To the Graduate Council:

I am submitting herewith a dissertation written by James Russell Ridley, Jr., entitled "Attitudinal Antecedents to Union Representation: A Comparison Between Union and Non-Union Workers on Work and Union Related Outcomes." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Industrial and Organizational Psychology.

John M. Larsen, Jr., Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Vice Chancellor
Graduate Studies and Research

ATTITUDINAL ANTECEDENTS TO UNION REPRESENTATION: A COMPARISON BETWEEN UNION AND NONUNION WORKERS ON WORK AND UNION RELATED OUTCOMES

A Dissertation

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DEDICATION

To J. M. S

and

L. T. R.

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Rusty Ridley
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ABSTRACT

Three union status groups were compared with two occupational status groups in order to contrast their responses on a number of work and union related outcomes. Union status was defined as those nonunion workers who would vote for union representation (VF), those nonunion workers who would vote against union representation (VA), and union members (UM). Occupational status was defined as white-collar workers (WC) or blue-collar workers (BC). It was hypothesized that these groups would differ on attitudinal and intention to turnover measures. For the job satisfaction scales it was predicted that VF < VA = UM, and BC < WC. For the intention to turnover scale it was predicted that VF < VA < UM, and WC < BC. For the union scales it was predicted that VA < VF = UM, and WC < BC.

A 2 X 3 analysis of covariance was performed using dummy variables in a hierarchical multiple regression model. Union status (VF, VA, UM) and occupational status (WC, BC) were considered independent variables. Tenure and job content, two sources of job satisfaction, were included as covariates.

The results from the analyses offered mixed support for the hypotheses. The hypotheses concerning the VF group were confirmed. This group was found to be the most dissatisfied, the most likely to change jobs, and the most similar to union members (UM) in their attitudes toward unions.

Overall, the hypotheses pertaining to the vote against group (VA) and the union member group (UM) were not confirmed for the job

satisfaction and union related scales. It was predicted that these two groups would have different attitudes toward unions but similar levels of job satisfaction. Contrary to the hypotheses, an unexpected interaction between union status and occupational status was found for the economic and overall job satisfaction scales. Also, the vote against group (VA) was more satisfied with noneconomic issues and with their jobs as a whole than union members (UM). The hypotheses regarding beliefs about unions were also partially supported. The results supported the union status hypotheses concerning instrumentality, but failed to support those concerning big-labor image. With the exception of big-labor image, all the hypotheses concerning occupational status were not supported.

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CHAPTER I

INTRODUCTION

Unions, just as other organizations, can have a significant impact on members. This idea is obviously not new to labor economists and industrial relations researchers. For researchers in the area of organizational behavior, however, unions have been virtually ignored. The reason for this is not all together clear, particularly since unions possess all the characteristics of an organization. It seems logical, therefore, that organizational behavior researchers should study the processes found in unions just as they study the same phenomenon in business environments. Fortunately, organizational researchers are becoming more involved with unions (Gordon and Nurick, 1981). Shedd (1980) reports an increase in union research activity in the area of organizational behavior/human resources. In examining the number of articles devoted to organizational behavior research, he found a 42 percent increase from 1977 to 1979 as compared to the number of articles published between 1967 to 1969. Though the amount of research concerning union issues is increasing, the integration of the results between disciplines is still poor. As Shedd (1980, p. 9) points out: "The increasing attention devoted to personnel and organizational behavior research has generated a wealth of information on management structure, decision-making, and personnel policies, but researchers in those areas and in collective bargaining have generally ignored each other's work."

In the present study a fundamental question about unions was addressed. Why would nonunion workers vote for union representation? To answer this question, nonunion workers were asked whether or not they would be in favor of having a union represent them for their present job. These workers were compared to present union members to determine the extent to which their attitudes differed on a number of union and job related outcomes. Workers were classified as white-collar or blue-collar in order to determine whether or not there were significant differences between the two on the same union and job related outcomes.

The answer to this question has important relevance for unions, organizations which are covered by a union contract, and organizations which are nonunion. For unions the results from the present study offer insights into the needs of their membership. In addition, the examination of the attitudes of workers with prounion sentiments may enable unions to effectively target their efforts to win certification elections. For organizations which have a union representing a portion or all of their workforce, key areas may be identified for cooperative efforts which could benefit all the workers. For organizations that wish to remain nonunion, conclusions can be drawn which may help prevent union elections.

In the next section, the growth of unionism will be examined. This will be followed by a discussion of the research problem and the statement of the hypotheses. The next section will be directed toward measurement and methodological issues. The results for each of the dependent variables will then be presented. Finally, a discussion of the results and conclusions will be presented.

CHAPTER II

THE GROWTH OF UNIONS

The dynamics of the growth of unionism have attracted much attention from historians, economists, political scientists, as well as behavioral scientists. At the macro level, the apparent cyclical waxing and waning of unionism has caused a great deal of debate within academic, union, management, and government circles. The growth of unionism has failed to exhibit a steady predictable increase over the last century. Instead, the growth of unionism has been marked by a series of spurts followed in some cases by slight declines. What are the conditions which promote the growth of unions?

A number of theories have been posited to explain the growth of unions. Blum (1968) identified two schools of thought. First, the saturationist school, believes that unions have reached a plateau in organizing workers. Therefore, this model predicts unions should not anticipate any more significant increases in membership. The second school has been labeled the historical school by its major proponent Irving Bernstein. This theory is characterized by an examination of the economic, social, and political climate during the periods of accelerated union growth (Bernstein, 1954, 1961).

Examining the growth of unions over the past century, the pattern indicates six periods of dramatic increases followed by equally dramatic declines after four of the periods. In the 1860s and 1870s, labor unions increased with the formation of organizations such as the

Iron Molders, Machinists and Blacksmiths, and Locomotive Engineers. By 1872, 300,000 workers were members of a union. Eight years later, in 1880, union membership had declined to 50,000. The next period of rapid growth came between 1881 and 1886. One million workers belonged to a union in 1886 which was due in part to the creation of the American Federation of Labor and the rapid growth of the Knights of Labor. As was the case in the late 1870s, union membership declined rapidly after 1886 to the point that by 1893 the membership in Knights of Labor had dropped from a high of 700,000 to only 75,000 members. The period from 1897 to 1903 showed another surge in unionism which carried through 1913. Significant developments during this period included: The Spanish-American War; recovery from the depression of the 1890s; the expansion of the AFL from 58 to 120 national unions; and successful membership drives in the coal mining, railroad, and building industries. In 1917 to 1920, unions again increased their membership; but the 1920s showed a marked decrease due to the prosperity of the decade and vigorous anti-labor campaigns by management. The decline continued through the worst part of the depression until 1934. Bolstered by prolabor laws and the Franklin Roosevelt administration, unions grew at a tremendous rate. The United Automobile Workers, the United Steelworkers, and the Electrical Workers were organized which significantly increased the membership rolls. Finally, World War II saw the last noticeable increase in union membership. After World War II and into the 1960s, the percentage of the labor force belonging to unions has steadily declined (Blum, 1968).

Prosten (1979) attributes the steady reduction in the number of manufacturing workers and increased time-delays prior to union elections

as the main problem unions have had to face in gaining new membership since 1960. Other theorists have looked for events or general factors which seemed to trigger organized labor's growth and/or decline. Economic, political, social, and industrial relation systems have been examined separately and in combination to help explain the puzzle.

As Blum (1968, p. 47) points out, "wars and periods of social unrest following depressions are suggested as short-term causes of tremendous expansion." Blum (1968) suggests that there is no single short-term or long-term factor which explains the growth of unions. Instead, a variety of factors interact at a given point in time which produces a climate favorable for unionism. As is the case for many events in history, the Zeitgeist must be right for the events to be put in motion.

Working within the theoretical framework of the historical school, Moore (1978) predicted that economic, internal sociological, organizational, and external social and political factors would be related to union growth for teachers. The results offered partial support of his theory. His findings confirmed the importance of economic factors. Organizational factors were also found to be significant factors in union membership. Additionally, the degree of urbanization was related to union growth. For example, nonwhite teachers in the South were least likely to join a teacher union. Finally, sex and the passage of prolabor laws had no effect on the growth of teacher unions. Thus, economic and organizational factors were significantly related to union membership while internal sociological, external social and political factors provided mixed support.

Until recently, most motivational theories have virtually ignored the impact of unions on relevant job outcomes. Unions, for the most part, have only been given a minor role. In equity theory, for example, the union is considered just one of a number of possible reference groups researchers can turn to to identify "significant others." The fact is, membership in a union can exert a powerful influence over workers' motivation, satisfaction and performance.

Realizing the importance of unions, Hammer (1978) has proposed a modified expectancy theory to take the role of unions into account. She hypothesized that union strength or power would be significantly related to job outcomes under the domain of union control. Furthermore, she suggested that union power was related to employees' perception of management leadership, job satisfaction, and job performance. All hypotheses were supported in a sample of skilled tradesmen which led Hammer to conclude: ". . . the union is an important contributor to employee's perceptions and attitudes, and its effects on the individual worker deserve attention" (Hammer, 1978, p. 572).

The model Hammer (1978) proposes is presented in Figure 1. The model is based upon expectancy theory, but as of yet the union model has not been vigorously tested. What is interesting about the model is the ease by which performance and other outcomes (including satisfaction) can be translated into a union framework. Intuitively, the union model has appeal and it exemplifies the impact unions can have on a variety of job outcomes.

Kochan and Helfman (1979) propose a three stage model to explain the effect of union power on a number of economic and behavioral job

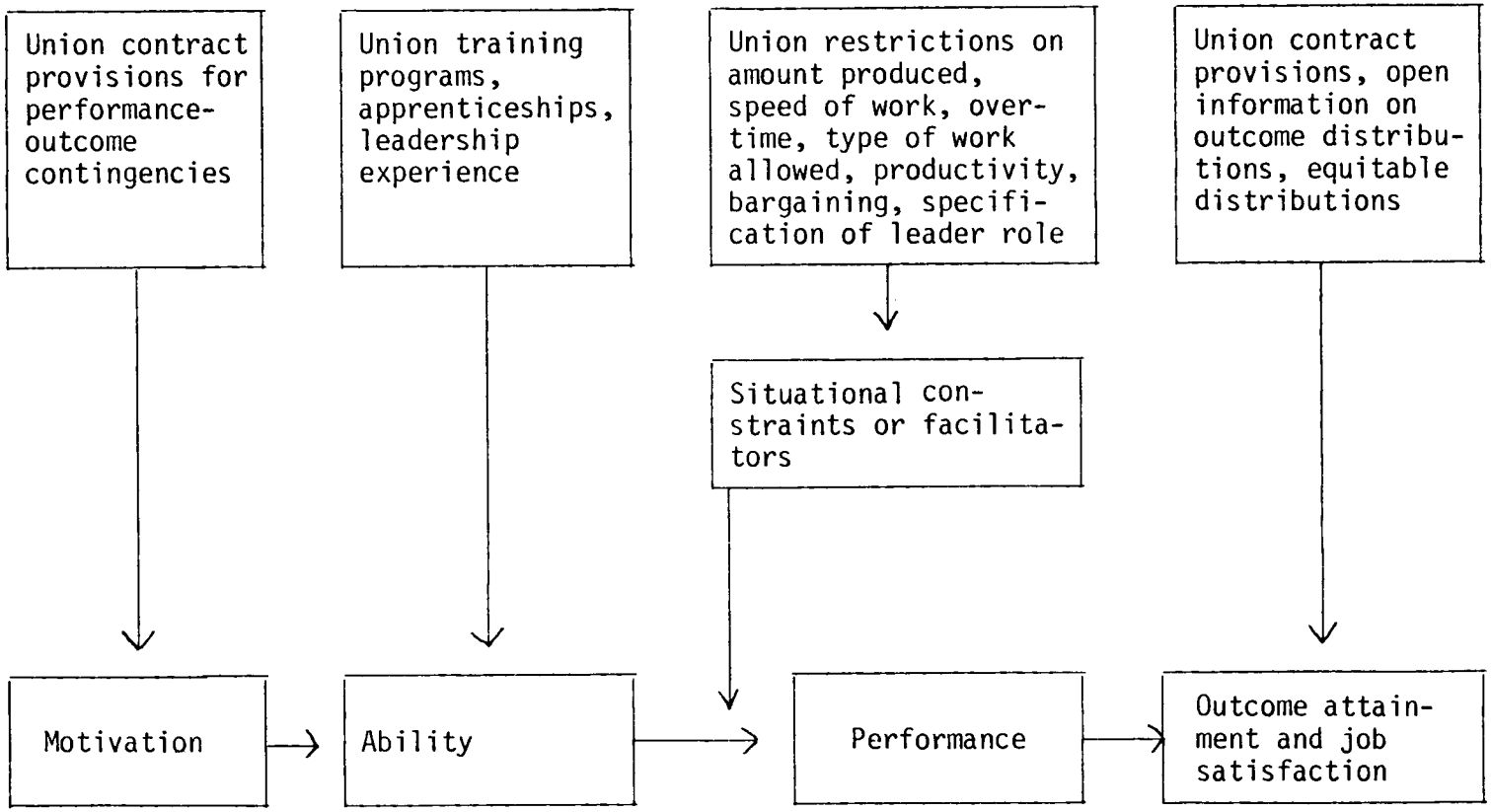

Figure 1. The Union's Role in a Motivation-Performance-Job Satisfaction Model. (After Hammer, 1978.)

outcomes. The three-stage model presented in Figure 2 illustrates the adaptiveness of union-management relations in order to achieve a point of equilibrium. According to the model, stage one involves the primary goals and expectations union members place on the union. Specifically, stage one suggests that union members place a high priority in obtaining higher wages, better fringe benefits and better working conditions which Kochan labels "bread and butter" issues. Therefore, the union is committed to improve these aspects, with wages the top priority. The success of these efforts are related to the strength or power of the union.

Stage two involves the way management responds to the labor contract agreed upon through collective bargaining. According to Freeman and Medoff (1979), management's response to increased labor costs can follow the neoclassical economic theory approach or the "shock-effect" route proposed by Slichter (1941).

Within the neoclassical economic approach, management can respond to increased labor costs by reducing output and employment, increase the price of the product, or substitute capital for labor (Kochan and Helfman, 1979). The shock-effect position suggests management looks for inefficiencies in the system, then tries to correct them in order to reduce operating costs in non-wage areas.

Stage two is an important phase in that management tries to restore equilibrium. The extent to which management responds to a collective bargaining contract can set the stage for future negotiating sessions. The power of the union will determine how labor is able to respond to management's actions.

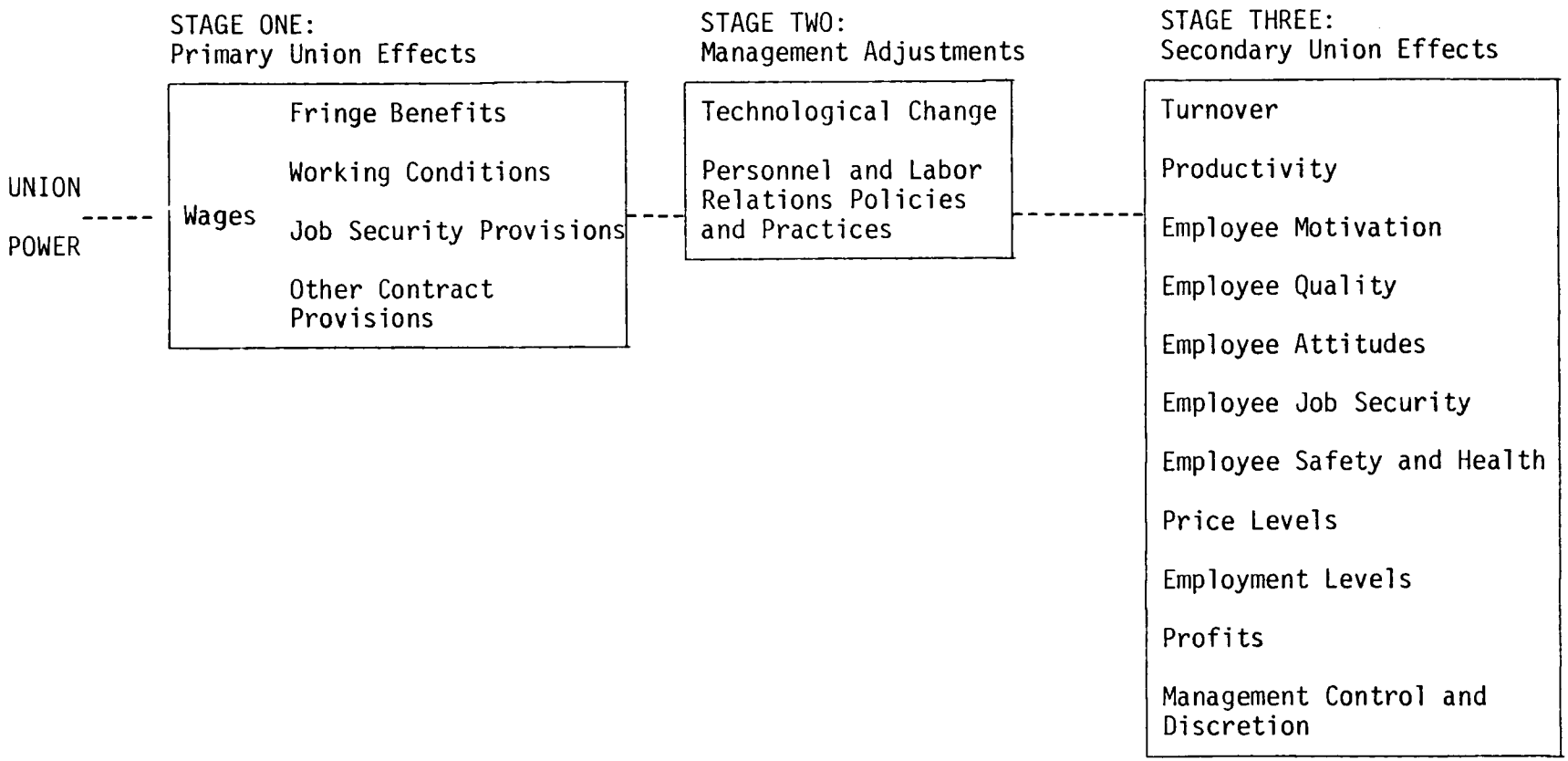

Figure 2. Sequential Model of Union Effects. (After Kochan and Helfman, 1979.)

Stage three or secondary effects are dependent upon the "relative strength of two opposing forces—the power of the union to achieve its objective versus the ability of the employer to respond to union gains in one area by holding the line on improvements in other areas. As we move from the primary or 'traditional' areas of union efforts to the issues that are more marginal to the union, the effects of union power are expected to diminish relative to the importance of managerial policies and practices" (Kochan and Helfman, 1979, p. 12). Non-wage issues such as quality of working life are viewed as areas where union power exerts its weakest effect. Any effects unions have in these areas are attributed to successes in economic areas.

To summarize the Three Stage Model, Kochan and Helfman (1979, p. 12) proposes the following propositions:

> 1. The primary effect of unions will be to increase wages and fringe benefits and to improve working conditions of their members. Of these effects the initial and dominant effect of the unions will be on wages.
> 2. The greater the union power, the more the wages of the union members will exceed wages of workers on comparable jobs.
> 3. The more unions raise wages, the higher fringe benefits tied to wages will be.
> 4. The more unions increase wages, the higher priority union members will assign to improving fringe benefits, working conditions, job security, and other provisions of the collective bargaining contract.
> 5. The greater the union power, the more successful the union will be in improving the fringe benefits, job security, working conditions, and other terms of the labor agreement and the less the employer will be able to recoup higher wages through tradeoffs or compensating differentials in these areas of the employment relationship.
> 6. The greater the union power, the more the employer will formalize personnel and labor relations' policies and practices in order to recoup the increased costs associated with the terms of the collective bargaining agreement.
> 7. The effect of the union on attitudes and behavior of individual workers depends on the joint effects of the terms of the collective bargaining agreement, and the ways the employer adapts its personnel and labor relations' practices and policies.

In a follow-up study using the three stage model as a framework, Kochan and Helfman (1979) assessed the effects of unions on a number of job outcomes. Kochan and Helfman (1979, p. 55) conclude, "unions increase wages and the availability of fringe benefits, produce higher compensatory differentials for hazardous work, reduce the wage premium paid for high discretion or skill, increase the perceived value of one's job relative to potential alternative jobs, increase the amount of say workers want on their jobs, increase the willingness of workers to trade off wage increases for improvements in other job conditions, marginally increase job satisfaction with 'bread and butter' issues and decrease satisfaction with job content, and marginally decrease the perceived ability to change employer policies." In addition, the effect of increased wages may act to reduce union turnover.

The concept of union power has been useful for conceptualizing the direct impact collective bargaining can have on economic and non-economic issues. The source of union power remains an elusive concept with little agreement on its operational definition. One approach which may add to the more traditional measures (e.g., the magnitude of the wage differential negotiated) is the concept of commitment to one's union. The degree to which union members identify with, and become involved in, union activities can have a direct effect on union power. This effect can be real in the sense of more people to participate in union activities, or perceptual from the standpoint of how strong management perceives a union to be. The same applies for unions in terms of how strong union leaders believe they are when the time comes for filing grievances or negotiating a new contract. Many times a

union's power has been eroded by the rank-and-file's failure to go along with its leaders. Gordon, Philpot, Burt, Spiller, and Thompson (1980) identified through factor analyses four union commitment factors. These factors include union loyalty, responsibility toward the union, willingness to work for the union, and belief in unionism; plus an overall commitment score based upon an additive composite of the four factor scores. Union commitment was found to be related to job outcomes such as union and job satisfaction.

Smith and Hopkins (1979) note three broad clusters which tend to be significantly correlated with attitudes toward unions. Within their conceptual framework, individual characteristics and life experiences, dissatisfactions with the work situation and the job, and the nature of the employee organization and the employee's relationship to it were considered important determinants of workers' attitudes toward unions. For both the union and nonunion samples, workers holding the most favorable attitudes toward unions were those with lower occupational status, more negative life views, lower organizational involvement, large work organizations, and higher dissatisfactions with work load, pay, and fringe benefits.

It is interesting to note, however, that important differences existed between the union and nonunion sample in terms of the relative importance of the clusters. Whereas, prework and life experiences were the most important predictors for the nonunion sample, work dissatisfaction was the best predictor of union attitudes for the union sample. This suggests that "different processes may be at work in the formation of their attitudes toward unions" (Smith and Hopkins, 1979, p. 492).

The study by Smith and Hopkins (1979) exemplifies the most common approach to the study of union membership. Studies of this type tend to look for important attitudinal differences between union and nonunion workers by blocking on a myriad of factors such as tenure, age, socio-economic status, race, occupational status, type of industry, section of the country, and any other variable which seems to suggest significant differences. By identifying those characteristics which distinguish union from nonunion workers, researchers generalize to the type of worker most likely to be prounion. The biggest fallacy in this approach was pointed out by Kochan and Helfman (1979). Most workers do not have a choice to unionize or not. In most instances, the issue of unionization was decided long ago; a worker coming into a unionized shop has little choice over the matter. This reality supports Hammer's (1978) contention that unions become a characteristic of the job. The best way, therefore, to identify the issues that prompt workers to unionize is to ask them before and after union representation votes are taken.

Kochan (1979), utilizing data from a national survey, found nearly one-third of the nonunion sample would vote for union representation. Demographic breakdowns indicated blue-collar workers favored unionization more than white-collar workers (39 percent vs. 28 percent). Further analyses revealed nearly 67 percent of all black and other minority workers, as well as 40 percent of all women and 35 percent of Southern workers, would vote to unionize. While these results are important in identifying target groups for unions to focus on, other attitudinal trends toward union representation have been found which cut across demographic characteristics.

A number of studies support the general hypothesis that voting for union representation is related more to dissatisfaction with economic issues (e.g., wages, fringe benefits, working conditions) than dissatisfaction with noneconomic issues (e.g., challenge, relations with supervisor, independence). In a study of 31 union elections involving 1,000 workers, a statistically significant relationship between voting to unionize and attitudes toward unions ($\underline{r}$ = .62) was found. In addition, prounion voting was related to total job satisfaction ($\underline{r}$ = -.53) and dissatisfaction with economic issues. Specifically, voting for union representation was negatively related to job security ($\underline{r}$ = -.42) and wages ($\underline{r}$ = -.40). Satisfaction with the work itself (a noneconomic issue) and prounion voting were also statistically significant, but at a lower magnitude ($\underline{r}$ = -.14) (Getman, Goldberg and Herman, 1972, 1976; Herman, 1976).

Expanding upon these results, Schreisheim (1978) included more noneconomic satisfaction facets to clarify the relative importance of economic and noneconomic satisfaction in voting for union representation. As was the case in the Getman et al. studies, Schreisheim found strong statistically significant correlations between prounion voting and attitudes toward unions in general ($\underline{r}$ = .51) and attitudes toward the local ($\underline{r}$ = .57). Also, a strong statistically significant negative correlation between voting for union representation and total job satisfaction ($\underline{r}$ = -.64) was reported. In addition, "the correlation obtained for total economic satisfaction ($\underline{r}$ = -.74) is both substantial and significantly higher ($p < .01$) than the correlation for total noneconomic satisfaction" ($\underline{r}$ = -.38) (Schreisheim, 1978, p. 550).

Using multiple regression techniques to control for respondent characteristics, Kochan (1979) found economic issues to be significantly related to willingness to join unions. After examining the differences between prounion and nonunion supporters, Kochan concluded: "only when the problems become most severe or the highest level of dissatisfaction was reported did a majority of respondents indicate a willingness to support unionization. Thus, it would appear that while dissatisfaction with wages, fringes, and working conditions provides the initial stimulus to unionization, concern for this must be quite severe before a majority will support unionization as an option for improving conditions" (Kochan, 1979, pp. 25-26).

For those in the nonunion sample who opposed unionization, 20 percent indicated the union was not necessary, suggesting their job was satisfactory as is. Ten percent indicated they preferred to handle their problems individually with the employer, while 8 percent said they did not approve of unions (Kochan, 1979).

Hamner and Smith (1978) identified 13 survey questions which predicted severity of union activity (e.g., no union activity, hand billing of unit, card signing, union meetings, representation filed by union, union election held and won by company, union election held and won by union). The items which entered the regression equation included items dealing with supervision, co-workers, career future, company identification, amount of work, and physical surroundings. The thirteen item model had a multiple R value of .55 ($p < .001$) for the developmental sample and cross-validation $\underline{r}$ of .42 ($p < .001$). Comparing the work units which had no unionization activity with those units which

had experienced union activity, the no unionization units were more satisfied on 10 of the 13 items (Hamner and Smith, 1978). This lends support for the substantial inverse relationship found between total job satisfaction and prounion voting behavior reported by Getman et al. (1976) and Schreisheim (1978). Expanding on this concept, DeCotiis and LeLouarn (1981) developed a model in which instrumentality perceptions were found to be important in supporting a collective bargaining agent.

There appears to be fairly conclusive evidence based upon samples of nonunion workers that unions have strong appeal for those who are dissatisfied with pay, benefits and working conditions. Once unionization has taken place, how well have the unions met these needs for the rank-and-file?

Kochan (1979) found union members place responsiveness to the union's internal administration as the highest priority for union officials. Second on the priority ratings were traditional economic issues—wages, fringe benefits, job security, and working conditions. Quality of work issues were rated third. Union members tended to be satisfied with the union and its performance when traditional economic issues were satisfied. Overall, 73 percent of the rank-and-file were satisfied with their union. Additional analyses revealed the only significant correlate of union satisfaction was satisfaction with economic issues (Kochan, 1979).

Working with a union sample of 1,377 members from four locals of an international union, Gordon et al. (1980) found satisfaction with lower order needs (economic) and satisfaction with higher order needs (noneconomic) to be positively related to union satisfaction and satisfaction with management of the company. The difference between the

correlation coefficient for union satisfaction and lower-order needs and union satisfaction and higher-order needs was not statistically significant. The same was true for satisfaction with the management of the company. The two correlation coefficients were not statistically different from each other. These results contradict the statistically significant difference between economic and noneconomic satisfaction reported by Getman et al. (1976) and Schreisheim (1978). Unlike Kochan (1979), who found satisfaction with lower-order needs to be the only correlate of union satisfaction, Gordon et al. (1980) found satisfaction with lower-order needs and satisfaction with higher-order needs are both related to union satisfaction. Gordon et al. (1980) suggests these discrepancies may be due to the nature of the samples. Whereas, Getman et al. (1976) and Schreisheim (1978) utilized nonunion samples, Gordon et al. (1980) utilized a sample of present union members. Also, many of the union members in Gordon et al. (1980) study had participated in a Quality of Work Study in the organization.

These results suggest that discrepancies in response patterns between union and nonunion workers need further examination. Workers who would vote for union representation tend to be more dissatisfied with economic factors than workers who would vote against union representation. It is not clear, however, how well union members compare with nonunion workers who would vote against union representation.

In the next section, these studies will be incorporated into a formal statement of the research problem.

CHAPTER III

THE RESEARCH PROBLEM

In the previous chapter, several studies were reviewed in which antecedents to union representation were examined. Attitudinal differences were noted for those workers who would vote for unions and those who would vote against union representation. To summarize, voting for unions was found to be related more to dissatisfaction with economic conditions than dissatisfaction with noneconomic conditions (Schreisheim, 1978). In union samples, however, different attitudinal patterns emerge which vividly point out the fact that unions do have an impact on members in areas other than wages and fringe benefits. The union "effect" has been reported for job outcomes such as layoffs (Medoff, 1979), turnover (Freeman and Medoff, 1979), job satisfaction (Freeman and Medoff, 1979; Kochan and Helfman, 1979; Gordon et al., 1980), and productivity (Brown and Medoff, 1978). A common approach to the study of unions has been to examine groups of union and nonunion workers either separately or in conjunction. Those researchers who examined either group individually tended to make within group comparisons on a number of dependent variables (e.g., Schreisheim, 1978; Gordon et al., 1980). Those researchers who examined union versus nonunion differences tended to calculate regression equations in order to find significant differences between the two samples (e.g., Kochan, 1979; Smith and Hopkins, 1979). What has been lacking in union representation research is a comparison between union members and nonunion workers wherein the nonunion workers were subcategorized into those

favoring unionization and those opposing unionization. A comparison such as this provides information relevant to a broad picture of the dynamics involved in union representation elections and it enables us to examine the extent of the dissatisfaction experienced by those favoring unions. It also enables us to determine how much, if any, of the dissatisfaction disappears after joining a union. The goal in this study was to make these and other comparisons in order to determine the conditions which promote prounion voting. Also, an examination of the data was made to see how well unions have responded to those conditions which promote pro-union voting.

Independent Variables

As pointed out in the previous section, group membership, defined as those nonunion workers who would vote for unionization (VF), nonunion workers who would vote against unionization (VA), and current union members (UM), was considered an important determinant of job and union related outcomes. These groups (hereafter referred to as union status) were included in the present study as one of the two independent variables.

Previous research has found occupational status (defined in terms of white-collar or blue-collar jobs) to be an important factor influencing attitudes toward unions and the propensity to join them (Kochan, 1979; Thompson and Weinstock, 1967; Smith and Hopkins, 1979; Imundo, 1973). A possible explanation for this has been based upon the values each group places on different aspects of work. Intrinsic facets tend to be more important to higher occupational status groups while

extrinsic facets seem to be more important to workers of lower occupational status (Friedlander, 1966). In another study, workers from low socioeconomic backgrounds were more likely to have prounion attitudes than employees from high socioeconomic backgrounds (Seidman, London, and Korsh, 1951). Therefore, significant attitudinal differences between white-collar and blue-collar workers were expected.

Concomitant Variables

Realizing that job dissatisfaction is related to prounion voting, job content and tenure were included as covariates because of their significant impact on job satisfaction. These variables were incorporated into the study to control for sources of variance in the dependent variables. Of particular interest was the effect of job content on the union and job related outcomes. Its effect in union representation research has not been widely studied. Job content has, however, received a great deal of attention in job enrichment/quality of life programs literature.

The relationship between changes in job content and changes in job satisfaction have been well documented (Hackman and Oldham, 1975; Rousseau, 1977; Hackman and Lawler, 1971; Hackman, Pearce, and Wolfe, 1978). Conceptually, job design attempts to make jobs more complex and challenging by building into the jobs factors which are intrinsically rewarding. Hypothetically, enriched jobs result in greater satisfaction and occasionally greater productivity. Job enrichment is the antithesis of Taylorism. Where Taylorism broke jobs down into smaller and smaller pieces, job enrichment puts pieces back together.

The primary theories which address the issues of job design are Herzberg's two-factor theory (Herzberg, Mausner, and Snyderman, 1959; Herzberg, 1966) and sociotechnical systems theory (Emery and Trist, 1969). Both of these have been integrated into a workable conceptual framework by Hackman and Lawler (1971), and expanded further by Hackman and Oldham (1975).

Herzberg's two-factor theory has been the impetus for a number of studies directed toward motivation and job satisfaction. The theory proposes that the primary determinants of job satisfaction are the result of intrinsic factors inherent in the work. These factors called "motivators" are recognition, achievement, responsibility, advancement and personal growth. When present in the job, these motivators lead to satisfaction. On the other side of the two-factor theory are hygiene factors which are extrinsic to the work. It is believed that dissatisfaction is caused by hygiene factors such as company policies, supervisory practices, pay plans, and working conditions. According to the theory, increases in motivation and satisfaction are due to the degree that motivators are designed into the job. Changes directed only toward hygiene factors do not lead to increased motivation or satisfaction. As research continues, a number of inconsistencies are beginning to appear in Herzberg's theory. Most of the criticisms directed toward the two-factor theory deal with methodological problems (Schneider and Locke, 1971; Wernimont, 1966; King, 1970).

The sociotechnical systems approach to work design has been effective in stressing the interrelationships between workers and work groups. Change programs are viewed in terms of the total impact on the

system rather than an isolated event directed toward a subset of the system. The main drawback to sociotechnical systems theory is its lack of methodological specifications. Without a definitive statement regarding the conditions necessary for successful implementation of change programs, the theory will continue to provide, at best, a general framework for job design programs.

Hackman and Lawler (1971) found support for the hypothesis that employees who work on complex, challenging tasks generally have a high level of work motivation, satisfaction, performance, and attendance. The researchers also found the relationship was moderated by growth need strength such that employees high on growth need strength responded more positively than employees low in growth need strength.

The job design model proposed by Hackman and Oldham (1975) is presented in Figure 3. Within this framework, core job dimensions are important in prompting three psychological states which in turn lead to positive personal and work outcomes. The relationship between the core dimensions and personal and work outcomes is moderated by individual differences in employee growth need strength. Using the Job Diagnostic Survey, Hackman and Oldham (1976) tested the model on 62 different jobs. They found significant relationships between the job dimensions and internal motivation, general satisfaction, and growth satisfaction outcomes. The relationship between the core dimensions and absenteeism and rated performance was present, but at a much lower magnitude than the other outcome measures.

This led researchers to believe that job design efforts have a greater impact on satisfaction than on performance. To test this

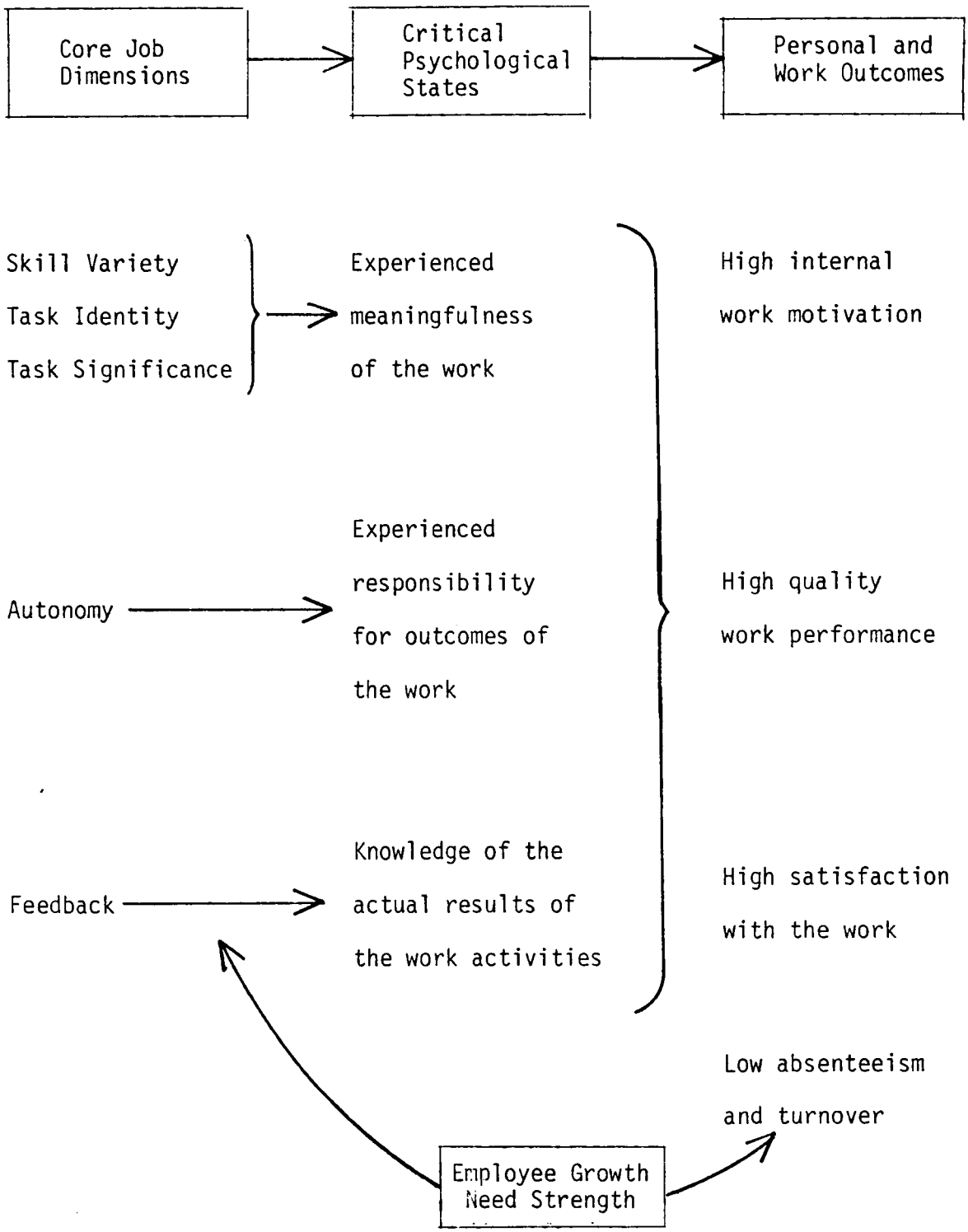

Figure 3. Job Enrichment Model. (After Hackman and Oldham, 1975)

hypothesis, Umstot, Bell, and Mitchell (1976) pitted goal setting against job enrichment to determine the effect of each on relevant work outcomes. As predicted, goal setting had a significant effect on performance, but not on satisfaction.

In a study designed to synthesize job design research and sociotechnical systems theory, Rousseau (1977) drew a sample of jobs from within a number of technologies. She found significant differences across the technological groupings between job characteristics and both employee satisfaction and motivation. In addition, there were significant positive relationships between the job characteristics and satisfaction, and the job characteristics and motivation. Skill variety and task significance were particularly important to employee satisfaction and motivation.

In a quasi-experimental study, Hackman, Pearce, and Wolfe (1978) examined the effects of changes in job characteristics on attitudinal and behavioral criteria. In a clerical sample, three groups emerged after several jobs were redesigned because of technological innovation. Employees whose jobs had been enriched by the change showed increases in general satisfaction. Employees whose jobs had been de-enriched showed substantial decreases. Those employees whose job remained the same showed a slight decrease. Internal work motivation was defined as the degree to which an individual experiences positive internal feelings when performing effectively on the job (e.g., I feel a great sense of personal satisfaction when I do this job well). Growth and satisfaction referred to the degree to which an individual was satisfied with opportunities for growth on the job (e.g., The amount of personal growth and

development I get doing my job). These roughly translate into satisfaction with noneconomic issues or satisfaction with higher-order needs. No changes were reported for context satisfaction (job security, pay, supervision and co-workers) or economic issues mainly because no changes were made in the pay schedule or supervisory practices. Finally, no significant changes were reported for absenteeism or rated performance.

For tenure the relationship with job satisfaction is not as well defined as it is for job content. In an early review of the literature, Herzberg, Mausner, Peterson, and Capwell (1957) concluded the relationship between tenure and job satisfaction is a U-shaped function. During the first year satisfaction dropped and stayed at a low level for a number of years. After a period of time, satisfaction began to increase. Hulin and Smith (1965) failed to find support for the U-shaped theory in a sample of male and female workers. Instead of a U-shaped function, they found a positive linear relationship between tenure and satisfaction with work and pay. In an attempt to reconcile these two conflicting hypotheses, Gibson and Klein (1970) examined the relationship between age and tenure with job satisfaction. Their analyses permitted them to look at the effect of age and tenure separately and to detect possible interactions between the two. They found a positive linear relationship between age and job satisfaction, and a negative linear relationship between length of service and satisfaction. The combined effect of age and tenure seemed to support a U-shaped function.

For the purpose of this study, tenure was treated as a covariate. Due to the conflicting views regarding tenure, the direction of the partial regression coefficients were examined. As a covariate, however, it did not matter if tenure was positively or negatively related to the dependent variables. It was more important that a significant amount of variance in the dependent variables was accounted for by tenure and job content together.

Dependent Variables and Hypotheses

Job Satisfaction and Turnover

Based upon previous union representation research (e.g., Schreisheim, 1978), nonunion workers who would vote for union representation were expected to be more dissatisfied with economic conditions than workers who would vote against unionization. The same pattern was expected to hold for noneconomic and total job satisfaction.

Owing to the paucity of studies involving direct comparisons between workers with antiunion voting sentiments and union members, it was difficult to predict how these two groups would compare. The research suggests unions gain initial acceptance when workers are dissatisfied with economic conditions. Thus, unions are given the charge to improve these conditions. How much, if any, of this dissatisfaction is recovered after unionization was the question.

The exit-voice theory proposed by Freeman and Medoff (1979) suggests unions reduce turnover by providing mechanisms for workers to express their dissatisfactions. Unions serve as a vehicle to express worker dissatisfaction through grievance procedures. Unions also point out problems to workers, thus heightening their awareness of issues which may cause dissatisfaction. Freeman and Medoff (1979) conclude that unions do not reduce job dissatisfaction through increased wages, fringe benefits, and better working conditions. Instead, unions reduce turnover by providing alternative mechanisms to voice dissatisfaction other than exiting the organization. If Freeman's argument is correct, satisfaction for union members should not be higher than those who would vote for unionization and would be significantly lower than workers who would vote against unionization. Union members would, however, exhibit less propensity to turnover than either of the nonunion groups. Of the three groups, workers who would vote for unionization were expected to be the most likely to turnover.

The efficacy of the exit-voice theory is debatable in light of recent evidence provided by Kochan and Helfman (1979). Comparing samples of union and nonunion workers, Kochan and Helfman found union workers were more satisfied with pay, fringe benefits, and job security than nonunion workers. These are areas in which unions have traditionally focused their attention. For noneconomic issues such as promotions, resource adequacy and job content, nonunion workers were more satisfied than union workers. These results suggest the exit-voice theory may

apply for noneconomic satisfaction but not for economic satisfaction. Kochan's conclusions regarding intrinsic satisfaction should be interpreted with caution. If unions narrowly define jobs as Hughes (1976) suggests, then the degree of intrinsic satisfaction reported by union members may also be restricted. This implies job content should be controlled for when union and nonunion workers are compared.

Modifying these models by treating job content and tenure as covariates, it was hypothesized that dissatisfaction with economic, noneconomic and total job satisfaction would be greatest for workers who would vote for unionization. Contrary to the exit-voice theory, it was hypothesized that union members and workers who would vote against unionization would be relatively equal on the satisfaction measures. Consistent with previous research (Smith and Hopkins, 1979), white-collar workers were expected to be more satisfied than blue-collar workers on all three dimensions.

Hypothesis:

I. Job Satisfaction: Nonunion workers who would vote for union representation (VF) will be more dissatisfied with economic, noneconomic and overall job satisfaction than workers who would vote against union representation (VA) or current union members (UM). There should be no significant difference in satisfaction between current union members (UM) and workers who would vote against unionization (VA). White-

for all three job satisfaction measures.

A. Economic Satisfaction

H_0: VF = VA = UM
H_1: VF < VA = UM
H_0: BC = WC
H_1: BC < WC

B. Noneconomic Satisfaction

H_0: VF = VA = UM
H_1: VF < VA = UM
H_0: BC = WC
H_1: BC < WC

C. Total Job Satisfaction

H_0: VF = VA = UM
H_1: VF < VA = UM
H_0: BC = WC
H_1: BC < WC

II. Intention to Turnover: Nonunion workers who would vote for unionization (VF) will be more likely to turnover than workers who would vote against unionization (VA) or union members (UM). Workers who would vote against unionization (VA) will be more likely to turnover than union members (UM). Blue-collar workers will be more likely to turnover than white-collar workers.

A. Intention to Turnover

H_0: VF = VA = UM
H_1: VF < VA < UM
H_0: WC = BC
H_1: WC < BC

Attitudes Toward Unions

Two scales were used to measure attitudes toward unions. Conceptually, the first set of questions appeared to measure an image of union power. These questions examined the extent to which workers felt unions exerted a substantial influence over members, management and the political system. Union members and workers favoring union representation were expected to agree with these statements more than workers who would vote against unionization. The second group of questions was labeled instrumentality. These questions measured the extent to which respondents agreed or disagreed with statements that unions were instrumental in improving working conditions. Responses to these questions were expected to receive high endorsement from union

members and prounion workers. With respect to occupational status, blue-collar workers were expected to agree more than white-collar workers. It should be noted that the response alternatives do not reflect a favorable versus unfavorable dimension. The response categories for each statement ranged from "Strongly Agree" to "Strongly Disagree."

Hypothesis:

III. Attitudes Toward Unions: Current union members (UM) and workers who would vote for union representation (VF) will have more favorable attitudes toward unions than workers who would vote against unionization (VA).

A. Big Labor Image

H_0: VA = VF = UM
H_1: VA < VF = UM
H_0: WC = BC
H_1: WC < BC

B. Instrumentality

H_0: VA = VF = UM
H_1: VA < VF = UM
H_0: WC = BC
H_1: WC < BC

CHAPTER IV

MEASUREMENT AND METHODOLOGY

Subjects

All measures were taken from the 1977 Quality of Employment Survey (Quinn and Staines, 1979). This survey was the third in a series of national surveys over the last ten years (the first in 1969, and second in 1973). The 1977 survey was initiated in 1977 with data collected between October and December of that year. The 1977 survey team returned to portions of the 1973 sample in order to provide longitudinal data on the nature of quality of work in the United States. The 1977 survey included a national sample of 2,850 households of which 926 were eliminated due to eligibility criteria. Of the 1,924 persons chosen, 1,515 granted interviews with a response rate of 73.4 percent.

Measures

Job Content: The job content dimensions were measured with questions adopted from the Task Characteristic Module of the Michigan Organization Assessment Package. Some of these dimensions had, in turn, been adopted from the Job Diagnostic Survey (Hackman and Oldham, 1975). The specific dimensions include:

Skill Variety—The degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talents of the employee.

Task Identity—The degree to which the job requires completion of a "whole" and identifiable piece of work—i.e., doing a job from the beginning to the end with a visible outcome.

Task Significance—The degree to which the job has a substantial impact on the lives or work of other people—whether in the immediate organization or in the external environment.

Autonomy—The degree to which the job provides substantial freedom, and discretion of the employee in scheduling the work and in determining the procedures to be used in carrying it out.

Feedback—From the job itself—The degree to which carrying out the work activities required by the job results in the employee obtaining direct and clear information about the effectiveness of his/her performance.

These job dimensions were combined in the following manner to form the Job Content (JC) variable:

$$JC = \frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance} + \text{Autonomy} + \text{Feedback}}{5}$$

Tenure: Job tenure was measured by asking the respondent to indicate how long he/she had worked for the present employer. The eight point scale ranged from less than one month to more than twenty years.

Occupational Status: In order to define workers as white-collar or blue-collar workers, the 1970 Census Codes were used. Occupational classification codes 001 to 395 were categorized as white-collar workers. Codes 401 to 785 were indications of blue-collar workers (see Appendix I).

Union Status: The following questions were used to classify workers into group membership:

> If an election were held with secret ballots, would you vote for or against having a union or employees' association represent you?

and

> In your present job do you belong to a union or to an employees' association?

Vote For (VF): Includes those nonunion members who would vote for union representation.

Vote Against (VA): Includes those workers who would vote against unionization.

Union Member (UM): This group includes any respondent who was currently a union member.

Job Satisfaction: The job satisfaction scales were formed through a factor analysis of the 1973 data. The analysis yielded the following dimensions: challenge; resource adequacy; financial rewards; promotions; comfort. Each respondent was asked to state the extent to which an item was true (e.g., The work is interesting. Very True; Somewhat True; Not Too True; Not at All True).

Economic Satisfaction (ECONSAT):

> Satisfaction with financial rewards, promotions, and comfort were classified as economic issues. A total satisfaction index was created by computing an average for the three scales.

Noneconomic Satisfaction (NONECON):

> Scales pertaining to satisfaction with noneconomic aspects included challenge and resource adequacy. These two scales were averaged to form the noneconomic satisfaction index.

Total Job Satisfaction (TOTSAT):

> An overall index of job satisfaction was formed by averaging the five job satisfaction scales.

Intention to Turnover: One question was used as an indication of a respondent's intention to turnover. The following question was asked:

> Taking everything into consideration, how likely is it that you will make a genuine effort to find a new job (with another employer) within the next year—very likely, somewhat likely, or not at all likely?

Properties of the Measures

Reliability coefficients were calculated for each of the scales having more than one item. The various scales were created by calculating an average score on the appropriate items. In instances, such as total job satisfaction, overall scales were created by averaging two or more subscales. Measures of internal consistency utilizing Cronbach's alpha reliability coefficient (Cronbach, 1951) and descriptive statistics are presented in Table 4.1. Appendix II includes the individual items comprising the scales. The alpha coefficient is based on the average correlation among items and the total number of items in a scale (Cronbach, 1951). Examination of Table 4.1 reveals that each of the dependent variables has sufficiently high internal consistency reliabilities. Task identity and task significance, two of the job content scales, have marginal internal consistency reliabilities. These scales were retained, however, due to the theory underlying the job content model. The alpha coefficient for job content (JC), the composite scale, was more than sufficient (.82).

Analytical Procedures

The present study was undertaken to assess the effects of willingness to join unions on a number of attitudinal dependent variables.

Table 4.1

Descriptive Statistics and Reliability Coefficients

Variable	N	Mean	S.D.	Alpha
Job Satisfaction				
Comfort	845	2.87	.57	.70
Financial Rewards	845	2.88	.81	.69
Promotions	845	2.48	.87	.76
Economic Satisfaction Index	845	2.76	.59	.81
Challenge	881	3.03	.68	.79
Resource Adequacy	881	3.18	.58	.88
Noneconomic Satisfaction Index	881	3.07	.54	.88
Overall Job Satisfaction Index	819	2.88	.54	.91
Attitudes Toward Unions				
Big-Labor Image	808	3.80	.74	.74
Instrumentality	834	3.64	.78	.76
Intention to Turnover[a]	915	4.09	1.48	
Tenure	966	4.96	1.87	
Job Content				
Variety	942	3.63	.82	.78
Autonomy	942	3.59	.96	.65
Task Identity	942	3.40	.82	.35
Task Significance	942	4.12	.69	.54
Task Feedback	942	4.11	.74	
Job Content Index	942	3.71	.53	.82

[a]Intention to Turnover is reversed scored such that higher scores indicate more of a willingness to look for a new employer.

Note: Reliability estimate is the Cronbach Alpha (Cronbach, 1951) measure of internal consistency and is calculated where applicable.

Current union members were included to determine if there were any significant differences between union and nonunion groups. The primary objective was to discover if individuals who were members of one group responded differently on the dependent variables than members in other groups. Union status and occupational status were considered independent variables. Job content and tenure were thought to be important variables which affect the impact of group membership on the dependent variables. In order to take into account these covariates, a 2 X 3 analysis of covariance, consisting of two levels of occupational status (WC, BC) and three levels of union status (VF, VA, UM), was chosen. This analysis allows comparisons between groups while removing the effects of the tenure and job content covariates.

In quasi-experimental studies, satisfying the assumptions underlying statistical analyses can be tenuous. In this case, workers were not randomly assigned into groups, and the presence of large group size differences precluded the use of an analysis of covariance under the strictest interpretation. Cohen and Cohen (1975), however, suggest the use of multiple regression as a viable alternative. This approach allows more flexibility, particularly when faced with large sample size differences. Therefore, multiple regression using dummy variables to define group membership was chosen.

Dummy variables are a convenient means by which group membership can be translated for analytical purposes. The primary variables under consideration were two levels of occupational status and three levels of union status. The levels of group membership for both classification variables were coded according to the following dummy variable format:

Occupational Status	D_1
White-collar	1
Blue-collar	0

Union Status	D_2	D_3
Vote for	1	0
Vote against	0	1
Union member	-1	-1

As can be seen, the number of dummy variables produced for each classification variable is the number of levels minus one. Therefore, for union status there are k-1 or two dummy variables. The coding format, commonly called effects coding, was chosen to reflect a treatment effect due to union status group membership. The raw score regression coefficients provide information regarding the difference between a group's mean and the grand mean of all the groups taken together (Cohen and Cohen, 1975). The concept of effects coding is similar to the concept of treatment effects in analysis of variance terms.

The general model for the analyses was

$$Y = b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + b_9x_9 + b_{10}x_{10} + b_{11}x_{11} + b_{12}x_{12} + b_{13}x_{13} + a$$

where

Y = individual score on the dependent variable in question

a = intercept

x_1 = tenure

x_2 = job content

x_3 = occupational status (D_1)

x_4 = union status (D_2)

x_5 = union status (D_3)

x_6 = occupational status X union status (D_1 X D_2)

x_7 = occupational status X union status (D_1 X D_3)

x_8 = tenure X occupational status

x_9 = job content X occupational status

x_{10} = tenure X union status (D_2)

x_{11} = tenure X union status (D_3)

x_{12} = job content X union status (D_2)

x_{13} = job content X union status (D_3)

A hierarchical multiple regression model was utilized to analyze the data. Cohen and Cohen (1975, p. 166) state:

> The hierarchical model orders the sets into an apriori hierarchy, and proceeds sequentially: for each set in the hierarchical order of succession, all higher level sets (and no lower level sets) pare partialled. The chief quantities of interest are the increments of Y variance accounted for by each set uniquely, relative to sets of higher order of priority.

Five sets entered the hierarchical regression model:

SET	VARIABLE(S) IN SET	NATURE OF SET
A	X_1, X_2	Covariates
B	X_3	Independent variable - occupational status
C	X_4, X_5	Independent variable - union status
D	X_6, X_7	Main effects interaction
E	X_8,X_9,X_{10},X_{11},X_{12},X_{13}	Covariate X main effects interaction

Set A, containing the covariates tenure and job content, entered the equation first. By entering these covariates into the hierarchical model first, the respondents in the sample are statistically "equated" on these variables prior to the inclusion of the independent variables and the interaction terms in Sets B, C, and D. Sets B, C, and D include the variables necessary for a 2 X 3 nonorthogonal ANOVA. Set B is the dummy variable for two levels of occupational status. Set C includes the dummy variables for three levels of union status, and Set D includes the variables defining the interaction between occupational status and union status. Finally, Set E contains the variables which define the interaction between the covariates and the independent variables.

The analysis of covariance assumes that the relationship between the covariates in Set A and the dependent variable Y is the same across the groups defining the independent variables. The assumption of homogeneity of regression is an assumption which must be met; otherwise, the regression of the covariates would be over or under adjusting for some groups when the adjustment is based upon a common regression plane.

The F-test for the entire model, R^2, the F-test associated with the partial sum of squares for the classification variables, and the F-test for the increase in Y variance accounted for due to the introduction of a set were examined to test the assumptions of an analysis of covariance and to test the hypotheses. If a set containing the independent variables was statistically significant, a multiple regression equation was constructed to calculate adjusted group means. These adjusted group means estimate what the group mean on the independent variable might have been had the group means on the covariates initially

been equal (Tatsuoka, 1971, p. 60, see Appendix III). The Scheffé method for post hoc comparisons was used to test the significance between pairs of adjusted means (Cohen and Cohen, 1975, see Appendix III). The Scheffé method allows for the examination of all possible pairwise comparisons without increasing the Type I error rate.

CHAPTER V

RESULTS

Hierarchical multiple regression was applied to the data in order to test the hypotheses. Table 5.1 presents the intercorrelations between the variables. The pattern of intercorrelations for the job satisfaction dependent variables indicate a relative high degree of overlap, particularly for composite measures such as overall satisfaction. The two dependent variables dealing with attitudes toward unions were inversely related. Intention to turnover and job content correlated higher with the job satisfaction variables than they did with the attitudes toward unions variables. Tenure was significantly related to intention to turnover.

The results of the hierarchical multiple regression analyses appear in Tables 5.2 to 5.7. For each dependent variable the following information is provided:

1. The overall F-test for the entire model (F_1). This test provides an indication of the strength of the relationship between the dependent variable and the linear combination of independent variables.
2. The coefficient of determination (R^2). This provides a measure of the proportion of the dependent variable's variance shared with the optimally weighted independent variables.
3. The partial F-test for a given set (F_2). As each set of independent variables are added to the regression model,

Table 5.1

Intercorrelations Among the Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	Comfort	1.00													
2.	Challenge	.42	1.00												
3.	Financial	.41	.37	1.00											
4.	Resource Adequacy	.58	.46	.38	1.00										
5.	Promotions	.44	.50	.46	.58	1.00									
6.	Economic Satisfaction	.72	.55	.81	.64	.83	1.00								
7.	Noneconomic Satisfaction	.60	.88	.44	.83	.63	.70	1.00							
8.	Overall Job Satisfaction	.73	.73	.72	.77	.82	.96	.88	1.00						
9.	Big Labor Image	.01	.15	.02	-.02	-.02	.01	.05	.01	1.00					
10.	Instrumentality	.03	-.10	.05	.04	.01	.04	-.02	.02	-.26	1.00				
11.	Intention to Turnover	.23	.23	.34	.19	.21	.33	.23	.31	.07	-.01	1.00			
12.	Tenure	.08	.13	.26	-.03	-.06	.11	.06	.10	.08	.02	.30	1.00		
13.	Job Content	.23	.66	.18	.24	.34	.32	.54	.44	.18	-.09	.16	.06	1.00	
14.	Occupational Status	-.11	-.25	-.05	-.09	-.12	-.12	-.18	-.15	-.13	.05	-.06	.01	-.31	1.00

Table 5.2

Results of Multiple Regression Analysis—Economic Satisfaction

Set	IV added	cum R^2	F_1	df	ΔR^2	F_2	df
A	x_1, x_2	.120	57.45**	2,842			
B	x_3	.121	38.44**	3,841	.001	.96	1,841
C	x_4, x_5	.163	32.72**	5,839	.042	20.98**	2,839
D	x_6, x_7	.175	25.32**	7,837	.012	6.05**	2,837
E	x_8 to x_{13}	.182	14.24**	13,831	.007	1.18	6,831

Set	IV added	Source	b	F_3	df
		Intercept	1.31		
A	x_1	Tenure	.03	7.03**	1,837
	x_2	Job Content	.33	77.76**	1,837
B	x_3	D_1	.05	1.62	1,837
C	x_4	D_2	-.29	33.72**	1,837
	x_5	D_3	.13	9.64**	1,837
D	x_6	Interaction	.17	7.13**	1,837
	x_7	Interaction	.02	0.12	1,837

Adjusted Group Means
USTAT[a]

OCCSTAT	VA	VF	UM	$\bar{Y}_{adj}$
WC	2.89 (265)	2.62 (104)	2.71 (100)	2.79 (469)
BC	2.82 (123)	2.40 (66)	2.85 (187)	2.76 (376)
$\bar{Y}_{adj}$	2.87	2.53	2.80	2.78
(n_j)	(388)	(170)	(287)	(845)

*p < .05.

**p < .01.

[a]USTAT = union status; VA = vote against; VF = vote for; UM = union member; OCCSTAT = occupational status; WC = white-collar; BC = blue collar.

Table 5.3

Results of Multiple Regression Analysis—Noneconomic Satisfaction

Set	IV added	cum R^2	F_1	df	ΔR^2	F_2	df
A	x_1, x_2	.303	191.07**	2,878			
B	x_3	.304	127.96**	3,877	.001	1.25	1,877
C	x_4, x_5	.325	84.51**	5,875	.021	13.51**	2,875
D	x_6, x_7	.327	60.61**	7,873	.002	1.30	2,873
E	x_8 to x_{13}	.334	33.55**	13,867	.007	1.51	6,867

Set	IV added	Source	b	F_3	df
		Intercept	1.00		
A	x_1	Tenure	.02	3.77	1,873
	x_2	Job Content	.52	294.61**	1,873
B	x_3	D_1	.03	0.94	1,873
C	x_4	D_2	-.13	9.86**	1,873
	x_5	D_3	.14	16.01**	1,873
D	x_6	Interaction	.07	1.77	1,873
	x_7	Interaction	-.04	0.82	1,873

Adjusted Group Means
USTAT[a]

OCCSTAT	VA	VF	UM	$\bar{Y}_{adj}$
WC	3.16 (281)	3.00 (118)	3.02 (102)	3.09 (501)
BC	3.17 (122)	2.90 (65)	3.02 (193)	3.05 (380)
$\bar{Y}_{adj}$	3.16	2.96	3.02	3.07
(n_j)	(4.03)	(183)	(295)	(881)

*p < .05.

**p < .01.

[a]USTAT = union status; VA = vote against; VF = vote for; UM = union member; OCCSTAT = occupational status; WC = white collar; BC = blue collar.

Table 5.4

Results of Multiple Regression Analysis—
Overall Job Satisfaction

Set	IV added	cum R^2	F_1	df	ΔR^2	F_2	df
A	x_1, x_2	.217	113.22**	2,816			
B	x_3	.218	75.92**	3,815	.001	1.04	1,815
C	x_4, x_5	.256	55.92**	5,813	.038	20.87**	2,813
D	x_6, x_7	.264	41.57**	7,811	.008	4.38*	2,811
E	x_8 to x_{13}	.272	23.16**	13,805	.008	1.47	6,805

Set	IV added	Source	b	F_3	df
		Intercept	1.31		
A	x_1	Tenure	.02	8.13**	1,811
	x_2	Job Content	.42	168.78**	1,811
B	x_3	D_1	.05	1.97	1,811
C	x_4	D_2	-.23	29.15**	1,811
	x_5	D_3	.15	17.03**	1,811
D	x_6	Interaction	.15	7.30	1,811
	x_7	Interaction	-.02	0.15	1,811

Adjusted Group Means
USTAT[a]

OCCSTAT	VA	VF	UM	$\bar{Y}_{adj}$
WC	2.97 (261)	2.76 (110)	2.79 (94)	2.88 (465)
BC	2.94 (114)	2.56 (61)	2.87 (179)	2.84 (354)
$\bar{Y}_{adj}$	2.96	2.69	2.84	2.86
(n_j)	(375)	(171)	(273)	(819)

*p < .05.

**p < .01.

[a]USTAT = union status; VA = vote against; VF = vote for; UM = union member; OCCSTAT = occupational status; WC = white collar; BC = blue-collar.

Table 5.5

Results of Multiple Regression Analysis—
Intention to Turnover[a]

Set	IV added	cum R^2	F_1	df	ΔR^2	F_2	df
A	x_1, x_2	.1150	59.26**	2,912			
B	x_3	.1152	39.54**	3,911	.0002	.21	1,911
C	x_4, x_5	.1420	30.33**	5,909	.027	14.20**	2,909
D	x_6, x_7	.1430	21.69**	7,907	.001	.53	2,907
E	x_8 to x_{13}	.1460	11.94**	13,901	.003	.53	6,901

Set	IV added	Source	b	F_3	df
		Intercept	1.65		
A	x_1	Tenure	.22	74.30**	1,907
	x_2	Job Content	.30	9.71**	1,907
B	x_3	D_1	.16	2.21	1,907
C	x_4	D_2	-.48	14.84**	1,907
	x_5	D_3	.15	2.06	1,907
D	x_6	Interaction	.09	.38	1,907
	x_7	Interaction	-.06	.22	1,907

Adjusted Group Means
USTAT[b]

OCCSTAT	VA	VF	UM	$\bar{Y}_{adj}$
WC	4.11 (289)	3.63 (115)	4.32 (106)	4.05 (510)
BC	4.01 (134)	3.38 (68)	4.19 (203)	3.99 (405)
$\bar{Y}_{adj}$	4.08	3.54	4.23	4.02
(n_j)	(423)	(183)	(309)	(915)

*p < .05.

**p < .01.

[a]Intention to turnover is reversed scored. High scores reflect low intention to change employers.

[b]USTAT = union status; VA = vote against; VF = vote for; UM = union member; OCCSTAT = occupational status; WC = white-collar; BC = blue-collar.

Table 5.6

Results of Multiple Regression Analysis—
Big Labor Image

Set	IV added	cum R^2	F_1	df	ΔR^2	F_2	df
A	x_1, x_2	.036	15.06**	2,805			
B	x_3	.043	12.12**	3,804	.007	5.86*	1,804
C	x_4, x_5	.075	13.08**	5,802	.032	13.80**	2,802
D	x_6, x_7	.076	9.44**	7,800	.001	.43	2,800
E	x_8 to x_{13}	.081	5.43**	13,794	.005	.72	6,794

Set	IV added	Source	b	F_3	df
		Intercept	2.96		
A	x_1	Tenure	.04	6.91**	1,800
	x_2	Job Content	.15	9.94**	1,800
B	x_3	D_1	.07	1.75	1,800
C	x_4	D_2	-.06	.75	1,800
	x_5	D_3	.20	13.63**	1,800
D	x_6	Interaction	.03	.15	1,800
	x_7	Interaction	-.06	.78	1,800

Adjusted Group Means
USTAT[a]

OCCSTAT	VA	VF	UM	$\bar{Y}_{adj}$
WC	3.93 (231)	3.76 (88)	3.68 (111)	3.83 (430)
BC	3.92 (92)	3.66 (77)	3.58 (209)	3.68 (378)
$\bar{Y}_{adj}$	3.92	3.71	3.61	3.76
(n_j)	(323)	(165)	(320)	(803)

*p < .05.

**p < .01.

[a]USTAT = union status; VA = vote against; VF = vote for; UM = union member; OCCSTAT = occupational status; WC = white-collar; BC = blue-collar.

Table 5.7

Results of Multiple Regression Analysis—Instrumentality

Set	IV added	cum R^2	F_1	df	ΔR^2	F_2	df
A	x_1, x_2	.006	2.85	2,831			
B	x_3	.007	1.92	3,830	.001	.84	1,830
C	x_4, x_5	.145	28.10**	5,828	.138	66.43**	2,828
D	x_6, x_7	.148	20.64**	7,826	.003	1.46	2,826
E	x_8 to x_{13}	.156	11.71**	13,820	.008	1.79	6,820

Set	IV added	Source	b	F_3	df
		Intercept	3.79		
A	x_1	Tenure	-.006	.23	1,826
	x_2	Job Content	-.01	.04	1,826
B	x_3	D_1	.05	.89	1,826
C	x_4	D_2	.33	24.66**	1,826
	x_5	D_3	-.48	75.14**	1,826
D	x_6	Interaction	-.10	1.41	1,826
	x_7	Interaction	.13	3.65	1,826

Adjusted Group Means
USTAT[a]

OCCSTAT	VA	VF	UM	$\bar{Y}_{adj}$
WC	3.16 (238)	4.00 (91)	4.15 (114)	3.59 (443)
BC	3.24 (96)	4.05 (79)	3.87 (216)	3.75 (391)
$\bar{Y}_{adj}$	3.18	4.02	3.97	3.67
(n_j)	(334)	(170)	(330)	(834)

*p < .05.

**p < .01.

[a]USTAT = union status; VA = vote against; VF = vote for; UM = union member; OCCSTAT = occupational status; WC = white-collar; BC = blue-collar.

an F-test was performed to determine the significance of the contribution to Y variance by the appropriate set (Cohen and Cohen, 1975).

4. The partial F-test for the independent variables (F_3). If the F-test for a given set was significant, the individual variables making up the set were tested for significance. This was the partial contribution of each independent variable (Cohen and Cohen, 1975).
5. The raw score partial regression coefficient (b). These coefficients give the amount and direction of net change in Y as related to a change in one unit of the independent variable x, while holding all other sources of variation constant.

The partial F-test for sets (F_2) is an important step in determining the relative contribution of covariates and independent variables. Of particular interest is the F-test for Set E which is the covariate X independent variable interaction. If Set E is significant, the assumption of homogeneity of regression is not met and the analysis of covariance cannot be performed. The formula for F_2 is found in Appendix II.

The total N for the separate analyses varies due to the listwise deletion method which eliminates a case if missing data exists for any of the variables.

Support for the hypotheses was given if three conditions were met. First, the inclusion of Set B, Set C, and/or Set D must be statistically significant. If these sets were statistically significant, then the independent variables in the set could be tested. If the F-test for the

set was not significant, tests on the independent variables in the set could not be recommended. This condition protects against large setwise Type I error rates. Next, the significance of the partial F-tests for the independent variables in the set along with the pattern and direction of adjusted group means are examined for support of hypotheses. Finally, the adjusted group means are compared using the Scheffé post hoc test. It is possible for the partial F-test for the independent variables to be significant; yet no statistically significant differences may be found between the adjusted group means after pairwise comparisons are made.

Economic Satisfaction

Examination of Table 5.2 reveals a statistically significant linear relationship between the predictors and economic satisfaction ($F_1 = 14.24$, $p < .01$). Looking at the hierarchical analysis in detail, set A, containing the covariates, accounts for 12 percent of the variance. The addition of occupational status (Set B) only added one-tenth of 1 percent to the variance which is not statistically significant ($F_2 = .96$). Set C, containing union status group membership, was found to add a significant amount of variance over Set A and B ($F_2 = 20.98$, $p < .01$). Also, Set D—which defines the interaction between occupational status and union status—was statistically significant ($F_2 = 6.05$, $p < .01$). Set E was not statistically significant ($F_2 = 1.18$); this implies homogeneity of regressions which allowed the analysis of covariance to proceed. Therefore, in traditional analysis of covariance terms, the results of the initial hierarchical set analysis revealed a significant main effect due to union status, a nonsignificant main effect due to occupational

status, and a significant interaction effect between the two. Since the interaction between occupational status and union status was significant, tests for simple main effects (Keppel, 1973) were made to locate the source of the interaction (Table 5.8). Examination of white-collar versus blue-collar differences within each union status group revealed an interesting pattern. Within the vote for group (VF), white-collar workers were more satisfied than blue-collar workers ($F = 6.76$, $p < .01$). Within the union member group the reverse was true; blue-collar workers were more satisfied than white-collar workers ($F = 4.42$, $p < .05$). Inspection of the simple main effects for union status, holding occupational status constant, provided further insights into the nature of the interaction (Table 5.8). For white-collar workers VA was more satisfied with economic conditions than either VF ($F = 18.84$, $p < .01$) or UM ($F = 8.14$, $p < .05$). Unexpectedly, however, there was no statistically significant difference between VF and UM ($F = 1.43$). For blue-collar workers the adjusted group means followed the expected pattern (VF < VA = UM). The difference between VA and VF was statistically significant ($F = 26.22$, $p < .01$), as was the difference between UM and VF ($F = 27.01$, $p < .01$). There was no statistically significant difference between VA and UM ($F < 1.00$).

Noneconomic Satisfaction

With respect to union status, the results do not support the hypothesis. Statistically significant between group differences were found (Set C, $F_2 = 13.51$, $p < .01$) among the three union status groups, but the means were not in the predicted direction even after controlling for tenure and job content. Contrary to the hypotheses, VA was more

Table 5.8

Analysis of the Simple Main Effects for Economic Satisfaction

Source	df	MS	F
Simple Main Effects for Union Status			
USTAT at WC[a]	2	3.15	10.86**
USTAT at BC	2	5.25	18.18**
Residual	837	.29	
Simple Main Effects for Occupational Status			
OCCSTAT at VA[b]	1	.41	1.41
OCCSTAT at VF	1	1.96	6.76**
OCCSTAT at UM	1	1.28	4.41**
Residual	837	.29	

*$p < .05$.

**$p < .01$.

[a]USTAT = union status; WC = white-collar; BC = blue-collar.

[b]OCCSTAT = occupational status; VA = vote against; VF = vote for; UM = union member.

satisfied with noneconomic issues than either VF or UM. There was no statistically significant difference between VF and UM. Occupational status was not significantly related to noneconomic satisfaction, and there was no interaction between union status and occupational status. Hypothesis IB was not supported.

Overall Job Satisfaction

The overall job satisfaction index was created by averaging all the scales comprising the economic and noneconomic job satisfaction scales. The linear combination of predictors was statistically significant ($F_1 = 23.16$, $p < .01$), and the model accounted for 27 percent of the variance ($R^2 = .272$). Inspection of the hierarchical multiple regression revealed a significant interaction effect ($F_2 = 4.38$, $p < .05$), a significant main effect due to union status ($F_2 = 20.87$, $p < .01$), and a nonsignificant main effect due to occupational status ($F_2 = 1.04$). Post hoc tests on the union status groups revealed all three groups were statistically different from each other. VA was more satisfied than VF ($F = 41.56$, $p < .001$) and UM ($F = 11.04$, $p < .001$). The VF group reported the lowest level of job satisfaction which was significantly lower than UM ($F = 11.48$, $p < .001$). As was the case for economic satisfaction, the presence of a significant interaction overshadowed the significant union status main effect. Tests for simple main effects for union status revealed the source of the interaction was within the VF group (Table 5.9). Unlike the VA or UM, where there were no significant differences between white and blue-collar workers, these differences were significant within the VF group ($F = 7.62$, $p < .01$) with white-collar workers being the most satisfied with their jobs.

Table 5.9

Analysis of the Simple Main Effects for Overall Job Satisfaction

Source	df	MS	F
Simple Main Effects for Union Status			
USTAT at WC[a]	2	2.23	10.62**
USTAT at BC	2	3.04	14.48**
Residual	811	.21	
Simple Main Effects for Occupational Status			
OCCSTAT at VA[b]	1	.07	< 1
OCCSTAT at VF	1	1.57	7.48**
OCCSTAT at UM	1	.40	1.90
Residual	811	.21	

*$p < .05$.

**$p < .01$.

[a]USTAT = union status; WC = white-collar; BC = blue-collar.

[b]OCCSTAT = occupational status; VA = vote against; VF = vote for; UM = union member.

The analysis of simple main effects for occupational status disclosed a pattern similar to that found for economic satisfaction. Within the white-collar group there was no difference between VF or UM ($F < 1.00$), but VA was more satisfied than either VF ($F = 16.57$, $p < .01$) or UM ($F = 10.87$, $p < .01$). For blue-collar workers, the adjusted group means were in the predicted direction (VF < VA = UM): VF was more dissatisfied than VA ($F = 27.85$, $p < .01$) or UM ($F = 21.22$, $p < .01$). For UM and VA the difference in adjusted means was not statistically significant ($F = 1.66$). Hypothesis IC was not supported.

Intention to Turnover

There were highly significant differences between the union status groups on intention to turnover ($F_2 = 14.20$, $p < .01$). The hierarchical analysis of sets revealed no other significant main effects or interactions. Remembering that this scale is reversed scored such that low values indicate a higher intention to leave, the VF group was more prone to turnover than either VA ($F = 18.62$, $p < .01$) or UM ($F = 27.72$, $p < .01$). Contrary to the hypothesis, there was no significant difference between the VA and UM groups. Therefore, the hypothesis as stated was not supported for either union status or occupational status.

Big-Labor Image

Though the linear combination of predictors was statistically significant ($F_1 = 5.43$, $p < .05$), the amount of variance accounted for by the predictors was relatively low ($R^2 = .081$). The inclusion of the sets in the regression analysis resulted in a significant main effect

due to occupational status ($F_2 = 5.86$, $p < .05$), a significant main effect due to union status ($F_2 = 13.80$, $p < .01$), and no significant interaction effect. White-collar workers agreed with statements regarding labor's power more than blue-collar workers ($F = 8.51$, $p < .01$). The VA group held big-labor attitudes that were significantly different from either the VF group ($F = 9.24$, $p < .01$) or the UM group ($F = 33.98$, $p < .01$). There was no statistically significant difference between the VF and UM groups. Apparently, workers who would vote against unions hold very different attitudes toward unions than union members do in terms of the perceived power unions have in business, government and society. Hypothesis IIIA was not supported as stated.

Instrumentality

For instrumentality, the linear combination of predictors was statistically significant ($F_1 = 11.71$, $p < .01$), but the only main effect that reached statistical significance was union status ($F_2 = 66.43$, $p < .01$). Examination of the adjusted group means revealed the VA group held significantly different attitudes regarding the ability of unions to accomplish its goals than either the VF ($F = 160.94$, $p < .01$) group or the UM group ($F = 200.01$, $p < .01$). Comparing the three groups on the two union scales, workers who would vote against (VA) unions tended to overrate the unions' power and underestimate its ability to achieve its goals. Hypothesis IIIB was supported with respect to union status and not supported for occupational status.

CHAPTER VI

DISCUSSION

The results presented in the previous section offered mixed support for the hypotheses. Conceptually, it was hypothesized that the vote for group (VF) would be the most dissatisfied, the most likely to change jobs, and would have attitudes toward unions similar to union members (UM). This was confirmed. In addition, it was predicted that the vote against group (VA) and the union member group (UM) would have different attitudes toward unions but similar levels of job satisfaction. This was not supported in some instances. It was also predicted that union members (UM) were the least likely group to change employers, but this could not be supported since significant differences were not found between VA and UM.

Overall, the hypotheses concerning job satisfaction were not confirmed. This was due, in part, to an unexpected interaction between union status and occupational status for the economic and overall scales. Also, contrary to the hypotheses, the vote against group (VA) was more satisfied with noneconomic issues and with their job as a whole than were union members (UM).

The hypotheses dealing with attitudes toward unions were also partially supported. The results supported the hypotheses concerning instrumentality, but failed to support those concerning big-labor image. With the exception of big-labor image, all the hypotheses concerning occupational status were not supported. A summary of the significant main effects is found in Tables 6.1 and 6.2. Economic satisfaction

Table 6.1

Adjusted Group Means for Union Status on Significant Dependent Variables

Variable		Union Status[a] VA	VF	UM
Noneconomic Satisfaction	$\bar{Y}_{adj}$	3.16	2.96	3.02[b]
	(n_j)	(403)	(183)	(295)
Intention to Turnover	$\bar{Y}_{adj}$	4.08	3.54	4.23
	(n_j)	(423)	(183)	(309)
Big-Labor Image	$\bar{Y}_{adj}$	3.92	3.71	3.61
	(n_j)	(323)	(165)	(320)
Instrumentality	$\bar{Y}_{adj}$	3.18	4.02	3.97
	(n_j)	(334)	(170)	(330)

[a]VA = vote against; VF = vote for; UM = union member.

[b]Underscores indicate patterns of pairwise significant differences based on the Scheffé test.

Table 6.2

Adjusted Group Means for Occupational Status on the Significant Dependent Variable

Variable		Occupational Status[a]	
		WC	BC
Big-Labor Image	$\bar{Y}_{adj}$	3.83	3.68
	(n_j)	(430)	(378)

[a]WC = white-collar; BC = blue-collar.

and overall job satisfaction are excluded from the tables because significant interactions were found.

Interpretation of Results

Job Satisfaction and Intention to Turnover

Collectively, the job satisfaction and intention to turnover results offered partial support for the exit-voice theory (Freeman and Medoff, 1979). Proponents of the exit-theory suggest unions reduce turnover but fail to increase job satisfaction. Within the present study, support for the exit-voice theory would be given if significant differences were not found between the vote for (VF) and union member (UM) groups on the job satisfaction scales, and if union members (UM) were the least likely group to change employees. The results indicate the exit-voice theory was not supported for blue-collar workers on the economic and overall job satisfaction scales, but it was supported for white-collar workers in these two areas. In both cases, the presence of a white-collar union failed to substantially increase satisfaction over the levels exhibited by the nonunion vote for group (VF). Ignoring the interaction between occupational status for a moment, the union member group (UM) was found to be more satisfied than the vote for group (VF) on the economic ($F = 26.93$, $p < .01$) and overall job satisfaction scales ($F = 11.48$, $p < .01$). This suggests that, contrary to the exit-voice theory, unions do provide a means of increasing job satisfaction for dissatisfied nonunion workers.

For noneconomic job satisfaction, the predictions made by the exit-voice theory were supported. Examination of the adjusted group

means failed to reveal a significant difference between the VF and UM groups. The VA group, however, was more satisfied than either the VF or UM groups. This finding is not surprising in view of the fact that many union leaders believe they should deal exclusively with "bread and butter" issues. As Kochan and Helfman's (1979) three stage model suggests, nonwage issues are viewed as areas where union power is the weakest, and any gains in this area can be attributed to successes in economic areas. In view of these results, union leaders should recognize that their responsibility to the rank-and-file includes all areas of work, both economic and noneconomic. Apparently, unions need to place more emphasis on noneconomic work issues.

The interaction between union status and occupational status on the economic and overall job satisfaction scales was most surprising. For both scales a similar pattern emerged which suggested the source of the interaction was within the white-collar group. Unlike blue-collar union members, white-collar union members were as dissatisfied as those workers favoring unionization. This was particularly evident for economic satisfaction. In this instance, white-collar union workers were more dissatisfied than blue-collar union workers. The reason for this is not altogether clear. One explanation may lie in the fact that the relative wage differential between white-collar union workers and white-collar nonunion workers with prounion sentiments may be less than it is for their blue-collar counterparts. In other words, a union may be able to negotiate a higher percentage increase in pay for blue-collar workers than it can for white-collar workers. Hammermesh (1971) found support for this in a clerical sample. In conjunction, union contracts

negotiated for white-collar workers often do not provide for bonuses and other fringe benefits which white-collar workers have traditionally negotiated for on an individual basis (e.g., company car).

Another factor which may be contributing to the interaction revolves around the idea that lower occupational status workers value extrinsic job facets, while higher occupational status groups place more emphasis on intrinsic job facets (Friedlander, 1966). Thus, the relative degree of satisfaction associated with pay increases would be higher for blue-collar workers than it would be for white-collar workers.

The following conclusions can be made concerning job satisfaction and intention to turnover:

1. Workers in favor of unionization are, for the most part, dissatisfied with their job, unhappy with economic issues and the most likely of the three groups to change jobs.
2. Workers who are opposed to unionization are the most satisfied with noneconomic conditions. White-collar workers are more satisfied with their job and with economic issues than the other two groups.
3. Unions are effective in increasing overall job satisfaction and satisfaction with economic issues for blue-collar workers. Unions' biggest area of improvement needs to be directed toward making unions attractive to white-collar workers. Unions also need to concentrate their efforts in noneconomic areas.

Attitudes toward Unions

The inverse relationship between big-labor image and instrumentality ($r = -.26$) was also evident when the adjusted group means for each scale were compared. For example, comparing the three groups together, the vote against group (VA) significantly overrated the union's power (big-labor image) and significantly underrated the union's ability to improve working conditions. Though these results offered only partial support for the hypotheses, they do point out dramatic attitudinal differences. The vote for group (VF) and the union members group (UM) held attitudes toward unions that were very similar, while the vote against group's (VA) attitudes were very different. Neither of the union attitude scales significantly correlated with any of the job satisfaction scales. This suggests that processes other than dissatisfaction with the job environment are operating to produce the diverse opinions.

Covariates

Job content proved to be a significant covariate for every dependent variable except instrumentality. Treating job content as a covariate may have been responsible for the poor predictions regarding occupational status. Job content may have "washed out" any effects due to skill differences between white-collar and blue-collar workers. In the future, it may be more fruitful to look at the relative skill level of a job than it is to categorize jobs into white-collar/blue-collar dichotomies. Instead of treating jobs as two distinct groups with little overlap, it makes more sense to put jobs on a continuum from low skill level to high skill level. By doing this, many white-collar and

blue-collar jobs would overlap in the middle. This would allow for a more rational approach to studying the psychological impact of jobs.

Tenure was positively related to overall job satisfaction, which lends limited support to Hulin and Smith's (1965) model. Since age was not included in this study, it was impossible to test the combined effects of age and tenure. Tenure was strongly related to intention to turnover. As length of service increased, the chances of looking for another employer decreased.

A Proposed Model for Union Representation

In Figure 4 is presented a model to predict those job families which would tend to favor union representation. The model has not been tested and was developed based upon insights from this study. Conceptually, the primary determinants of unionization are job content and job satisfaction. Job satisfaction is comprised of intrinsic and extrinsic job aspects. Job content and job satisfaction combine to form a unionization index which should be significantly related to the degree of union representation activity.

As can be seen from the 2 X 2 table, union activity should be lowest for those jobs exhibiting high skill levels and high levels of intrinsic and extrinsic satisfaction (Quadrant I). Union activity should also be relatively low in nonunion jobs exhibiting low skill—high satisfaction (Quadrant II). Unions have the best chance of winning an election for those jobs in Quadrants III and IV. For example, low skill-low satisfaction jobs have been traditional targets for unions. Quadrant IV jobs involve high skill-low pay. Examples of jobs in this quadrant include public sector jobs (e.g., teachers, police, fireman), many of which have recently seen increased union activity.

SKILL LEVEL	SATISFACTION (Intrinsic and Extrinsic)	
	High Skill IV Low Satisfaction	Hill Skill I High Satisfaction
	Low Skill III Low Satisfaction	Low Skill II High Satisfaction

Figure 4. Proposed Model to Predict Success in Union Representation Elections.

Limitations of the Study and Suggestions for Future Research

The main problem facing a field study is the control of extraneous sources of variation. Tenure and job content were treated as covariates in an attempt to control for obvious sources of error. Despite this attempt, the maximum coefficient of determination reached only .35. Thus, some 65 percent of the variance was not explained by the covariates and the linear combination of predictors.

Another problem which weakened this study was the relative softness of many of the key variables. Union status and intention to turnover, for example, were defined by questions regarding behavioral intent. Even so, behavioral intent has been shown to be a good predictor of subsequent behavior (Hom, Katerberg, and Hulin, 1979; Mobley, Horner, and Hollingsworth, 1978). Ideally, as Kochan and Helfman (1979) pointed out, research involving union representation is most effective when employees confronted with an election are polled before and after the election. Only then can the dynamics underlying voting behavior be explained more directly.

The nature of the classification scheme used for union status prevented the possibility of random assignment. For union members this was particularly critical. Union members often do not have a choice whether to belong or not belong since unions are already in place.

Finally, we did not have a suitable control group in this study. The three union status groups in question were compared directly to each other. Therefore, any interpretations regarding relative levels of satisfaction, for example, had to be made with respect to the other two groups whose attitudes were influenced by their own group membership.

Results from the present study did raise questions for further consideration. The role of job content needs to be examined further. Its impact on union representation could be significant. The proposed model could aid our understanding of the relationship between job content, job satisfaction and unionization. Neither the present study nor the proposed model include personality characteristics. Future studies could provide further information regarding the moderating effects of personality on voting behavior.

As for unions, results from the present study suggest they should be more responsive to nonwage issues. Unions that participate in quality of work programs, for example, should realize increases in non-wage satisfaction. This, in turn, should have an effect in union members' overall job satisfaction. In addition, unions should examine the reason behind white-collar workers' relatively low satisfaction with "bread and butter" issues. If unions wish to make gains in traditionally white-collar jobs like those found in the public sector, they need to appeal to potential members' economic desires. Overall, unions can be an agent to reduce job dissatisfaction. In order to be effective, steps should be taken to meet present members' nonwage needs and continue to provide attractive wage gains for new members.

For those organizations that wish to remain nonunion, the results of this study support previous findings that dissatisfaction with economic issues results in a propensity to vote for unions. Therefore, in order to avoid certification elections, these companies should make efforts to provide equitable pay and acceptable working conditions. As with unions, attention should also be given to nonwage areas.

In future studies, the cause for the different response patterns regarding union attitudes should be explored. Why was the vote against group (VA) so different from the vote for (VF) and union member (UM) groups? Do workers who proclaim prounion voting sentiments first change their attitudes toward unions or is this shift a result of some other factor?

Another consideration in the area of union representation research should involve decertification elections. Information gained through our understanding of the decertification process can aid in our understanding of the expectations union members place on the union. These expectations can be helpful for unions in maintaining their appeal, not only for their membership, but for nonunion workers as well.

CHAPTER VII

CONCLUSION

The results presented in this study support many previous findings, contradict others and offer new insights into the areas of union representation and the impact of unions on job outcomes. Consistent with previous research, support was found for the notion that unions can be a viable alternative for nonunion workers dissatisfied with pay, fringe benefits, and working conditions, For these workers, unions are perceived as a means of increasing wages and securing better fringe benefits and working conditions. Why then are unions having a difficult time winning certification elections? Obviously, company pressure is one important factor, but beyond outside pressures exerted on the individual, other factors may be operating to influence union representation decisions. Unions offer attractive positive expectations for workers, but what are the negative outcomes related to joining a union? This is an area which has been untapped and may be fruitful in determining the pay-offs associated with joining a union.

Another interesting result found in this study contradicts a popular view regarding the union's impact on job related outcomes. The exit-voice theory proposed by Freeman leads us to believe that unions do not increase job satisfaction but they do serve to reduce turnover. Support for the theory was found for white-collar workers in the areas of economic and overall job satisfaction. For noneconomic satisfaction the theory was supported for both white and blue-collar workers. This

is not surprising, considering that many union officials believe a union should deal exclusively with economic issues facing its membership. Even though the exit-voice theory was supported in the area of non-economic satisfaction, the underlying assumption posited by the theory may be incorrect. Briefly stated, the exit-voice theorists postulate satisfaction is not increased because unions point out problems to the workers; thus heightening their awareness about management's deficiencies. In the area of noneconomic satisfaction, the problem may not be the union looking over management's shoulder and voicing objections, but simply a perceived lack of concern and lack of effort by the unions at the bargaining table. Unfortunately for unions, negative outcomes commonly associated with unionization may be the belief that unions restrict productivity and restrict opportunities for individual growth because of the heavy emphasis placed on seniority systems.

For blue-collar workers, the exit-voice theory was not supported in the areas of economic and overall job satisfaction. In these two areas union members were more satisfied than their nonunion counterparts who favored unionization. Therefore, contrary to the predictions made by the exit-voice theory, unions did have a significant impact on satisfaction with economic and overall job related outcomes. Even this finding, however, was not entirely clear-cut. Surprisingly, white-collar union members were more dissatisfied with their economic condition than blue-collar union members. The reason for this obviously needs further investigation particularly since union activity in white-collar public sector jobs has increased dramatically. Unions may have to make significant policy changes if they are to be successful in forming new

white-collar unions. Warner, Chisholm, and Munzenrider (1978) found white-collar workers placed high importance on intrinsic aspects of their job, but their tendency was to vote for unions based upon extrinsic considerations. If unions are not able to substantially increase white-collar worker's economic satisfaction and they fail to even address intrinsic aspects, then limited success would be expected in white-collar representation elections.

In the present study, the focus was on satisfaction and not on conditions which facilitate favorable union representation attitude formation. A shift in attitudes toward unions, as evidenced by the non-union vote for group (VF), dramatizes the need to further study the conditions which precipitate favorable union attitudes. This group held attitudes toward unions which were more similar with current union members than the attitudes expressed by other nonunion workers. Dissatisfaction with the work environment coupled with a change in attitudes toward unions may be the catalyst for prounion voting sentiments. The failure to include other conditions in the work place may be responsible for the modest amount of variance accounted for by the predictors. The inclusion of individual characteristics and organizational context variables along with work-related satisfactions could have added to the predictive power (see Smith and Hopkins, 1979).

A final note on the generalizability of these results is in order. Respondents were chosen to represent a national sample of the labor force. Workers were selected across a wide range of job titles within a broad spectrum of industries which are represented by a number of national and local unions. It may be fruitful for future investigations to select

homogeneous samples even at the expense of generalizability. This would be useful in determining significant differences between industries or between the various unions.

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APPENDIXES

APPENDIX I

OCCUPATIONAL CLASSIFICATION SYSTEM

Occupation Code	PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS
001	Accountants
002	Architects
	Computer specialists
003	Computer programmers
004	Computer systems analysts
005	Computer specialists, n.e.c.
	Engineers
006	Aeronautical and astronautical engineers
010	Chemical engineers
011	Civil engineers
012	Electrical and electronic engineers
013	Industrial engineers
014	Mechanical engineers
015	Metallurgical and materials engineers
020	Mining engineers
021	Petroleum engineers
022	Sales engineers
023	Engineers, n.e.c.
024	Farm management advisors
025	Foresters and conservationists
026	Home management advisors
	Lawyers and judges
030	Judges
031	Lawyers
	Librarians, archivists, and curators
032	Librarians
033	Archivists and curators
	Mathematical specialists
034	Actuaries
035	Mathematicians
036	Statisticians
	Life and physical scientists
042	Agricultural scientists
043	Atmospheric and space scientists
044	Biological scientists
045	Chemists
051	Geologists
052	Marine scientists
053	Physicists and astronomers
054	Life and physical scientists, n.e.c.
055	Operations and systems researchers and analysts
056	Personnel and labor relations workers
	Physicians, dentists, and related practitioners
061	Chiropractors
062	Dentists
063	Optometrists
064	Pharmacists
065	Physicians, medical and osteopathic
071	Podiatrists

Occupation Code	PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS (continued)
071	Veterinarians
073	Health practitioners, n.e.c.
	Nurses, dietitians, and therapists
074	Dietitians
075	Registered nurses
076	Therapists
	Health technologists and technicians
080	Clinical laboratory technologists and technicians
081	Dental hygienists
082	Health record technologists and technicians
083	Radiologic technologists and technicians
084	Therapy assistants
085	Health technologists and technicians, n.e.c.
	Religious workers
086	Clergymen
090	Religious workers, n.e.c.
	Social scientists
091	Economists
092	Political scientists
093	Psychologists
094	Sociologists
095	Urban and regional planners
096	Social scientists, n.e.c.
	Social and recreation workers
100	Social workers
101	Recreation workers
	Teachers, college and university
102	Agriculture teachers
103	Atmospheric, earth, marine, and space teachers
104	Biology teachers
105	Chemistry teachers
110	Physics teachers
111	Engineering teachers
112	Mathematics teachers
113	Health specialties teachers
114	Psychology teachers
115	Business and commerce teachers
116	Economics teachers
120	History teachers
121	Sociology teachers
122	Social science teachers, n.e.c.
123	Art, drama, and music teachers
124	Coaches and physical education teachers
125	Education teachers
126	English teachers
130	Foreign language teachers
131	Home economics teachers
132	Law teachers
133	Theology teachers
134	Trade, industrial, and technical teachers

Occupation Code	PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS (continued)
135	Miscellaneous teachers, college and university
140	Teachers, college and university, subject not specified
	Teachers, except college and university
141	Adult education teachers
N(142)	Elementary school teachers
143	Prekindergarten and kindergarten teachers
144	Secondary school teachers
145	Teachers, except college and university, n.e.c.
	Engineering and science technicians
150	Agriculture and biological technicians, except health
151	Chemical technicians
152	Draftsmen
153	Electrical and electronic engineering technicians
154	Industrial engineering technicians
155	Mechanical engineering technicians
156	Mathematical technicians
161	Surveyors
162	Engineering and science technicians, n.e.c.
	Technicians, except health, and engineering and science
163	Airplane pilots
164	Air traffic controllers
165	Embalmers
170	Flight engineers
171	Radio operators
172	Tool programmers, numerican control
173	Technicians, n.e.c.
174	Vocational and educational counselors
	Writers, artists, and entertainers
175	Actors
180	Athletes and kindred workers
181	Authors
182	Dancers
183	Designers
184	Editors and reporters
185	Musicians and composers
190	Painters and sculptors
191	Photographers
192	Public relations men and publicity writers
193	Radio and television announcers
194	Writers, artists, and entertainers, n.e.c.
195	Research workers, not specified
	MANAGERS AND ADMINISTRATORS, EXCEPT FARM
201	Assessors, controllers, and treasurers; local public administration
202	Bank officers and financial managers
203	Buyers and shippers, farm products
205	Buyers, wholesale and retail trade
210	Credit men

Occupation Code	MANAGERS AND ADMINISTRATORS, EXCEPT FARM (continued)
211	Funeral directors
212	Health administrators
213	Construction inspectors, public administration
215	Inspectors, except construction, public administration
216	Managers and superintendents, building
220	Office managers, n.e.c.
221	Officers, pilots, and pursers; ship
222	Officials and administrators; public administration, n.e.c.
223	Officials of lodges, societies, and unions
224	Postmasters and mail superintendents
225	Purchasing agents and buyers, n.e.c.
226	Railroad conductors
230	Restaurant, cafeteria, and bar managers
231	Sales managers and department heads, retail trade
233	Sales managers, except retail trade
235	School administrators, college
240	School administrators, elementary and secondary
245	Managers and administrators, n.e.c.
	SALES WORKERS
260	Advertising agents and salesmen
261	Auctioneers
262	Demonstrators
264	Hucksters and peddlers
265	Insurance agents, brokers, and underwriters
266	Newsboys
270	Real estate agents and brokers
271	Stock and bond salesmen
280	Salesmen and sales clerks, n.e.c.
	CLERICAL AND KINDRED WORKERS
301	Bank tellers
303	Billing clerks
P(305)	Bookkeepers
310	Cashiers
311	Clerical assistants, social welfare
312	Clerical supervisors, n.e.c.
313	Collectors, bill and account
314	Counter clerks, except food
315	Dispatchers and starters, vehicle
320	Enumerators and interviewers
321	Estimators and investigators, n.e.c.
323	Expediters and production controllers
325	File clerks
326	Insurance adjusters, examiners, and investigators
330	Library attendants and assistants
331	Mail carriers, post office
332	Mail handlers, except post office

Occupation Code	
	CLERICAL AND KINDRED WORKERS (continued)
333	Messengers and office boys
334	Meter readers, utilities
	Office machine operators
341	Bookkeeping and billing machine operators
342	Calculating machine operators
343	Computer and peripheral equipment operators
344	Duplicating machine operators
345	Key punch operators
350	Tabulating machine operators
355	Office machine operators, n.e.c.
360	Payroll and timekeeping clerks
361	Postal clerks
362	Proofreaders
363	Real estate appraisers
364	Receptionists
	Secretaries
370	Secretaries, legal
371	Secretaries, medical
Q(372)	Secretaries, n.e.c.
374	Shipping and receiving clerks
375	Statistical clerks
376	Stenographers
381	Stock clerks and storekeepers
382	Teacher aides, exc. school monitors
383	Telegraph messengers
384	Telegraph operators
385	Telephone operators
390	Ticket, station, and express agents
391	Typists
392	Weighers
394	Miscellaneous clerical workers
395	Not specified clerical workers
	CRAFTSMEN AND KINDRED WORKERS
401	Automobile accessories installers
402	Bakers
403	Blacksmiths
404	Boilermakers
405	Bookbinders
410	Brickmasons and stonemasons
411	Brickmasons and stonemasons, apprentices
412	Bulldozer operators
413	Cabinetmakers
R(415)	Carpenters
416	Carpenter apprentices
420	Carpet installers
421	Cement and concrete finishers
422	Compositors and typesetters
423	Printing trades apprentices, exc. pressmen

Occupation Code	CRAFTSMEN AND KINDRED WORKERS (continued)
424	Cranemen, derrickmen, and hoistmen
425	Decorators and window dressers
426	Dental laboratory technicians
430	Electricians
431	Electrician apprentices
433	Electric power linemen and cablemen
434	Electrotypers and stereotypers
435	Engravers, exc. photoengravers
436	Excavating, grading, and road machine operators, exc. bulldozer
440	Floor layers, exc. tile setters
441	Foremen, n.e.c.
442	Forgemen and hammermen
443	Furniture and wood finishers
444	Furriers
445	Glaziers
446	Heat treaters, annealers, and temperers
450	Inspectors, scalers, and graders; log and number
452	Inspectors, n.e.c.
453	Jewelers and watchmakers
454	Job and die setters, metal
455	Locomotive engineers
456	Locomotive firemen
461	Machinists
462	Machinist apprentices
	Mechanics and repairmen
470	Air conditioning, heating, and refrigeration
471	Aircraft
472	Automobile body repairmen
S(473)	Automobile mechanics
474	Automobile mechanic apprentices
475	Data processing machine repairmen
480	Farm implement
481	Heavy equipment mechanics, incl. diesel
482	Household appliance and accessory installers and mechanics
483	Loom fixers
484	Office machine
485	Radio and television
486	Railroad and car shop
491	Mechanic, exc. auto, apprentices
495	Not specified mechanics and repairmen
501	Millers; grain, flour, and feed
502	Millwrights
503	Molders, metal
504	Molder apprentices
505	Motion picture projectionists
506	Opticians, and lens grinders and polishers
510	Painters, construction and maintenance
511	Painter apprentices

Occupation Code	CRAFTSMEN AND KINDRED WORKERS (continued)
512	Paperhangers
514	Pattern and model makers, exc. paper
515	Photoengravers and lithographers
516	Piano and organ tuners and repairmen
520	Plasterers
521	Plasterer apprentices
522	Plumbers and pipe fitters
523	Plumber and pipe fitter apprentices
525	Power station operators
530	Pressmen and plate printers, printing
531	Pressman apprentices
533	Rollers and finishers, metal
534	Roofers and slaters
535	Sheetmetal workers and tinsmiths
536	Sheetmetal apprentices
540	Shipfitters
542	Shoe repairmen
543	Sign painters and letterers
545	Stationary engineers
546	Stone cutters and stone carvers
550	Structural metal craftsmen
551	Tailors
552	Telephone installers and repairmen
554	Telephone linemen and splicers
560	Tile setters
561	Tool and die makers
562	Tool and die maker apprentices
563	Upholsterers
571	Specified craft apprentices, n.e.c.
572	Not specified apprentices
575	Craftsmen and kindred workers, n.e.c.
580	Former members of the Armed Forces
600	Current member of Armed Forces
	OPERATIVES, EXCEPT TRANSPORT
601	Asbestos and insulation workers
T(602)	Assemblers
603	Blasters and powdermen
604	Bottling and canning operatives
605	Chainmen, rodmen, and axmen; surveying
610	Checkers, examiners, and inspectors; manufacturing
611	Clothing ironers and pressers
612	Cutting operatives, n.e.c.
613	Dressmakers and seamstresses, except factory
614	Drillers, earth
615	Dry wall installers and lathers
620	Dyers
621	Filers, polishers, sanders, and buffers
622	Furnacemen, smeltermen, and pourers

Occupation Code	OPERATIVES, EXCEPT TRANSPORT (continued)
623	Garage workers and gas station attendants
624	Graders and sorters, manufacturing
625	Produce graders and packers, except factory and farm
626	Heaters, metal
630	Laundry and dry cleaning operatives, n.e.c.
631	Meat cutters and butchers, exc. manufacturing
633	Meat cutters and butchers, manufacturing
634	Meat wrappers, retail trade
635	Metal platers
636	Milliners
640	Mine operatives, n.e.c.
641	Mixing operatives
642	Oilers and greasers, exc. auto
643	Packers and wrappers, except meat and produce
644	Painters, manufactured articles
645	Photographic process workers
	Precision machine operatives
650	Drill press operatives
651	Grinding machine operatives
652	Lathe and milling machine operatives
653	Precision machine operatives, n.e.c.
656	Punch and stamping press operatives
660	Riveters and fasteners
661	Sailors and deckhands
662	Sawyers
663	Sewers and stitchers
664	Shoemaking machine operatives
665	Solderers
666	Stationary firemen
	Textile operatives
670	Carding, lapping, and combing operatives
671	Knitters, loopers, and toppers
672	Spinners, twisters, and winders
673	Weavers
674	Textile operatives, n.e.c.
680	Welders and flame-cutters
681	Winding operatives, n.e.c.
690	Machine operatives, miscellaneous specified
692	Machine operatives, not specified
694	Miscellaneous operatives
695	Not specified operatives
701	Boatmen and canalmen
703	Bus drivers
704	Conductors and motormen, urban rail transit
705	Deliverymen and routemen
706	Fork lift and tow motor operatives
710	Motormen; mine, factory, logging camp, etc.
711	Parking attendants
712	Railroad brakemen
713	Railroad switchmen

Occupation Code	
	OPERATIVES, EXCEPT TRANSPORT (continued)
714	Taxicab drivers and chauffeurs
U(715)	Truck drivers
	LABORERS, EXCEPT FARM
740	Animal caretakers, exc. farm
750	Carpenters' helpers
V(751)	Construction laborers, exc. carpenters' helpers
752	Fishermen and oystermen
753	Freight and material handlers
754	Garbage collectors
755	Gardeners and groundskeepers, exc. farm
760	Longshoremen and stevedores
761	Lumbermen, raftsmen, and woodchoppers
762	Stock handlers
763	Teamsters
764	Vehicle washers and equipment cleaners
770	Warehousemen, n.e.c.
780	Miscellaneous laborers
785	Not specified laborers
	FARMERS AND FARM MANAGERS
W(801)	Farmers (owners and tenants)
802	Farm managers
	FARM LABORERS AND FARM FOREMEN
821	Farm foremen
822	Farm laborers, wage workers
823	Farm laborers, unpaid family workers
824	Farm service laborers, self-employed
	SERVICE WORKERS, EXC. PRIVATE HOUSEHOLD
	Cleaning service workers
901	Chambermaids and maids, except private household
902	Cleaners and charwomen
X(903)	Janitors and sextons
	Food service workers
910	Bartenders
911	Busboys
912	Cooks, except private household
913	Dishwashers
914	Food counter and fountain workers
Y(915)	Waiters
916	Food service workers, n.e.c., except private household
	Health service workers
921	Dental assistants
922	Health aides, exc. nursing

Occupation Code	SERVICE WORKERS, EXC. PRIVATE HOUSEHOLD (continued)
923	Health trainees
924	Lay midwives
925	Nursing aides, orderlies, and attendants
926	Practical nurses
	Personal service workers
931	Airline stewardesses
932	Attendants, recreation and amusement
933	Attendants, personal service, n.e.c.
934	Baggage porters and bellhops
935	Barbers
940	Boarding and lodging house keepers
941	Bootblacks
942	Child care workers, exc. private household
943	Elevator operators
944	Hairdressers and cosmetologists
945	Personal service apprentices
950	Housekeepers, exc. private household
952	School monitors
953	Ushers, recreation and amusement
954	Welfare service aides
	Protective service workers
960	Crossing guards and bridge tenders
961	Firemen, fire protection
952	Guards and watchmen
963	Marshals and constables
964	Policemen and detectives
965	Sheriffs and baliffs
	PRIVATE HOUSEHOLD WORKERS
980	Child care workers, private household
981	Cooks, private household
982	Housekeepers, private household
983	Laundresses, private household
Z(984)	Maids and servants, private household
999	OCCUPATION NOT REPORTED
	ALLOCATION CATEGORIES
196	Professional, technical, and kindred workers—allocated
246	Managers and administrators, except farm—allocated
296	Sales worker—allocated
396	Clerical and kindred workers—allocated
586	Craftsmen and kindred workers—allocated
696	Operatives, except transport—allocated
726	Transport equipment operatives—allocated
796	Laborers, except farm—allocated

Occupation Code	ALLOCATION CATEGORIES (continued)
806	Farmers and farm managers—allocated
846	Farm laborers and farm foremen—allocated
976	Service workers, exc. private household—allocated
986	Private household workers—allocated

APPENDIX II

SCALES AND COMPONENT ITEMS

SCALES AND COMPONENT ITEMS[a]

JOB SATISFACTION	N	Percentage: Very true	Somewhat true	Not too true	Not at all true
Comfort					
I have enough time to get the job done	1505	45.9%	36.5%	11.7%	5.9%
The hours are good	1500	56.7	23.9	10.0	9.4
Travel to and from work is convenient	1497	61.5	20.7	9.4	8.5
The physical surroundings are pleasant	1505	48.3	28.4	14.7	8.6
I can forget about my personal problems	1496	38.0	33.0	16.9	12.2
I am free from the conflicting demands that other people make of me	1494	35.3	33.7	19.3	11.7
I am not asked to do excessive amounts of work	1491	43.1	31.5	14.8	10.5
Challenge					
The work is interesting	1510	63.4	22.1	8.9	5.7
I have an opportunity to develop my own special abilities	1507	45.8	24.1	16.1	14.1
I can see the results of my work	1509	65.1	24.4	7.2	3.2
I am given a chance to do the things I do best	1504	45.4	26.5	15.5	12.6
I am given a lot of freedom to decide how I do my own work	1512	53.7	25.5	12.7	8.1
The problems I am expected to solve are hard enough	1497	38.5	33.0	17.2	11.2
Financial Rewards					
The pay is good	1503	40.3	32.7	15.4	11.6
The job security is good	1498	54.9	24.6	10.0	10.5

[a]Response percentages are based on total sample.

JOB SATISFACTION (continued)	N	Percentage: Very true	Somewhat true	Not too true	Not at all true
Financial Rewards (continued)					
My fringe benefits are good	1294	41.8	25.7	13.3	19.2
Resource Adequacy					
I have enough information to get the job done	1507	64.0	28.3	6.1	1.7
I receive enough help and equipment to get the job done	1505	59.5	27.6	8.8	4.1
I have enough authority to do my job	1505	66.7	24.2	6.6	2.3
My supervisor is competent in doing his/her job	1287	60.3	25.6	8.4	5.7
My responsibilities are clearly defined	1500	61.7	26.4	8.0	3.9
The people I work with are competent in doing their jobs	1022	46.2	40.4	9.5	3.9
My supervisor is very concerned about the welfare of those under him/her	1296	44.8	28.9	15.7	10.6
My supervisor is successful in getting people to work together	1050	41.5	36.8	15.2	6.4
The people I work with are helpful to me in getting my job done	1176	45.5	38.8	11.6	4.1
My supervisor is friendly	1562	60.0	27.2	9.3	3.5
Promotions					
Promotions are handled fairly	1421	32.8	30.5	17.1	19.6
The chances for promotion are good	1509	24.3	24.0	21.7	30.0
My employer is concerned about giving everyone a chance to get ahead	1469	30.2	29.6	23.3	16.9

ATTITUDES TOWARD UNIONS	N	Percentage				
		Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
Big-Labor Image						
Have a lot of say in how the country is run	1418	12.9	53.3	6.4	26.3	1.2
Have a lot of influence over what laws are passed	1328	26.1	55.4	3.7	13.5	1.4
Have a lot of say about who gets elected to public office	1464	38.7	45.1	2.0	12.9	1.2
Are more powerful than employers	1431	15.1	37.9	8.1	35.2	3.8
Instrumentality						
Protect workers against unfair actions by their employers	1438	32.0	51.2	1.7	7.6	1.5
Improve the job security of workers	1440	25.6	61.7	0.7	11.3	0.7
Improve the wages and working conditions of workers	1443	24.5	64.8	2.9	6.3	1.5
Give members their money's worth for the dues they pay	1431	10.8	46.0	4.5	29.8	8.9
	1431	10.8	46.0	4.5	29.8	8.9

TASK CHARACTERISTICS	N	Percentage			
		Strongly Agree	Agree	Disagree	Strongly Disagree
Variety					
My job requires that I keep learning new things	1242	40.9	42.2	42.2	4.3
I get to do a number of different things on my job	1260	32.1	54.0	10.9	3.0
My job requires that I do the same thing over and over	1239	15.3	45.2	29.1	10.4
My job requires a high level of skill	1241	24.8	44.2	25.9	5.1
My job lets me use my skills and abilities	1246	26.1	52.3	16.0	5.6
My job requires that I be creative	1242	18.4	43.4	28.4	9.8
Autonomy					
I have the freedom to decide what I do on my job	1235	17.9	42.0	30.9	9.3
It is basically my own responsibility to decide how my job gets done	1251	29.9	52.4	14.5	3.2
I have a lot of say about what happens on my job	1241	19.9	42.3	29.4	8.5
I decide when I take breaks	1216	20.7	45.4	24.5	9.5
Task Identity/Impact					
It is hard to tell what impact my work makes on the product or service	1186	5.2	29.6	51.3	13.9
On my job, I produce a whole product or perform a complete service	1179	16.5	50.3	26.8	6.4
My job involves doing only a small part in producing the product or service	1195	5.7	34.4	42.6	17.2

TASK CHARACTERISTICS	N	Percentage			
		Strongly Agree	Agree	Disagree	Strongly Disagree
Task Significance					
A lot of people can be affected by how well I do my work	1231	41.6	47.2	9.4	1.7
The work I do on my job is meaningful to me	1229	24.5	59.9	12.2	3.5
I feel that most of the things I do on my job are meaningless	1218	2.3	6.8	47.6	43.4
Task Feedback					
Even if no one tells me, I can figure out how well I am doing on my job	1240	24.5	68.6	6.0	0.9

APPENDIX III

COMPUTATIONAL FORMULAS

1. F-Test for Significant Increase in R^2

In order to test whether or not the addition of a set significantly increases the amount of variance accounted for by the model, the following formula was used (Cohen and Cohen, 1975, p. 135):

$$F^2 = \frac{R^2_{Y \cdot AB} - R^2_{Y \cdot A}}{1 - R^2_{Y \cdot AB}} \times \frac{n - k_A - k_B - 1}{k_B}$$

$$(df = k_B, n - k_A - k_B - 1)$$

where,

$R^2_{Y \cdot AB}$ = the amount of variance accounted for by Sets A and B together,

$R^2_{Y \cdot A}$ = the amount of variance accounted for by Set A,

n = number of subjects,

k_A = number of predictors in Set A,

k_B = number of predictors in Set B.

2. Calculation of Adjusted Means

Once the multiple regression equation has been determined, adjusted means on the dependent variable may be computed for each group. The following formula was used to calculate the adjusted means (Tatsuoka, 1971, p. 60):

$$\bar{Y}_k adj = \bar{Y}_k + b_1 (\bar{X}_1 - \bar{X}_{1k}) + \ldots b_n (\bar{X}_n - \bar{X}_{nk}) ,$$

where,

$\bar{Y}_k adj$ = adjusted mean for group k on a dependent variable,

$\bar{Y}_k$ = mean of the dependent variable for group k,

$b_1 \ldots b_n$ = regression coefficient for a covariate (up to n covariates),

$\bar{X}_1 \ldots \bar{X}_n$ = grand mean (total sample) for a covariate (up to n covariates),

$\bar{X}_{1k} \ldots \bar{X}_{nk}$ = mean on a covariate for group k (up to n covariates).

3. The Scheffé Test on Adjusted Means

The adjusted means were tested for pairwise significant differences by using the Scheffé Test. This procedure allows for all possible pairwise tests even with unequal group sizes (Cohen and Cohen, 1975). The computational formula is as follows:

$$F = \frac{C_1 (\bar{Y}_1 adj) + C_2 (\bar{Y}_2 adj) + C_3 (\bar{Y}_3 adj)^2}{\text{MS error} \quad \frac{(C_1)^2}{n_1} + \frac{(C_2)^2}{n_2} + \frac{(C_3)^2}{n_3}}$$

where,

$C_1 \ldots C_3$ = weights assigned to the adjusted means in order to make comparisons,

MS = Mean Square error,

$n_1 \ldots n_3$ = group sizes.

The calculated F value is compared to the critical F' value for a given significance level. This critical F' is equal to the numbers of groups minus one (k - 1) times the tabled F values. For an alpha level of .05 and 2 and infinite degrees of freedom, F' = 6.00.

VITA

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