than for blue collar unions. It is also contended that the wider the disparity, the greater the difference in levels of commitment.

This study, however, can only determine the difference between the two union locals tested, but it is contended that there should be a significant, measurable difference in levels of commitment. The professional union local should have the highest level of union commitment. Later research of this type and ultimately a meta-analysis could possibly show this relation to indeed exist across all union types.

To test this assumption, two different union types have been selected in the same geographic area, with comparable demographic aspects. A survey instrument adapted from the (OCQ) questionnaire will be administered

to each union local's membership. One of the union locals is a blue-collar manufacturing bargaining unit and the other is a professional white-collar aerospace engineering union local.

A visual representation of a committed union member can be developed from the survey results and, in its simplest form, should consist of four components: (1) initial membership, (2) open or subdued loyalty, (3) active or passive participation, and (4) desire to sustain membership. (See Figure 2 in Appendix A.)

Since not all members will choose to participate in the survey, it can be contended that response rate will bias the results. The visual depiction has no provision for non-response bias. However, it is contended that since the actual level of commitment is not critical in this research and, if only committed members respond, a direct comparison of union locals will not be biased by those who do not respond. In fact, only committed members need reply. Of course, even some committed members will fail to reply, probably due to mistrust of the motives for doing the study. However, by using past research as a guide, in studies that did measure commitment levels, the low response rate has been acceptable in these studies. Now that the stage has been set and a foundation laid for doing this study, a detailed research agenda is proposed.

Research Agenda

To clearly understand the research problem investigated in this dissertation the following sections are devoted to stating the plan of study: (1) definition of important terms, (2) statement of research problem, (3) purpose of the study, (4) significance of the study, (5) outline of the subsequent chapters, and (6) chapter summary.

Definition of Important Terms

Organizational Commitment

Organizational commitment is "the strength of an individual's identification with and involvement in a particular organization" (Porter, Steers, Mowday, & Boulian, 1974: p.604). Becker (1960: p.33) states that it is the tendency to engage in "consistent lines of activity" because of the perceived cost of doing otherwise.

Saturationist and Historical Theories of Union Growth

The saturationist's theory predicts that structural factors such as the proportion of workers employed in manufacturing, would tend to retard union growth in the future (Bell, 1953). The historical school emphasizes unique circumstances as growth determinants (Bernstein, 1961).

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Unilateral Commitment

Unilateral commitment describes a positive attachment to a union or to an employer, but not to both (Stagner & Rosen, 1965).

Union Commitment

Union commitment is defined as a multidimensional construct which includes four dimensions: (1) union loyalty, (2) responsibility to the union, (3) willingness to work for the union, and (4) belief in unionism (Gordon, Philpot, Burt, Thompson & Spiller, 1980).

Cosmopolitans and Locals

These terms describe the concept that concerns the dilemma facing professionals whose values and loyalties to organizations and professions sometimes collide (Gouldner, 1957; Miller & Wagner, 1971).

Cosmopolitans have a strong attachment to their profession and it is presumed this attachment is greater than attachment to either company or union. Ritzer and Trice (1969) found in a study of personnel managers that they were committed to both their profession and their employer, "and only slightly more to their occupation" (1969: p.33).

Locals are considered to be decidedly committed to their employer or organization and this would be consistent with organizations that do not demand behavior

contrary to personal or professional norms (Angle & Perry, 1985).

Professional Employee (Union Member)

In a provision of the 1947 Taft Hartley Act, an amendment that requires that professional employees be afforded the right to form exclusive bargaining units, resides a definition of the eligibility for professional status. The full text of the section is as follows:

> The term "professional employee" means--(a) any employee engaged in work (i) predominantly intellectual and varied in character as opposed to routine mental, manual, mechanical or physical work; (ii) involving the consistent exercise of discretion and judgment in its performance; (iii) of such character that the output produced or the result accompanied cannot be standardized in relation to a given period of time; (iv) requiring knowledge of an advanced type of field of science or learning customarily acquired by a prolonged course of specialized intellectual instruction . . . . (NLRA, 1975: Section 12(2))

Statement of the Research Problem

As has been previously stated, the crisis facing unions is the overall decline in membership. Much discussion concerning this problem, and how to solve it, has brought about a renewed interest in union research. This new interest translates into a reevaluation of the role of unions in society and is of great interest to academic scholars and union analysts. Both groups agree

the problem needs the systematic application of new, and better methods of research to existing union concepts.

An important step in understanding the problem of declining union influence is to apply behavioral science theory to the problem. A major component of membership from a behavioral standpoint is commitment. Researchers have studied commitment from the perspective of potential membership in certification elections but have largely ignored present member attitudes. This study will address this part of the research problem specifically.

Purpose of the Study

This research has two main purposes: to compare and contrast two different union types on the basis of member commitment (Union Commitment); and to use these comparisons and contrasts to provide meaningful information that will be useful to scholars, unions, and employers. Other purposes for this study are to evaluate existing theories, constructs, scales, and methods as well as to introduce other perspectives on prior research methods. One such difference is the evaluation of union member commitment from the perspective of member differences rather than level of commitment. Previous studies have used members from blue collar or white collar unions or have used a segment such as professional teachers, but not two specific independent locals, based

on the wide difference in their respective membership. Past studies ascertained commitment levels based on individual differences of members, whereas this research looks to determine if there are major differences in union type using commitment as the measurement tool. There is already a consensus that union membership demonstrates a measurable level of commitment (Morrow, 1983) but so does membership of other groups or membership of non-union employees of companies. It is the intention of this research to determine if different union types differ significantly based on commitment and offer insight into what this could possibly mean.

Significance of the Study

During the past decade little evidence has been presented that the decline in union density is due to internal union factors, but research in this direction has just begun (Heneman & Sandver, 1986; Moranto & Fiorito, 1987). Further comparative analysis may help determine the merit of the internal union factors thesis. Growing attention to image, modern administration techniques, and experimenting with new organizing approaches, suggest that unions may perceive internal factors as a cause of union decline, or at least as a possible solution (Donahue et al., 1985; Fiorito & Moranto, 1986). Much more can be written concerning the significance of this study, but the

research plan has as a goal to provide some significant finding that will shed light on the problem of declining union membership by assessing two union types based on commitment. The gains in the past two decades have been in areas that were previously determined to have little or no potential for unionization. Contrary to this determination, the most rapid growth has been in public, professional, and other white collar areas. Based on this information and the saturationist viewpoint however, the potential for unionization in these areas is limited.

With the shift in the United States economy from an industrial based society to an information based society, it suggests there is a need for more understanding of the process of unionization. This study hopes to make a significant contribution to our knowledge of the link between unionization and commitment, and ultimately contribute to our overall understanding of the unionization process.

Outline of the Subsequent Chapters

Chapter II presents the literature related to the problem of union growth and a detailed review of the relevant commitment literature. The theoretical basis critical to this research is also presented.

Chapter III presents the theoretical basis for hypothesis testing and the research objectives and questions are stated.

Chapter IV presents the methodology for conducting this research. Sampling techniques, questionnaire and scales are discussed. The analytical tools are proposed and their alternatives.

Chapter V contains the data analysis and results of the hypothesis testing. The overall statistical results are presented in detail.

Chapter VI is the concluding chapter where the findings are discussed along with the contributions and limitations of the study. The need for, and direction of future research is also discussed.

Chapter Summary

This chapter introduces the research topic proposed in this dissertation. A discussion of background information and researcher interest in this area of research is first presented. The terms that are important to, and related to, this study were defined. The statement of the research problem was outlined and the reasons for selecting this area and specific topic were discussed. The contributing significance of this research, and why, were presented and discussed. The last

section contains an outline of the subsequent chapters in this dissertation.

CHAPTER II

REVIEW OF THE LITERATURE AND

THEORETICAL BASIS

The purpose of this chapter is to review relevant literature to this study, and to establish the theoretical basis that is also relevant to this research. The theoretical areas of interest and importance, range from the debate surrounding saturationists and historical schools of thought, to environmental and structural theories, to those of behaviorists of which this study is concerned, in particular the internal union psychological dimension of union commitment.

Theories of Union Growth

Explanations of union growth generally fall into one of two contrasting schools of thought. These schools of thought are either the saturationist or the historical. The saturationist approach arises from Bell's (1953) prediction that structural factors, such as the proportion of workers employed in manufacturing, would tend to retard union growth in the future, while the historical school

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emphasizes unique circumstances as growth determinants
(Bernstein, 1961).

This debate is most interesting and important to this
research, and it is contended that this study will
inevitably shed some light on this fundamental question,
of whether there are fixed limits that are independent of
internal issues, such as union commitment.

As workers lose union jobs, their unions are no
longer functional to them, their union membership no
longer appears instrumental, and they have little reason
to carry any commitment or loyalty to the union into their
new jobs. For essentially three reasons, those workers
who obtain the jobs created in this reallocation show
little interest in unionizing. First, the "demonstration
effect" of declining job security for current union
members reduces the perceived instrumentality of joining a
union. Since United States unions as a general rule lack
the power to protect members against layoffs in severe
economic crisis, and lack the capacity, again as a general
rule, to help find new jobs in the external job market,
they often become identified with particular employment
insecurity and uncertainty. The second reason is, because
United States unions' economistic or "bread and butter"
focus, members have no other basis on which to maintain
union membership once out of work or working at a
non-union enterprise. Until very recently, unions have

not offered any other membership status outside of a collective bargaining relationship. An example has been member's political and social interests, which traditionally have been ignored.

The third reason is that some employers pour substantial resources into designing their new operations both to maximize flexibility and avoid unionization. Therefore, many workers find these new job environments quite responsive to their job-related interests. The conditions for unionization, job satisfaction, and instrumentality perceptions that previously might have interested a majority of workers in joining a union, <u>are absent in these new environments</u>. As a result of these three factors, members who lose their union jobs have no social, economic, or political incentives to actively seek, continued union membership, nor do they have any practical option to do so (Kochan & Wever, 1992).

A similar situation seems to plague white-collar and service sector industries. White-collar workers have historically been less interested in unions than blue-collar workers and have been shown in past studies to have higher job satisfaction than blue-collar workers. New employers have also been considerably more resistant to attempts to unionize than employers that are already partially or highly unionized employers. Also, historically, service sector workers have been thought to

be more loyal to their careers than to the companies that employ them. Except for a few craft unions, membership is tied to individual firms, as it does in most other advanced industrial countries. This means that even if unions can organize more people in this sector, unions will continue to lose many of their members when they change employers as these people frequently do.

The central implication of these dynamics is that no single strategy and no incremental environmental change is likely to produce a resurgence for the United States union movement. The implication is that if any significant increase in the proportion of the work-force represented by labor organizations is to be realized, labor organizations must be based on fundamental transformations in the environment, in the institutional structures of industrial relations, and in the strategies used to represent workers (Kochan & Wever, 1992).

Organizing Trends

The rapid unionization in the public sector, despite predictions to the contrary, illustrate the need for more intense scrutiny of factors outside the structuralist viewpoint of saturationism. In essence, can the saturationist explain this phenomenon? What about other white-collar workers such as professional engineers in particular? There have only recently been studies, aside

from some teacher union studies, of special groups (Moore, 1975). In fact, the rapid union growth of public sector employees in an era of general union growth stagnation and overall decline should provide incentive for closer examination of other special groups. The so called "pink collar" work force made up, traditionally, of female office workers is another example of how psychological factors, such as satisfaction and commitment, influence the decision to become union.

Commitment Theories

Commitment has been anything but a consensual construct in the general literature. It has been described in such diverse ways as: attachment to, and identification with, an organization (Buchanan, 1974); a binding of attitude and belief to prior behaviors (Salancik, 1977); a resignation to status, under penalty of forfeiture of the costs of attainment of that status (Becker, 1960); and a dependency relationship in which maintenance of an individual's "internal being requires behavior that supports the social order" (Kanter, 1972: p.66). Such diverse conceptual frameworks and their operational definitions, including several variations on why and how people become committed and how to measure commitment (Angle & Perry, 1983; Kiesler, 1971; Ritzer & Trice, 1969; Stevens, Beyer, & Trice, 1978); have created

a situation in which it is often difficult to make direct comparisons among commitment studies.

Diversity in conceptualizations of commitment has had clear effects on the coherence of past research on commitment. (See Table 1 in Appendix B for a list of organizational commitment research.) An example is the study by Fukami and Larson (1984) and Gallagher (1984) which measured commitment in different ways. Fukami, et al. (1984), adopted a measure patterned after the work of Ritzer and Trice (1969). Gallagher (1984) employed a scale based on the work of Porter, Steers, Mowday, and Boulian (1974). These two scales rest on different conceptualizations of commitment and tend to be only moderately correlated, making direct comparison problematic (Ferris & Aranya, 1983).

The perspective on organizational commitment taken by Porter et al. (1974, 1982) comes closer to such notions of loyalty and allegiance. This organizational behavior approach (Staw, 1977) essentially treats commitment in terms of individuals' psychological attachments to social systems. According to Porter et al. (1974, 1979, 1982), a committed employee is defined as follows: (1) has a strong desire to remain a member of his or her organization; (2) internalize the value and goals of that organization; and (3) is willing to work extra hard on behalf of the organization. Thus, attachment to

membership derives not from economic exchange, but from such processes as identification and internalization (Kelman, 1958). These processes, then, more clearly consonant with loyalty or allegiance.

There has been a substantial amount of published research, that has covered a large range of organizational and employee types, that has employed the measurement procedure associated with this approach to commitment (Mowday et al., 1979). It can therefore be seen that a substantial amount of normative and psychometric information regarding the measure exists. In addition, a major research effort on commitment to unions appears to have its roots in the framework of Gordon, Philpot, Burt, Beauvais, and Morgan (1982).

Another area that is relevant to this study is past research on the difference between cosmopolitans and locals. This concept concerns the dilemma facing professionals whose values and loyalties to organizations and professions sometimes collide (Gouldner, 1957; Miller & Wager, 1971).

Gouldner (1957) and other early researchers saw cosmopolitanism and localism as decidedly zero-sum. Cosmopolitanism and localism appeared to be antithetical; strong attachment to a profession precluded attachment to an organization and vice versa. However, Miller and Wager (1971) held that the two orientations need not be mutually

exclusive when the expectations and role demands of profession and organization remain congruent, if, for example, an organization does not demand behavior contrary to professional norms. Accordingly, cosmopolitanism and localism need not be viewed as incompatible. In fact they may coexist, contingent possibly on the extent to which people can avoid making a choice or role conflict (Miller & Wager, 1971).

These concepts are obviously relevant to this study, in that unions may force members to choose between incompatible values or make behavioral demands. One can characterize union-member relations by the relative amount of conflict or cooperation that resides in the two parties' orientation toward one another. This background condition has been called attitudinal climate (Walton & McKersie, 1965). By studying differences in commitment levels between two types of unions light may be shed on whether there are substantial differences in commitment levels. Such findings may encourage unions to reevaluate their methods of organizing and their rules for continued membership.

Theory of Union Commitment

It is important to begin this conceptual definition with an examination of the formal, conceptual definition of the commitment concept in conjunction with its

operational definition or measure. The linkage between a conceptual definition and a measurement procedure, termed the epistemic correlation (Northrop, 1959), is a critical connection in that researchers tend to assume that isomorphism exists once a concept or measure comes into popular use and because later theorizing about a concept tends to be derived from the conceptual definition rather than its operationalization. When the construct validity of a concept is less than perfect, the potential for deficiency or variability in the measure not reflected in the concept, increases (Schwab, 1980). The danger is that a researcher may respond to deficiency by creating a new measure that he or she feels totally captures the essence of the concept, or he or she may contaminate the measure by devising a narrower measure intended to reflect the concept more precisely.

Union commitment is a relatively new concept, in terms of measuring commitment (Morrow,1983). In some ways it is similar to attitude toward union concepts and measures. These measures typically have emphasized opinions about unionism rather than loyalty to and feelings toward a specific union. Therefore, union commitment is considered a broader concept that includes more than attitude toward unions, but pertains only to union members.

Although scholars have embraced the concept of union commitment as analogous to organizational commitment, only representing a shift in institutions, care should be taken to note the differences. The concept incorporates the three dimensions outlined by Gordon et al. (1980) stated previously. One important difference is voluntarism and can be a factor in some unions where membership is a condition of employment. Even in right to work states, workplace norms dictate membership as a socialization process. Remembering this condition, union commitment is defined as the following: (1) a union member's willingness to remain a member of the union, (2) his or her belief in the objectives of organized labor, and (3) his or her willingness to perform services voluntarily for the union (Gordon et al., 1980). This definition was determined inductively in a study of white collar, nonprofessional workers that yielded four empirical dimensions from a thirty item scale: (1) loyalty to the union, (2) responsibility to the union, (3) willingness to work for the union, and (4) belief in unionism (Gordon et al., 1980). The level of concept and measure isomorphism was judged to be fair to good (Morrow, 1983). (See Table 2 in Appendix B for a list of union commitment research.)

In the study previously reviewed, the union commitment measure is relatively independent of all but the job focus form of work commitment and does not

preclude commitment to other life areas. In this research, union commitment is not supposed to have an adversarial stance relative to organizational commitment. However, several of the items do pertain to the union member's willingness to uphold the terms of the bargaining agreement.

Reliability and Validity

The reliability of the measure can be viewed as an alternate indicator of concept and measure isomorphism in the sense that all items in a uni-dimensional scale or sub-scale should measure the same thing. Variance in a measure that does not reflect the underlying concept may be a reflection of construct deficiency, or more likely, contamination. In addition, confidence in a measure is enhanced by the number of times a sample demonstrates reliability. This is the well known and important concept that reliability is a prerequisite for validity (Schwab, 1980). Although reliability is a necessary prerequisite for validity, a concept or measure may demonstrate reliability and not have validity. However, if a concept or measure possesses validity then it is reliable (Schwab, 1980; Hair, Anderson, Tatham, & Black, 1992).

In this early research, which is at the root of union commitment research, it was such a recent development at the time, as to preclude any definitive statement

concerning reliability of the measure. As later research has shown, extremely reliable measures were developed (Morrow, 1983).

A measure of union commitment was developed by O'Reilly and Chatman (1986) in which organizational commitment is defined as a psychological attachment to the union. This affective attachment can be one or more of the following three dimensions: (1) identification-adoption; as one's own, of the goals and values of the union, (2) affiliation-feelings of belonging to the union, being "part of it," and (3) moral involvement-internalization of the roles of the union demonstrated by feelings of care and concern for their own union (O'Reilly & Chatman, 1986).

Refinement of Earlier Research and New Research

The four dimensions of the union commitment construct defined and investigated by Gordon et al. (1980) were refined and tested by later research. The four dimensions of this concept were multidimensional and consisted of the following: (1) loyalty to the union, (2) responsibility to the union, (3) willingness to work for the union, and (4) belief in the goals of the union (Gordon et al., 1980; Allen & Meyer, 1990; Eaton et al., 1992; and Gallagher et al., 1993).

There were three aspects of the loyalty dimension: (1) a feeling of pride in the union; (2) an exchange relationship (Steers, 1977) or calculative involvement (Etzioni, 1975), and (3) the desire to remain a member (Klandermans, 1986) or continuance commitment (Allen & Meyer, 1990). It was found that attitude of union member's loyalty were predictive of willingness to participate and responsibility to the union. Researchers Gallagher, Fullager, Clark, and Gordon (1993) verified the multidimensionality of the measure reported by Gordon et al. (1980). They also reported a causal relationship between the three dimensions of commitment (Pisnar, 1995).

Responsibility to the union is represented by the strength of a member's intent to engage in pro-union behaviors. Responsibility is reflected in the performance of day to day activities, or the normal role fulfillment. The two dimensions of willingness to work and responsibility should be predictors of the behavioral aspect of participation in the union. According to Barling et al. (1992: p.72), "The higher the level of this form of commitment, the more likely the individual is to fulfill routine responsibilities of membership that are necessary for union effectiveness." Some of the responsibilities include making sure shop stewards perform their jobs correctly and monitoring the agreement or

contract for fulfillment. They would also ensure that the grievance procedure was used effectively (Pisnar, 1995).

Union Commitment Follows Organizational Commitment

The definitions of organizational commitment and union commitment are varied and often confusing. A comparison of measures and definitions used emphasizes the ambiguity with which the construct and dimensions of commitment have been operationalized. Compounding the problem of a straight-forward definition of union commitment, is the site specific characteristic of agency status. Only two studies, Thacker and Fields (1990) and Heshizer, Martin, and Wiener (1991), have identified their sample as an agency site.

Organizational behavior literature tends to reflect two distinct approaches to the definitions of organizational commitment: (1) the exchange, and (2) the psychological approach (Stevens, Beyer & Trice, 1978).

The exchange approach is based on a transactional accounting of inducements and contributions between the organization and the member with commitment as an outcome (Morris & Sherman, 1981). Becker (1960) describes commitment as the tendency to engage in consistent lines of activity based on the recognition of cost associated with discontinuing the activity. This continuance commitment is affected by the magnitude and/or number of

investments and the perceived lack of alternatives (Allen & Meyer, 1990). The likelihood that employees will stay with the organization will be related to the magnitude of the "side bets" that they recognize (Becker, 1960). "Cognitive-continuance commitment is described as that which occurs when there is a _profit_ associated with leaving" (Kanter, 1968: p. 504). Cost-induced assessment of commitment, introduced by Ritzer and Trice (1969), and modified by Hrebiniak and Alutto (1972), requires respondents to indicate the likelihood that they will leave the organization given various inducements to do so. Organizational attachment based on calculative involvement or exchange behavior has also been conceptualized by Etzioni (1975), Gould (1979), Kidron (1978), and Meyer and Allen (1984).

The psychological approach is characterized by a strong positive orientation towards the organization. Porter, Steers, Mowday, and Boulian (1974) constructed the Organizational Commitment Questionnaire (OCQ) and describe three factors of commitment: (1) the desire to remain in the organization, (2) the willingness to exert consider-able effort on behalf of the organization, and (3) the belief and acceptance of the organization's goals and values (Pisnar, 1995).

Porter et al. (1974: p.604) describes commitment as "the strength of an individual's identification with, and

involvement in, a particular organization." Attitudes
assessed in this conceptualization were motivation, intent
to remain with the organization and the identification
with the values of the organization. Gordon et al. (1980)
adapted this definition for union application and
identified a four-factor measure of union commitment:
(1) union loyalty, (2) responsibility to the union,
(3) willingness to work for the union, and (4) belief in
unionism. Later research has confirmed these factors
(Gallagher, Fullager, Clark & Gordon, 1993; Kelloway,
Catano & Southwell, 1992; Fullager, 1986; Ladd, Gordon,
Beauvais & Morgan, 1982).

Psychological attachment to an organization can be
described as a bond linking the individual with the
organization (O'Reilly & Chatman, 1986). This form of
organizational commitment "reflect(s) the degree to which
the individual internalizes or adopts characteristics or
perspectives of the organization . . . its underlying
dimensions or bases may vary within or across individuals"
(O'Reilly & Chatman, 1986: p.493).

The association of individual values with organiza-
tional values is critical to the development of union
commitment. Buchanan (1974: p.533) refers to commitment
as "a partisan, affective attachment to the goals and
values of an organization, to one's role in relation to

the goals and values, and to the organization for its own sake, apart from its pure instrumental worth."

This research defines normative commitment as the value-based linkages with the union while calculated involvement is defined as the ecologically-based association with the union (Buchanan, 1974).

Defining the Research of Union Commitment Dimensions

Reicher (1985) reports that the concept of commitment has been researched and conceptualized on a global basis which fails to reflect complex processes of individual attachment. Allen and Meyer (1990) tested a three component model of commitment using affective, continuance, and normative dimensions. Their results revealed that affective and normative commitment were related and empirically distinguishable from continuance commitment in terms of correlates. The dimensions of normative commitment and instrumental attachment were investigated by Heshizer, Martin, and Wiener (1991) who found the two forms of union commitment related differently to antecedents and to union participation. Newton and Shore (1992) suggest that union commitment can be examined in terms of two dimensions: Ideological, or psychological attachment and instrumental, or exchange based attachment.

Commitment defined as consisting of instrumental and psychological attachments "differentiates the state of attachment from its antecedents and its consequences" (O'Reilly & Chatman, 1986: p.493). Weiner (1982) separates the calculative, exchange oriented behaviors from internalized behavior motivators which differentiate, for the individual, what is <u>right</u> in organizational terms. Internally influenced behavior, or normative behavior, is described as

> the totality of internalized normative pressures to act in a way that meets organizational goals and interests. The stronger the commitment, the stronger the person's predisposition to be guided in his or her actions by such internalized standards rather than by a consideration of the consequences of these actions. (Weiner, 1982: p. 421)

How Unionization Exists

The psychological process of unionization can be compared to the development of the psychological contract between the union and its members (Schein, 1980). In order for this contract to exist and be assured some level of continuance, union members must continue to see their expectations fulfilled (Barling et al., 1992).

The unionization process begins with the act of joining a union. Once a member's attitudes of commitment are developed as well as the behavioral components, such as participation in union activities, socialization is complete. How members are socialized into the union, how

union policies and procedures interact with the individual, and how the union can promote active member participation in the operation of the union, are fundamental questions to be answered if unions are to maintain and strengthen membership commitment.

Katz and Kahn (1978) reported that one characteristic of a successful organization is the ability to attract and maintain members. The extent to which unions retain membership is reflective of the ability of the union to garner commitment from its members.

> If union commitment is predictive of participation in essential activities and is influential in determining voluntary performance of actions that ensure the union's attainment goals, then union commitment is a crucial determinant of a union's success (Barling et al., 1992: p.88).

The Results of Commitment

The difference between the exchange and the psychological approaches to commitment are reflected not only in the process itself, but also in potential outcomes. Individual interaction with the organization takes the form of participation in required role behaviors and extra-role behaviors, or pro-social behavior.

March and Simon (1958: p.83) identified employee decisions as those to participate and those to produce and state that "decisions by workers to participate in an organization reflect different considerations from decisions to produce." Production decisions, which can be

defined as those actions which are required by the organization, but may vary in terms of degree of performance and accomplishment, relate to the strength of an employee's identification with the goals and values of the organization. Participation decisions, interpreted as those actions which are required organizational roles, reflect considerations of exchange and inducements.

It has been found that affective commitment is predictive of employee stability and related to on-the-job performance. The correlation between affective commitment and performance was found to be significant and positive by Meyer, Paunonen, Gellatly, Goffin, and Jackson (1989). Allen and Meyer (1990) state that the link between commitment and on-the-job behavior may vary as a function of the strength of the different components. Overall job performance, as rated by supervisors, was found to be correlated with subordinates' affective commitment scores.

Heshizer and Wiener (1991) found that normative union commitment demonstrated a stronger association with union participation than instrumental attachment to the union. Angle and Perry (1988) found a strong relationship between values and measures of organizational effectiveness. The importance of extra-role member behavior is exemplified by Katz (1964), who identified three basic types of behavior essential for organizational functioning: (1) people must be induced to enter and remain with the organization,

(2) employees must carry out specific role requirements in a dependable fashion, and (3) employees must be innovative and spontaneous, and participate in activities that go beyond role prescriptions. As Katz (1964: p.132) noted, "an organization which relies solely upon its blueprints of prescribed behavior is a very fragile social system."

Smith, Near, and Organ (1983) characterized organizational citizenship behavior as being those critical behaviors which rely on cooperation, altruism, and spontaneity of un-rewarded acts for the effective functioning of an organization. Mowday, Porter, and Steers (1982: p.15) state that "there are many instances where organizations need individual members, especially those in critical positions to perform above and beyond the call of duty for the organization."

A positive relationship between affective commitment and a self-report measure of employee innovation was reported by Allen and Smith (1987). Significant correlation's between value commitment, extra-role behaviors and satisfaction with the organization were demonstrated by Schechter (1985), as cited in O'Reilly and Chatman (1986). Strong links between internalization and identification and pro-social behavior were assessed by O'Reilly and Chatman (1986).

Normative commitment appears to have an affect on the stability of behaviors. Weiner (1982) states that when

sacrifice, persistence, and preoccupation characterize behavioral patterns, the resulting behavior becomes stable, long term and independent of environmental changes. Once personal moral standards become internalized they are no longer dependent upon reinforcements and/or punishments on which they were originally based.

Normative or value based commitment and instrumental involvement are manifested in different outcomes. While both dimensions of commitment lead to organizational participation, critical for organizational functioning, normative commitment seems to lead to pro-social behaviors which are necessary for long term organizational effectiveness. Based on the previous discussion, it would seem that the two dimensions of commitment need to be examined in terms of outcomes.

Importance of Union Commitment

The analysis of union commitment aids our understanding of the psychological processes involved in such union behaviors as participation. As early as 1956, Stagner suggested a link between union commitment and participation.

> Since the ability of local unions to attain their goals is generally based on the members' loyalty, belief in the objectives of organized labor, and the willingness to perform service voluntarily, commitment is part of the very fabric of unions (Gordon et al., 1980: p.480).

Gordon and Nurick (1981) propose that <u>union commitment</u> is a <u>major variable</u> in any applied psychological approach aimed at understanding unions.

Understanding which antecedents and outcomes are associated with the two dimensions of union commitment is of conceptual value to researchers and of pragmatic benefit to unionists (Gallagher & Clark, 1989).

On a practical level, the ability of stewards and officials to bargain collectively with management from a position of strength depends heavily on loyalty of their membership (Barling et al., 1992). Reflective of the current status of labor union membership in this country, a better understanding of union commitment may identify ways to enhance member participation and to increase rank and file involvement in the union (Gallagher & Clark, 1989). In addition, the level of commitment could be used as a measure for judging the effect of labor organizations, for assessing training programs for stewards, for ascertaining the success of negotiations and for gauging the strength of member pro-union sentiments (Gordon et al., 1980).

Chapter Summary

This chapter reviewed the literature relevant to this study. It also stated the theoretical basis for the research. Topics covered included theories of commitment

such as organizational commitment and the specific theory of union commitment. Reviews of prior studies by Gordon et al. (1980, 1981, 1984), as well as later studies that validated his findings by, Gallagher, Fullager, Clark, & Gordon, 1993; Kelloway, Catano, & Southwell, 1992; Fullagher, 1986; Ladd, Gordon, Beauvais, & Morgan, 1982, were also reviewed.

Based on this literature review and prior studies, the foundation for further inquiry into the significance of union commitment as a fundamental concept in attracting and keeping union members has been laid. The following chapter will outline the specific research questions and hypotheses related to this concept.

CHAPTER III

RESEARCH OBJECTIVES, QUESTIONS,

AND HYPOTHESES

In this chapter the objectives, questions, and hypotheses of the research will be proposed and discussed in relation to the theoretical underpinnings reviewed previously in Chapter II. This chapter is arranged into the following sections: (1) delimitation's, (2) terms, (3) objectives, (4) questions, and (5) hypotheses. A summary concludes this chapter.

<u>Delimitations</u>

The first restriction placed upon this research is that it is restricted to union members of two independent and different types of union locals. One local is a professional white collar bargaining unit and the other is a typical blue collar manufacturing bargaining unit.

Another restriction is that the study pertains to union commitment as has been developed from organizational theory and does not present a new definition or construct of this form of behavioral science.

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The same methodology will be assigned to both locals. The two will not be treated as two separate studies since the geographic setting is comparable and the defining differences lie in the psychological and behavioral profiles of the members. The behavioral and psychological aspects are the areas of primary interest in this research.

The last restriction is the geographic limitation of two union types, basically in the same location of a southern right-to-work state, selected primarily as a matter of researcher preference and convenience

Terminology

The terms commitment, organizational commitment, and union commitment are considered synonymous in this study. The terms member, union member, bargaining unit, union, organized labor, labor unit, work group, and local are associated with unionized employees, and any reference to non-union employees will be duly noted. The terms commitment and attitude are used in the context of union membership rather than in the context of an employer or other organization. However, the term attitude is an underlying dimension of commitment.

Research Objectives

A major objective of this research is to assess, empirically and inductively, the difference between a

professional white collar union and a typical blue collar union. This will be accomplished by using the theoretical concept of union commitment as the concept to be measured. By making use of appropriate statistical techniques, the possibility for significant parallels and differences may be determined. However the results will be descriptive, and cannot be used as either prescriptive or predictive outside the sampling frame of the two sub-populations surveyed.

Another objective is to incorporate newer theoretical concepts, that other researchers have tested, together with older well documented concepts. This integration of concepts will add to the understanding of the psychology and behavior of union members.

The last, and probably more important, objective from a practical standpoint is that this research will contribute to an understanding of the dynamics of union member commitment.

Research Questions

The research questions are related to the objectives outlined in the previous section. The questions concern the nature of union member commitment. The questions also relate to the possible differences in union locals, based on the concepts associated with union commitment. Nine research questions were determined to be relevant to this

study. The research questions relevant to this research
are as follows:

Commitment Research Question

Research Question #1--What is the relationship between a
professional white collar union local and a typical blue
collar manufacturing union local based on commitment?
Specifically, to what degree are they the same or
different?

Union Affiliation Research Question

Research Question #2--What is the relationship between a
professional white collar union local and a typical blue
collar manufacturing union local based on union
affiliation? Specifically, to what degree are they the
same or different?

Attitude Toward the Union,
Research Question

Research Question #3--What is the relationship between a
professional white collar union local and a typical blue
collar manufacturing union local based on attitude toward
the union? Specifically, to what degree are they the same
or different?

Satisfaction Research Question

Research Question #4--What is the relationship between a
professional white collar union local and a typical blue
collar manufacturing union local based on satisfaction?
Specifically, to what degree are they the same or
different?

Participation Research Question

Research Question #5--What is the relationship a
professional white collar union local and a typical blue
collar manufacturing union local based on union
participation? Specifically, to what degree are they the
same or different?

Socialization Research Question

Research Question #6--What is the relationship between a professional white collar union local and a typical blue collar manufacturing union local based on socialization influences? Specifically, to what degree are they the same or different?

Demographic Research Question

Research Question #7--What is the relationship between a professional white collar union local and a typical blue collar manufacturing union local based on demographics? Specifically, to what degree are they the same or different?

Employment Opportunity Research Question

Research Question #8--What is the relationship between_a professional white collar union local and a typical blue collar manufacturing union local based on_employment opportunities? Specifically, to what degree are they the same or different?

Work Beliefs Research Question

Research Question #9--What is the relationship between a professional white collar union local and a typical blue collar manufacturing union local based on work beliefs? Specifically, to what degree are they the same or different?

Hypotheses

Nine hypotheses are formed based on the nine research questions in the previous section. This study follows the conceptual approach first developed by sociologists and industrial-organizational psychologists. Commitment was studied as the concept that bound individuals to an organization. This prior research prompted Porter and his associates (Dubin, Champoux & Porter, 1975; Porter,

Crampton & Smith, 1972; Porter & Smith, 1970), to have

defined the concept of organizational commitment as:

> (1) a strong desire to remain a member of the
> particular organization, (2) a willingness to exert
> high levels of effort on behalf of the organization,
> and (3) a definite belief in and acceptance of the
> values and goals of the organization.

Porter and Smith (1970) used this three part

conceptualization as the basis for a 15-item questionnaire

that yielded an overall commitment score.

Examining commitment as it relates to unions offers

the best opportunity to test the generality of existing

propositions about the concept, in different social

institutions as well as contribute to psychological

research on unions, which has been lacking. Since a

concept demands scientific investigation and measurement

of all relevant variables, the development and refinement

of a criterion is an obvious goal of union commitment

research. This criterion should be similar to the

accepted definition of the more generally used construct

of organizational commitment. By empirically deriving a

commitment to the union measure, a factor structure was

developed, that reflects the components identified in a

priori definitions of organizational commitment (Porter et

al., 1974). Prominent among these factors is a dimension

interpretable in terms of exchange relationship, which is

a loyalty that is the result of a person's ability to

satisfy salient needs in the environment of the organization/union (Steers, 1977).

The union commitment criterion has been shown in previous studies to be significantly correlated to a number of variables, including member characteristics, socialization experiences, and work role factors (Steers, 1977). The commitment measure has also been supported to have significant correlation with levels of participation. Another finding, by past research, is that leaving the union is more closely correlated with union commitment criterion than with the measure of satisfaction with the union (Porter et al., 1974).

Union Affiliation-Family History

This scale was developed by Barling, Kelloway and Bremermann (1991) to determine the respondents level of knowledge, concerning parents participation and involvement in union activities. The internal consistency of this measure has been assessed at .77 (Barling et al., 1991). The level of awareness is the cumulative score. This scale has been modified to include experiences of any close relative.

Attitude Toward the Union Normative Commitment

This construct is a measure of value commitment which reflects the belief in and acceptance of the values and

goals of the organization. This scale had a reported reliability coefficient of .90 (Mayer & Schoorman, 1992). This scale has been modified to reference organization as union.

Satisfaction-Benefits

This scale measures the construct that assesses members perceptions concerning how the presence of a union results in better pay, benefits, and working conditions (DeCotiis & LeLouarn, 1981). This scale had a reported reliability of .97 (DeCotiis & LeLouarn, 1981).

Participation

This construct has been measured by assessing the number of activities members were involved in during the past year (Fullager, 1986). A high score indicates a high level of participation. The Cronbach's alpha coefficient of reliability has been reported as being .75 (Fullager, 1986; p.131).

Socialization Influences

This scale, developed by Gallager, Fullager, Clark, and Gordon (1993) measures individual socialization tactics used by a union. The reliability of this measure has a reported alpha coefficient of .76 (Gallagher et al., 1993).

Demographics

In general, demographics have not contributed to predicting union attitudes (Barling, Kelloway and Bremermann (1991). However, researchers have reported that active members are more likely to be older (Perline & Lorenz, 1970), male (Fiorito & Greer, 1982), long tenure (McShane, 1986), from urban areas (Sayles & Strauss, 1953), have higher job titles (Strauss, 1977), have higher education level (Strauss, 1977), and have family members who were union members (Purcell, 1953).

Although demographics are not considered good predictors of attitudes and behaviors, the analysis of the structural characteristics of unions is warranted.

Employment Opportunities

This scale was developed by Magenau, Martin, and Peterson (1988) and reflects the member's belief concerning employment mobility. High scores indicate few opportunities. The coefficient of reliability was reported at .65 (Magenau et al., 1988).

Work Beliefs

This scale was originally developed by Bucholz (1978). Barling, Kelloway and Bremerman (1991) also incorporated this scale which assesses the view that work is basic to human fulfillment. The free enterprise system and the role of the wealthy are addressed. This scale has

a reported alpha coefficient of reliability of .76

(Barling et al., 1991).

The nine hypotheses relevant to this research are as follows:

Commitment Hypothesis

Hypothesis #1--Ho: There is no difference in the degree of union commitment of professional white collar union local members and typical blue collar manufacturing union local members. Ha: There is a difference in the degree of commitment.

Union Affiliation Hypothesis

Hypothesis #2--Ho: There is no difference in the degree of union affiliation of professional white collar union local members and typical blue collar union local members. Ha: There is a difference in the degree of union affiliation.

Attitudes Toward the Union, Hypothesis

Hypothesis #3--Ho: There is no difference in the degree of attitudes toward the union of professional white collar union local members and typical blue collar union local members. Ha: There is a difference in the degree of attitudes toward the union.

Satisfaction Hypothesis

Hypothesis #4--Ho: There is no difference in the degree of satisfaction of professional white collar union local members and typical blue collar manufacturing union local members. Ha: There is a difference in the degree of satisfaction.

Union Participation Hypothesis

Hypothesis #5--Ho: There is no difference in the degree of union participation of professional white collar union local members and typical blue collar union local members.

Ha: There is a difference in the degree of union participation.

Socialization Influences, Hypothesis

<u>Hypothesis #6</u>--Ho: There is no difference in the degree of socialization influences of professional white collar union local members and typical blue collar manufacturing union local members.   Ha: There is a difference in the degree of socialization influences.

Demographics Hypothesis

<u>Hypothesis #7</u>--Ho: There is no difference in the demographics of professional white collar union local members and typical blue collar manufacturing union local members.   Ha: There is a difference in demographics.

Employment Opportunities, Hypothesis

<u>Hypothesis #8</u>--Ho: There is no difference in the employment opportunities of professional white collar union local members and typical blue collar manufacturing union local members.   Ha: There is a difference in employment opportunities.

Work Beliefs, Hypothesis

<u>Hypothesis #9</u>--Ho: There is no difference in the work beliefs of professional white collar union local members and typical blue collar manufacturing union local members. Ha: There is a difference in work beliefs.

Chapter Summary

This chapter has proposed the objectives, questions, and hypotheses that make up the research strategy. A basis for the research has been established in order to address the problem for which this dissertation was undertaken. There were nine research questions that addressed the objectives of the research.   Nine hypotheses were

developed that corresponded to the nine questions. The focus of the objectives, questions, and hypotheses were the relationship between two different union local types, on the basis of union commitment. Chapter IV will discuss the research methodology that will be used to examine the nine research hypotheses.

CHAPTER IV

RESEARCH METHODOLOGY AND DESIGN

This chapter outlines the research design and
methodology used in answering the research questions and
testing the hypotheses previously stated in Chapter III.
It also describes the sampling frame, data collection
methods, and proposed method of analysis.

Sample Design

The populations from which the samples are taken are
two separate certified union types in the United States.
The two union types are separate and independent from each
other. The sampling frames used in this research are two
union locals that correspond to the two union types to be
compared and contrasted in this research.

The research design of comparing and contrasting two
independent populations, based on theoretical constructs
contained in a survey instrument, is the simplified
quasi-experimental model. In effect the two union types
are the two groups that receive the quasi-experimental
treatments in the form of a survey instrument. Past
research has determined the reliability and validity of

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the scales used in the surveys to determine union
commitment level and other constructs correlated with that
concept (Gordon et al., 1980; Barling et al., 1992;
Gallagher et al., 1993). The goal of this research is not
to duplicate these findings, but to determine if there are
significant differences between the respondents'
psychological and behavioral characteristics. However,
the sampling technique is constrained by the fact that it
is a nonprobability sample. The use of a nonprobability
sample is a judgement decision and requires explanation.

Judgement Samples

Judgement samples are sometimes referred to as
purposive samples; the sample elements are handpicked
because it is expected that they serve the research
purpose. To be more specific, the sample elements are
selected because it is believed that they represent the
population of interest. Also as a matter of convienience,
the two union types were picked because of their close
geographical relationship to this researcher. A major
criticism of convenience samples is, regardless of size,
prove to be un-representative. A convenience sample
should be used only for exploratory work, in which the
emphasis is on generating ideas and insights. This
research is intended for that purpose and as a judgement
sample is superior to the convenience sample. The

convenience sample is selected strictly by accident. The researcher and the respondents happen to be in the same place at the same time and are selected on that basis.

The key point of judgement sampling is that population elements are purposely selected. This selection is not generally made on the basis of how representative it is, but rather whether it can offer the contributions sought. When searching for ideas and insights, the researcher is not interested in sampling a cross-section of opinion but rather in sampling those who can offer some perspective on the research question (Churchill, 1991). The courts rely on the same philosophy when expert testimony is allowed.

Judgement samples can be used productively in early research, or exploratory research. They are especially productive in developing ideas and insights. This kind of research is dangerous when the researcher conveniently forgets its limitations and tries to establish causality based on its findings (Sudman, 1976).

Samples

The two samples were selected based on the research questions and hypotheses outlined previously. One sample is from a typical manufacturing union (United Rubber Workers Local 915) and the other is from a professional engineering union (Marshall Engineers & Scientists

Association Local 27). Both samples are located in the same approximate geographic area. The two union locals were selected in an economically well developed, high-tech, Southeastern U.S. city. Both locals are subject to state right-to-work laws and are comparable in demographic composition.

The decision to survey two union types was pre-planned as part of the research problem and questions. The actual selection of the locals was at the discretion of the researcher and a matter of judgement and convenience. Judgement in that the two union locals be as different as possible, with respect to type. The type in this case is one being a blue-collar manufacturing local and the other a white-collar professional local. Convenience was on the basis of having two union locals with a large enough membership within the same approximate geographic area. The research design required that as many factors as possible be controlled or eliminated in order to measure the factors of interest. These factors will in turn generate ideas and insights that will determine the direction of future research. These goals can be accomplished by the use of a nonprobability sampling frame for selection. In future research, depending upon these results, an expanded sampling frame would be a consideration or a specific area could be addressed.

Characteristics of the
Samples

Both samples are in approximately the same geographic area, with similar characteristics and attributes, but differ in respect to union type which is important to the research questions and hypotheses. Both samples have approximately the same concentrations of men, women, and minorities. Both are male dominated with racial representation that mirrors the general population of the area. The location of the two union locals are in a right-to-work state and as a result are subject to the right-to-work laws of that state.

Even without mandatory membership, both union presidents/agents claimed almost 100% membership of eligible persons. As was pointed out previously, this is normal even in RTW states, due to group norms in the workplace (Gordon et al., 1986).

The membership of the manufacturing union local sample totals more than 1200 members, while the professional engineering union local sample, numbers less than 400 members. Based on previous research, response rates have been low, but acceptable, with reliability of scales, using Cronbach's alpha, in the (.70-.90) range (Gordon et al., 1980,1986; Fullagar et al., 1992; Gallagher et al., 1993).

Administration of the
Survey Instrument

The survey included a cover letter explaining the importance of accurate responses and how each respondent would remain anonymous and their privacy would be protected. (See Appendix C)

After the initial mailing of surveys, a follow-up letter was sent to all original recipients two weeks later encouraging those who have not responded to do so. (See Appendix C.)

The Overall Commitment Measure

Using the Measure to Compare
and Contrast

The method of measurement selected for this research is the method first operationalized by Gordon et al. (1980) and later verified by Fullagar and Barling (1989). Many researchers have used these concepts to measure organizational commitment as criterion, predictors, antecedents, or intervening variables in more complex investigations (Mathieu & Zajac, 1990). The measure, in various forms, has been used by several researchers, but none have used it to assess differences between union types. The constructs appropriate for this research have been demonstrated to correlate well within and between each other and in particular to the construct that represents organizational/union commitment (Gordon et al.,

1980;1986,; Fullagar et al., 1992; Gallagher et al., 1993).

Treatment of Variables

The survey questions associated with each construct were grouped by research question and hypothesis. The construct measurement was the result of self-report scoring of multiple item Likert and Likert-like scales. Theses scales have been used in previous research and have appeared in the literature. As a result, these scales have demonstrated acceptable reliability.

The survey instrument matched each research question and hypothesis with the appropriate construct and was as follows:

1. The first five responses are indicators of the personal information and are designated as <u>union affiliation</u>.

2. The next eleven responses are indicators of the <u>work beliefs</u> research question and hypothesis and are designated as work beliefs.

3. The next six responses are indicators of the <u>demographics</u> research question and hypothesis and is designated as demographics.

4. The next seven responses are indicators of the <u>socialization influences</u> of the union research question and hypothesis and are designated as the socialization influences.

5. The next four responses are indicators of the <u>satisfaction</u> research question and hypothesis and are designated as satisfaction.

6. The next three responses are indicators of the <u>employment opportunities</u> research question and

hypothesis and are designated as employment opportunities.

7. The next six responses are indicators of the <u>attitude toward the union</u> research question and hypothesis and are designated as attitude toward the union.

8. The next six responses are indicators of the <u>conflict resolution</u> research question and hypothesis and are designated as conflict resolution.

9. The next ten responses are indicators of the <u>union commitment</u> research question and hypothesis and are designated as union commitment.

10. The last fourteen responses are indicators of the <u>union participation</u> research question and hypothesis and are designated as union participation.

This survey yielded a multivariate linear equation of which a summed raw score could be used as an index associated with an overall commitment level exhibited by a loyal union member. In addition to analyzing differences between the samples of the two populations, the scores could be heiarchially ranked and analyzed as part of an ad hoc examination. However, the tests of the hypotheses using Hotelling's T^2 were interrpretable and the use of nonparametric tests was not necessary.

The linear equation could be used to determine an index of a committed loyal member and would be the sum of all the coded responses associated with the indicator variables. The indicator variables were grouped according to the scales used to measure the theoretical concept

associated with that group's attributes. This equation has the following form:

Linear Equations of the Two Samples

Sample 1 $\qquad Y_1 = X_{11} + X_{12} + X_{13} + X_{14} .. + ... X_{1P}$

Sample 2 $\qquad Y_2 = X_{21} + X_{22} + X_{23} + X_{24} .. + ... X_{2P}$

Sample 1 = Manufacturing union local

Sample 2 = Professional engineering union local

Y_1 = Overall union commitment index, sample 1

Y_2 = Overall union commitment index, sample 2

$X_{11} + .. \ X_{1P}$ = Variable group 1+2+..p; sample 1

$X_{21} + .. \ X_{2P}$ = Variable group 1+2+..p; sample 2

n = sample size; sample 1

m = sample size; sample 2

The equations were be used to compare differences in the indicator variable groups of the two independent samples using a special form of MANOVA; Hotelling's T^2 statistic (Hair, Anderson, Tatham, & Black, 1992).

To properly utilize these equations of union commitment, and MANOVA to analyze the two independent samples certain steps had be taken to insure the data could be analyzed using the proposed methodology.

Proposed Analysis

Appropriately, the data collected for this research consisted of several variables that needed to be compared

and contrasted simultaneously and the appropriate method was the multivariate data analysis approach of MANOVA. A special case of MANOVA (Hair et al., 1992) utilizing Hotelling's T^2 statistic was the method chosen to test the hypotheses.

In multivariate data analysis certain assumptions concerning the populations and sample are made. One assumption is that the data have a multivariate normal distribution. This is the formal approach and is familiar to most who have an elementary knowledge of statistics and is displayed as the well known 'bell-shaped' curve. The approach taken by many researchers, regardless of the situation, is to regard data as being normally distributed unless there is some reason to believe that it is not. In particular, if all the individual variables appear to be normally distributed then it is assumed that the joint distribution is multivariate normal (Manly et al., 1986). This of course is a minimum requirement since multivariate normality requires more than this. However, in the multivariate condition, normality is not considered critical (Hair et al., 1992). The "Central Limit Theorem" and the "Law of Large Numbers" determines if normality is a consideration and if data transformation is necessary (Hair et al., 1992). A large sample offsets many problems associated with normality in the multivariate condition. The sample size must be at least as large as the number of

variables. Even so, there are ways to overcome non-normality, such as data transformation or some special type analysis. In essence, however, multivariate normality is a preliminary assumption for tests of significance. The graphical representation in profile analysis is useful when used with statistical tests of significance.

Data Reduction

One of the pitfalls that must be guarded against when doing multivariate analysis is the idea that all possible variables can and should be used in the analysis. Not only does this strain the need for a large sample but the inclusion of variables that add little or confound the findings should be eliminated. Methods to determine if variables should be included in the final analysis are called data reduction techniques.

In previous research on organizational and union commitment the method for data reduction was factor analysis, which yielded from 4 to 8 underlying dimensions. Confirmatory Factor Analysis was utilized in this study to verify past findings and determine if further reduction was justified.

The survey instrument was adapted from the Organizational Commitment Questionnaire (OCQ) survey instrument and other consolidated survey instruments. The

scales chosen and the constructs they represent were based upon their reliability and ability to measure the relative theoretical concepts applicable to the research questions and hypotheses.

Correlation Analysis

After the variable groups have been established, a correlation analysis between and within the samples was used to determine the variables that contribute significantly to the explanation of the constructs measured.

In the final stage of analysis the research questions were addressed and the hypotheses associated with them were tested utilizing MANOVA and Hotelling's T^2 statistic. However, before any tests of significance relating to the hypotheses were carried out, a graphical representation was made to determine how to proceed with the testing. A visual representation can uncover problems that affect the assumptions of significance testing. These problems, if known can be addressed to improve the robustness of the tests performed (Manley, 1986).

Profile Analysis

Profile analysis is in the pre-hypotheses testing stage, and can graphically depict the two population samples in two dimensions. This analysis, as in regression analysis, tests for parallelism, coincidence,

and level, or interaction in a regression analysis, of two linear models. However, graphically it can be seen that there is a difference between simple regression and profile analysis in determining parallelism, coincidence, and level. (See Figure 3 in Appendix A.)

In regard to the research questions proposed in this research, the group mean vectors are of interest; specifically whether they are parallel, and if so were they coincident, and if so what was their level.

The nonprobability sampling frame makes it impossible to generalize the findings of any tests of significance. Therefore, the necessity for determining the best linear equation for regression analysis is not productive to this research. The tests of significance using Hotelling's T^2 in MANOVA were important to this research, but profile analsisis has elements that can contribute to an overall understanding of the significance of Hotelling's T^2 test.

The questions concerning parallelism, coincidence, and level are answered using the MANOVA procedure and Hotelling's T^2 statistic. Since difference in vector means is the relationship of interest some individual variables may indeed be coincident or have a negative effect. An individual test, the t-test, can be performed, but its susceptability to a Type I error makes it inappropriate for the hypotheses in this study.

The use of profile analysis is a preliminary step and the two-dimensional graph is the most important part of that analysis relevant to this study. However, the use and importance of profile analysis should not be overlooked in studies where the best linear equation is the goal for regression analysis.

Concepts and Importance
of Profile Analysis

Profile analysis is a procedure that allows a researcher to test whether the population samples are parallel, and if parallel if they are also coincident. Under conditions of where scales are of the same unit of measurement for both samples, levels can also be assessed.

In Figure 3 of Appendix A, parallelism can be assessed if population one is above or below population two. If they are coincident, both populations will occupy the same trace. If level can be assessed the two population traces may display an intersect point. This means there is an interaction between the samples and can seriously complicate interpretation of statistical tests. The use of a multivariate test such as Hotelling's T^2 overcomes this problem.

These tests can allow the researcher to make a preliminary finding of whether statistical tests will indeed have a significant conclusion. If parallelism exists without coincidence this would indicate there would

be a statistically significant finding of unequal sample means. If interaction exists the additive property that allows difference in magnitude of the two samples to be assessed is compromised. Therefore, magnitude of commitment could not be reliably assessed under these conditions.

MANOVA

After the data have undergone appropriate reduction methods and a profile analysis, the variables of interest will be analyzed using a special technique of MANOVA (Hair et al., 1992). The mean vectors from the two independent samples taken from two larger independent populations will be analyzed using Hotelling's T^2 statistic for testing the equality of the vector means. The Hotelling's T^2 statistic is appropriate for comparing an independent sample of a larger independent population with an independent sample of another larger independent population (Johnson and Wichern, 1992).

Data Assumptions

In this type of analysis, some assumptions concerning the structure of the data are noted: (1) Each sample must be random with a mean vector μ, and a covariance matrix Σ. (2) The sample variables from each population are independent of eachother. Depending upon the sample size there may be other assumptions also.

This research is designed to meet the four to five times the number of variables' criteria for sample size. A 10 variable design using 5 as the multiplier would only require a sample size of n = 50 to meet this criteria. Realistically the sample size for each sample will range from n = 50 to n = 100. This range is adequate for the methodology proposed. The small- sample requirement places more emphasis on multivariate normality and therefore, it is important to extract a sample large enough to ensure the test statistics are robust (Hair et al., 1992; Manly, 1986).

This methodology can be used to make inferences about (Mean vector of population 1) = (Mean vector of population 2); $\mu = \mu$ or does $\mu - \mu = 0$. Alternately, does $\mu - \mu \neq 0$? It is proposed that these questions can be answered using the methodology outlined.

Hotelling's T^2

To use this methodology to answer the research questions and determine whether to reject the null hypotheses, Hotelling's T^2 test is appropriate. In a general case there are p variables $X_1 X_2 \ldots X_p$ being considered, and two samples with size n an m; there are then two-sample mean vectors X_1 and X_2, and also two-sample covariance matrices C_1 and C_2. Manly (1992) states:

assuming that the population covariance matrices are the same for both populations, a pooled estimate of this matrix is: $C = \{(n-1)C_1 + (m-1)C_2\}/(n+m-2)$, and Hotelling's T^2 statistic is defined as

$$T^2 = \{(n)(m)\}\{(\bar{X}_1 - \bar{X}_2)C^{-1}(\bar{X}_1 - \bar{X}_2)\}/(n+m)$$

A significantly large value for this statistic is evidence that the mean vectors are different for the two sampled populations.

Hotelling's T^2 statistic is based on an assumption of normality and equal within sample variability; to be precise, the two samples being compared using Hotelling's T^2 statistic are assumed to come from multivariate normal distributions with equal covariance matrices. However, some deviation from multivariate normality is not serious (Johnson and Wichern, 1992). A moderate difference between population covariance matrices is also not critical, particularly with equal or nearly equal sample sizes (Carter et al., 1979). If the two populations' covariance matrices are very different and sample sizes are very different as well, then a modified test can be used (Yao, 1965). This test was not necessary for this research.

An advantage of using the multivariate test rather than a series of univariate tests involves the ability to control for the probability of a Type I error; finding a significant result when in reality the two sample means are equal. If the variables are tested one by one with

univariate t tests, the probability of at least one significant result by chance alone is increased, where the principle of the more tests that are made, the higher the probability of obtaining at least one significant result by chance (Manly, 1986).

On the other hand, a multivariate test such as Hotelling's T^2 test using the .05 level of significance allows for a .05 probability of a Type I error, irrespective of the number of variables analyzed. This is an advantage over a series of univariate tests, particularly when the number of variables is large (Manly, 1986). Another advantage of the multivariate test is that it takes proper account of the correlation between variables.

As another test, it is suggested that Bartlett's test be used to compare the variation in the two population, two sample, multivariate model. This test is described by Srivastava and Carter (1983, p.333). The problem with this test is that it is highly sensitive to the assumption of multivariate normality. There is always the chance a significant result is due to non-normality rather than unequal population covariance matrices (Manly, 1986). This test was performed and there was sufficient variation in the multivariate model.

Explanatory Notes

A note concerning sample size and data reduction: Some textbooks state that a sample size of n=20 is adequate for multivariate tests of significance (Maxwell and Delaney, 1990).

Concerning variable reduction methods; many computer packages provide for step-wise procedures, similar to step-wise regression in order to enter variables and test the model for the best possible fit. Alone or in conjunction with principle component analysis or factor analysis, variable reduction can be accomplished with the optimum model of variables being determined.

All the methods discussed are important in assessing the reliability and internal validity of the final reduced model and the scales used to collect the data within their construct's theoretical framework. Confirmatory Factor Analysis and/or Principle Component Analysis are also useful in verifying past research. However, it is always a good practice to use more than one method and analyze more than one trait. The multitrait-multimethod technique allows for assessment of reliability and internal validity. The inclusion of multiple concept constructs and the various methods of analysis are intended to assess this type of validity (Campbell and Fiske, 1959).

Contingency Analysis

Depending upon the results of the proposed methodology, there are several post-hoc tests relevant to this type of research. Also, the use of non-parametric methods are a viable alternative. Non-parametric hierarchial ranking is one such method useful in this regard (Conover, 1980).

Chapter Summary

This chapter contained the population sampling frame, variable identification, proposed model, and method of analysis. The chapter also contains the assumptions that must be made in order to use the methodology proposed and any contingency methods for severe violations of these assumptions.

The two independent populations are sampled using a survey instrument adapted from the (OCQ) survey instrument and other appropriate survey instruments. The data that is collected is to be standardized, reduced if necessary, tabulated, cross-tabulated, correlated, profiled, and the hypotheses tested using a special form of MANOVA (Hair et al., 1992). The results of this proposed design and methodology, is detailed in Chapter V. A discussion of the analysis and its results are in Chapter VI.

CHAPTER V

DATA ANALYSIS

The statistical data analysis is presented in three sections. The first section consists of the characteristics of the two samples and treatment of possible non-response bias. In the second section the constructs and their respective scales are examined. Confirmatory and exploratory factor analysis were performed to verify previous factor structures and assess the effect of changing the scales to represent unionized employees. Although this study was site specific, the scale modifications do not reflect this. There were no references to either union local in the survey instrument. In this regard the factor analysis was confirmatory as well as exploratory. Scale reliability and validity issues were also addressed. The last section presents the results of the statistical tests associated with the hypotheses presented in Chapter IV.

Characteristics of the Two Samples

In Chapter IV a sampling frame was proposed consisting of two independent samples to be surveyed using a questionnaire. These samples were taken from two

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independent union sub-populations in a medium sized, high-tech industrialized southeastern U.S. city. The two samples were taken from sub-populations of the overall population of unionized labor. One sample consisted of "typical" blue-collar unionized manufacturing workers in a large tire production facility. The other sample consisted of "non-typical" white-collar, unionized, professional aerospace engineers. The two samples were collected simultaneously but independently. The statistical analysis of the two samples was designed as a comparison of group means and overall structure of the two independent samples. A MANOVA procedure with appropriate statistical tests, as well as summary statistics were chosen to determine if the hypothesized relationships were statistically significant. A quasi-experimental design with the samples as the subjects and the survey instrument as the treatment was the method used to collect the data.

The Blue-Collar Sample

A survey instrument was mailed to 300 randomly chosen union manufacturing workers at a large tire plant. Of the surveys returned, 85 were determined to be properly completed and were used in this analysis.

As in all mail surveys there is a problem with the possibility of non-response bias. Although efforts were made to encourage all survey recipients to participate, many failed to do so. As stated in Chapter IV a reminder

was mailed two weeks after the initial mailing. The success of this mailing prompted a third mailing two weeks after the second. The final usable surveys yielded a response rate of 28%, which compared favorable with previously published research (Churchill, 1991). Response rates ranging from 11% to 40% have been reported in major journals. (See Tables 1 and 2 in Appendix B.)

To assess the possibility of non-response bias it has been determined that a comparison of early and late respondents be evaluated. In theory, characteristics of late respondents are the same as non-respondents (Armstrong and Overton, 1977). The same test used to determine differences between the two independent samples was used to assess early from late respondents. Hotelling's T^2 was used to test for any difference between the two groups, the very early and the very late, using the same criteria used for assessing the complete data set. Eight early blue-collar questionnaires and eight early white-collar questionnaires were compared with eight late blue-collar questionnaires and eight late white-collar questionnaires for this comparison. These sixteen questionnaires from the two independent samples were selected randomly from the early and late respondents of the two independent samples. A total of thirty-two questionnaires were analyzed for this test. This test revealed no statistically significant difference. The

results of this test are presented in Table 3 of Appendix B.

Selected demographics are presented in Table 4 of Appendix B, and reveal that the sample is male dominated. However, the samples seem to be representative of a cross-section of the population groups found in the 1990 U.S. Government Census for this geographic area.

The White-Collar Sample

Survey instruments were mailed to 210 members of a professional union of aerospace engineers. As with the blue-collar sample these surveys were mailed to their home. The same number of follow-up mailings were made and a final number of 74 usable responses were used for analysis. The response rate for this sample, after the three mailings, grew to an acceptable 34% (Churchill, 1991). Previous research shown in Chapter III and published in major journals have had response rates ranging from 11% to 40%. The guidelines for sample size and response rates proposed by Churchill (1991) were met is this research.

Again, as in the blue-collar sample, to determine if non-response bias existed the very early respondents were compared to the very late respondents utilizing the statistical test, Hotelling's T^2 statistic. This test revealed no statistically significant difference between

the very early respondents and the very late respondents. This data is presented in Table 3 of Appendix B.

Demographic Characteristics of the Samples

In Table 4 of Appendix B, a comparison of the demographic characteristics show that both samples were male dominated with a moderate difference in concentrations of minorities. The other major comparisons are in age, education, and income. The blue-collar sample had an age dispersion from young to middle age while the white-collar sample was from just less than middle age to near retirement. At least one reported age over 60. Education levels seemed to match the normal education levels associated with the skill or profession. Income was a listed variable but many did not report it or their figures were difficult to interpret. This variable was not considered reliable and was deleted from this study.

Constructs and Scales

The examination of the factor structure and the scale reliability used to measure them should always be assessed as part of any analysis (Churchill, 1979). As part of this assessment and purification process, confirmatory factor analysis was used to confirm factor loadings and underlying dimensions reported by other researchers. (See Tables 1 and 2 in Appendix B.)

As was previously stated the factor analysis was also exploratory in nature due to changes in the scales to represent unions. However, the results did not indicate this change made any significant difference that could be attributed to the sample specific nature of the questions. The factor structure and factor loadings are presented in tables in Appendix B. A summary of the constructs and their factor analysis is presented in the next sections.

Confirmatory and Exploratory Factor Analysis

The method of factor extraction used, after an initial principal component analysis, was ML, or maximum likelihood procedure with scree plots and promax rotation. This method was chosen for its more stringent requirements since one of the goals was confirmation of the factor structures presented in previous studies. The exploratory nature of the factor analysis required a method that would yield the best descriptive information as well. The interpretation of the factor analysis demonstrated that generally most of the factors theorized in previous research were interpretable and deviations provided exploratory descriptive information as predicted. The normal criteria for items that do not load as theorized or cross-loaded is they either be dropped from the scale or the scale not be used in the overall T^2 test (Hair et al., 1992). However, unless there were severe problems

associated with a scale, it was used since this study was designed as exploratory and descriptive, as well as confirmatory, in scope. Generally, items that did not attain loadings of at least .30 were dropped from the scale (Churchill, 1991). Each construct and associated scale are discussed in more detail in the hypotheses testing section.

Reliability of Scales and the Domain Sampling Model

The scales used in this study have been used in some form in past research, and have demonstrated a satisfactory level of reliability. It is necessary in any research to determine how useful a scale is to that particular research and assess its reliability in that context.

Evaluating the reliability of any measuring instrument consists of determining how much of the variation in scores is due to inconsistencies in measurement (Peter, 1979). The reliability of the instrument should be established before it is used for a substantive study and not after (Churchill, 1991).

One of the more popular ways of establishing the reliability of a measure is to measure the same objects or individuals at two different points in time and correlate the scores obtained. If there has been no change in the objects or individuals, the scores should correlate

perfectly. If these scores do not correlate well, it is evidence of random error in one or both test situations. This procedure is known as test-retest reliability. One of the major problems associated with this method is how long to wait between successive administrations of the instrument. If the wait is too long people's attitude may change and if the wait is too short people may remember how they responded the first time and produce test bias. A method to overcome this is to use two forms as identical as possible in content. One form is used at the first administration and the other is used at the second administration. The time interval between administrations is recommended to be two weeks. Nunnally, 1978 criticizes the use of this method especially if alternative forms are not available.

Another method, and the earliest measure of reliability of a scale was the split-half form. In assessing split-half reliability, the total set of items is divided into two equivalent halves; the total scores for the two halves are correlated, and this is taken as the measure of reliability of the instrument. The matter of how the items are divided is a point of criticism. The criticism focuses on whether the necessarily arbitrary division is correct or, alternatively, what is then the reliability of the instrument. A ten-item scale has 126

possible splits or 126 possible reliability coefficients
(Bohrnstedt,1970).

A more appropriate way to assess the internal
homogeneity of a set of items is to look at all of the
items simultaneously, using coefficient alpha.
Coefficient alpha has a direct relationship to the most
accepted and conceptually appealing measurement model, the
DOMAIN SAMPLING MODEL. The domain sampling model holds
that the purpose of any particular measurement is to
estimate the score that would be obtained if all the items
in the domain were used. The score that any subject would
obtain over the whole sample domain is the subject's true
score.

Basic to the domain sampling model is the concept of
a large correlation matrix showing all correlations among
the items in the domain. No single item is likely to
provide a perfect representation of the concept, just as
no single word is likely to test for differences in a
subject's spelling abilities and no single question can
measure a person's intelligence.

The average correlation among the items in this large
matrix, indicates the extent to which some common core is
present in the items. The dispersion of correlations
about the average indicates the extent to which items vary
in sharing the common core. The key assumption in the
domain sampling model is that all items, if they belong to

the domain of the concept, have an equal amount of common core.

Coefficient alpha routinely should be calculated to assess the quality of the measure. The square root of coefficient alpha is the estimated correlation of the k-item test with errorless true scores (Churchill, 1991).

Nunnally (1978) contends that in order for a scale to be acceptable it must demonstrate an alpha coefficient of .70 in exploratory research. Table 12 in Appendix B compares the alpha coefficients demonstrated by the scales, when used in this research, with those from previous research. As can be seen some are much higher than .70 while some are not. Churchill (1991), suggests that scales and/or variables that have been used satisfactorily in past research should not be arbitrarily dropped based on this one criterion alone. The results may not be as reliable as scales that are higher but for informational purposes reliabilities of .50 are acceptable.

Scale Validity

A correlation analysis was performed to determine if the scales representing the constructs demonstrated convergent and discriminate validity. Table 11 in Appendix B shows that the within scale correlations are highly correlated. The between scale analysis demonstrated high correlations between those variables

measuring similar attributes to low correlations between
those variables measuring different attributes. This
provides evidence of adequate internal validity associated
with convergent and discriminate validity. A
representative sample is provided in Table 11.

Factor Analysis

A factor comparison of the two independent samples is
also appropriate in this type of exploratory and
descriptive research. If factor analysis is significantly
different for one or both samples, this can be considered
additional descriptive information in the final
interpretation of the data.

Why Use Factor Analysis?

Factor analysis can be considered almost an art
rather than a science (Manly, 1986) and much personal
judgment is needed for interpretation. The more
experienced and knowledgeable researcher usually has an
advantage over the novice in this area. Some researchers
are skeptical of its statistical value. Chatfield and
Collins (1980, p.89) list six problems with factor
analysis and conclude that "factor analysis should not be
used in most practical situations." Also Kendall (1975,
p.59) states that in his opinion "factor scores are
theoretically un-measurable."

On the other hand, factor analysis is used widely and with the ability of computers to analyze large amounts of data quickly, it will undoubtedly increase in the future. The reason for this is simple, the technique is useful for gaining insight into the structure of multivariate data. If it is thought of as a purely exploratory and descriptive tool then it must be accepted as an important multivariate method (Manly, 1986). Based on the best information available it was determined to be a very appropriate tool for this research.

Data Reduction Using Factor Analysis

Family History

All items in the family history scale load significantly on one factor for both samples. This is in agreement with past research. These items seem to function similarly to the way demographic variables compare and, at face value, the two samples seem to be from the same normal distribution.

A comparison of test statistics associated with maximum likelihood factor analysis shows some similarities and some differences in factor structure between the two independent samples. (See Table 5 in Appendix B.) The Kaiser-Meyer-Olkin measure of sampling adequacy was .67 for the blue-collar sample and .77 for the white collar sample. This index is a comparison of the magnitude of the observed correlation coefficients with the magnitudes

of the partial correlation coefficients. Hair et al.
(1992) suggest that an index of .80 is very good, but an
index above .60 indicates factor analysis is appropriate.
An index under .50 indicates corrective measures are
needed, such as dropping one or more variables from the
factored construct. A final index under .50 suggests
factor analysis has no value (Johnson and Wichern, 1992).

Reliabilities of the scales when factor analysis is
performed should also be assessed. This scale has a .80
Cronbach's alpha reliability coefficient.

Work Beliefs

A comparison of the scale's factor structures
between the blue-collar sample and the white-collar
sample indicate that different dimensions emerged.
(See Table 6 in Appendix B.) The blue-collar sample
factor structure indicates a multidimensional structure.
The white-collar sample appears to have a one-dimensional
structure.

The dimensions "status of the wealthy," "workers as
decision makers," "workers getting their fair share," and
"dissatisfaction or negative outlook" dimension are the
four factors revealed for the blue-collar sample.

In past research the last dimension was associated
with a small group of complainers (Pisner, 1995). The
other dimensions are consistent with previous findings.

The white-collar structure is one-dimensional which possibly indicates an attitude of equality as far as being wealthy, having an adversarial stance with management, decision making, and sharing economic rewards.

The Kaiser-Meyer-Olkin measure of sampling adequacy for the blue-collar sample was .55 compared to .87 for the white-collar sample. Clearly the scale was such that the respondents had difficulty with the questions. This problem may be related to something that is specific to that particular work place environment. An interesting follow-up to this study would be an investigation of environmental factors during the period of this research.

Union Practices and
Employment Alternatives

The comparison of this group of variables indicates that the factor structure for both independent samples loaded on two dimensions and on the same variables. This is consistent with previous research. The Kaiser-Meyer-Olkin measure of sampling adequacy was .73 for the blue collar sample and .70 for the white collar sample. The factor loadings are presented in Table 7 of Appendix B.

Union Benefits and
Grievance Procedure

The factor structure of the blue-collar sample and the white-collar sample primarily load on the appropriate factors as indicated by past studies, with the exception

of one variable of the blue-collar sample. This question pertains to protection from unfair treatment. This difference could be a local issue at their particular work-place.

The Kaiser-Meyer-Olkin measure of sampling adequacy for the blue-collar sample was .79 and .74 for the white-collar sample. The factor structure is presented in Table 8 of Appendix B.

Job Attitude

Job attitude has generally been included as part of another attitudinal concept in this type of research (See organizational commitment in Table 1 of Appendix B) However, for this research where the potential for cosmopolitans and locals exists, it was analyzed as a separate construct. In previous research this scale has been reported to have a reliability of .70.

The factor structures of the two independent samples loaded on two factors with a K-M-O test of sampling adequacy of .77 for the blue-collar sample and .65 for the white-collar sample. Table 9 in Appendix B contains the factor structures for this construct.

Union Commitment and Participation

The two concepts of union commitment and participation are considered to be a distinguishing way to look at intention and action with some researchers

suggesting participation is a proxy for union commitment (Fullager, 1986). Gordon et al. (1986) suggest that union commitment can be just as strong without a participation function. This concept is shown in Figure 2 of Appendix A.

This concept may account for the difference in factor structures between the blue-collar sample and the white collar-sample. Previous research by Gordon et al. (1986), and verified by Ladd et al. (1982), determined the factor structure to load on four factors: union loyalty, responsibility to the union, willingness to work for the union, and a belief in unionism.

In Table 10 of Appendix B the factor structure of the blue-collar sample adequately loads on the four dimensions of previous research. Looking at the factor structure for the white-collar sample the loadings have more overlap suggesting the dimensions are less defined and a blending into a dimension that was not captured by the survey questionnaires. The K-M-O measure of sampling adequacy for the blue-collar sample is .70 and is .68 for the white-collar sample. Table 10 in Appendix B contains the factor structures of both independent samples.

Hypotheses Testing

In Chapter IV ten hypotheses were proposed concerning the relationship between the responses of the two samples. These hypotheses stated that there were no differences

between the mean vectors associated with the two independent samples. There are specific statistical tests and procedures used to determine if the hypotheses should be rejected or not. These tests were performed after the data were coded, tabulated and reduced.

In this research the next procedure, after the data were reduced and purified by factor analysis, was a partial profile analysis. The analysis was the graphical comparison of the two independent samples only. The tests associated with this procedure were accomplished during the Hotelling's T^2 test of the hypotheses and are reported in the section on hypotheses testing.

This preliminary analysis graphically shows the relationship of the two samples. Any linear combination of variables can be represented by a two-dimensional graph. The graph in Figure 3 of Appendix A shows the magnitude of commitment for each sample and how each sample relates to each other. In Chapter IV these two relationships were represented as two independent linear equations that represented the constructs associated with an overall commitment level for the two independent samples. However, in this research the hypotheses concerning differences in means are the main focus. In Figure 3 of Appendix A, this relationship is graphically represented by the two plots of vector means associated with the two independent samples. As can be seen this

serves as a two dimension representation of how the two samples are related. This relationship can be verified statistically by testing the hypotheses of interest.

In the previous sections the factor structures were analyzed which also contribute to the understanding of how the two independent samples relate to each other. These descriptive analyses also provide an idea of how the statistical tests are to perform and is also evidence of internal convergent and discriminate validity. Since the means were of interest, a test to determine if there were statistically significant differences in means was the test chosen for this research. This test was Hotelling's T^2 test. The hypothesis concerning demographic variables was not assessed by this method, but rather by frequency and magnitude of variables comparison. This comparison is in Table 4 of Appendix B.

Tests of Significance

In Chapter IV it was proposed that the statistical test most appropriate for this type of research was Hotelling's T^2 statistic. This statistical test of significance was applied to each hypothesized relationship. Table 14 in Appendix B, contains the summary of these tests. The individual hypotheses and the statistical tests are covered in the individual sections outlining the statistical analysis.

Hotelling's T^2 Test

The calculation of Hotelling's T^2 statistic is crucial to this research since the multivariate nature of the data negates the standard t-test as a primary method of testing the difference between means. In chapter III the problems associated with univariate tests were detailed. Hotelling's T^2 test solves the problem of having a Type I error due to iterative testing techniques. How does the T^2 test accomplish this? A simple concept of subtracting one variable mean from all the other variable means is the answer. If all the means are equal then this subtraction would always = 0 and if all the means are equal then all the differences = 0.

Multivariate Analysis of Variance (MANOVA) is an extension of Hotelling's T^2 test technique. MANOVA produces the statistical values necessary to make the T^2 test. The T^2 test is so named in honor of Harold Hotelling, a pioneer in multivariate analysis and the first to obtain the T^2 sampling distribution (Hair, et al., 1992).

Two test statistics, as part of MANOVA are used to determine Hotelling's T^2. These are the correct F test and probability level and the Wilks' Lambda statistic.

Wilks' Lambda is one of the most widely used test statistics for testing the null hypothesis that all group vectors of mean scores are equal. This statistic is also

known as the maximum likelihood criterion or U statistic.
The general theory of likelihood ratio allows the T^2
statistic to be derived as the likelihood ratio test of
Ho: $\mu = \mu_o$. Likelihood ratio tests have several optimum
properties for reasonably large samples, and they are
particularly convenient for hypotheses formulated in terms
of multivariate normal parameters (Johnson and Wichern,
1992).

In order to calculate the actual value of the T^2
statistic the following formula can be used:

$$T^2 = [(N_1 + N_2) - 1][(1/\lambda) - 1]$$

The symbols N_1 and N_2 are the number of observations in
the two independent samples and Lambda is the value of
Wilks' Criterion generated by the MANOVA procedure of SAS
computer statistical analysis.

Hotelling's T^2 provides a test of the hypothesis of
no group difference on the vectors of mean scores (Hair et
al., 1992). Just as the t statistic follows a known
distribution under the null hypothesis of no treatment
effect on a single variable, Hotelling's T^2 follows a
known distribution of no treatment effect on any of a set
of dependent measures. This distribution also happens to
be an F distribution with p and $N_1 + N_2 - 2 - 1$ degrees of
freedom. The symbol N_1 = sample size for blue-collar
union members and the symbol N_2 = sample size for
white-collar union members. The number of dependent

variables is designated p, and in this study the final reduced combination produced p = 52 and class variables type = 2 (bc wc). Blue-collar members are designated bc and white collar members are designated wc.

To determine the T^2_{cri} the table value of F_{cri} at a specified alpha level (.01 for this study) is used to compute the T^2_{cri} as $[p(N_1 + N_2 - 2)/(N_1 + N_2 - p - 1)](F)$. This criteria value for T^2 is compared to the computed value of T^2 and if the computed value exceeds the T^2_{cri} for alpha .01, in this study, it can be concluded that the vectors of mean scores are different and reject the null hypothesis of equal mean vector scores.

Hotelling's T^2

In Table 13 in Appendix B the statistics produced by MANOVA that are used to calculate Hotelling's T^2 can be seen. The actual F value = 39.4 and Wilks' Lambda = .05083356. By using these statistics in the formula for T^2 a calculation leads to

$$T^2 = [(85 + 74) - 1][(1/.05083356) - 1]$$

or

$$T^2 = 3108.182$$

As detailed previously a T^2 criteria value must be calculated from the F criteria value. The F table value is determined by $N_1 + N_2 - 2 - 1$ degrees of freedom and is found in the F distribution tables in a textbook, such as <u>Applied Regression Analysis and Other Multivariable</u>

Methods by Kleinbaum, Kupper, and Muller. This F_{cri} of
6.81 is at the .01 level of significance. Using the
formula for determining the T^2 criteria

$$T^2_{cri} = [p(N + N - 2)/(N + N - p - 1)](F)$$

$$T^2_{cri} = [52(157)/(159 - 52 - 1)](6.81)$$

$$T^2_{cri} = 11.309$$

Since T^2 calculated is larger than T criteria at the
.01 level of significance the null hypothesis of no
overall mean difference is rejected. This is an implied
hypothesis that if all the group means are hypothesized to
be equal, then their overall or grand means are
hypothesized to be equal. Based on this finding it
appears that there is a statistically significant
difference in the overall means between the two
independent samples. The following analyses will test the
individual group hypotheses. A summary of these tests is
in Table 12 of Appendix B.

Family History Hypothesis

From the preliminary analysis the family history
hypothesis of no difference in mean vectors seemed to have
validity. Both the profile analysis and factor analysis
have, on the face of it, shown the two independent samples
to be quite similar based on family history.

The MANOVA procedure produced a Wilks' Lambda of .79402371 and the strength of this statistic is an indicator of the strength of the T^2 statistic with the smaller the value for Lambda the more significant the T^2 statistic becomes.

Although the indicators pointed to the possibility that the null hypothesis would not be rejected for no difference in group mean, statistically that is not the case. The F criteria for this group of variables is determined at 5 and 156 degrees of freedom to be 3.14 at the .01 level of significance and the calculated value is 10.05. Hotelling's T^2_{cri} value is 1.6339 at 5 and 157 degrees of freedom. The calculated value of T^2 is 40.986. Although this figure is far less than the highly significant one for the overall mean it is statistically significant and justifies the rejection of the null hypothesis of no difference in family history between the blue-collar and the white-collar union members in these two independent samples. There does appear to be a statistically significant difference between the two samples based on family history.

Work Beliefs Hypothesis

The factor analysis proved inconclusive and seemed to ask more questions than it answered. In this scale it was determined that all the variables should be used in the assessment of their contribution to the explanatory power

associated with the construct used to measure work beliefs. As was previously determined, the blue-collar sample's factor structure was more in line with previous research. However, the white-collar sample deviated considerably from the structure of past research. Since this research was exploratory and descriptive in scope the two concepts were analyzed and the null hypothesis of no difference based on work beliefs was tested using Hotelling's T^2 statistic. The results of a MANOVA analysis of this concept provided a Wilks' Lambda of .51098028 and a calculated F statistic of 14.2596. The moderately high Lambda statistic and the corresponding moderately high F statistic again point to the possibility of not rejecting the null hypothesis.

Again, Hotelling's T^2 was the test used to determine, at a .01 level of significance whether, the hypothesis of no difference based on work beliefs was to be rejected. The F criteria based on 11 and 156 degrees of freedom at the .01 level of significance was 2.37. T^2_{cri} was determined to be 4.95. The calculated T^2 was 151.2095844. Since the calculated T^2 Statistic was significantly more than the T^2_{cri} the null hypotheses of no significant difference in work beliefs was rejected. There does appear to be a statistically significant difference between the blue-collar sample and the white-collar sample based on work beliefs.

Union Practices Hypothesis

The factor analysis for this construct retained all variables with high correlations indicating converging measures.

To determine statistically whether to reject the hypothesis of no significant difference between the blue-collar sample and the white-collar sample based on union practices, Hotelling's T^2 test was applied. The union practices hypothesis was tested and the following test was the basis for rejecting the hypothesis of no measurable difference in union practices between the two independent samples. The F_{cri} was determined at a .01 level of significance, at 3 and 159 degrees of freedom, to be 3.91. With this value a T^2_{cri} was determined, also at the .01 level of significance, to be .777 at 3 and 155 degrees of freedom. The T^2 statistic was calculated, again using Wilks' Lambda and this statistic is a significant 1,264.0 and compared to the T^2_{cri} of .777 the hypothesis of no difference between the blue-collar sample and the white collar sample based on union practices is rejected.

The factor analysis, partial profile analysis and the test of the hypothesis seem to indicate the two independent samples do differ on attitude toward union practices. The trend of these three descriptive measures are evidence of converging internal validity that this

particular sampling frame offers strong evidence that there is a measurable difference in overall level of union commitment between the two independent samples. From the data collected for these two independent samples it would appear that the white-collar sample would score higher on understanding the goals of their union compared to the blue-collar sample and also on being welcomed as a new member. The other variable in this construct encouraged to attend union meetings also would produce a higher level for the white-collar sample, but compared to the other two variables the magnitude of the difference would be less. The pattern of the variables differ sharply on knowledge of the goals of the union but the other variables "encouraged to attend" and "ignored by the union" displayed a more parallel pattern of difference.

Job Attitude

Job attitude was analyzed in the same manner as the other hypotheses, using Hotelling's T^2 statistic for analyzing the difference in group mean vectors.

The results of that analysis is as follows: The $F = 3.91$, and using that value the T^2 was determined to be .7771636. When this criteria value was compared to the larger 13.076 calculated value of T^2 it was determined that the hypothesis of no difference between population samples based on job attitude must be rejected at the .01 level of significance.

The factor pattern, plot of means, and the T^2 test are evidence that points to a difference in attitude concerning how the two independent samples view their job. Both groups are critical of their colleagues as to whether they have a calling for the work or their dedication and both move in a more positive attitude concerning idealism with the blue-collar sample being much more approving in their attitude. There are two possible reasons for this contradictory response. The disapproving attitude may be the result of mis-interpretation and the attitude is toward management in the first two and co-workers in the last. Another possibility, although it does not solve the switch of attitude problem, is this phenomenon evidence of the criticism of commitment research that only dedicated and committed members are conscientious enough to do the survey and this attitude is toward less committed colleagues.

Employment Alternatives

The statistical test of the hypothesis was performed using the method previously used with other hypotheses tested. This was the method of testing the group vector means for equality using the T^2 statistic. Evidence from that test provides the criteria for rejecting the null hypothesis. The F criteria at 3 and 155 degrees of freedom was 3.91 and the T^2 criteria was .7771636. Comparing the calculated T^2 value with the criteria value

for T determined that the calculated value of 8.9950 was greater than the criteria value of .7771636 and the hypothesis was rejected at a .01 level of significance.

The evidence associated with the factor scores, plot, and T^2 test suggest that both independent sample are different in their attitude toward employment opportunities, with the blue-collar sample more inclined to make the best of their situation, whereas the white-collar sample does not consider an alternative would be difficult to find. Both samples are consistent in their view except the blue collar-sample is more emphatic concerning the reason to stay at their job. The white-collar sample does not admit to the idea that their reason for staying is anyway determined as their best opportunity.

Potentially, reasons for this "professional arrogance" may be a good concept that needs further research. The fact that the training variable was almost blatantly disregarded by both samples certainly suggests there is a level of confidence somewhere that overrides any tendency to be looked upon in a negative way. At any rate a difference exists with the white-collar sample exhibiting a more positive attitude toward employment alternatives than the blue-collar sample.

Union Benefits

The union benefits hypothesis of no difference between the two independent samples was rejected by a highly significant T^2 statistic. The difference is obviously the opposite view that the two samples have concerning wages, benefits, and working conditions. The blue-collar sample has, as a group, touted the high level in these areas as due to the unions power. The area where there is less satisfaction is whether their dues are in line with the wages, benefits, and working conditions they receive.

The white-collar sample does not report a higher level in these areas and in fact the trend of answers are more noncommittal than in disagreement or agreement. It is puzzling why there is no support for their union in this area. There may be the possibility that there was s price to pay to have union representation. This situation may support the white-collar loyalty to their job although "better" alternatives are available. Could it be possible they are making a sacrifice for the good of the union? Was there a bitter fight to win the right to organize? This union is open to any engineer employed in either the defense or space programs. This again is an interesting area for future research.

The Grievance Procedure

This construct behaved in a rather bizarre way. This construct may have tapped into the paranoid side of the respondents in both samples. The two samples almost converged on the variable "protection from unfair treatment," but the variable is not very reliable as to whether it is really measuring the two samples attitude about their grievance procedure. It appears there are reservations as to what this scale was intended to do. There seems to be at lack of confidence in the confidentiality and who will use the information. It was also interesting that as close as the two samples came to converging there was also an almost complete and opposite response to the questions of equality, timeliness and quality of representation. The blue-collar sample seemed to have much more confidence in their system than the white-collar sample did. Again, one can only speculate as to why such disparity. Do the blue-collar respondents see their stewards and union officials as having the knowledge and skills necessary to administer a grievance program?

The white-collar sample seems to have less confidence in their stewards and other officials to effectively represent them. They may, as professionals with above average education and possibly high IQs, have "lawyers" syndrome. They may have difficulty accepting outside representation. These differences between the two samples

certainly makes one wonder what is the attraction of union representation for the white-collar sample and is there something missed in this survey? Why does the white-collar sample exhibit higher levels of agreement on scales intended to measure, in the aggregate, an overall level of union commitment. The answer lies in the possibility that the psychological aspect of union commitment is not tied to the tangible benefits attached to unionization. Questions surrounding this situation may point to other areas of research such as the need for control and power in a world of independence where even an engineer with above average intelligence, and is a well educated professional needs to be part of something that is more than the sum of its parts.

The variables that were especially enlightening to this point suggest that the white-collar group are extremely independent but at the same time quite aware of the fact that individually they are powerless. The variable concerning "choose to stay when other, better opportunities exists" could just be bravado.

Union Commitment

The variables associated with this scale are designed to produce a score that reflects a direct comparison of self reported commitment. To test the hypothesis of no difference between the two samples Hotelling's T test was used. The same level of statistical significance .01 was

used in this test as was in all previous tests. The F criteria for 9 and 156 degrees of freedom was 2.53 and with this the T^2 cri was determined to be 3.748 but the calculated value for T^2 was 30.007 which is greater than the criteria value so therefore the hypothesis of equal mean vectors between the two samples was rejected.

The responses of both samples converged noticeably for these variables with individual contrasts on some variables such as economic and personal values. The blue-collar respondents were more committed for the economic benefits whereas the white collar respondents identified with the psychological dimensions of personal values.

Participation

The test of the hypothesis of no difference between the two samples based on participation was rejected when tested using Hotelling,s T^2 criteria. The computed value for T^2 was 23.05 while the T^2 criteria was only 1.18.

Participation is sometimes used as a proxy for commitment, whether this is accurate or not is arguable, but at least there is some overlap. This can be seen in the factor scores as well as the plot of means. This construct is the one area that if the answers are truthful and accurate there should be no difference in the two samples based on their participation levels in union activities. Aside from the variable measuring familiarity

with the contract there is a possibility a test could prove the hypothesis can not be rejected. However, with the variables tested the hypothesis was rejected.

The variable "familiarity with the contract" was removed from the scale based on the post hoc hypothesis that this variable is responsible for the rejection of the null hypothesis, which said the two sample mean vectors were equal. The test after the variable was removed yielded results that supported this hypothesis. The computed value for T^2 = .21250 while the T^2 criteria was determined to be 1.18 so based on this test the hypothesis could not be rejected.

This interesting information shows that the white-collar sample was extremely interested in the terms of their contract, enough that it biased the results of the test of the hypothesis.

Summary

The preceding chapter outlined the process of analyzing the data collected from two independent samples. The analysis was conducted in three phases. The first phase involved determining the sample characteristics and assessing whether there was non-response bias. The T^2 statistic was the method of analysis. The second phase involved reduction and purification of the data. Factor analysis was the method used in the first phase to explore and confirm the variables that were important and

conceptually suited to further analysis. The final phase involved testing the hypotheses made in Chapter III. This analysis was accomplished using a partial profile analysis and Hotelling's T^2 statistic.

CHAPTER VI

DISCUSSION

The objectives of this study were primarily concerned with exploring the possibility that union members, as independent groups, differ in regard to their personal commitment to unionism. Individually, the matter of union commitment is a relative concept and workers can exhibit this commitment at several levels and in many forms, some active and some passive. This individual difference, however, may exhibit a collective dimension that can be observed and described.

Since commitment, whether union or organizational, is multidimensional, a method that could capture as many of these dimensions as possible was required. A survey questionnaire containing previously verified union commitment constructs was mailed to two independent union local members, selected for their distinctly different type of membership. This study differed from past research that had also attempted to capture a measurable, collective level of union commitment in its comparison technique. This study was quasi-experimental, in that the survey instrument served as proxy for the treatment. Also

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this study was exploratory and any relationships that were observed are not predictable outside of the sampling frame and methodology used.

In order to observe and describe these observations, several hypotheses were put forth (10) concerning how the two samples would react to or respond to the survey questionnaires. These hypotheses corresponded to the constructs whose scales were used in the survey. These scales had reliabilities in the .70 and .80 range. Based on statistical tests of the mean vectors it was hypothesized that there were no significant measurable differences between these mean vectors.

This chapter discusses the findings of the statistical analysis and is presented in three sections. The first section discusses the confirmation methods used to assess the reliability and internal validity of the scales used to measure an overall observable union commitment function. The next section presents the conclusions that can be drawn from this research and its limitations. The last section deals with the contributions and managerial implications of this kind of research along with the directions of future research.

Confirmation and Verification

Maximum-likelihood factor analysis with promax rotation was the method used to determine the underlying

dimensions of each scale. This method served a two-fold purpose, confirmation and verification. Although the study is more exploratory in nature the constructs and associated scales had been developed and verified by past research. This has been documented in the literature relative to this study and is shown in Tables 1 and 2 of Appendix B. The method of factor analysis placed the most stringent criteria for factor extraction on the data in an effort to also confirm and verify that the measures in this study correctly measured the constructs intended. For the most part the scales performed as intended. Some survey questions that were modified did not perform as well as expected. The sampling coefficients and scale reliabilities were borderline at best. The scale measuring "job attitude" is an example. The sampling coefficient averaged .65 and the Cronbach's alpha coefficient was only .50. This problem will need to be addressed in future research if this scale is used.

The factor analysis performed well in its intended use and confirmed the underlying dimensions first determined by Gordon et al. (1986) and verified by other researchers. (See Table 2 in Appendix B.) The T^2 test produced significance statistics that when compared with the profile graph of the group means made interpretation meaningful. The methods used in this research served well in verifying the possibility of significant differences in

the two independent population samples. This also
contributed to the internal validity of the measures.

Conclusions and Limitations

Probably the most telling conclusion from this study
is the surprisingly significant statistical difference
between the two independent samples measured across mean
vectors. Although statistical significance is just that,
one cannot keep from interpreting the extreme magnitude
between some constructs and the more moderate magnitudes
of other differences, as being significant beyond the
normal significance tests. The tests of the hypotheses in
all instances were rejected. However, the MANOVA tables
produced several telling statistics. In the analysis of
"union benefits" the F criteria was 2.92 and the F
calculated was 2.98 and the Probability of a greater F was
.0132. In the analysis of "grievance procedure" the F
criteria was 3.14 and the calculated F statistic was 2.01
with a probability of .09 of a greater F statistic. In
both of these cases Wilk's Lambda was greater than .9 yet
the T^2 test compared T^2 calculated at 15.37 and T^2 criteria
at 2.12 for "union benefits" and T^2 calculated at 8.23 and
T^2 criteria at 1.63 for "grievance procedure." "Job
attitude" and "employment alternatives" were similar in
test results and their probability of a greater F
calculation was .0019 and .0130 respectively. The
hypotheses stating equal group means from "work beliefs"

and "union practices" were rejected with large values for T^2 and the probability of a greater F value was less at .0001 for "work beliefs" and .0048 for "union practices."

The tests of significance for this research used an alpha level of .01. This placed the threshold criteria for the probability of having a Type I error at a low percentage for exploratory research.

This was done in anticipation of finding the hypotheses could not be rejected at a level used for this type of research such as .05 or .10. The low probability of a Type I error determined for this research and the T^2 statistical test have demonstrated that the results are significant and interpretable, with a better chance of not committing a Type I error. Based on this comparison of independent sample means there is a significant statistical difference between these two independent samples of blue-collar and white-collar union members based on an overall level of union commitment. This translates into real world implications if employers and unions embrace this type of research finding. A separate, between group test of the means shows that some of the relationships are more meaningful than others. Just what the implications of this could mean are what future research needs to address.

In the graphical representation, Figure 3 in Appendix A, the plots of the two independent sample vector means,

point out on a visual plane how in areas such as family history the concept is viewed or reported to have similar attributes, so even with a statistical difference this difference is not great. However, a concept such as 'work beliefs' both statistically and graphically show the wide difference in attitudes of the two samples. The white-collar sample seemed less inclined to support a Marxist view of worker control. They were more benevolent in their attitude toward the wealthy, except the question associated with the wealthy carrying their fair share of the burdens of life. The white-collar sample seemed to have a more "no-opinion" or "neutral" stance but the blue-collar sample seemed to have strong anti-wealthy feelings.

The union practices construct produced some difference in level with the blue-collar sample leaning toward a "less attention to new members" stance while the white-collar sample seemed to be more socialized into their local union. The construct, employment alternatives exhibits both similarity and disparity depending on which variable was used to assess this concept. While both samples seemed to agree somewhat on difficulties associated with leaving the organization and finding a comparable or better position, they have totally different attitudes why they stay at their respective organization. The blue-collar sample seemed inclined to view their

positions as the best possible as the reason not to seek another position. The white-collar sample seemed inclined to suggest that they feel there are better opportunities available, but they choose to stay where they are. The concept discussed in Chapter II of cosmopolitans and locals may account for their more professional independence.

The hypotheses for union commitment and participation were tested for no difference in group mean vectors and statistically it was determined that this hypothesis be rejected. Visually the two samples exhibit this difference in a parallel fashion with the white-collar sample demonstrating a higher mean value on all variables. An interesting anomaly concerns the variable measuring familiarity with the union contract. The white-collar sample had a mean vector value reflecting high familiarity with their contract compared to the blue-collar sample. Another anomaly was the variable measuring the union agreement's protection from unfair treatment aspect. The blue-collar sample mean vector was determined at a level suggesting high disagreement. Whether this was a site specific issue or a contract issue is not known.

The analysis presented some interesting findings that may or may not be indicative of reality, but intuitively the findings are quite plausible, although surprising in some aspects.

Comparison of Factor Analysis
and Profile Analysis

The factor analysis in Chapter V compares well with the partial profile analysis. The similar loadings on the first five variables of both samples corresponds to the variable plots of the profile analysis. The other constructs compare in a similar manner. The construct 'job attitude' is an example. In Table 9 of Appendix B,"both samples load on one factor. The variable 'a real calling for their work', had a factor score of .93 for white-collar and .92 for blue-collar. The variable "dedicated colleagues gratifying," had a factor score of .64 for white-collar and .92 for blue-collar. The last variable included in this scale "high level of idealism," had a factor score of .61 for white-collar and .94 for blue collar. Comparing this to the partial profile graph, the plot shows a similar relationship between the two samples except the blue-collar sample exhibits a stronger relationship to the construct.

Limitations

Not surprising, the most obvious limitation, is the site specific sampling frame. Although research of this type is quite often site specific, this does not validate it as the most productive. There are logistic problems associated with getting a more representative sample and this process usually deters such research. Another

limitation is the one-shot, point in time, observational method used frequently at this level. A longitudinal study to determine how these concepts vary over time would be useful.

Contributions of the Study and
Managerial Implications

Notwithstanding the limitations of this type of research there have been several studies in the literature that have measured these constructs and associated variables in light of their function to produce a measurable level of union commitment. (See Table 2 in Appendix B.) However, no study has compared two independent samples from two distinct union types, using these constructs as the instrument of measurement. The study was necessarily exploratory due to this fact. The search for a base or some distinct finding that gives direction to future research is a goal of this type exploratory research. If nothing more, than the findings that these hypotheses of no difference were rejected is indicative that more studies of this type are justified and makes this research successful. It also justifies a more random sampling frame covering a wider geographical area. If the hypotheses could not be rejected at this level there would be no need for seeking a more random sampling frame.

As has already been suggested, longitudinal studies and combined studies are needed. The development of a discriminant function that can identify potential members by the scores produced from questionnaires such as the one used in this survey is a possible goal. The use of instruments to screen people in other areas such as criminal investigation or security has been used extensively. These screening instruments were developed from research like the kind begun here. A typology for identifying potential compulsive buying behavior was developed in this manner (Ballenger, 1985).

The findings in this study on a micro-level are also an indicator of the direction for future research which will be discussed in the next section. The managerial implications of this research can serve both companies and unions. Data collected and analyzed in this manner may lead to a discriminant function that can predict at various union type levels the method and issues that lead to a union election or possibly predict the outcome. The attitudes, interest and opinions of manufacturing workers and professionals are of interest to organized labor and employers. Any research that can contribute to the understanding of these psychological concepts is of great benefit to both sides of the labor issue.

An issue that is of interest to companies and unions in this new technological and informational based economy;

is what do employees want? Are the economic issues as valid today as they were, say fifty years ago when employees and their union wanted a bigger slice of the pie? Have workers in this country become used to the idea that companies will, if possible give as big a piece of the pie as possible, and all the trimmings to discourage unionization? According to Maslow's hierarchy of needs, if the needs of one level are satisfied, then the next level will be the one a person wants to achieve. This study is the kind of psychological research that can help answer that question. We know from this study there is a difference between the two samples. The instrument was designed to measure an overall commitment difference. The precision of that measurement is debatable, but something is different in the attitudes of blue-collar and white-collar union members. One of the differences that stood out was the concern that the blue-collar sample demonstrated for fair treatment. The questions related to that issue were instrumental in why the null hypothesis for 'grievance procedure' was rejected. In the analysis of the hypotheses section of Chapter V it was demonstrated that if not for one question in the participation construct the null hypothesis would not have been rejected. This question concerned the white-collar members knowledge of the union contract. These two questions from the survey may be a clue to just what these

two groups want. The blue-collar members were very anti-wealthy, but the white-collar members were very much unopposed to the wealthy. Is this how the transition from typical unionism to white-collar professional unionism is accomplished. Have the needs been met of the white-collar members that are still sought by blue-collar members? Is the next level recognition and self-actualization? Have companies, by providing good wages, benefits, and working conditions forced well educated, bright employees to seek the next level of needs? The white collar members were also very satisfied with their positions or the "better" opportunities available to them were just more of the same, and therefore unattractive, or were they just committed to their union. These micro-issues are all areas for debate and research."

This research was intended to measure difference in overall level of union commitment. There is probably no doubt the difference between something was measured. The differences associated with the construct scales suggest that something was missing in the questionnaire or misinterpreted by the respondents or the researcher or both. The overwhelming conclusion concerning contribution to the discipline is that the study accomplished its intent by exploring the possibility, that new research directions would emerge.

We live in an age where organizations of all kinds spend huge sums of money collecting psychological data on everyone from consumers to criminals. In this age of information, as an economic commodity, everything counts. Government, business, education, organizations, associations, consumers, and even unions need information that will enhance their ability to make decisions. Research that contributes to this decision process can be exploratory, experimental, or applied and no matter how little it contributes at the unit level its contribution in the aggregate is valuable beyond measure.

Directions for Future Research

More studies across more groups or studies with more random sampling frames would be a logical step. Longitudinal studies would also be a step toward more understanding of the psychology of union membership. In the event more two population studies are undertaken a meta-analysis could add more to their possible external validity. The use of different scales and constructs in combination could be useful. A combination of telephone, mail, personal interview, and observation can certainly be useful.

An interesting study comparing the need theories in a union bargaining setting. A factoral design with three groups and three theories could possibly be done.

The natural progression at this point is replication and expansion. More studies of this type across and between more groups and more diverse groups is needed.

The access to a mailing list with national coverage or the compilation of a list of national coverage is needed, so a completely random design between groups could be used to survey the many different union types. The replication of the previous study with a longitudinal design and multiple collection methods such as interviews and case study analysis would be an important step.

Labor unions, as was cited in the literature review have begun to realize that the same issues and methods of the past are not working in organizing and keeping members. In the past, bread and butter issues would provide all that was necessary to mount an organizing campaign. With companies relocating and attacking the bread and butter issues without external pressure, the labor organizers are going the way of the Maytag repairman. You can't raise issues that are already resolved. However, one of the findings of this study, possibly points out one of the issues that may be of interest to both sides in future organizing efforts. That issue is protection from un-fair treatment. Unions have long bargained for wages, benefits, and working conditions but the emphasis was usually on wages with benefits now being a hot issue and working conditions last.

It was suggested and discussed in the previous section the needs of white-collar professionals were ususlly met as far as what unions bargain for, before bargaining, yet their loyalty and commitment was evidently there. If you use the return of the survey as a measure of commitment, then their level compared well with 34% responding to 28% for the blue-collar union members. In the future, both sides agree, issues other than wages and benefits such as job security and plant closings are issues for some, while for others these needs may have been met, but the ones related to intangible needs may not have been met.

Summary

This chapter discussed the findings of the quasi-experimental research comparing two independent union samples on several psychological constructs that contribute to an overall level of union commitment.

The analysis necessary to confirm relationships was discussed and summarized. This analysis summary included the significance of statistical testing, the use of reliable measuring devices, determining if the findings have internal validity and if these findings are generalizable within and across populations. Some of the findings were highlighted and their comparison to others was also discussed. The limitations associated with a site specific study were also examined and suggestions for

future remedies were made. The contributions of the study
were also discussed, specifically its uniqueness in
comparing two union types from two independent samples.
The managerial implications relating to both companies and
unions were outlined. The final section suggested
directions for future research such as longitudinal
analysis and/or a national, fully randomized sampling
frame.

APPENDIX A
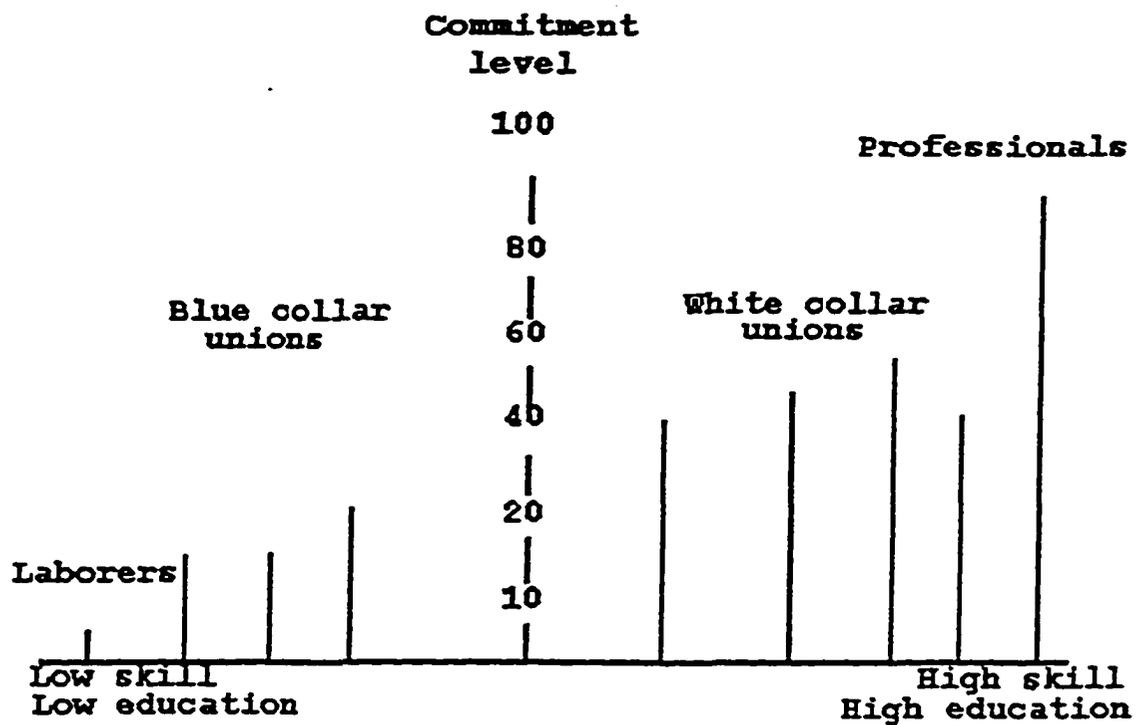
Commitment level is an index of psychological and behavioral attributes of union members.

Figure 1 Graphical Depiction of Union Type Continuum

Initial membership

Open or Subdued loyalty

Desire to Sustain Membership

Active or passive participation
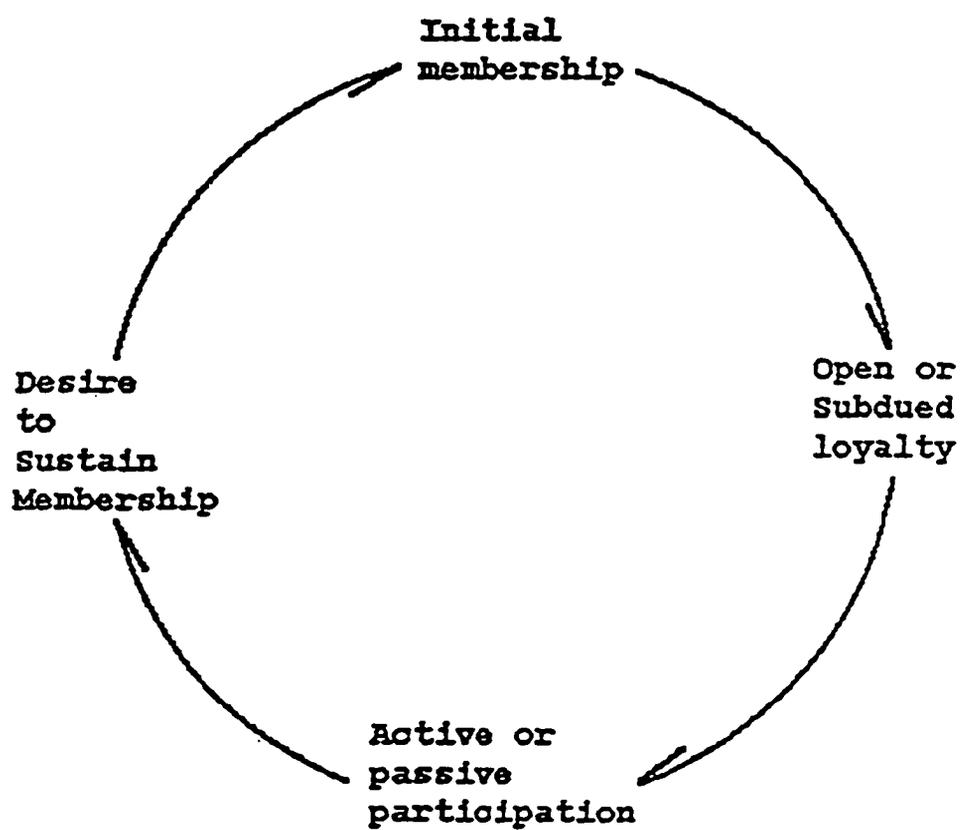
Figure 2 Visual Depiction of Committed Union Member

Vector mean

Blue-collar sample
White-collar sample

Note: 1. Variables 17-22 are demographics and not shown.
Note: 2. Variables 26-29, 32, 59-63, 67 and 72 dropped, loadings under .30

Variable Groups

1 - 5	Family History	34 - 36	Employment alternatives
6 - 16	Work beliefs	37 - 42	Union benefits
23 - 25	Union practices	43 - 48	Grievance procedure
33 - 35	Job attitude	49 - 58	Union Commitment
		66, 68 - 71	Union participation

Figure 3 Profile Graph

APPENDIX B

Table 1   Past Research In Organizational Commitment

STUDY	TYPE OF STUDY	SAMPLE	FINDINGS
Becker, 1960	Calculative "side bet"		
Hall, Schneider, Nygren, 1970	Identification, family belonging, pride	Foresters	Tenure, security
Alluto, Hrebiniak, Alonso, 1973	Calculative "side bet" willingness to leave given alternative benefits	Teachers, nurses	Individual occupational Individual organizational investments
Buchanan, 1974	Identification; pride, congruence involvement; importance of job/work loyalty; warm feelings, continuity of membership	public, private sector	correlation of commitment components=.65 .74,.58 group norms, job challenge, expectations, self-image, reinforcement, feelings of personal importance
Kidron, 1978	Moral; Hall et al., 1970 calculative; Allutto et al., 1973	private, public sector	significant correlation of two measures high/low score on both measures work values associated with moral commitment

Table 1   (continued)

STUDY	TYPE OF STUDY	SAMPLE	FINDINGS
Mowday et al., 1979	Belief, acceptance of goals and values, willingness to exert effort, desire to remain a member		development of the OCQ, alpha=.82 to .90
Wiener, 1982	normative; acceptance of organizational instrumental; expectancy		generalized loyalty, duty identification
Meyer, Allen, 1984	continuance; cost associated with leaving; affective; feelings of identification, attachment, involvement	students	measures of calculative commitment,ie Alutto et al., 1973 measure affective commitment
Bateman, Strasser, 1984	Porter et al., 1974	nurses	commitment is an antecedent to job satisfaction
O'Rielly, Chatman, 1986	compliance; rewards; internalization; value congruence, importance of the organization, identification; pride, ownership	students	identification internalization related to pro-social behaviors

Table 1   (continued)

STUDY	TYPE OF STUDY	SAMPLE	FINDINGS
Meyer, Schoorman, 1992	Continuance; leaving, alternatives value; pride, value congruence increased effort	private sector	turnover related to continuance performance related to value dimensions overlap
Allen and Meyer, 1990	affective; sense of family, belonging normative; loyalty, moral responsibility to the organization continuance; leaving consequences	private, public sector	affective and normative are significantly related

Table 2   Past Research in Union Commitment

STUDY	TYPE OF STUDY	SAMPLE	FINDINGS
Gordon et al., 1980	loyalty, responsibility, belief, willingness to work for the union	non-professional white-collar right-to-work state	seperate factors; loyalty accounted for 39% of the variance, responsi-bility= 19% willing-ness=17% and belief=13%
Ladd et al., 1982	Gordon et al., 1980	professional, non-professional white-collar right-to-work state	Gordon et al., 1980 factors are con-sistent and gen-eralizable
Gordon et al., 1984	Gordon et al., 1980	enginereers, technichians right-to-work state	engineers expressed higher levels than did non-profes sionals
Fukami Larson 1984	Gordon et ,al.,1980	transportation workers	organizational model less successful in predicting union commit-ment

Table 2   (Continued)

STUDY	TYPE OF STUDY	SAMPLE	FINDINGS
Angle & Berry, 1986	4-items; normative, value oriented	transportation workers	dual organizational and union commitment was found in relation to cooperative climates
Fullager, 1986	Ladd et al., 1982	South Africa industrial union	commitment measures were significantly correlated with formal and informal union participation
Friedman & Harvey 1986	Gordon et al., 1980	Gordon et al., 1980	two dimensions: union attitudes and and pro-union behavioral intensions are suggested
Martin, Magenau, Peterson, 1986	three items, OCQ	midwestern union grocery industry	influence on union decision and union activities and use of grievances to punish were significant

Table 2   (Continued)

STUDY	TYPE OF STUDY	SAMPLE	FINDINGS
Colon & Gallagher, 1987	11 items, OCQ	defense employees RTW state	union members tend to be loyal to union
Magenau, Martin, and Peterson, 1988	3-items, OCQ	midwestern state	union involvement, positive perceptions of union decision making pract-ices and low job satisfaction were related to union commitment
Sherer & Morishima 1989	abreviated version of of Gordon et al., 1980, loyalty	airline employees	wages were found to be a negative elastic good in relation to union commitment, job influence, perceptions concerning a a labor-management program were positive predictors of union commitment
Thacker, Fields, & Barclay, 1990	22-item Gordon et al., 1980	communicat-ion workers, agency shop	union commitment acts as an intervening variable

Table 2   (Continued)

STUDY	TYPE OF STUDY	SAMPLE	FINDINGS
Heshizer, Martin & Wiener, 1991	normative commitment; values, pride, instrumental attachment; global attitudes of union instrumentality	midwestern state agency	support for union commitment as anintervening variable
Eaton, Gordon & Keefe, 1992	21-items Gordon et al., 1980	private sector, industrial	percieved effectiveness of the grievance system was a strong determinant of attitudes towards the union
Kelloway, Catano, Southwell, 1992	30-items Gordon et al., 1980 20-item Friedman and Harvey, 1986	Canadian clerical	development of a 13 item scale measuring loyalty, responsibility and willingness to work
Newton and Shore, 1992	ideological, instrumental		development of membership typology

Table 2   (Continued)

STUDY	TYPE OF STUDY	SAMPLE	FINDINGS
Gallagher, Fullager, Clark, and Gordon, 1993	Kelloway et al., 1992 loyalty, responsibility, willingness to work for union	National letter carriers	Institutional socialization practices had an effect on affective attachment and costodial roles individual tactics were associated with active role orientation

Table 3   Test for Non-response Bias

MANOVA PROCEDURE

Hotelling's T^2 test of equal group mean vectors

Multivariate Analysis of Variance Manova Test Criteria and
Exact F Statistics for the Hypothesis of no Overall
INTERCEPT Effect on the variables defined by the M Matrix
Transformation   H = Anova SS&CP Matrix for INTERCEPT
E = Error SS&CP Matrix

Hotelling's T^2 test of equal means between early and late
blue-collar survey respondents. T^2 = 000, Therefore,
unable to reject hypothesis of equal mean vectors.

Statistic	Value	F	Num DF	Den DF	Pr > F
Wilks' Lambda	0.00000000		10	6	0.0001
Pillai's Trace	1.00000000		10	6	0.0001
Hotelling-Lawley Trace		.	10	6	0.0001
Roy's Greatest Root		.	10	6	0.0001

Hotelling's T test of equal means between early and late
white-collar survey respondents. T^2 =.023286, Therefore,
unable to reject hypothesis of equal mean vectors.

Statistic	Value	F	DF	DF	Pr > F
Wilks' Lambda	0.0015	42.93	15	1	0.1193
Pillai's Trace	0.9984	42.93	15	1	0.1193
Hotelling-Lawl	644.0582	42.93	15	1	0.1193
Roy's Gtst Root	644.0582	42.93	15	1	0.1193

Table 4   Selected Demographics

	BLUE-COLLAR SAMPLE	WHITE-COLLAR SAMPLE
GENDER		
Male	72	74
Female	13	0
AGE		
18-25	0	0
25-31	10	0
32-38	9	11
39-45	61	37
46-52	3	18
53-59	1	8
60+	1	1
ETHNIC BACKGROUND		
African-American	24	9
Caucasian	58	57
Native American	0	0
Hispanic	0	0
Other	3	8
EDUCATION LEVEL		
High school degree	28	0
1-2 years college	51	0
3-5 years college	6	53
Graduate degree	0	21
INCOME LEVEL*		
Less than $30,000	14	0
$31,000-$50,000	57	21
$51,000-$70,000	12	33
$71,000-$90,000	0	8
$90,000+	0	0

* 2 blue-collar and 12 white-collar did not report

TABLE 5   Confirmatory and Exploratory Factor Analysis

FAMILY HISTORY   Blue-collar

Survey question	Factor loadings	
	F1	F2
Q1 Close relative belongs	.85	
Q2 Close relative office	.84	
Q3 Close relative strike	.84	
Q4 Close relative meetings		.46
Q5 Close relative involve		.68
Percent of Variance explained	.82	.17

FAMILY HISTORY   White-collar

Survey question	Factor loadings	
	F1	
Q1 Close relative belongs	.75	Q2
Close relative office	.52	
Q3 Close relative strike	.67	
Q4 Close relative meetings	.81	Q5
Close relative involve	.75	
Percent of variance explained	1.00	

Table 6   Confirmatory and Exploratory Factor Analysis

WORK BELIEFS   Blue-collar

Survey Question	Factor loadings			
Work Beliefs	F1	F2	F3	F4
Q6 Wealthy gets benefit	.39			
Q7 Wealthy, no contribution	.65			
Q8 More say for workers				.98
Q9 Fair share		.75		
Q10 More say in mgt.			.40	
Q11 Workers Exploited				.60
Q12 Workers make decisions	.91			
Q13 Wealthy carry share		.59		
Q14 No mgt. understanding			.99	
Q15 Worker in decisions		.79		
Q16 Importance of worker	.39			
Percent of variance	.42	.26	.25	.15

WORK BELIEFS   White-collar

Survey Question	Factor loadings
Work Beliefs	F1
Q6 Wealthy gets benefit	.43
Q7 Wealthy, no contribution	.48
Q8 More say for workers	.59 Q9
Fair share	.55 Q10 More
say in mgt.	.77 Q11 Workers
Exploited	.71 Q12 Workers
make decisions	.75
Q13 Wealthy carry share	.61 Q14
No mgt. understanding	.70 Q15
Worker in decisions	.70 Q16
Importance of worker	.72
Percent of variance	1.00

Table 7 Confirmatory and Exploratory Factor Analysis

Union practices and employment alternatives
BLUE-COLLAR

Survey question	Factor loadings	
Union practices		
	F1	F2
Q23 Union goal's clear		.97
Q24 Encouraged attend		.85
Q24 Ignored		.84
Employment Alternatives		
Q34 Few alternatives	.84	
Q35 Hard to leave	.96	
Q36 Best opportunity	.93	
Percent of variance explained	.61	.38

WHITE-COLLAR		
Survey question	Factor loadings	
Union practices		
	F1	F2
Q23 Union goal's clear		.68
Q24 Encouraged attend		.85
Q24 Ignored		.77
Employment Alternatives		
Q34 Few alternatives	.74	
Q35 Hard to leave	.91	
Q36 Best opportunity	.78	
Percent of variance explained	.71	.43

Table 8 Confirmatory and Exploratory Factor Analysis

Union benefits and grievance procedure
BLUE-COLLAR

Survey question	Factor loadings	
Union benefits		
	F1	F2
Q37 Higher wages	.90	
Q38 Better benefits	.90	
Q39 Improved conditions	.94	
Q40 Supervision	.98	
Q41 Equity	.72	
Q42 Fair treatment	.64	
Grievance procedure		
Q43 Protection	.09	.12
Q44 Equality		.96
Q45 Fairness		.98
Q46 Timely		.69
Q47 Deterrent		.59
Q48 Representation		.76
Percent of variance	.68	.31

Table 8   (Continued)

Union Benefits and Grievance System
WHITE-COLLAR

Survey question	Factor loadings	
Union benefits		
	F1	F2
Q37 Higher wages	.85	
Q38 Better benefits	.89	
Q39 Improved conditions	.84	
Q40 Supervision	.64	
Q41 Equity	.71	
Q42 Fair treatment	.63	
Grievance procedure		
Q43 Protection	.07	.60
Q44 Equality		.76
Q45 Fairness		.76
Q46 Timely		.67
Q47 Deterrent		.44
Q48 Representation		.53
Percent of variance	.65	.26

Table 9   Confirmatory and Exploratory Factor Analysis

Job attitude
BLUE-COLLAR

JOB ATTITUDE blue-collar Survey question	Factor loadings F1
Q30 Special 'calling'	.92
Q31 Dedication	.92
Q33 Idealism	.94
Percent of variance explained	1.04

JOB ATTITUDE white-collar Survey question	Factor loadings F1
Q30 Special 'calling'	.93
Q31 Dedication	.64
Q33 Idealism	.61
Percent of variance explained	1.21

Table 10 Confirmatory and Exploratory Factor Analysis

UNION COMMITMENT AND PARTICIPATION
Blue-collar

Survey Question	Factor loadings				
Union Commitment	F1	F2	F3	F4	F5
Q49 Committed	.35				
Q50 Membership					.63
Q51 Benefits					.88
Q52 Values				.91	
Q53 Best contract				.46	
Q54 Values same	.45				
Q55 Fate	.55				
Q56 Policies	.72				
Q57 Benefit package		.80			
Q58 Fair return		.96			
Participation					
Q63 Meetings		.64			
Q66 Grievance	.59				
Q67 Agreement	.45				
Q68 Plan events			.38		
Q69 Suggest			.48		
Q70 Attendance			.70		
Q71 Volunteer			.41		
Q72 Activities			.32		
Percent of variance	.56	.21	.11	.07	.06

Table 10   (Continued)

UNION COMMITMENT AND PARTICIPATION WHITE-COLLAR Survey Question	Factor loadings		
Union Commitment	F1	F2	F3
Q49 Committed	.60		
Q50 Membership	.85		
Q51 Benefits	.71		
Q52 Values	.60		
Q53 Best contract	.56		
Q54 Values same	.45		
Q55 Fate	.52		
Q56 Policies			.77
Q57 Benefit package			.82
Q58 Fair return			.62
Participation			
Q63 Meetings	.16	.22	.08
Q66 Grievance		.58	
Q67 Agreement		.57	
Q68 Plan events		.76	
Q69 Suggest		.66	
Q70 Attendance		.52	
Q71 Volunteer		.45	
Q72 Activities	.00	.19	.04
Percent of variance	.49	.25	.17

Table 11   Correlation Analysis (Partial)

Correlation Analysis
Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 159

	Q1	Q2	Q3	Q4	Q5	Q6	Q7
Q1	1.00000	0.52778	0.60410	0.43053	0.37963	-0.07083	-0.08954
	0.0	0.0001	0.0001	0.0001	0.0001	0.3750	0.2617
Q2	0.52778	1.00000	0.41266	0.18979	0.14916	0.06821	0.01619
	0.0001	0.0	0.0001	0.0166	0.0606	0.3929	0.8394
Q3	0.60410	0.41266	1.00000	0.33774	0.42043	-0.08137	-0.01052
	0.0001	0.0001	0.0	0.0001	0.0001	0.3079	0.8953
Q4	0.43053	0.18979	0.33774	1.00000	0.41783	0.00335	-0.02607
	0.0001	0.0166	0.0001	0.0	0.0001	0.9666	0.7443
Q5	0.37963	0.14916	0.42043	0.41783	1.00000	-0.00754	-0.06421
	0.0001	0.0606	0.0001	0.0001	0.0	0.9249	0.4213
Q6	-0.07083	0.06821	-0.08137	0.00335	-0.00754	1.00000	0.56794
	0.3750	0.3929	0.3079	0.9666	0.9249	0.0	0.0001
Q7	-0.08954	0.01619	-0.01052	-0.02607	-0.06421	0.56794	1.00000
	0.2617	0.8394	0.8953	0.7443	0.4213	0.0001	0.0
Q8	-0.06956	0.04809	-0.05545	-0.03311	-0.05823	0.47876	0.68752
	0.3836	0.5472	0.4875	0.6786	0.4660	0.0001	0.0001
Q9	-0.04834	0.08419	0.04371	-0.09409	-0.05835	0.51036	0.57804
	0.5451	0.2914	0.5843	0.2381	0.4651	0.0001	0.0001
Q10	-0.03537	0.04919	-0.00450	-0.04502	-0.09094	0.65725	0.68740
	0.6581	0.5381	0.9551	0.5731	0.2543	0.0001	0.0001
Q11	-0.10826	0.04778	-0.02208	-0.07230	-0.09670	0.46503	0.63969
	0.1743	0.5498	0.7823	0.3651	0.2253	0.0001	0.0001
Q12	-0.04638	0.06706	0.02973	-0.01597	0.04104	0.67145	0.70436
	0.5616	0.4010	0.7099	0.8416	0.6075	0.0001	0.0001
Q13	0.04318	0.02145	-0.06299	-0.01813	-0.06797	-0.13593	-0.16646
	0.5889	0.7884	0.4302	0.8206	0.3946	0.0875	0.0360
Q14	-0.07694	0.07511	-0.03718	-0.08640	-0.09330	0.62880	0.49056
	0.3351	0.3467	0.6418	0.2789	0.2421	0.0001	0.0001
Q15	-0.08580	-0.00506	-0.07719	-0.09048	-0.05583	0.56424	0.49686
	0.2822	0.9495	0.3335	0.2567	0.4845	0.0001	0.0001
Q16	-0.09645	0.03196	-0.07065	-0.04746	-0.06126	0.63493	0.67597
	0.2265	0.6892	0.3762	0.5524	0.4430	0.0001	0.0001
Q23	-0.05396	0.04092	0.16878	-0.04299	0.06881	0.26547	0.25830
	0.4994	0.6086	0.0334	0.5905	0.3888	0.0007	0.0010
Q24	-0.05560	-0.01262	0.12762	0.04790	0.07889	0.19372	0.23722
	0.4864	0.8745	0.1089	0.5488	0.3229	0.0144	0.0026
Q25	-0.00716	0.08141	0.13744	0.08707	0.01598	0.17262	0.23695
	0.9286	0.3077	0.0841	0.2751	0.8416	0.0296	0.0026
Q31	0.12992	-0.01302	0.05338	0.04033	0.00719	-0.22754	-0.10474
	0.1026	0.8707	0.5039	0.6137	0.9283	0.0039	0.1889
Q33	0.09454	0.08939	0.05993	0.07854	0.01509	-0.27200	-0.03821
	0.2359	0.2625	0.4530	0.3251	0.8503	0.0005	0.6325
Q34	-0.06168	-0.04001	0.02379	0.03147	-0.01120	0.31749	0.24385
	0.4399	0.6165	0.7660	0.6937	0.8885	0.0001	0.0020
Q35	-0.03891	-0.00543	0.09753	0.02493	0.06296	0.38632	0.45905
	0.6263	0.9458	0.2213	0.7551	0.4305	0.0001	0.0001
Q36	-0.10269	-0.02061	0.04109	-0.04665	0.01608	0.40680	0.49512
	0.1977	0.7965	0.6071	0.5593	0.8406	0.0001	0.0001
Q37	-0.05718	0.06497	0.03992	0.09179	-0.02101	0.17561	0.26552
	0.4741	0.4158	0.6174	0.2498	0.7926	0.0268	0.0007
Q38	-0.07499	0.00609	0.02591	0.04026	-0.03872	0.27107	0.36138
	0.3475	0.9393	0.7458	0.6143	0.6279	0.0005	0.0001
Q39	-0.11711	0.00583	0.02915	0.06975	-0.00660	0.21154	0.37097
	0.1415	0.9419	0.7153	0.3823	0.9342	0.0074	0.0001
Q40	-0.08161	0.01203	0.11977	0.04667	0.00658	0.18582	0.33049
	0.3065	0.8803	0.1326	0.5591	0.9344	0.0190	0.0001

Table 11 (Continued)

Correlation Analysis
Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / N = 159

	Q1	Q2	Q3	Q4	Q5	Q6	Q7
Q41	-0.02403	0.07511	0.00376	0.07396	0.09178	0.16504	0.35056
	0.7636	0.3468	0.9624	0.3542	0.2499	0.0376	0.0001
Q42	0.03889	0.07144	0.10166	0.18609	0.09798	0.25694	0.30386
	0.6265	0.3709	0.2023	0.0188	0.2192	0.0011	0.0001
Q44	-0.09445	0.03451	-0.00320	-0.05205	-0.05827	0.38383	0.38225
	0.2363	0.6659	0.9681	0.5146	0.4656	0.0001	0.0001
Q45	-0.03597	0.03001	0.08568	-0.02413	-0.06315	0.36475	0.39489
	0.6526	0.7072	0.2829	0.7628	0.4291	0.0001	0.0001
Q46	-0.02029	-0.01229	0.00425	-0.10556	-0.00062	0.36262	0.32723
	0.7996	0.8778	0.9576	0.1854	0.9938	0.0001	0.0001
Q47	0.15857	0.10426	0.10379	0.03435	0.04732	0.30749	0.33670
	0.0459	0.1909	0.1929	0.6673	0.5537	0.0001	0.0001
Q48	-0.05745	0.07075	0.02303	-0.08519	-0.07608	0.33998	0.35216
	0.4719	0.3755	0.7732	0.2857	0.3405	0.0001	0.0001
Q49	-0.04765	0.06525	0.09217	-0.06785	-0.10037	0.21274	0.28085
	0.5509	0.4138	0.2479	0.3954	0.2081	0.0071	0.0003
Q50	-0.10526	-0.07206	-0.13809	-0.10760	-0.08897	0.26424	0.19496
	0.1867	0.3667	0.0826	0.1770	0.2647	0.0008	0.0138
Q51	-0.02909	0.01534	-0.03936	-0.02761	-0.04609	0.38070	0.28412
	0.7158	0.8478	0.6223	0.7298	0.5640	0.0001	0.0003
Q52	0.04342	0.05613	0.02710	0.01427	0.02298	0.34057	0.32273
	0.5868	0.4822	0.7346	0.8583	0.7737	0.0001	0.0001
Q53	0.02177	0.05458	0.07636	0.04774	-0.00454	0.37349	0.39443
	0.7853	0.4944	0.3387	0.5501	0.9547	0.0001	0.0001
Q54	0.03650	0.04007	0.14141	-0.07670	0.00846	0.32672	0.55189
	0.6478	0.6160	0.0754	0.3366	0.9157	0.0001	0.0001
Q55	-0.03322	0.12038	0.07695	-0.07329	-0.07097	0.22642	0.33582
	0.6776	0.1307	0.3350	0.3586	0.3740	0.0041	0.0001
Q56	-0.02733	0.09339	0.09216	-0.02395	-0.08526	0.34415	0.28872
	0.7324	0.2417	0.2479	0.7645	0.2852	0.0001	0.0002
Q57	-0.03987	0.05919	-0.01029	-0.07466	-0.03454	0.40993	0.34129
	0.6178	0.4586	0.8975	0.3496	0.6655	0.0001	0.0001
Q58	-0.01233	0.15513	0.01493	-0.03845	-0.07614	0.27492	0.36657
	0.8774	0.0509	0.8519	0.6304	0.3401	0.0005	0.0001
Q66	-0.00453	0.04575	0.02611	-0.03063	-0.05884	0.10417	0.06856
	0.9548	0.5669	0.7439	0.7015	0.4613	0.1913	0.3905
Q67	-0.03573	0.08802	0.04123	0.06182	0.00796	0.33311	0.31887
	0.6548	0.2699	0.6059	0.4389	0.9207	0.0001	0.0001
Q68	0.03654	0.02420	0.01244	0.00780	0.07736	0.12559	-0.04570
	0.6475	0.7620	0.8763	0.9222	0.3325	0.1147	0.5673
Q69	-0.00025	0.02207	-0.00712	0.01806	-0.03352	0.04250	-0.01198
	0.9975	0.7824	0.9290	0.8212	0.6749	0.5948	0.8809
Q70	0.08189	0.04562	-0.03211	0.00722	-0.03258	0.07148	0.01825
	0.3048	0.5680	0.6879	0.9281	0.6835	0.3706	0.8194
Q71	-0.10554	-0.1193	-0.07609	-0.01270	-0.05551	0.13949	0.01346
	0.1855	0.1339	0.3405	0.8738	0.4871	0.0795	0.8663

Table 12   Comparison of Cronbach's Alpha Coefficient

Construct	Previous studies	Present study Blue-collar	White-collar
Family History	.77	.82	.81
Work Beliefs	.76	.88	.90
Union practices	.76	.80	.81
Job attitude	.97	.50	.63
Employment alternatives	.65	.85	.87
Union benefits	.97	.80	.90
Grievance procedures	.76	.77	.80
Union commitment	.80	.84	.86
Participation	.75	.73	.77

Table 13   Multivariate Analysis of Variance

MANOVA Test Criteria and Exact F Statistics for the
Hypothesis of no Overall INTERCEPT Effect on the variables
defined by the M Matrix Transformation
H=Anova SS&CP Matrix for INTERCEPT E=Error SS&CP Matrix

S=1   M=24.5   N=53

Statistic	Value	F	NUM DF	DEN DF	Pr > F
Wilks' Lambda	0.05083356	39.54	51	108	0.0001
Pillai's Trace	0.94916644	39.54	51	108	0.0001
Hotelling-Lawley Trace	18.67204445	39.54	51	108	0.0001
Roy's Greatest Root	18.67204445	39.54	51	108	0.0001

Table 14   Tests of Hypotheses

Hotelling's T^2 $\alpha = .01$		Scale Tested	Hypothesis	Status
Wilk's λ	.79	Family	No difference	reject
F_{cri}	3.14	History	sample group	
F	10.05		means	
T^2_{cri}	1.63			
T^2	40.98			
Wilk's λ	.51	Work	No difference	reject
F_{cri}	2.37	Beliefs	sample group	
F	14.25		means	
T^2_{cri}	4.95			
T^2	151.20			
Wilk's λ	.93	Union	No difference	reject
F_{cri}	3.91	Practices	sample group	
F	5.51		means	
T^2_{cri}	.77			
T^2	1264.00			
Wilk's λ	.92	Job	No difference	reject
F_{cri}	3.91	Attitude	sample group	
F	6.49		means	
T^2_{cri}	.77			
T^2	23.07			
Wilk's λ	.94	Employment	No difference	reject
F_{cri}	3.91	Alternatives	sample group	
F	4.46		means	
T^2_{cri}	.77			
T^2	8.99			
Wilk's λ	.91	Union	No difference	reject
F_{cri}	2.92	Benefits	sample group	
F	2.98		means	
T^2_{cri}	2.12			
T^2	15.33			
Wilk's λ	.95	Grievance	No difference	reject
F_{cri}	3.14	Procedure	sample group	
F	2.01		means	
T^2_{cri}	1.63			
T^2	8.23			

Table 14 (Continued)

Hotelling's T^2 $\alpha = .01$	Scale Tested	Hypothesis	Status	
Wilk's λ	.84	Union	No difference	reject
F_{cri}	2.53	Commitment	sample group	
F	3.16		means	
T^2_{cri}	3.74			
T^2	30.07			
Wilk's λ	.87	Participation	No difference	reject
F_{cri}	3.45		sample group	
F	10.05		means	
T^2_{cri}	2.74			
T^2	23.05			

APPENDIX C

SURVEY

Please Read Instructions Carefully

This is an independent research project sponsored by Louisiana Tech University. All responses will be confidential. There are no identifying codes or numbers that can be used to determine who participated in this survey. Please circle the answer that best describes your response.

I.   FAMILY HISTORY

Please answer the following questions or verify the following statements regarding your family background. Write in any other family member. Please circle your response.

1. A close relative belonged(s) to a union.
   mother   father   other(   )   uncertain   no

2. A close relative has held (does hold) a union office.
   mother   father   other(   )   uncertain   no

3. A close relative has gone out on strike.
   mother   father   other(   )   uncertain   no

4. How often did your close relative attend union meetings?
   frequent   occasional   seldom   never   don't know
   attendance   attendance   attended   attended

5. How involved was/is your close relative in union activities?
   very   occasional   seldom   never   don't know
   involved   involvement   involved   involved

II.   WORK BELIEFS

These statements seek your opinions concerning the nature of work and its place in society as a whole. Please circle the best response.

1. The free enterprise system mainly benefits the wealthy.
   strongly   disagree   neither   agree   strongly
   disagree   agree

2. The wealthy do not make much of a contribution to society.
   strongly   disagree   neither   agree   strongly
   disagree   agree

3. The average working class person should have more say in running society.

   strongly   disagree   neither   agree   strongly
   disagree   agree

4. The working class gets their fair share of the economic rewards of society.

    strongly   disagree   neither   agree   strongly
    disagree   agree

5. Organizations would be better run if the working class had more say in management.

    strongly   disagree   neither   agree   strongly
    disagree   agree

6. The average working person is exploited by the wealthy for their own benefit.

    strongly   disagree   neither   agree   strongly
    disagree   agree

7. The working class should be more active in making decisions about products, financing, and capital investment.

    strongly   disagree   neither   agree   strongly
    disagree   agree

8. Wealthy people carry their fair share of the burdens of life in this country.

    strongly   disagree   neither   agree   strongly
    disagree   agree

9. Management does not understand the needs of working people.

    strongly   disagree   neither   agree   strongly
    disagree   agree

10. The working class should be represented in management decisions.

    strongly   disagree   neither   agree   strongly
    disagree   agree

11. The most important work in America is done by the average working classes.

    strongly   disagree   neither   agree   strongly
    disagree   agree

III.   DEMOGRAPHICS

This section asks questions or make statements concerning demographics. Please circle the best response or indicate by filling in the blank.

1. Age: 18-25   25-31   32-38   39-45   46-52   53-59   60+

2. Sex: Male   Female

V.   JOB ATTITUDE

These questions or statements refer to your opinions regarding your job.   Please circle the best answer.

1. People in this profession have a real 'calling' for their work.

strongly   disagree   neither   agree   strongly
disagree   agree

2. The dedication of my colleagues is most gratifying.
strongly   disagree   neither   agree   strongly
disagree   agree

3. Training alone helps insure that people maintain their high ideals.

strongly   disagree   neither   agree   strongly
disagree   agree

4. It is encouraging to see the high level of idealism which is maintained by people in this organization.

strongly   disagree   neither   agree   strongly
disagree   agree

VI.   EMPLOYMENT ALTERNATIVES

This group of statements determines how mobile you are as a member of this organization.   Circle the best choice.

1. It would be very difficult for me to find another position that is as good as the one I have now.

strongly   disagree   neither   agree   strongly
disagree   agree

2. It would be very hard for me to leave this organization even if I wanted to.

strongly   disagree   neither   agree   strongly
disagree   agree

3. I choose to stay at this organization because it is the best opportunity available to me.

strongly   disagree   neither   agree   strongly
disagree   agree

VII.   UNION BENEFITS

Below are statements concerning the possible benefits which the union provides. Please indicate your agreement or disagreement with the statements by circling the best response.

1. Because of the union, wages here are higher.

strongly   disagree   neither   agree   strongly
disagree   agree

2. The union's action has resulted in better benefits.

strongly   disagree   neither   agree   strongly
disagree   agree

3. The union has improved working conditions.

strongly   disagree   neither   agree   strongly
disagree   agree

4. The union insures that supervisors do their job properly.

strongly   disagree   neither   agree   strongly
disagree   agree

5. I get my money's worth from my union dues.

strongly   disagree   neither   agree   strongly
disagree   agree

6. The union makes sure that all workers are treated fairly.

strongly   disagree   neither   agree   strongly
disagree   agree

VIII.   GRIEVANCE SYSTEM

This section describes how your grievance system may work. Please indicate your opinion on each of these statements, by circling the best response.

1. The grievance system protects me from unfair treatment.

strongly   disagree   neither   agree   strongly
disagree   agree

2. All bargaining unit employees are treated equal by the grievance system.

strongly   disagree   neither   agree   strongly
disagree   agree

3. the grievance procedures here are fair.

strongly   disagree   neither   agree   strongly
disagree   agree

4. Grievances are settled on a timely basis.

strongly   disagree   neither   agree   strongly
disagree   agree

5. The grievance process is very important in maintaining
equality between the company and the union.

strongly   disagree   neither   agree   strongly
disagree   agree

6. The union does a good job in terms of representing members in
the grievance process.

strongly   disagree   neither   agree   strongly
disagree   agree

IX.   UNION COMMITMENT
These statements describe how you may view your membership in
this union. Please indicate how you feel regarding the following
statements by circling the best response.

1. I am committed to this union.
strongly   disagree   neither   agree   strongly
disagree   agree

2. Membership in this union means a lot to me.
strongly   disagree   neither   agree   strongly
disagree   agree

3. I am committed to this union because of the benefits that the
union is able to secure for me.

strongly   disagree   neither   agree   strongly
disagree   agree

4. I believe in this union because of the values for which it
stands.

strongly   disagree   neither   agree   strongly
disagree   agree

5. I am committed to this union because it has produced the best
possible contract for its members.

strongly   disagree   neither   agree   strongly
disagree   agree

6. My values and the union's values are very much alike.
strongly   disagree   neither   agree   strongly
disagree   agree

7. I care about the fate of this union.

strongly   disagree   neither   agree   strongly
disagree   agree

8. I usually agree with this union's policies on important
matters.

strongly   disagree   neither   agree   strongly
disagree   agree

9. I am committed to this union because it has produced a good
 benefit package.

strongly   disagree   neither   agree   strongly
disagree   agree

10. I support this union because I get a fair return from my
 union dues.

strongly   disagree   neither   agree   strongly
disagree   agree

        X.   PARTICIPATION
        Please answer the following questions regarding your
participation in union activities by circling the correct answer.

1. Did you vote in the last election?
        yes   no   don't know

2. Are you currently a union officer?
        yes   no   don't know

3. Have you been a union officer in the past year?
        yes   no   don't know

4. Are you now or have you ever been a union steward?
        yes   no   don't know

5. How often do you attend union meetings?
        frequently   occasionally   seldom   rarely   never

6. Are you currently on a union committee?
        yes   no   don't know

7. Have you served on a union committee in the past year?
        yes   no   don't know

8. How many times in the past have you filed a grievance?
        5+ times   3-4 times   2 times   1 time   never

9. How familiar are you with the union's Agreement with the
company.

very	somewhat	know that	not at all
familiar	familiar	it exists	familiar

10. I participate in planning and organizing events for the
union.

never   rarely   occasionally   frequently always

11. I make suggestions to improve the union.

never   rarely   occasionally   frequently always

12. I attend union functions that are not required, but that help
the union's cause.

never   rarely   occasionally   frequently   always

13. I volunteer for tasks that are not required.

never   rarely   occasionally   frequently   always

14. Which of the following union activities have you volunteered
for? Check all activities that apply.

_____ Muscular Dystrophy Drive

_____ Blood Donation Drive

_____ Entertainment

_____ Health and Safety

_____ St. Jude Children's Hospital Drive

_____ Political Action Committee

_____ Retirement Planning

_____ Training Seminar

_____ Better Union-Management Relations

_____ Joint Union-Management Activity

_____ Other_____

March 1, 1997

Dear Member,

Please take time to read this letter and the accompanying material. It is part of a research project sponsored by Louisiana Tech University. The purpose of this project is to examine the psychological aspects of union membership.

Please take time to complete the questionnaire and return it in the pre-addressed, postage paid envelope provided. By taking time to complete this survey, you will provide meaningful information that will hopefully benefit you and your union in the future.

Your response to the questionnaire will be held in strictest confidence.

Thank you sincerely,

Arthur L. Pevahouse
Department of Management and Marketing
Louisiana Tech University

March 15, 1997

Dear Member,

Recently, you were sent a survey questionnaire that if completed and returned will provide meaningful information that hopefully will be of benefit to you and your union. If you have not already done so, please take time and complete the questionnaire and return it in the pre-addressed postage paid envelope. If you have misplaced the material and would like another package, you may call 205-778-7024. If you have lost the envelope, the address to send the survey is:

>Arthur L. Pevahouse
>1987 Pines Road
>Somerville, AL 35670

Again, all responses are confidential. If you have already returned the survey questionnaire, thank you for you cooperation.

Thanks again,

Arthur L. Pevahouse
Department of Management and Marketing
Louisiana Tech University

April 5, 1997

Dear Member,

Recently, you were sent a survey questionnaire that if completed and returned will provide meaningful information that hopefully will be of benefit to you and your union. If you have not already done so, please take time and complete the questionnaire and return it in the pre-addressed postage paid envelope. If you have misplaced the material and would like another package, you may call 205-778-7024. If you have lost the envelope, the address to send the survey is:

> Arthur L. Pevahouse
> 1987 Pines Road
> Somerville, AL 35670

Again, all responses are confidential. If you have already returned the survey questionnaire, thank you for you cooperation.

Thanks again,

Arthur L. Pevahouse
Department of Management and Marketing
Louisiana Tech University

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