

FEMALE FIRST-LINE SUPERVISORS:
PERCEPTIONS, PROBLEMS, AND PERFORMANCE

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Submitted to the Alfred P. Sloan School
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ABSTRACT

The role of women in American industry has changed considerably over recent years. Women are gradually moving into non-traditional production management jobs which are difficult, complicated, and involve interaction with many people. Their role as supervisors is the same as their male counterpart's. It is equally important and equally difficult, but because of stereotypical attitudes held by companies and associates, she may face some difficulties that do not exist for him. While there is no scarcity of articles discussing these problems for women managers, the authors found almost negligible research on the female first line supervisor in manufacturing.

The purpose of this thesis, therefore, was to gain an understanding of how female first line supervisors in manufacturing viewed their non-traditional roles. As a prelude to our investigation, the authors conducted a literature review of some sociological aspects of the female's role as well as her role in industry. This is the introductory portion of the study. Our research procedure included collection of data from nineteen divisions of a large manufacturer of consumer products. A written questionnaire developed by the authors was used as the survey instrument. Based on perceptions of female supervisors, the study specifically sought to evaluate factors influencing job acceptance, job satisfaction, attitude of associates at work, difficulties on the job, managerial style, management support, and job performance. Specific questions and hypotheses were formulated to address these areas of research interest. The data related to these items was quantitatively analyzed using statistical procedures.

It was found that the women supervisors in the target company are well educated, although inexperienced in their jobs. From an overall standpoint, they are being successfully integrated into the non-traditional jobs of first line supervisors. Intrinsic factors exert the greatest influence on them to accept these jobs and intrinsic satisfiers motivate them after they assume these positions. They perceive attitudes of working associates to be generally acceptable although influenced by organizational commitment to equal opportunity goals. Women associates are seen as more accepting than their male counterparts. Technical or mechanical difficulties are experienced to the greatest extent and, while management is providing adequate overall support, the communication and information flow is less than desirable.

The women exhibit a task oriented, as well as a participative style of management. They feel well qualified to perform their jobs and are generally performing well. Our research identified five performance predictors. Three of these predictors, "member of upper management interested in career", "time with company", and "intrinsic job satisfiers", have direct relationships with performance, indicating that as each of them increases, performance increases. The other two predictors, "lack of aggressiveness" and "attitude of peers", have an inverse relationship with performance. As difficulty with "lack of aggressiveness" decreases, performance increases. Similarly, performance is predicted to increase as the "attitude of peers" becomes less accepting. Each of these carry implications for management as it attempts to improve supervisors job performance and the role of women in these non-traditional jobs. The implications, as we see them, may be found in the conclusions chapter of this study.

Thesis Supervisor: James W. Driscoll, Assistant Professor,
Sloan School of Management

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CHAPTER I

INTRODUCTION

. . . One of the richest underutilized resources in America is the talents of its women. And this nation has for years squandered this talent in shameful fashion.

Hubert H. Humphrey

PURPOSE OF THE STUDY

The role of women in American industry has changed considerably over the past several years. Women are gradually moving into non-traditional production management jobs that appear to provide faster access to top management positions. Although this integration is not being facilitated as rapidly as expected, the female first line supervisor is emerging as an integral element in the manufacturing hierarchy. It appears that this entry into a male dominated role has resulted in varying degrees of success for the female aspirants. Today, however, very little is known about the experiences of these female first line supervisors in this work environment.

The purpose of this thesis is to gain an understanding of how female first line supervisors in manufacturing view their roles in jobs which have

traditionally been held by males. Prior research and empirical studies dealing with women in non-traditional jobs are limited in scope and applicability and this makes it difficult, if not impossible, to generalize those findings to first line supervisory positions. Therefore, although this thesis will develop some stated hypotheses, it will primarily be an exploratory and descriptive study based on the experiences of female production supervisors in a large multidivisional company that manufactures consumer products.

This research focuses on several areas of investigation based on the perceptions and orientation of these female supervisors. The study specifically seeks to evaluate their motivations for selecting this non-traditional position, their overall attitudes toward the job, their managerial style, their performance, their career aspirations, and the degree of support they receive from the organization. Furthermore, this study will provide the comparative data that is necessary to identify factors which contribute to the female supervisors success or to factors contributing to problems on the job. Finally, the results of this study will provide management in industrial organizations with a framework for facilitating the integration of women into non-traditional jobs such as that of "foreman". Our study will use the term

"first-line supervisor" in lieu of "foreman". This is consistent with current usage in industry.

THE FIRST LINE SUPERVISOR IN MANUFACTURING

To obtain an understanding of the complexities faced by women working in first line supervisory positions, we must briefly examine the role of the foreman, both from a historical perspective as well as in terms of job responsibilities.

The Traditional Role

In the early thirties, the foreman's responsibility was to get out production and to maintain control over his people. He had broad powers including the authority to hire and fire; to mete out punishment; to promote deserving individuals; and to decide how the work was to be done. "The foreman was the man who ran the show" (Patton, 1971).

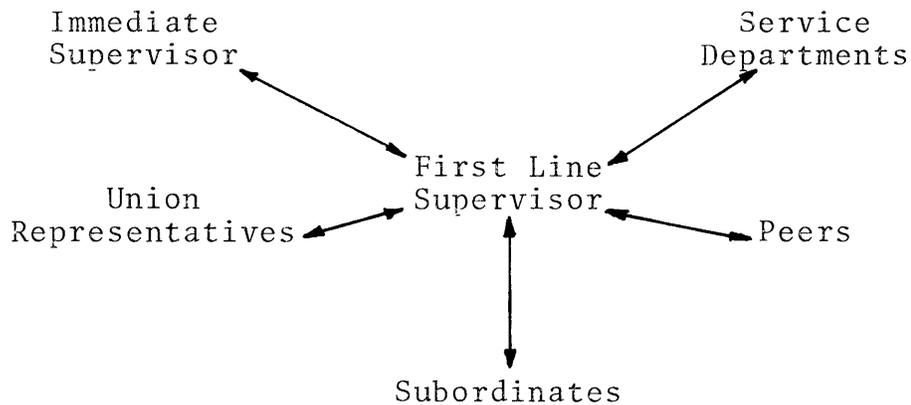
Like the changes in many other institutions, a variety of factors have contributed to significant changes in the foreman's role since those early days. These changes have received considerable attention from those writing in psychology and personnel journals as well as from researchers in academia and industry. The new demands placed on the foreman have earned him recognitions such as "The Man in the Middle" (Roethlisberger in Pigors

and Myers, 1977), "Master and Victim of Double Talk", "Forgotten Man", and "Most Misused, Accused and Abused Man in Industry" (Harral, 1977).

Today, supervisory responsibilities cover a range of planning, organizing and control activities in areas of safety, training, making job assignments, administering union-management agreements, discipline, timekeeping, product quality, and efficiency, to mention but a few! Although these responsibilities appear to be all encompassing and under the control of the first line supervisor, in reality, they are shared with other members of management within the organization thus providing limitations for control in the decision making aspects of the job. In fact, Meyer goes so far as to state that foremen have "almost no complete responsibilities" (Meyer in Marrow, 1972).

Busse sees the foreman as having three roles and summarizes them as: "He is a supervisor when overseeing the group and its output, a manager when directing management's general plans for his workers, and finally an instructor when being consulted for the hiring and training of workers" (Busse in Smith, 1975). Today, the supervisor is surrounded by staff "specialists" and other personnel with whom he constantly interacts and upon whom he is dependent. This is diagrammatically

represented below (Pigors and Myers, 1977):



These staff people in areas like production control, industrial engineering, quality control, labor relations, etc., decide for the first line supervisor how the schedules are to run; what the job standards should be; what quality is required; and how employee complaints should be handled respectively. Although this shift in responsibilities has reduced the authority of the first line supervisor, it has provided for more consistent policies and programs with which to manage an enterprise.

This reduction in authority in administering their jobs has definitely hindered the supervisors' relationships with their subordinates who often view them as mere symbols of management. A worker motivation study still considers first line supervisors as "the men in the middle". This study also indicates that although the first line supervisors are held accountable

for organizational results, they lack control over the means with which to motivate their workers. This generates high levels of frustration in the first line supervisors (Driscoll et al, 1978). The first line supervisor's position is unenviable as he must manage a changing and demanding work force on one side and management's demands for increased productivity on the other.

In 1970, a comprehensive survey of first line supervisors was conducted by Opinion Research Corporation and the results compared to a similar study conducted in 1952. From the findings, Patton succinctly concluded that the supervisors felt "less rather than more effective, less rather than more secure, less rather than more important, and that they received less rather than more recognition" (Patton, 1974). In a more recent study, first line supervisors when responding to a survey generally indicated a positive attitude towards their job and management, although approximately 60 percent of them indicated that they were not consulted about decisions affecting their areas and had little voice in management's decision making process (Krygier and Barker, 1974).

Ample evidence exists that there is a great deal of pressure placed on the first line supervisor and that their job is difficult, complicated, and involves

interaction with many people and groups (Pigors and Myers, 1977; Smith, 1975; Harral, 1977; Kay, 1963). Also, there is little doubt that in spite of the decrease in status and prestige over the years, the first line supervisor continues to play an important and central role in the management of an organization.

It is this work environment that awaits women aspiring mobility into the non-traditional job of first line supervisor. Not only will she face the same problems as the traditional "foreman", but she may have to face additional female role related factors dealing with pervasive stereotypical attitudes about her.

Increase in Woman's Role

During the last fifteen years many factors have contributed to the increased utilization of women in industry. Schwartz (1971), Bolton and Humphreys (1977), Chapman and Luthans (1975), Jain and Pettman (1976), Hennig and Jardim (1977), Meyer and Lee (1976), and Business Week (1975) all indicate that the most significant of these factors are as follows: (1) The "feminist" movement has brought about radical changes in social attitudes and cultural values concerning the role of women. (2) Innovative and antidiscrimination legislation enacted by Congress in the area of equal employment opportunity along with the wide powers given to agencies

to enforce these laws has had a far reaching impact.

(3) Judicial interpretation of the law supporting integration of women has brought about further awareness on the part of organizations. (4) There has been a steady influx of women in the labor force in most occupational groups with an increased activism on the part of women to attain job equality and more managerial responsibilities. (5) Increase in education and training opportunities for women. At G.M.I. in Flint, Michigan, "One out of five trainees is a woman, and in the freshman class the ratio is one in three" (Business Week, 1977). (6) Due to stereotypical attitudes and myths, women have traditionally been relegated to relatively non-leadership roles. These deep rooted ideas are being gradually dispelled. (7) Evidence indicates that there is a shortage of managerial talent available to organizations in both line and staff functions. The inclusion of more women will contribute to decreasing these shortages.

In spite of advances made in the overall employment trends of women and the evidence of more women holding managerial jobs, progress of women into first line supervisory jobs has been slow. Fulmer indicates that out of 760 first line supervisors surveyed at eight U. S. manufacturing plants, only one was a woman. (Fulmer, 1976).

Women first line supervisors, however, are not a

totally new phenomena in industry. During World War II, many women held supervisory positions as "forewomen" in limited industries such as textiles and communications. (American Management Association, 1943). Recent government and societal pressures have accelerated this trend. Business Week states dramatically "the last big barrier blocking women from top management - access to production management posts - is falling at last!" (Business Week, 1977). Continued successful integration in this area will depend on management's obtaining a thorough understanding of the characteristics, traits, managerial style, and problems of the female first line supervisors.

HISTORICAL DEVELOPMENTS

In order to obtain a perspective of current attitudes towards women in managerial positions, it is helpful to trace the role of women in society from ancient to modern times.

Early Role

In ancient times a women's role was clearly defined by household needs (Bolton and Humphreys, 1977). During the early history of Greece, Rome, and Judeo Christian times woman emerges by three images - inferior, evil, and as love object (Hunter, 1976). Changing conditions during the Middle Ages made it necessary for

women to assume management responsibilities of the land and the household. This business ability of women is best expressed by French writer George Renard:

It would be a mistake to imagine that the woman of the Middle Ages was confined to her home, and was ignorant of the difficulties of a worker's life. In those days she had an economic independence as is hardly to be met in our time (Renard in Schwartz, 1971).

In early America, the settlers who were predominantly English relied upon Blackstone's interpretations of English Common Law as part of their traditions. These interpretations curbed the rights of women and caused them to continue their role as "homemaker". The advent of the Industrial revolution and the factory system moved away from occupations centered at home, and they became a significant part of the labor supply. Since that time there has been a continuous increase of women in the labor force. Unfortunately during this period up to the mid-sixties, women had not moved significantly into managerial or professional jobs, and employment discrimination against minority groups and women had become a matter of considerable social and political concern in America.

Civil Rights Legislation and Events

On July 2, 1964 Congress passed the Civil Rights Act of 1964 which made it illegal to discriminate in hiring or promotion on the basis of race, color, religion,

sex, or national origin. More recently, the Equal Employment Opportunity Act of 1972 extended the scope of discrimination protection to include all phases of employment including decisions involving compensation, training, firing, and nature of job assignment. The initial emphasis in enforcement of these Acts was to provide equal opportunity for people of all races, color, and national origin. In recent years an increased emphasis has also been placed on providing equal employment opportunities for women in this country. It is not necessary to discuss details of this legislation for a great deal has been written on the subject. The intent here is to show the impact that the enforcement of this legislation has had.

A landmark case in this area is the 1972 settlement between the American Telephone and Telegraph Company and the Equal Employment Opportunity Commission. In the consent decree, AT&T agreed to place, promote, and provide back pay for thousands of women. The results of this settlement cost AT&T many millions of dollars (Meyer, 1976). Phyllis Wallace indicates that "one of the most significant outcomes of the first years of this consent decree is the wide-ranging impact on other parts of AT&T (Western Electric), other employers and other groups". Wallace sees AT&T's actions as having disturbed

the status quo in Personnel and Industrial Relations for many employers thus providing a new perspective on Equal Employment Opportunity (Wallace, 1976). Business Week has called AT&T's case "the strongest influence on corporate policies towards employment of women" (Business Week, 1975).

Recent court decisions supporting agency requirements for integration of women have further impacted both employment and promotional opportunities. In comparing these mandated solutions versus voluntary programs, Hennig and Jardim suggest that imposed solutions may put severe pressures on an organization detrimentally affecting all its employees as well as the productivity of the company itself. The potential for subtle male backlash is also high (Hennig and Jardim, 1977). Many companies today are giving priority attention to increasing opportunities for employment and advancement of women so as to avoid some of the side effects of imposed solutions.

In a January, 1979 article of Fortune magazine, Carol Loomis reviews the effects of government imposed solutions by analyzing the six years during which AT&T operated under the consent decree. They are seen as having succeeded in meeting many "targets" that are central to the decree. AT&T is reported to have reached 90 percent of their target goals in 1974, 97 percent

in 1975, and to have exceeded 99 percent every year since. Loomis further reports that mandating favor for women and minorities has "embittered many of AT&T's white male employees, spawned procedures that have infuriated its unions, and arguably hurt operating efficiency. The decree has also hurt in terms of money and executive time". Commenting on company efficiency, Chairman John Debutts indicates that the impact on the company's efficiency was not significant due to the extensive training efforts that were utilized.

The decree is also seen as providing significant gains in the status of women employees. In the two top job classifications (second level and up) women now hold 17 percent of the total positions versus 9 percent in 1972. Due to the impact of the decree, management took steps to diminish long-standing barriers and facilitated employees into new and non-traditional jobs. Management also indicated that the program had positively influenced the pool of people available for staffing of jobs and in reducing turnover (Loomis, 1979).

Facts and Figures

Several decades ago in the early twenties, women accounted for only about 20 percent of the labor force in this country. During the following twenty years, the

labor force participation rate of women (the percentage of women in the population in the labor force) increased very slowly and women accounted for about 25 percent of all workers at the beginning of World War II. By the end of the war in 1945, they represented approximately 36 percent of the total civilian working population (Schwartz, 1971). In recent years, however, the rate at which women have been entering the labor force has accelerated rapidly and this domination has continued through the early part of 1978. Table 1-1 shows this increasing trend for selected years from 1920 through early 1978. (Schwartz, 1971; U. S. Department of Labor 1977, 1978).

The second quarter 1978 report of the Bureau of Labor Statistics of the U. S. Department of Labor states that "half of all women sixteen years and over - nearly 42 million (see Table 1-1) - were working or looking for work in the second quarter of 1978. This was the first time that the labor force participation rate of women had been as high as 50 percent". This report also indicated that 79 percent of all clerical workers and 59 percent of all service workers (other than household) were women, compared to 62 percent and 45 percent respectively in 1950. This would indicate that a majority of women still hold jobs in the traditional

fields in which women were employed in the forties, fifties, and sixties.

TABLE 1-1

WOMEN IN THE LABOR FORCE
ANNUAL AVERAGES
SELECTED YEARS

Year	LABOR FORCE		
	Total Number*	Women Number*	% of Total
1920	41,145	8,229	20.4
1940	53,299	13,783	25.8
1945	53,860	19,030	35.3
1950	62,208	18,389	29.6
1955	65,023	20,584	31.6
1965	74,455	26,200	35.2
1975	92,613	36,998	39.9
June 1978	100,573	41,976	41.7

*Thousands

Although women have made significant inroads into several occupation groups associated with higher status and earnings, government surveys indicate clearly that

women have been underutilized in the work force especially in higher level white collar positions. The 1977 Databook on Working Women, published by the U. S. Department of Labor, indicates that women represent 42 percent of all "professional-technical" workers; but only 16 percent of all women who work are in this category. Within the professional-technical occupations women now average about one-tenth of all lawyers, judges, doctors, and engineers; while the majority are nurses and teachers. Similarly, women represent almost 21 percent of all "managerial-administrative (except farm)" workers; but only 5.5 percent of all working women are in managerial or administrative classifications. In the area of blue collar jobs, the 1975 Handbook on Women Workers (published by U. S. Department of Labor) states that "Perhaps the most dramatic shift that occurred between 1960 and 1970 was the large influx of women into the skilled trades. In 1970 almost half a million women were working in the skilled occupations (craft and kindred worker group), up from 277,000 in 1960. The rate of increase (nearly 80 percent) was twice that for women in all occupations."

In spite of women's rising labor force participation and the growth in numbers of women in professional, managerial, and skilled trade occupations, men continue to hold a disproportionate share of the higher status

jobs. Commenting on this, Kanter (1977) states "Women workers are concentrated in low paying dead-end jobs. As a result the average women worker earns only about two-fifths of what a man does, even when both work full time year round. The median wage or salary income of year round full-time workers in 1976 was lowest for minority women." Table 1-2 shows these income differences between men and women.

TABLE 1-2

1976 MEDIAN WAGES FOR MEN AND WOMEN

White men	\$14,071
Minority men	10,496
White women	8,285
Minority women	7,825

In discussing the earnings of women managers, Hennig and Jardim (1977) indicate that although "women make-up 39 percent of the labor force, less than 5 percent of those earning more then \$10,000 a year in the census category of Officials, Managers, and Proprietors are

women. At higher salary levels - \$25,000 and above - the representation of women falls even lower - to 2.3 percent versus 97.7 percent for men. In absolute numbers only 11,000 women managers in the United States earn more than \$25,000 - in comparison with 449,999 men." This information was based on data from the U. S. Department of Labor for 1972 and 1975.

Although the exact proportion of men and women in management positions and their respective earnings vary from industry to industry, it is evident that men continue to hold a significant share of the higher status, higher paying jobs. No national data was available on employment and earnings of male or female first line supervisors for comparison purposes.

A REVIEW OF THE LITERATURE

Literature indicates that industry faces a difficult and challenging task associated with the integration of women into non-traditional jobs, such as first line supervisory positions in manufacturing. Not only are there barriers to selection, but once past the entry stage, women may be confronted with a work

environment where the power structure is male dominated and reflects male values, and this may provide additional problems to on-the-job performance. Not only do these problems occur because of how men perceive women, but also because of how women perceive themselves.

Socialization

Socialization is a term social scientists use to describe the process by which sex roles are assimilated. Women in our society are characterized as passive, dependent, and emotional; while men are contrasted as being aggressive, active, and rational. In her study on socialization, Weitzman traces the dynamics of the sex role socialization process from birth through adulthood, contending that male/female differences are not inherent but are based on cultural definitions of sex-appropriate behavior. She views socialization as a life long process which begins at birth. During infancy, the family is the primary contact and their differential treatment provides simple behavioral reinforcement. As pre-schoolers, children observe men and women around them and learn to distinguish the male from the female role. During this period not only do adults serve as role models for young children, but they also provide precise instructions on

"proper" behavior. This sex appropriate behavior is further reinforced when children come into contact with social institutions outside the family. As the child learns the types of behavior that are appropriate for males and females respectively, they start to express sex-role preferences. Since, in our society, the male role is considered prestigious, it is preferred by both boys and girls. "Thus children learn that it is better to be a male than a female because it is men who exhibit the highly valued traits and are accorded the privilege and prestige in our society" (Weitzman, 1975).

As highly prized as these male traits are, women do not experience consistent social support in their assimilation. However, many women have achieved success in traditionally "male" jobs. Although a major investigation of achievement motivation and career aspirations is beyond the scope of this study, mention must be made here of some success factors.

Several researchers have attempted to show the impact of parental influence and education on potential career aspirations of females. According to Tangri (1972), educated working mothers tend to produce daughters of high achievement motivation and masculine interests while women who have little education and do not work will have daughters who model after them and seek satisfaction in

career aspirations through their spouse. The impact of parental influence as a factor in pursuing careers is further shown by Hennig and Jardim (1977) in a study of twenty-five women who held top management positions in business and industry. Early experience of these twenty-five women included a strong familial pattern in an upwardly mobile and educated family. They experienced a close relationship with a management father and sampled many of the traditional male activities while developing so-called masculine qualities. Feeling supported by their families in pursuing personal interests they experienced a wide variety of options and were achievement oriented.

Even when women aspire entry into non-traditional roles, they are confronted with some structural barriers. Heinen et al (1975) indicate that "the biggest obstacle to a woman who seeks a management position is the traditional attitude of both men and women toward masculine and feminine roles". It is not uncommon to find that selection decisions favor men. Rosen and Jerdee (1974) found that respondees when asked to make managerial selection decisions based on descriptions of applicants who differed only on the basis of sex, tended to make selection decisions in favor of males. Using similar research techniques, Cohen and Bunker

found that males, compared to females, were more likely to be selected into a male oriented position; whereas, females rather than males were more likely to be selected for a female position (Cohen and Bunker, 1975). This bias against women in management is based on traditional stereotypical thinking on the part of many male managers, for whom a managerial model is one that confirms to the typical male sex-role stereotype. This concept of stereotyping and these perceptions of role appropriate behavior will be reviewed in the next section of this chapter.

Sex-Role Stereotyping

Sex role stereotyping refers to the belief that a set of traits and abilities is more likely to be found among one sex than the other. In a book entitled Public Opinion, Walter Lippman first introduced the word stereotype as a social science concept (Lippman, 1922). Stereotypes were called "pictures in people's heads", which tended to distort their perception of others. Lippman indicates that a stereotypical view is simple; it is more erroneous rather than accurate; it is acquired second-hand rather than through direct exposure to the reality it represents; and it resists modifications even when exposed to new experiences.

In applying stereotyping to groups, Cowger and

Egan said, "Our review of the concept of stereotyping of groups would indicate that it is developed as a result of very limited direct experience with the group being stereotyped and may not be modified even after prolonged direct interchange and interaction. The underlying theme portrays a mental concept which has been developed with very little first hand knowledge and in many cases is dependent upon the relationship that exists between both groups" (Cowger and Egan, 1978). In the context of our study, societal sex-role stereotypes that inhibit facilitation of women into non-traditional jobs will be reviewed.

Myths - These persistent and pervasive stereotypic attitudes which exist throughout our culture regarding appropriate sex role behavior have contributed to the difficulties women face when entering non-traditional career fields. Several studies enumerate these "myths" or assumptions. Reif et al (1975) identify several of these as follows: Women are more emotional and sensitive to the feelings of others, while men are rational and coolly objective in their relationships with others; women are uncomfortable in a man's world; women work as a hobby or for luxuries and, as a result, lack the ambition, aggressiveness, and dedication necessary to excel in business; women have higher rates of sickness and

absenteeism; women do not understand statistics.

Many of the myths concerning women are based on male opinions about the few women with whom the opinion givers have associated. The opinions of these "few" are generalized to include the total female population. Examples of myths which illustrate the dangers of this "allness" are pointed out by Taylor in Stead (1975) and include: Women do not want responsibility, promotions, or job changes that add to the work load; the employment of mothers leads to juvenile delinquency of their children; and men do not like to work for female supervisors.

A few years ago Charles E. Kozoll conducted a series of seminars sponsored by the Civil Service Commission as a direct approach to overcoming problems faced by women in work situations. In these seminars, women were asked to disclose any negative assumptions by males which they encountered. The following results consistently appeared: Women are irrational, illogical, and unable to operate under pressure; they can't be relied on because their primary concern is either finding a husband or having found one, caring for him and/or a family; they spend too much time in frivolous chatter; they won't consider all the necessary variables in reaching a decision (Kozoll, 1973).

Judith Laws (1976) suggests that a number of these

myths about women workers seem to serve the function of suppressing the competition of women with men for jobs. Beliefs which state that women are less desirable workers than men because they quit, are out sick, or don't have what it takes to rise through the ranks serve this purpose. Further, the myth that women cannot supervise men and the myth that women are not interested in advancement are rationalizations for the unwillingness of men to permit women these opportunities.

Underlying much of the controversy about women's suitability for management is the narrow and single minded conception of the ideal manager. This is almost entirely male in character: Aggressive, competitive, firm, rational, and vigorous. And against this, women are seen to fall short by being characterized as not competitive; valuing social skills; intuitive, dependent and person oriented, rather than objective; cooperative; creative, but in a small domestic way, rather than visionary. DeAnne Rosenberg (1976) states this admirably in her advice to female aspirants by saying:

Be aware that the role model for the effective manager is masculine: The best managers are thought to be aggressive, competitive, firm, and hard nosed decision-makers. Women are thought incapable of being tough or at best, they are considered unnatural and unwomanly if they can pull it off.

Perceived Behavioral Differences - In a 1975 study of middle-line female managers, Virginia Schein found that both successful managers and men were perceived to possess the characteristics of leadership ability, competitiveness, self-confidence, objectivity, aggressiveness, forcefulness, being ambitious, and being desirous of responsibility. Women were perceived as not possessing these characteristics. In other words for both male and female respondents, to "think manager" meant to "think male" (Schein, 1978).

Literature is abundant documenting specific male/female differences which comprise many of the preceding myths. Maccoby and Jacklin document four empirically supportable sex differences. Three of the four relate to the sex differences which show up on intelligence subtests. The fourth is of wider implication, especially for management development. The four are: Beginning at about age eleven, girls have greater verbal ability; from about age twelve or thirteen, boys are better than girls in mechanical skills; boys excel in visual-spatial ability in both adolescence and adulthood; males are more aggressive than females from the age of twelve years (Maccoby and Jacklin in Marcum, 1976).

Additional research conducted by Denmarke and Diggory (1966) indicated "It is clear on the average men

are more authoritarian than women with respect to the leader's exercise of authority and power in the matter of group goals and control of the behavior of individual members". The study did not conclude that women are not authoritarian. Instead, the study showed that men are more authoritarian than women.

Phillip Sadler (1970) reinforced this perceived behavioral difference when he found in a study of 319 women, only 15 percent indicated a preference for authoritarian ("tells" or task oriented) leadership. The implication from this study is that women tend to be relationship - or participative-oriented as opposed to task oriented.

J. Brad Chapman and Fred Luthans attempted to clarify the question of leadership style by studying males and females in a civilian and military organization. Their results suggest that there are differences in leadership behavior, if not in leadership style. Women tended to behave in a more accomodative manner when in a leadership role. In addition, research generally shows that neither males nor females themselves have a very high opinion of female leadership capabilities (Chapman and Luthans, 1975).

In this regard, another study found that in competitive activities women tended to form coalitions

in an accomodative manner while men were more exploitive and used coalitions to gain individual advantages (Vinacke and Gullickson, 1964). The conclusion from this, and the Chapman and Luthans study as well as a similar study by Steiner in 1963, would indicate that leadership behaviors do differ between men and women and that women's behavior is more accomodative in nature. It thus appears that when women are being recruited or when they are placed in organizations which have been traditionally male dominated, social-role stereotyes become an important influence on leadership.

Many men regard working women as having different skills, different habits, and different motivations which make them undesirable as workers. Bass et al (1971) studied male managers who felt men and women have defined societal roles which govern their interaction, most notably rules of etiquette and politeness between the two sexes in public. The male managers also felt both men and women would prefer having male supervisors, would be uncomfortable with a woman supervisor, and perceived females in the work environment as having a lack of dependability.

These male managerial views are supported, in part, by Ross Webber (1976) who studied 83 four person groups in an academic environment. Sixty-two of the groups were male majority groups and twenty-one of them were female majority

groups. Each group worked together thirteen weeks analyzing cases and writing reports. In the male majority groups, women were seen by the men as non leaders and low contributors. Surprisingly, every man in the female majority groups claimed to be the task leader of that group. Male claims of making the most contribution increased, rather than decreased in female majority groups. Moreover, males and females in predominantly female groups expressed the least satisfaction with the team experience. In addition to males not perceiving female team members as leaders, it appears that males prefer to operate in the majority and females in the minority.

"Regardless of her job, a woman in business may commonly be treated as either wife, mother, lover, or better yet someone having the ability to become any one of the three on a moments notice" (Alpert, 1976). Literature suggests that women are frequently as unwilling to take orders from a female manager as men are. Why not? If they are all expected to play the same wife-mother-lover role, why should one woman have authority over another?

Since much of the literature deals with studies conducted in non-traditional occupations, it could be concluded that sex role stereotyping is limited to these career fields. Not so! Petty and Miles (1976) investigated sex role stereotyping in social service organizations which are traditionally female dominated work cultures.

They studied directors of fifty-one county level social service organizations located in the Southeastern United States and two hundred twenty-six professional level personnel who were direct subordinates. Eighty percent of the directors were female as were 88 percent of the subordinates. Petty and Miles found that stereotyping does exist, even in work cultures where females have traditionally occupied leadership roles with men. Clearly, in this case, these attitudes are outcomes of the process of socialization from child to adult rather than the function of the group and the organizational situation. This study suggests that time and passive movement across traditional sex role boundaries may not be healers, but rather a more forthright approach to the identification and elimination of sex role stereotyping may be necessary.

Impact on Performance - If sex role stereotypical thinking impacts on the perceived potential ability of a woman to perform effectively in an organization, then it would also seem to follow that this same thinking would impact on performance aspects. Limited attention has been given to this area; however, in a five year study of a large multinational corporation it was found that "tokenism" is supplanting segregation and discrimination as the fast track to stress and failure. In men's informal conversations women were often measured by two yardsticks:

how as women they carried out the management role, and how as managers they lived up to the images of womanhood (Kantor, 1978). In short, every act tended to be evaluated beyond its meaning for the organization and taken as a sign of how women perform.

While researching the impact of sex role stereotyping on perceptions of performance of women is important, even more important is the need for research on the impact of stereotyping on the actual performance of women in managerial positions. In what ways can and does stereotypical thinking actually impact on a woman's ability to function in the managerial role? Virginia Schein answered this question very effectively in the presentation of a paper at the University of Maryland by describing such impact in the following categories: Placement, Tokenism, Supervisory Bias, and Power and Political Behaviors (Schein, 1978).

The "placement" category suggests that stereotypical thinking at the point of entry in the organization can produce differential placement of males and females. If women possess characteristics not considered masculine, they might likely be placed in staff positions as opposed to line positions and thus be less likely to be promoted into the more upwardly mobile line functions.

Schein's second category concerns the placement of

women into jobs based on her sex (tokenism) rather than her abilities. She cautions that since on-going affirmative action pressures have forced companies into placing more women into managerial positions simply to get a woman on the job, there is a high risk of failure. If this occurs, then the stereotype that women do not make good managers is simply reinforced in the organization.

To the extent that a woman's supervisor believes she is less likely than a male to be aggressive, forceful, or ambitious, he or she may be less likely to provide job assignments in which these skills and abilities appear to be necessary. If so the bias reflected in the assignments can prevent her from learning or developing certain abilities and/or produce an image within the organization that she cannot perform these tasks, thus limiting her future promotional progress.

The fourth factor which is suggested to have a major impact on a woman's ability to perform effectively as a supervisor or manager is exclusion from the power and political networks within the organization. This would include her inability due to stereotypical thinking to enter into alliances, take counsel, compromise, and exhibit confidence. For example, superiors with biased attitudes toward women may be less likely to openly discuss their strategies and tactics of operating within their

organization with their female subordinates. Exclusion from informal networks is equally important. A male may feel ill at ease lunching with a female peer or discussing "shop" after work hours. In either of these cases the female loses opportunities to gain information or learn of activities which may help or hinder her current performance.

Even when her actual performance is high, the female supervisor or manager may be perceived to be ineffective. Kreps et al found in a survey of male managers that women who perform their jobs in a different manner than men may be judged to be poor performers (Kreps et al in Zellman, 1976). A recent study by Garland and Price (1977) found that males who had negative attitudes toward women as managers were more likely to attribute success to luck or the ease of the job than to ability or hard work. If the perceptions in either of these studies originate with superiors rather than peers, it could be concluded that future career progress may be impaired.

Other studies indicate that males are not alone with respect to stereotypic attitudes toward women. There is evidence that females themselves frequently hold negative values of each other or their own worth in such a manner as to impair performance. The study by Alpert (1966) which was previously mentioned indicated that women

are frequently as unwilling as men to take orders from a female. In another study involving selection of a leader of a two person mixed sex group, it was found that even women who scored high in dominance when decisions were required tended to defer leadership to men who scored low in dominance (Megargee in Meyer, 1976). It was assumed that these women were experiencing a conflict between their dominant personality trait and the socially accepted role of women as the passive sex.

Matina Horner has identified this conflict between dominant and socially accepted sex roles in women as "the motive to avoid success" or "fear of success" imagery. She defines this as the "fear that success in competitive achievement will lead to negative consequences such as unpopularity and loss of femininity" (Horner, 1969). A consequence of such a fear would be to adopt more accomodative strategies in leadership situations. Perhaps the concept was stated best by Erica Jong (1977) when she said:

Every woman who has ever had the experience of being a pathfinder in a field previously reserved for men knows the very ambivalent feeling it raises. We want to achieve; yet we are terrified that our achievement will cost us love. We want to succeed; yet another vestigial part of us seems to be saying it is more feminine to fail.

A female manager who has experienced stereotypical

attitudes from males may lower her own expectations for success and advancement, thus adversely affecting her present level of job performance as well as limiting the influence she may have as a "role model" for other women. Eleanor Schwartz (1971) summarized the adverse impact of this on performance and future opportunities when she said "Until women believe they can succeed, they won't".

Contradictory Studies

Over twenty years ago, Haller Gilmer, after an exhaustive survey of what had been written about the jobs women hold, their attitudes, interests, and abilities, dejectedly summarized his effort by commenting: "The literature centered around the woman worker, the woman executive, and the professional woman in industry is fraught with conflicting opinions, pronounced prejudices, and almost a mythology" (Gilmer, 1957).

Gilmer's statement is by no means less relevant today. The authors have found in their literature review that for nearly every article or study supporting the stereotypical opinions of managerial differences or perceived female inferiority, one can be found affirming similarities, equal abilities to perform as managers, or superior skills and abilities to males. It does appear, however, that studies documenting perceived differences are more frequently publicized and attract more attention.

Eleanor Maccoby and Carol Jacklin of Stanford University (1974) agree, and point out that most reports on the psychology of men and women emphasize studies in which differences have been found; whereas, results which do not show differences are buried in footnotes or omitted from research summaries.

Several studies which contradict those discussed in the preceding sections have been conducted in recent years. Crowley et al (1973) conducted a study in an attempt to dispel some ill-founded stereotypes of the "average woman". They found incorrect the myths that women would not work if they did not have to; that women are less concerned than men with getting ahead on the job; and that women are more satisfied than men with intellectually undemanding jobs. Their research findings show that there are more on-the-job similarities between men and women than differences.

In a study of one hundred female managers and supervisors working for three manufacturing and service type organizations, Badawy (1978) found that women perceived no significant differences in male/female potential. Also in a production environment it was found that women are perceived by males to be just as capable as men (French, 1975). They were described by production managers as being close to the people who work for them, great motivators, cost

conscious and concerned with all aspects of the job.

Utilizing two hundred twenty-four college students, Hunt (1974) conducted a study to compare the performance and behavior of male and female supervisors under conditions of supervising subordinates of both sexes. The task used was the Apex Garment Company business game. Two general conclusions are supported by the results of this study. First, there were substantial similarities in performance between male and female supervisors. Second, the performance of supervisors was not influenced by the sex of their subordinates.

Subordinates of male and female supervisors played a key role in a research project by Day and Stogdill (1972). Two male and two female subordinates of thirty-eight male and thirty-eight female supervisors were asked to describe their bosses. Female supervisors were described somewhat higher than males in consideration and production emphasis; however, the results indicate that on the average, the male and female supervisors are perceived to exhibit similar patterns of leadership behavior and to be similar in terms of effectiveness.

Luther Humphreys and William Shrode studied the decision-making profiles of male and female commercial bank managers. More similarities than differences were found. Female managers considered task decisions most important

while male managers considered personnel decisions most important. This is a contradiction to the generally accepted notion that women are relationship oriented and men task oriented (Humphreys and Shrode, 1978).

The subject of true ability differences has been one of long controversy. The Human Engineering Research Laboratory of the Johnson O'Conner Research Foundation tested for differences in levels of measured ability and knowledge in twenty-two dimensions. They found no difference between men and women in fourteen aptitudes. Of the eight remaining, women were shown to excel in six and men in two. Some of the aptitudes in which women were shown to excel were: the ability to generate ideas, form word associations, and deal with abstractions (Durkin in Bolton, 1977). One might conclude that if managerial positions were based on aptitudes only, the number of men and women occupying positions in all occupations would be equal.

Research by Knowles and Moore (1970), and Alban and Seashore (1978) all indicate a managerial advantage by female superiority in interpersonal relationships. They also predicted that the manager of the future, male or female, will need to be more people centered, more able to work with people than to exercise position power. In other words, the traits that women have been criticized

for in the past may be the attributes of the future. Alban and Seashore found both men and women reporting that women are more flexible, more accustomed to handling complex environments, and more capable of crossing boundaries. These abilities were attributed to interpersonal skills acquired as a result of having to deal constantly with a wide variety of people. An anonymous female manager and mother put it this way:

Much more important is the talent to deal with people effectively. More women have this than they realize. Years of working with their children, and families, officials, merchants, doctors, and other professionals have honed their skills as negotiators almost without perception of this fact.

In an investigation of characteristics which distinguish women who choose traditional versus non-traditional careers, it was found that women in non-traditional business roles were more achieving, emphasized production more, and saw themselves as having characteristics more like managers than men (Moore, 1977). Otto Brenner (1977) offers information which helps to explain the Moore study results. In his study, which was to determine if the concept of the stereotypical male manager is fact or fiction, he found that even individuals with different traits tend to display similar behaviors when placed in specific leadership situations. One explanation might be that traits are influenced by

differences in socialization processes encountered by the two sexes while behaviors are situationally determined.

A proposition by Bem in 1974 suggests how this might be possible. She claims that there is a group of people who describe themselves by choosing "masculine" and "feminine" adjectives equally as often and in relatively equal degrees. She calls these people androgynous. According to Bem, some women are capable of seeing themselves as both "feminine" and "masculine", or both emotional and competitive, affectionate and aggressive, etc. She further showed in 1975 that androgynous individuals may have more behaviors available to them to choose from in responding appropriately in different situations. For example, an androgynous individual, whether male or female, would be capable of helpful behavior as well as assertive behavior; whereas, a predominantly "masculine" individual might be incapable of helpful behavior. Conversely, a predominantly "feminine" individual might be capable of assertiveness (Bem in Myers, 1976). Paul Mott has supported the need for this androgynous style. He feels that a supervisor must consider which leadership style is best in dealing with subordinates. Because each worker is different, no one style should be used for everyone in every situation. The supervisor must be able to adopt a good leadership style which

enables self determination of the worker (Mott in Smith, 1975).

The contradictory literature would seem to suggest that the future of management styles will require thinking that goes beyond the traditional sex role stereotyping by recognizing that male and female traits may exist in each sex, and that simply hiring women to comply with legislation or social pressure amounts to little more than tokenism which is inhibiting to the most effective management of the organization.

RESEARCH OBJECTIVES

Women are moving up the managerial ranks in production jobs - dirty, sweaty, factory production jobs - at major companies all over the country. They are beginning to follow the road that traditionally leads to top management in industrial companies: Production. Many of these women are college graduates, hungry for careers, who climb the ladder with the traditional academic equipment of male production managers. Another, and quite different, pool of production supervisors exists among women who took production line jobs several years ago. Many of these may be inadvertent beneficiaries of recent government affirmative action policies. They are sometimes referred to as "late bloomers" (Business Week, 1977). Regardless of her

background or aspirations, her role as supervisor is the same as her male counterpart's. It is equally important and equally difficult. She, like he, must be able to identify the problems and the facts; then analyze the facts and make decisions. She, like he, might be referred to as the "woman in the middle" (Kanter, 1977). But she may, at least initially, have to overcome some difficulties that do not exist for him.

Badawy (1978) identified several of these as problems emanating from attitudes held by companies and male associates as well as lack of management confidence in her ability and motivations. Other research has revealed reasons why some women are so resistant to becoming supervisors or managers and why, once promoted, they succeed or fail. While there is no scarcity of these general articles as the subject of women managers has become popular and fashionable in recent years, empirical investigations of perceptions, role orientations, and requirements for managerial competency are rare indeed. A survey of the literature by the authors reveals almost negligible research on the female first line supervisor in manufacturing. Obviously the past research that does exist regarding women in male oriented work roles leaves a number of questions unanswered.

Questions

With this in mind the authors chose to focus on some relevant questions which pertain to female supervisors in a large manufacturing corporation. Some of these are:

1. Why do females in this industry accept jobs as first line supervisors?
2. How do women supervisors perceive their work environment?
3. What difficulties do women supervisors experience on the job?
4. Do women in these positions feel qualified to perform their jobs?
5. How career minded are women supervisors in this industry?
6. Is management providing the support necessary for women supervisors to do their job properly?
7. What predicts performance of these female supervisors?
8. What can management do to improve job performance of female supervisors in this industry?

Hypotheses

To assist in answering the preceding questions, the authors have formulated a number of hypotheses which relate to several of the research questions. The following hypotheses will be tested:

1. In accepting jobs in this industry female first line supervisors consider intrinsic motivating factors equally important as extrinsic motivating factors

2. There is no difference between male and female influence as a motivating factor for accepting jobs as first line supervisors.
3. The intrinsic and extrinsic factors related to job satisfaction for the female supervisor are equally important.
4. There is no difference between the attitudes of supervisors, peers, and subordinates toward female supervisors.
5. Female supervisors exhibit a greater participative style of management than an autocratic oriented style.
6. Women supervisors receive the same degree of support from supervisors, peers, and service departments within the organization.

The above hypotheses and preceding questions form the basis of study. Not all of the questions will be answered, or hypotheses tested in a clearcut and unequivocal manner. However, we hope to shed enough light on these areas to improve future understanding by individuals and organizations.

CHAPTER II

RESEARCH METHODOLOGY

THE QUESTIONNAIRE

The authors felt that data collected from a large dispersed population could be readily gathered and analyzed in a quantitative manner through a written questionnaire. A copy of the questionnaire, cover letter to respondents, and cover letter to pre-test participants is located in Appendix A.

Purpose

The questionnaire measured selected female first line supervisors' attitudes toward their job and identified factors which cause problems or facilitate success on the job. Specifically, it was designed to deal with the research questions in Chapter I as well as to test the related hypotheses.

Sources of Input

Four principal inputs were utilized in the development of the questionnaire: (1) The personal insights of the authors based on experience as former

first line supervisors, as supervisors of females functioning in this capacity, and as members of personnel staffs with the responsibility of administering organizational development efforts at plant and divisional levels; (2) A literature review which further familiarized the authors with pertinent background information and results of related studies. A summary of this review is in Chapter I; (3) Interview questions contained in a study by Dr. Herbert H. Meyer and Mary Dean Lee entitled "The Integration of Females Into Male-Oriented Jobs: Experiences of Certain Public Utility Companies", University of South Florida, 1976; (4) Suggestions from the members of our M.I.T. academic thesis committee for this project.

Sections

We divided the questionnaire into six sections: (1) personal background, (2) job setting, (3) likes and dislikes of the job, (4) perceptions of aspects of the job versus males, (5) attitudes and behaviors in the job, and (6) comments and suggestions for the company. The amount of data requested in each of these sections was quite extensive. Although several hypotheses had been formulated, the nature of the research was also to obtain a broad base of information which might provide answers to the general research questions in Chapter I.

Personal Background - In this section we were interested in the demographics of our respondents. We felt it important to have sufficient information regarding age, work experience, education, etc. to develop a profile of our sample. Questions in this section were derived from reviews of several other questionnaires and studies. In answering these questions, respondents were requested to select the most appropriate response from several provided.

Job Setting - Section II also included personal data questions, but they were more directly related to the work situation. They included the number and sex of employees supervised, normal and current shift assignment, sex of immediate boss and union representative, and rating from most recent performance appraisal. These questions were primarily developed through initiative of the authors. Many of the others in Section II dealing with career progress, career aspirations, and attitudes of other employees toward the respondent were derived from Meyer (1976). In the description of his study, Meyer had grouped interview responses into several categories. For the purpose of our questionnaire, we utilized his designated categories for alternative choices to answer similar questions in written, rather than interview form. This approach was utilized to a great extent in

developing alternative answers for questions 8, 10, and 15 through 26 in this section. Although these primarily concerned attitudes of working associates, they also include role conflicts and career aspiration questions. All questions in Section II were of the multiple choice type and requested the respondent to select the one answer from those provided which best applied.

Likes and Dislikes - Here in Section III the respondents were required to indicate their feelings toward a number of aspects of their job on a seven point Likert scale. Both intrinsic and extrinsic aspects of the job were explored as well as the overall liking for the job. Meyer (1976) was the primary source of input to questions 2 through 8, 10, 11, and 22 in this section. Meyer's five categories in which he placed interview responses ranging from "like very much" to "very much dislike" were expanded to a seven point scale as alternative choices for our questionnaire. Additional questions in this section were derived from various sources and included in the same seven point scale format.

Perceptions of Job - Respondents were asked in Section IV to state their beliefs in comparing aspects of their job with that of males. Comparisons of support from others, pay in the job, and respondents' perceived competence on the job versus males in similar jobs with

similar experience were included. These questions were primarily initiated by the authors and tailored to fit the industry being studied. The alternatives ranged from "definitely less than males" to "definitely more than males" on a seven point Likert scale.

Attitudes and Behaviors on the Job - Section V requested information covering several other categories pertaining to the respondent and her job. These included factors influencing her decision to accept her present job, managerial style which she found effective, extent of time spent on various aspects of her job, and perceived handicaps and job difficulties. Also included was level of satisfaction with the support provided by specific staff sections. Answers were again required on a seven point Likert scale with alternatives ranging from "to a very little extent" to "to a very great extent".

Input to Section V was a combination of Meyer (1976) and the initiative of the authors. Questions 1 through 9 in this section included several factors also included in Section III. In this case, however, they applied to the influence to accept the present job rather than to job satisfaction. Questions 10 through 16 were derived primarily from Meyer (1976). Except for minor revisions, his interview response categories were listed in our questionnaire as alternative managerial approaches

or behaviors. We then applied a seven point scale to these to determine the extent of their effectiveness as perceived by our questionnaire respondents. Questions 17 through 22, concerning time spent on aspects of the job, and 39 through 46, concerning particular service department support, were designed based on the experience of the authors with the supervisory position and respective staff departments. Questions 23 through 38 and 47 through 51 again relied heavily on the Meyer study in the format previously mentioned with an addition of a seven point measurement scale.

Comments and Suggestions - The open-ended questions in Section VI were inserted for two reasons. First, it was felt that the respondents should have an opportunity to express their feelings without being restricted to the alternatives provided by the authors in the previous sections. Second, by reviewing these responses we hoped to give additional insight into several of the areas explored in the main body of the questionnaire. Questions included in this section concerned aspects of the job performed best and least well; present management action which is helpful or which hinders job performance; and steps management can take to help improve job performance. Space was also provided for any additional comments or suggestions which the respondents wished to share.

Selected responses to open-ended questions are included in Appendix G.

Pre-Test

The questionnaire in its final form evolved through a process of evaluation and testing. Assistance in this effort was obtained through the help of thesis advisors, faculty and female staff members at M.I.T., and a sample of female first line supervisors from the Boston area.

Our thesis advisors provided a critical analysis of the draft questionnaire. From their suggestions a number of revisions regarding content and clarity were initiated. Additional comments and suggestions were then solicited from several female staff members at M.I.T. Finally, a sample of ten female supervisors from the Boston area was utilized to test the revised document. All test respondents were asked to provide the authors information concerning (1) length of time to complete questionnaire, (2) clarity of directions, (3) clarity of questions, and (4) adequacy of the questionnaire cover letter. Additional comments or suggestions were also requested.

Responses from the final pre-test participants were very encouraging. They indicated that directions and questions were easily understood. Further, the

average completion time was within the upper limit of thirty minutes established by the authors in order to obtain maximum participation of respondents.

SELECTION OF RESPONDENTS

Of considerable importance to the success of this study was the necessity to select a company which has a definite policy of full opportunity for women. The company selected meets this criteria and has demonstrated affirmative action toward this goal. This company is a large multidivisional manufacturer of consumer products. It is also a government contractor and is following a plan of affirmative action approved by the government.

Nineteen divisions of this corporation participated in our study. The selection of these provided the opportunity to survey a significant number of supervisors. Although there is some disparity in products produced by the respective divisions, the role of the first line supervisor in each is similar. Several of the divisions selected operate multiple facilities covering a broad geographic region, and all are generally concentrated in the Eastern and North Central regions of the United States.

DATA COLLECTION

In order to collect data for this research, letters were mailed to divisional personnel directors of the target company explaining our research objectives and soliciting the participation of their female first line supervisors. A copy of the letter to the personnel directors is included in Appendix A. As a follow-up to the aforementioned letters, each personnel director was also contacted by telephone to further reinforce the purpose of our study, to encourage their participation, and to finalize distribution procedures. Furthermore, each personnel director provided us with the total number of female first line supervisors working at their respective divisions. These exact quantities of questionnaires were then mailed to designated divisional representatives for distribution to all female first line supervisors at each division. A total of 852 questionnaires were mailed to nineteen divisions. Other divisions within this corporation were not selected because of the limited number of female first line supervisors at their operations. Also, some divisions chose not to participate due to similar studies being conducted at their locations.

Enclosed with each questionnaire was an introductory letter explaining to each participant the purpose of the study and assuring them of anonymity and

confidentiality for their individual responses. Upon completion of the questionnaire, the respondent was requested to return it directly to the researchers in a self addressed, pre-stamped envelope that had been provided. Table 2-1 summarizes the original questionnaire distribution and the percentage of returns by division. As is seen in Table 2-1, the number of questionnaires distributed by division ranged from 10 to 320. Division #4 which received 320 questionnaires is one of the largest divisions, and operates multiple facilities over a broad geographic region. Table 2-1 also shows the overall return rate which is 42.6 percent.

To test the representativeness of our sample data with respect to the population in the target company, a Chi-square test was conducted. As a basis for comparing the "expected" and "observed" frequency rates for questionnaire returns, the overall return rate of 42.6 percent was used as the "expected" value for each location. The results of the Chi-square test are statistically significant ($\chi^2 = 51.8$; $df = 19$; $p < 0.001$) indicating that some locations have been over sampled, while others are under represented.

To further evaluate the homogeneity of our sample data, we compared the observed frequency responses of a few selected demographic variables of the sample to the

TABLE 2-1

QUESTIONNAIRE DISTRIBUTION AND RETURNS

Division	Quantity Distributed	% of Total Distributed	Quantity Returned	% of Total Returned	% Returned By Location
1	25	2.9	15	4.1	60
2	25	2.9	10	2.8	40
3	35	4.1	19	5.2	54
4	320	37.6	135	37.2	42
5	15	1.8	12	3.3	80
6	50	5.9	13	3.6	26
7	20	2.3	16	4.4	80
8	20	2.3	6	1.7	30
9	25	2.9	11	3.0	44
10	10	1.2	9	2.5	90
11	25	2.9	6	1.7	24
12	45	5.3	23	6.3	51
13	15	1.8	10	2.8	67
14	40	4.7	14	3.8	35
15	35	4.1	3	0.8	9
16	32	3.8	22	6.1	69
17	25	2.9	11	3.0	44
18	40	4.7	10	2.8	25
19	50	5.9	18	4.9	36
TOTAL	852	100.0	363	100.0	42.6

same demographics in the actual population. The results of the Chi-square tests for the variables "age" ($x^2 = 0.317$; $df = 1$; n.s.) and "time with company" ($x^2 = 3.45$; $df = 2$; n.s.) indicate that there are no statistically significant differences between the sample and the population for these variables.

However, the results of Chi-square tests for the variables "present job longevity" ($x^2 = 5.94$; $df = 1$; $p < 0.05$) and "highest education level" ($x^2 = 9.21$; $df = 2$; $p < 0.05$) show that for each variable there is a statistically significant difference between the sample and the population. In the case of the variable "highest education level", the alternate choice categories provided in our questionnaire were different from the categories in which the population data is maintained. This accounts for the aforementioned significant difference between the sample's education level and that of the population.

The sample data was recategorized similar to the categories in the population data and another Chi-square test was conducted. These results show that there is no significant difference between the "highest education level" ($x^2 = 0.683$; $df = 2$; n.s.) of the supervisors in the sample and those in the population.

In summary, our sample of supervisors appears to be representative of the population in the target company

with respect to "age" (variable 107), "time with company", (variable 102), and "highest education level"(variable 105). In terms of "present job longevity" (variable 101), the responses to our questionnaire appear to have come from those supervisors who have been on their jobs for a longer period of time. We feel that this actually lends a more mature perspective to the data. In view of these results we conclude that from an overall standpoint our data is representative of the total population of the first line female supervisors in the target industry.

METHOD OF ANALYSIS

The large sample size and the ordinal response format of the questionnaire generated an enormous volume of data for this investigation. The availability of a computer system and a suitable program package at M.I.T. facilitated the analysis of this data base. A program package entitled "Statistical Package for the Social Sciences (SPSS)" was specifically selected for our data analysis. SPSS is an integrated system of computer programs designed for the analysis of social science data. It permits great flexibility in the format of data and provides a comprehensive set of procedures for data

transformations and file manipulations. This system also provides a comprehensive selection of statistical procedures including numerous selections for data correlations and regressions, comparison of means, variance analysis, and other statistical routines. These program attributes ideally suited analytical requirements of the study.

The first step in the analysis of the data consisted of data preparation. The questionnaire responses received from each survey participant were compiled, coded, and key punched for computer processing. Each question in the survey instrument was labeled as a variable and a three digit code was assigned to each. The coding was assigned sequentially to the questions in each section with Section I questions coded as variables 101 through 114; Section II variables coded from 201 through 226; etc. Appendix B shows the variable list containing a total of 124 variables that were named and coded for this study. Included also is a list of derived variables used in answering our research objectives. The formulation and use of these derived variables will be explained in the various sections of the Results chapter.

Analyses were conducted on an IBM 370 computer using the U700 version of SPSS in batch mode. Either the East Campus Computer Facility or the Information Processing Center, both located on the M.I.T. campus,

was utilized.

The specific variables selected for testing and choice of appropriate descriptive statistics were carried out in conjunction with an exploratory data analysis phase in which the data was processed to generate frequency distributions for each variable in the questionnaire. This also yielded the mean, standard deviation, variance, median, and range for each variable. Appendix C shows the frequency distribution, mean, and standard deviation for each variable in this study. This phase of frequency generation provided some preliminary insight into the data, highlighting several distributions, especially within the attitude and support variables.

The t-test subprogram allowed comparison of means of two variables by using the paired samples t-test (e.g. comparison of intrinsic vs. extrinsic motivating factors in accepting the job). The output included the average and standard deviation of the respective variables along with the mean differences, the correlation, a two-tailed probability estimate, and the t-statistic. Hypotheses 1, 2, 3, 4, 5, and 6 were evaluated using this procedure. Scales for several of these hypotheses were further evaluated for reliability using Chronbach's Alpha.

The factor analysis subprogram showed basic structures of related variables and allowed us to simplify

our analysis by the construction of scales derived from multiple items. Such scales were developed to further evaluate our data. This will be explained in the appropriate sections of the Results chapter. Scales derived from factor analysis were used to evaluate hypotheses 1, 3, and 5 respectively as well as research question 3 from Chapter I.

Use of the crosstabulation tables and associated statistics highlighted non-linear relationships between two or more associated variables and provided information on significance levels. The cells of the tables displayed frequency counts, row percentage, column percentage, and total percentage. Output results also provided chi squared values and the significance levels for the variables studied. Crosstabs were used frequently in this study to evaluate the relationship between variables such as performance and training; performance and support; etc.

As is evident, most of the hypotheses and the questions we chose to investigate were tested by more than one statistical method. This was done to provide a richer interpretation of the data and to cross validate the tests in order to insure a high degree of validity and credibility. Typically, investigation began with an analysis of the frequency distributions and the means of the variables under study. Factor analysis was then

conducted to simplify our data and to obtain commonality between the variables. We also obtained correlations for linear associations between the variables. Crosstabs were obtained to determine non-linear relationships and for analysis of subgroups. Regression was used in a specific part of this study to predict supervisory performance from the other variables. The specific areas examined by utilizing these methods and the corresponding results appear in the next chapter.

CHAPTER III

RESULTS

In this chapter the data received from the 363 respondents to our questionnaire is analyzed. Statistical analyses were performed on the major variables to assist in testing hypotheses and answering research questions. The following analyses are broken down by major areas of research interest as outlined in Chapter I. These areas are: (1) demographics, (2) factors influencing acceptance of job as supervisor, (3) job satisfaction, (4) attitudes of associates at work, (5) difficulties on the job, (6) managerial style, (7) management support, and (8) performance, respectively.

DEMOGRAPHIC CHARACTERISTICS

The ages of the respondents ranged from the 20 through 24 category to the 60 or over category. The largest age group within our sample was comprised of individuals 30 through 39 years of age and represented 42 percent of the total number of women. The next largest group was found to be ages 40 through 49 and totaled 22 percent of our sample. The mean and median ages were

both found in the 30 through 39 age group. Interestingly, none of the respondents reported being under age 20, and only one indicated she was at least 60.

Most of the women had worked for the target company ten years or less. Sixty-three percent responded to categories included in this range. Surprisingly, 42 percent had company service of five years or less. With regard to experience on their present jobs as first line supervisors, the pattern is even more noteworthy. Eighty-nine percent of the respondents have held this position for five years or less, and 59 percent previously held jobs as hourly employees.

The educational level of the respondents was of particular interest to the authors. Ninety-four percent of our sample had at least a high school education. Moreover, the largest group was comprised of individuals with some college or technical school background and represented 39 percent of our sample. Twenty-eight percent had at least a college degree, and 6 percent had graduate or professional degrees. Our sample is easily recognized as a well educated group.

The marital status was 49 percent married, and 51 percent either single, divorced, separated, or widowed. The second largest individual category was the divorced group which represented 25 percent of the respondents

and leads the single category by 4 percent. Interestingly, we find that only 18 percent of the women in our sample have children under the age of six and from the crosstabulation tables in Appendix D, we find that 46 percent of the women have no children under the age of eighteen.

Although the respondents, on the average, directly supervised twenty-one employees, 26 percent reported supervising thirty-one employees or more. Conversely, our sample of supervisors most often stated they were part of work groups of from 1 through 9 members who reported to the same immediate general supervisor. Of the 85 percent in this category, approximately half were in work groups of 1 through 5 and half were in groups of 6 through 9. Ninety-six percent of the respondents also indicated their immediate boss was a male.

Since most of the locations surveyed operate on at least a two shift basis, the authors were interested in concentrations of the sample. Forty-eight percent of our respondents presently work the first shift, leading second shift by 6 percent. Sixty-three percent of those surveyed, however, reported receiving their job training on the first shift. This may be representative of the fact that many locations operate with a fuller complement of staff and support departments on the first shift, which might facilitate the training process.

In summary, the following Table 3-1 presents a profile of the supervisor in our sample group based on the modal class of responses to selected variables.

TABLE 3-1

DEMOGRAPHIC SUMMARY

Age	30-39
Marital status	Married
Years with company	6-10
Years on present job	Less than 5
Prior experience	Hourly employee
Education	Some college/technical

As can be seen, our supervisor is young and inexperienced, and has worked with the company in the capacity of an hourly rated employee before accepting her present job. Additionally, she is well educated and chances are even that she has demands placed on her from a husband and/or children outside the workplace.

FACTORS INFLUENCING ACCEPTANCE OF JOB AS SUPERVISOR

The female respondents were asked nine questions in Section V of the questionnaire to ascertain why they accepted jobs as first line supervisors in this industry.

These nine questions related to motivational factors such as "challenge", "scope of responsibility", "opportunity", "pay", "status and prestige", "attitude of management toward women", "encouragement from a male", "encouragement from a female", and the "need for achievement". The questions were assigned variable numbers 501 through 509 as shown in Appendix B. The respondents rated the influence of each of these factors on a seven point Likert scale with alternatives ranging from "very little extent" (numeric value 1) to a "very great extent" (numeric value 7). Appendix C shows the frequency responses for each of the variables 501 through 509.

The majority of the women scored "challenge", "opportunity", and "need for achievement" as having influenced them to a "great" or to a "very great extent" (numeric values 6 and 7 on the scale). Seventy-nine percent of the women responded to "opportunity" by selecting values 6 or 7 on the scale. This response was the largest when compared to similar responses (values 6 and 7 on the scale) of the other motivational factors in this section. On the low end of the scale (values 1 and 2), a high percentage of women indicated that "status and prestige", "attitude of management towards women", and "encouragement from a female",

influenced them to a "little" or to a "very little extent". Table 3-2 gives the percentages of women responding to both the low and the high end of the scale for some selected variables in this section. The table also shows the mean for each variable.

TABLE 3-2

SELECTED FACTORS INFLUENCING ACCEPTANCE
OF A JOB AS SUPERVISOR

Variable	% Response Scale Values 1 & 2	% Response Scale Values 6 & 7	Mean*
503 Opportunity	1.2	79.6	6.19
501 Challenge	1.7	76.0	6.11
509 Need for achievement	6.3	70.2	5.79
505 Status & prestige	20.6	28.4	4.23
506 Mgt. attitude	33.6	19.0	3.61
508 Female encouragement	53.4	16.0	2.86
*7 point scale			

To further evaluate this area of the study we statistically tested our hypothesis, which stated that in accepting jobs in this industry female first line supervisors consider intrinsic motivating factors equally important as extrinsic motivating factors. In order to arrive at intrinsic and extrinsic motivating factors for

job acceptance, the nine variables were factor analyzed. The principal factor matrix generated two factors with eigenvalues greater than 1.000. These two factors account for 47 percent of the variance. The principal factors were orthogonally rotated (quartimax) and forced to two and three factor terminal solutions. The three factor solution was most readily interpretable and is shown in Appendix E. The first factor in the resulting analysis includes variables, with high factor loadings, that are related to intrinsic motivators ("challenge", "scope of responsibility", "opportunity", and "need for achievement"). The second factor focuses on motivators extrinsic to the job. These four variables are "status and prestige", "attitude of management towards women", "encouragement from a male", and "encouragement from a female". The highest loading in factor three is the variable "pay". This variable certainly falls within the category of an extrinsic motivator and was considered as such for this analysis.

Based on the results of the factor analysis, new derived variables were generated to represent intrinsic and extrinsic motivating factors. The intrinsic motivating factor (DV6) was obtained by combining the scores of each respondent for the variables "challenge", "scope of responsibility", "opportunity", and "need for

achievement" (variables 501, 502, 503, and 509). The extrinsic motivating factor (DV7) was obtained by combining the responses of the variables "pay", "status and prestige", "attitude of management towards women", "encouragement from a male", and "encouragement from a female" (variables 504, 505, 506, 507, and 508). To assess the reliability of the intrinsic and extrinsic factors, a correlation matrix was developed to verify the internal consistency of the variables, as shown in Table 3-3. The median correlation between the intrinsic variables is high ($r = 0.391$; $df = 349$; $p < 0.005$) and validates convergence. The median correlation of extrinsic to intrinsic variables is lower ($r = 0.178$; $df = 349$; $p < 0.005$) and validates divergence of these variables. Chronbach's Alpha reliabilities for the two derived variables are 0.80 and 0.61 respectively, and both are significant ($p < 0.0005$).

A final analysis in this section was a paired t-test which compared the means of the intrinsic (DV6) and extrinsic (DV7) motivating factors. The results of this test are shown in Table 3-4.

As can be seen there is a statistically significant difference between the sample means. Therefore, the null hypothesis is rejected by the finding that intrinsic motivating factors are considered significantly

TABLE 3-3

CONVERGENCE-DIVERGENCE CORRELATION MATRIX
FOR FACTORS INFLUENCING
JOB ACCEPTANCE

	DV6 Intrinsic					DV7 Extrinsic				
	501	502	503	509	504	505	506	507	508	
DV6 Intrinsic										
501	1.000	0.598	0.418	0.290	0.242	0.179	0.213	0.062	0.064	
502	0.598	1.000	0.364	0.253	0.221	0.252	0.216	0.090	0.178	
503	0.418	0.364	1.000	0.320	0.358	0.228	0.230	0.086	0.093	
509	0.290	0.253	0.320	1.000	0.116	0.343	0.132	0.067	0.170	
DV7 Extrinsic										
504	0.242	0.221	0.358	0.116	1.000	0.316	0.208	0.067	0.147	
505	0.179	0.252	0.228	0.343	0.316	1.000	0.306	0.233	0.253	
506	0.213	0.216	0.230	0.132	0.208	0.306	1.000	0.240	0.292	
507	0.062	0.090	0.086	0.067	0.067	0.233	0.240	1.000	0.272	
508	0.064	0.178	0.093	0.170	0.147	0.253	0.292	0.272	1.000	

Chronbach's Alpha for DV6 - 0.80* *significant at 0.0005

Chronbach's Alpha for DV7 - 0.61*

more important. In summary, the female supervisors rate intrinsic motivating factors as having been a greater influence in accepting their present first line supervisory jobs.

TABLE 3-4

COMPARISON OF INTRINSIC AND EXTRINSIC MOTIVATING FACTORS
FOR ACCEPTING THE JOB

Derived Variable	Mean	Std Dev	T-Value	2-Tail Prob.
DV6 Intrinsic	5.9167	1.057	24.82	<0.0005
DV7 Extrinsic	4.4203	1.217		
n = 363 cases	df = 362			

Male Versus Female Encouragement to Accept Job

Two questions were asked of the respondents in order to study the influence of male and female associates on the women supervisors' decisions to accept their non-traditional jobs. Table 3-5 shows a comparison of the responses to the questions on "encouragement from a male" and "encouragement from a female". Both questions were answered on a seven point scale ranging from "very little extent" (coded 1) to a "very great extent" (coded 7).

For purposes of this table the responses have been grouped as follows: For each question, responses coded 1 and 2 have been combined; as were responses 3, 4, and 5; and 6 and 7, respectively.

The women supervisors appear to be equally divided in perceiving "encouragement from a male"; with 36 percent indicating encouragement to a "very little extent", 31 percent to a "moderate extent", and 33 percent indicating that it influenced them to a "great extent". However, when analyzing "encouragement from a female", the trend is different. Fifty-three percent of the women supervisors indicated that "encouragement from a female" as a factor, had little influence in accepting their jobs, while only 16 percent said it had influenced them to a "great extent".

TABLE 3-5

MALE VS FEMALE INFLUENCE IN ACCEPTING THE JOB

Encouragement Variable	Very Little Extent (1&2)	Moderate Extent (3,4,&5)	Very Great Extent (6&7)	Mean*
507 From a male	35.6	31.1	32.8	3.90
508 From a female	53.4	28.6	16.0	2.86

*7 point scale

In Chapter I, we had hypothesized that there is no difference between male and female influence as a motivating factor for accepting jobs as first line supervisors. In order to compare and test the significance of the responses between male versus female encouragement, a paired t-test was conducted, the results of which are shown in Table 3-6

TABLE 3-6

COMPARISON OF MALE VS FEMALE ENCOURAGEMENT TO ACCEPT JOB

Encouragement Variable	Mean	Std Dev	T-Value	2-Tail Prob.
507 From a male	3.8904	2.320	7.39	<0.0005*
508 From a female	2.8567	2.057		
n = 356 cases	df = 355		*significant	

This table reflects the rejection of the null hypothesis. It appears, therefore, that the respondents perceive "encouragement from males" as having a greater influence in their decision to accept their present jobs.

JOB SATISFACTION

Over the years a great deal of research has been conducted in the area of job satisfaction and its resultant influence on productivity. Our objective in this area was to explore some aspects of the male oriented first line supervisory jobs liked or disliked by the target women supervisors. The respondents were asked twenty-two questions related to intrinsic and extrinsic aspects of their jobs as well as one question on overall job satisfaction. These questions are listed in Section III of the questionnaire in Appendix A, and are shown in coded form, as variables 301 through 323, in Appendix B. The respondents indicated their satisfaction with the various aspects of their jobs by rating each question on a seven point Likert scale, with alternatives ranging from "dislike very much" (coded 1) to "like very much" (coded 7). The percentage distribution of responses for each question is shown in Appendix C. Table 3-7 shows some selected aspects of the job for which the respondents indicated a high degree of satisfaction (values 6 and 7 on the scale). The table also displays the corresponding mean for each variable.

TABLE 3-7

ASPECTS OF JOB LIKED VERY MUCH

Variable	% Response Scale Value 6&7	Mean*
314 Working with people	91	6.594
304 Challenge	85	6.458
319 Opportunity to lead others	82	6.289
308 Responsibility	83	6.268
318 Making decisions on your job	81	6.212
302 Job variety	70	5.886
310 Freedom to run job	69	5.769
306 Pay	60	5.197
323 Overall liking for job	75	6.041
*7 point scale		

In this sample, more respondents showed a high degree of liking for "working with people" than any other aspect of the job surveyed. The next highest choices were preferences for "challenge" and "responsibility". Responses reflecting a high degree of dislike did not occur in the majority for any aspect of the job. However, a high percentage of respondents indicated that they neither liked nor disliked (values 3, 4, and 5 on the scale) some aspects of their job as shown in Table 3-8. For

these same aspects of the job, the table also shows the percentage of respondents who expressed a high degree of dissatisfaction with them.

TABLE 3-8

SELECTED ASPECTS OF JOB NEITHER LIKED NOR DISLIKED

Variable	% Response Scale Values 1 & 2	% Response Scale Values 3,4,&5	Mean*
321 Chance to tell people what to do	3	72	4.659
307 Hours of work	18	49	4.547
313 Male dominated environment	12	71	4.073
301 Job pressure	18	63	3.952
320 Overtime	25	50	3.931
*7 point scale			

Our major interest in this section was to analyze our hypothesis that the intrinsic and extrinsic factors related to job satisfaction for the female supervisor are equally important. To arrive at intrinsic and extrinsic factors, the twenty-two variables in this section, variables 301 through 322, were subjected to a factor analysis. The principal factor matrix generated six factors with eigenvalues greater than 1.000. The

proportion of total variance accounted for by these six factors is 57 percent.

The initial principal factors were orthogonally rotated (quartimax) and forced to two, three, and four factor terminal solutions. Appendix E shows the four factor quartimax rotated factor matrix that was used in arriving at the intrinsic and extrinsic factors related to job satisfaction. The variables with the highest loadings in Factor #1 of the resulting matrix are variables 301, 302, 304, 308, 310, 311, 312, 314, 318, and 319 (see Table 3-9 for description of variables). With the exception of "mechanical aspects of job" (variable 311), the remaining items can all be considered as intrinsic job satisfiers. Factor #2 focuses on variables 305, 307, 309, 313, 315, 320, and 322 (variables are described in Table 3-9). All of these variables are external to the job itself and can be considered as extrinsic satisfiers. Factor #3 shows only two variables, "boss's handling of employees" (variable 316) and "supervisor's competence in decision making" (variable 317) with high loadings; while Factor #4 has three variables, "paperwork" (variable 303), "pay" (variable 306), and "tell people what to do" (variable 321) that have high loadings. All five of these variables have commonality with those cited in Factor #2; therefore, they were considered as extrinsic job satisfiers also.

Based on the results of this factor analysis, the intrinsic factor was derived by combining the respondent's scores of the highest loading variables from Factor #1, except variable 311 which was considered extrinsic. The extrinsic factor was obtained by combining the respondents' scores of the highest variables from Factors #2, #3, and #4, as described above. These derived intrinsic and extrinsic factors are shown in Table 3-9

TABLE 3-9
INTRINSIC AND EXTRINSIC MOTIVATION VARIABLES
JOB SATISFACTION

Derived Variable (DV4) Intrinsic Factor		Derived Variable (DV5) Extrinsic Factor	
Variables		Variables	
301	Job pressure	303	Paperwork
302	Job variety	305	Routines
304	Challenge	306	Pay
308	Responsibility	307	Hours of work
310	Freedom to run job	309	Physical work conditions
312	Skill & training	311	Mechanical aspects
314	Working with people	313	Male environment
318	Making decisions	315	Opportunity to advance
319	Opportunity to lead	316	Way boss handles employees
		317	Supervisor's competence
		320	Overtime
		321	Tell others what to do
		322	Way peers work with you

TABLE 3-10

CONVERGENCE-DIVERGENCE CORRELATION MATRIX FOR JOB SATISFACTION

	DV4 Intrinsic												DV5 Extrinsic											
	301	302	304	308	310	312	314	318	319	303	305	306	307	309	311	313	315	316	317	320	321	322		
301	1.000	0.249	0.223	0.224	0.253	0.210	0.138	0.318	0.235	0.119	0.204	0.005	0.297	0.270	0.248	0.162	0.176	0.337	0.259	0.294	0.105	0.284		
302	0.249	1.000	0.336	0.312	0.274	0.262	0.179	0.294	0.242	0.097	0.050	0.032	0.180	0.184	0.249	0.155	0.268	0.205	0.111	0.101	0.087	0.188		
304	0.223	0.336	1.000	0.366	0.151	0.357	0.315	0.200	0.351	0.160	0.125	0.011	0.188	0.187	0.266	0.011	0.280	0.119	0.112	0.229	0.159	0.126		
308	0.224	0.312	0.366	1.000	0.380	0.385	0.356	0.426	0.455	0.180	0.210	0.073	0.249	0.327	0.292	0.096	0.204	0.141	0.125	0.178	0.179	0.226		
310	0.253	0.274	0.151	0.380	1.000	0.421	0.132	0.412	0.277	0.183	0.198	0.075	0.144	0.297	0.413	0.210	0.331	0.356	0.307	0.134	0.053	0.220		
312	0.210	0.262	0.357	0.385	0.421	1.000	0.251	0.345	0.329	0.136	0.248	0.081	0.277	0.292	0.465	0.224	0.259	0.230	0.178	0.189	0.132	0.191		
314	0.138	0.179	0.316	0.356	0.132	0.251	1.000	0.318	0.504	0.108	0.113	0.091	0.152	0.273	0.151	0.028	0.215	0.098	0.146	0.236	0.197	0.181		
318	0.318	0.294	0.200	0.426	0.412	0.345	0.318	1.000	0.573	0.245	0.076	0.019	0.166	0.256	0.381	0.050	0.194	0.276	0.232	0.139	0.165	0.246		
319	0.235	0.242	0.351	0.455	0.277	0.329	0.504	0.573	1.000	0.249	0.079	0.084	0.217	0.280	0.315	0.088	0.196	0.153	0.172	0.202	0.282	0.165		
303	0.119	0.097	0.160	0.180	0.183	0.136	0.108	0.245	0.249	1.000	0.184	0.045	0.156	0.216	0.134	0.169	0.174	0.241	0.222	0.221	0.258	0.046		
305	0.204	0.050	0.125	0.210	0.198	0.248	0.113	0.076	0.079	0.184	1.000	0.156	0.336	0.379	0.158	0.243	0.160	0.241	0.261	0.263	0.218	0.211		
306	0.005	0.032	0.011	0.073	0.075	0.081	0.091	0.019	0.084	0.045	0.156	1.000	0.142	0.115	0.101	0.080	0.357	0.179	0.261	0.053	0.063	0.135		
307	0.297	0.180	0.188	0.249	0.144	0.277	0.152	0.166	0.217	0.156	0.336	0.142	1.000	0.313	0.165	0.196	0.222	0.310	0.227	0.363	0.091	0.284		
309	0.270	0.184	0.187	0.327	0.297	0.292	0.273	0.256	0.280	0.215	0.379	0.115	0.313	1.000	0.217	0.209	0.265	0.264	0.253	0.327	0.298	0.322		
311	0.248	0.249	0.266	0.292	0.413	0.465	0.151	0.381	0.315	0.131	0.158	0.101	0.165	0.217	1.000	0.131	0.237	0.204	0.193	0.197	0.151	0.083		
313	0.162	0.155	0.011	0.096	0.210	0.224	0.028	0.050	0.088	0.109	0.243	0.080	0.196	0.209	0.131	1.000	0.187	0.209	0.204	0.237	0.141	0.276		
315	0.176	0.268	0.280	0.204	0.331	0.259	0.215	0.194	0.196	0.174	0.160	0.357	0.222	0.265	0.237	0.187	1.000	0.325	0.306	0.211	0.105	0.314		
316	0.337	0.205	0.119	0.141	0.356	0.230	0.098	0.276	0.153	0.241	0.241	0.279	0.310	0.264	0.204	0.209	0.325	1.000	0.780	0.205	0.086	0.275		
317	0.259	0.111	0.112	0.125	0.307	0.178	0.146	0.232	0.172	0.222	0.261	0.261	0.227	0.253	0.193	0.204	0.306	0.780	1.000	0.204	0.129	0.261		
320	0.294	0.101	0.229	0.178	0.134	0.189	0.236	0.139	0.202	0.221	0.263	0.053	0.363	0.327	0.197	0.237	0.211	0.205	0.204	1.000	0.233	0.188		
321	0.105	0.087	0.159	0.179	0.053	0.132	0.197	0.165	0.282	0.258	0.218	-0.063	0.091	0.298	0.151	0.141	0.105	0.086	0.129	0.233	1.000	0.133		
322	0.284	0.188	0.126	0.226	0.220	0.191	0.181	0.246	0.165	0.046	0.211	0.135	0.284	0.322	0.083	0.276	0.314	0.275	0.261	0.188	0.137	1.000		

Chronbach's Alpha: DV4 - 0.797*, DV5 - 0.778* *significant (0.0005)

To assess the reliability of the intrinsic and extrinsic factors, a correlation matrix was developed to verify the internal consistency of the variables, as shown in Table 3-10. The median correlation between the intrinsic variables is high ($r = 0.318$; $df = 326$; $p < 0.005$) and validates convergence. The median correlation of extrinsic to intrinsic variables is lower ($r = 0.184$; $df = 349$; $p < 0.005$) and validates divergence of these variables. Chronbach's Alpha reliability values for these two variables are 0.7966 and 0.7780, and both are significant ($p < 0.005$).

To test our previously stated hypothesis, the means of the derived variables "intrinsic motivation factors" (DV4) and "extrinsic motivation factors" (DV5) were compared using a paired t-test. The results of this comparison are shown in Table 3-11.

TABLE 3-11

COMPARISON OF INTRINSIC VS EXTRINSIC
JOB SATISFACTION

Derived Variable	Mean	Std Dev	T-Value	2-Tail Prob.
DV4 Intrinsic	5.8273	0.757	29.4	$< 0.0005^*$
DV5 Extrinsic n = 363 cases	4.6560 df = 362	0.874 *significant		

These results indicate that there is a statistically significant difference between the means of the intrinsic and extrinsic factors, thereby rejecting the null hypothesis. We can therefore infer that the intrinsic factors (job pressures, challenge, responsibility, etc) related to job satisfaction are more important for the female supervisor than the extrinsic factors (paperwork, routines, pay, physical working conditions, etc.).

As a final look at the data in this area we were interested in determining the relationship between various aspects of the job and the respondents overall satisfaction with it. To determine the strengths of these associations, Pearson's correlation coefficients were obtained for each variable and overall job satisfaction. These are shown in Table 3-12. It should be noted that there is a moderately high degree of association between some of the intrinsic aspects of the job and overall job satisfaction. "Challenge" (variable 304), "responsibility" (variable 308), "physical working conditions" (variable 309), "use of skill" (variable 312), "working with people" (variable 314), and "opportunity to lead others" (variable 319) all have an "r" value above 0.4 at a significance level less than 0.001. Of these, variable 309, "physical working conditions", is the only extrinsic factor showing a high relationship with overall

TABLE 3-12

CORRELATION COEFFICIENTS FOR OVERALL
JOB SATISFACTION

Variable	Coefficient	# Cases	Significance
301 Job pressure	0.3817	356	0.001
302 Job variety	0.3091	359	0.001
303 Paperwork	0.1236	360	0.010
304 Challenge	0.4054	359	0.001
305 Routines	0.2667	352	0.001
306 Pay	0.0660	359	0.106
307 Hours	0.3281	359	0.001
308 Responsibility	0.4614	361	0.001
309 Physical work cond.	0.4727	360	0.001
310 Freedom to run job	0.3390	359	0.001
311 Mech/tech aspects	0.3062	361	0.001
312 Skill & training	0.4494	358	0.001
313 Male environment	0.2491	357	0.001
314 Working with people	0.4311	361	0.001
315 Opportunity to adv.	0.3130	361	0.001
316 Way boss handles emp.	0.2765	362	0.001
317 Competence of supv.	0.2904	361	0.001
318 Making decisions	0.3342	362	0.001
319 Opportunity to lead	0.4834	359	0.001
320 Overtime	0.3385	361	0.001
321 Tell what to do	0.2685	360	0.001
322 Peers work with you	0.3008	359	0.001

job satisfaction; the others are all intrinsic satisfiers.

In summary, this data suggests that in the area of job satisfaction, the female first line supervisors consider the intrinsic job factors as having greater importance than the extrinsic factors. Secondly, the intrinsic job factors namely "challenge", "responsibility", "use of skill and training", "working with people", and "opportunity to lead others"; and the extrinsic factor "physical working conditions" are all seen as having a greater influence on overall job satisfaction than any of the other factors surveyed.

PERCEIVED ATTITUDES OF ASSOCIATES AT WORK

The primary focus of our research in this area was to determine how the respondents perceived the attitude of other employees towards themselves. This was accomplished by evaluating the responses to six specific questions that dealt with attitudes of both male and female employees. Three of these questions related to the attitudes of male working associates - supervisors, peers, and subordinates; while the other three questions dealt with the attitudes of females in similar capacity. The respondents rated each question on a six point scale ranging from "definitely accepting" (numeric value 1) to "very strong resentment shown" (numeric value 6).

Table 3-13 shows the frequency responses for all six questions in each category surveyed. This table does not include the very small percentage (ranging from 1 to 5 percent) of respondents who chose not to answer some of these questions. Also, the percentage responses shown under variable 222 are based on the answers of a total of ninety-eight respondents. This is because 253 of the women respondents indicated that they had never worked for another female supervisor. This is not unusual, in our experience, because the number of women working in second level supervisory positions as general supervisors is limited.

These response frequencies indicate that a very small proportion of the respondents perceive either "fairly strong" or "very strong" male or female resentment towards themselves. This is consistent with the responses to variable 532, in another part of the questionnaire, which deals with difficulties on the job caused by "harrassment from peers"; where only 10 percent see it occurring to a "very great extent".

Referring again to Table 3-13, the figures show clearly that a higher percentage of respondents perceive females as accepting compared to their male counterparts. Of the questions relating to the male working associates, more women feel accepted, in their non-traditional roles,

by their supervisors (43 percent) than by their peers (36 percent), or subordinates (36 percent). More than twice the number of women respondents perceive their male peers and subordinates as still having "some resentment not strong" compared to the attitudes of their male supervisors. However, 20 percent of the women indicated that their acceptance by their male supervisors was largely due to Equal Employment Opportunity commitments.

TABLE 3-13

ATTITUDES TOWARDS WOMEN SUPERVISORS

Category	Male Supv.	Male Peers	Male Subord.	Female Supv.	Female Peer	Female Subord.
Definitely accept	43	36	36	69	61	54
Accept - EEO	20	8	7	3	2	2
Some resent. - not strong	15	31	31	20	23	27
Initial resent. - now dissipated	14	17	23	2	5	11
Fairly strong resentment	4	4	2	3	4	3
Very strong resentment	2	2	-	2	-	-

"Initial resentment" of women in first line supervisory positions is perceived to a greater extent in male working associates than in female working associates. Sixty-nine percent of the women respondents view their female supervisors as "definitely accepting". This high percentage may be biased due to the sample of only ninety-eight women who responded to variable 222, as indicated earlier.

Initially, we had hypothesized that there is no difference between the attitudes of supervisors, peers, and subordinates toward female supervisors. In order to test this hypothesis, new derived variables were generated by grouping specific variables in this section. A new derived variable, "all supervisors" (DV8), was created to represent the attitudes of both male and female supervisors by combining the scores of the respondents for "attitude of male supervisors" (variable 219), "attitude of female supervisors" (variable 222), and "supervisor shows animosity" (variable 533). Similarly, "all peers" (DV9) was derived by combining the scores of the respondents for "attitude of male peers" (variable 220), "attitude of female peers" (variable 223), and "harrassment from peers" (variable 532); while "all subordinates" (DV10) consists of "attitude of male subordinates" and "attitude of female subordinates" (variables 221 and 224).

Table 3-14 shows the paired t-test results of the mean comparisons of "all supervisors" (DV8), "peers" (DV9), and "subordinates" (DV10).

TABLE 3-14

COMPARISONS OF THE ATTITUDES OF SUPERVISORS,
PEERS, AND SUBORDINATES

Variable	Mean	Std Dev	T-Value	2-Tail Prob.
DV8 All supervisors	1.898	0.967		
			-0.64	n.s.
DV9 All peers	1.954	0.893		
n = 96 cases	df = 95			

DV8 All supervisors	1.898	0.967		
			-0.78	n.s.
DV10 All subordinates	2.000	1.023		
n = 96 cases	df = 95			

DV9 All peers	2.518	1.151		
			4.99	< 0.0005*
DV10 All subordinates	2.192	1.032		
n = 363 cases	df = 362	*significant		

NOTE: Lower mean represents higher acceptance due to reverse scoring of questions.

These results indicate that there is only one pair of variables which shows statistically significant differences in their means. Subordinates are perceived as more accepting with a mean of 2.192 compared to a mean of 2.518 for peers. The lower mean represents a greater degree of acceptance because of the manner in which the six point response scale was constructed; where "definitely accepting" was coded with numeric value 1 and "very strong resentment shown" was coded as 7. There are no statistically significant differences perceived between the attitudes of supervisors and peers; as well as between supervisors and subordinates. These interpretations of the significance levels should be approached with caution due to the multiple t-test comparisons performed. However, the high significance level (≤ 0.0005) obtained when comparing the attitudes of "all peers" (DV9) versus "all subordinates" (DV10) provides us the necessary confidence to make the inference that subordinates attitudes are perceived as more accepting.

To obtain another view of this data, paired t-test comparisons were conducted on attitudes of: (1) male versus female supervisors, (2) male versus female peers, and (3) male versus female subordinates. The results of these tests are shown in Table 3-15. In all three cases the differences in the means are

TABLE 3-15

COMPARISONS OF ATTITUDES OF ASSOCIATES AT WORK

Variable	Mean	Std Dev	T-Value	2-Tail Prob.
219 Attitude of male supervisor	2.115	1.406	2.04	0.044*
222 Attitude of female supervisor	1.740	1.242		
n = 96 cases	df = 95	*significant		

220 Attitude of male peers	2.528	1.363	7.65	<0.0005*
223 Attitude of female peers	1.822	1.204		
n = 337 cases	df = 336	*significant		

221 Attitude of male subordinates	2.461	1.259	5.54	<0.0005*
224 Attitude of female subordinates	2.026	1.241		
n = 347 cases	df = 346	*significant		

significant. In each case the means are lowest for the female categories, indicating that respondents, on average, perceive female supervisors, female peers, and female subordinates as accepting compared to their counterparts. Once again these interpretations of the significance levels should be approached with caution due to the multiple t-test comparisons. The high significance levels, however, in each case provide validity to these results.

To complete the investigation in this area we decided to compare the attitudes of the respondents' working associates by using sex as the primary determinant for evaluation. This was accomplished by comparing the responses of all males versus all females. Derived variable 11 was obtained by combining the responses of male supervisors, subordinates, and peers (variables 219, 220, and 221); and derived variable 12 was obtained by combining the responses of female supervisors, subordinates, and peers (variables 222, 223, and 224). The t-test results are shown in Table 3-16.

We can infer, therefore, that the female first line supervisors see their women associates as more accepting than males. To summarize this investigation of attitudes, the results of these three areas of comparison are shown in Table 3-17.

TABLE 3-16
COMPARISON OF ATTITUDES OF MALES VS FEMALES

Variable	Mean	Std Dev	T-Value	2-Tail Prob.
DV11 All male associates	2.115	0.954	2.96	0.004*
DV12 All female associates	1.774	0.885		
n = 96 cases	df = 95	*significant		

TABLE 3-17
SUMMARY OF ATTITUDES OF ASSOCIATES AT WORK

Attitude Comparisons Of:	Differences Perceived By Female Supv.	Associates Seen As More Accept.
<u>Analysis #1:</u>		
Supervisors vs peers	None	
Supervisors vs subordinates	None	
Peers vs subordinates	Yes	Subordinates
<u>Analysis #2:</u>		
Male vs female supervisors	Yes	Females
Male vs female peers	Yes	Females
Male vs female subordinates	Yes	Females
<u>Analysis #3:</u>		
All males vs all females	Yes	Females

Some of the responses to the open ended questions in Section VI of the questionnaire are applicable to this section, and are included here to capture the perceptions of some of the women supervisors. Additional comments are located in Appendix G. The following selected responses provide both positive and negative opinions about their associates at work, and are intended to give a glimpse of the depth of feelings expressed by some respondents. The first two comments are in response to the question "What does your management (supervisor, etc.) do that is most helpful to you in performing the job properly?"

My supervisor has a good attitude and provides good communication.

Management provides a very supportive and inclusive environment.

The following two quotes were selected from responses to the question "What does your management (supervisor, etc.) do that most hinders your performance?"

(Management) Attitude towards women is poor - filtering down throughout system.

Lack of cooperation from peers and racial and sexual bias of peers and supervisors who simply tolerate us.

The last comment was provided as additional comments to the questionnaire by one of the anonymous respondents.

The females in my work group encounter more prejudice from male peers than from subordinates contrary to a popular conception, the majority of the hourly workers seem more willing to accept the female as a supervisor than other supervisors and higher management.

DIFFICULTIES ON THE JOB

As an approach to this vital area of concern, the authors included a number of questions in Section V of the questionnaire. The first group of these includes eight questions (variables 523 through 531) in which the respondents were asked to what extent they felt handicapped in certain aspects of their job. In the second cluster of six questions (variables 532 through 538), respondents were asked to what extent they have experienced difficulties in the job that most men probably do not experience. The last group of four questions which may provide insight into perceived job difficulties of our sample group are variables 547 through 551. These questions asked the respondents to what extent their assigned tasks and responsibilities differed from male supervisors at their work location.

Responses to all three groupings were requested on a seven point Likert scale with alternatives ranging from a "very little extent" to a "very great extent". Table 3-18 lists the variables considered in the job difficulties area.

The difficulty receiving the highest mean score is "mechanical or technical aspects of the job" (variable 523). This is followed by "lack of technical background"

TABLE 3-18

JOB DIFFICULTY VARIABLES

Variable	% Response Scale Values 6 & 7	Mean*
523 Mechanical or technical	24	4.030
535 Lack of technical background	16	3.365
536 Discouraging sexual advances	16	3.164
538 Discrimination against women	13	2.844
531 Lack of management support	10	2.748
532 Harrassment from peers	10	2.697
527 Visibility as a female	8	2.543
533 Supervisor shows animosity	10	2.483
547 Men have more responsibility	10	2.449
529 Lack of training	6	2.350
550 Women perform different tasks	8	2.314
548 Women not included	10	2.255
537 Harrassment from union	5	2.253
528 Lack of education	4	2.201
524 Physical demands of job	5	2.153
530 Lack of aggressiveness	4	2.142
534 Subordinates show less respect	5	2.109
549 Women excluded from assignments	4	2.072
551 Women given more responsibility	8	2.050
526 Lack of respect from others	3	1.964
525 Working with people	3	1.649
*7 point scale		

(variable 535). Twenty-four percent and 16 percent, respectively, of our sample also answered numerically 6 or 7 on the scale indicating they perceived these difficulties "to a very great extent". From a crosstabulation of these two variables found in Appendix D, we find that of those women who reported feeling handicapped in mechanical or technical aspects "to a very great extent", 61 percent felt that "lack of technical background" was also a difficulty or possible contributor "to a very great extent". Conversely, of the women who felt handicapped by lack of technical background "to a very great extent", 37 percent felt "mechanical or technical aspects of the job" to be a current problem. This non-linear relationship was identified by examining only the numeric 7 category on the scale.

The lowest mean score went to the question concerning "working with people"; and reflected, on average, our sample group saw this aspect of their job as their least difficulty. "Lack of respect from others" followed closely with a mean score also suggesting that this category was a difficulty only "to a very little extent". Comparison of percentage of respondents answering numerically 1 or 2 on the scale parallels these mean scores. Eighty-three percent of the women reported "working with people" to be a difficulty only "to a

very little extent". This group represented the largest number of responses to any difficulty category. It is worthy of mention that several other difficulty variables received responses suggesting they, in fact, were not problems for our sample. Several of these are particularly interesting inasmuch as the responses directly contradict myths and stereotypes described in Chapter I. For example, 69 percent stated "lack of aggressiveness" to exist as a handicap only "to a very little extent"; while only 4 percent felt this was a major problem for them. Likewise, only 4 percent felt "physical demands of the job" were a difficulty "to a very great extent" (numeric 6 or 7 on the scale); while 69 percent stated this to exist only "to a very little extent".

No hypothesis had been formulated in this area; however, as a means of providing additional insight into the difficulty variable, a factor analysis was performed. This generated six factors with eigenvalues greater than 1.000. These account for 64 percent of the common variance. The initial principal factors were orthogonally rotated and forced to two, three, four, and five factors in an attempt to observe correlation and commonality of sub-groups. The quartimax rotated factor matrix to four factors was easily interpretable and may be found in Appendix E. Analysis of this matrix discloses that

variables 524 through 530 show high loading in Factor #1. For simplicity the authors entitled this group as difficulties with job aspects. This group consists of "physical demands", "working with people", "lack of education or training", and "lack of aggressiveness". Factor #2 groups the variables that might be referred to as discrimination difficulties (532 through 534 and 536 through 538). These include "harrassment", "animosity", and "discrimination against women". Factor #3 deals with differences in work assignments or work patterns, (547 through 551), which we shall call task difficulties; and Factor #4 (523 and 535) highlights variables which are also job connected but from a technical standpoint, and therefore, different from those in Factor #1.

In an attempt to further view commonality of those difficulty variables which could be considered interpersonal in nature, the task and technical variables (547 through 551, 523, 535), were removed and factor analysis again performed on those remaining. The principal factor matrix generated three factors with eigenvalues greater than 1.000 which account for 56 percent of the variance. Through quartimax rotation, remaining variables (524 through 535 and 536 through 538) were forced to two then three factors. The rotated factor matrix to three factors may be found in Appendix E.

Analysis of this matrix suggests that the same interpersonal variables continue to show high loading although now located in Factor #2. Interestingly, the remaining job aspect difficulties have separated into Factors #1 and #3 with Factor #3 including "lack of education" and "lack of training". These may be identified as qualification difficulties. It should be also noted that "lack of respect from others" in Factor #2 is perceived differently than "subordinates show less respect" in Factor #1. It is almost as if Factor #1 difficulties are directly interpersonal oriented while Factor #2 is more general in nature.

Average mean scores for the types of difficulties derived through factor analysis may be seen in Table 3-19. The subgroups depicted include task and technical from our first analysis, as well as those derived from the subsequent rotation of variables. The table suggests that our sample perceives, on average, technical aspects of the job to be their greatest difficulty. Following closely is the interpersonal group; while qualifications and task or work pattern difficulties or differences are regarded as of lesser importance. General job aspects including "physical demands" and "working with people" were considered the least significant of all the difficulty subgroups.

TABLE 3-19

AVERAGE MEAN - TYPES OF DIFFICULTY SUBGROUPS

Type	Mean*
<u>Technical</u>	3.832
Handicapped by mech/tech aspects	
Lack of technical background	
<u>Interpersonal</u>	2.592
Lack of management support	
Harrassment from peers	
Supervisor animosity	
Subordinates show less respect	
Discouraging sexual advances	
Harrassment from union	
Discriminations against women	
<u>Qualifications</u>	2.275
Lack of education	
Lack of training	
<u>Task</u>	2.228
Men have more responsibility	
Women not included in meetings	
Women perform tasks men don't	
Women given more responsibility	
<u>General Job Aspects</u>	2.090
Physical demands	
Working with people	
Lack of respect from others	
Visibility as female	
Lack of aggressiveness	

*7 point scale

The anonymous responses to questions listed below may aid in understanding our findings:

"What aspects of your job do you perform least well?"

Lack of mechanical and technical aspects due to lack of experience.

Inability to explain in technical terms the problems with machines. This is due to lack of technical background.

The labor relations aspect - If I know the rules better, and labor relations points of view, I could be more effective.

"What does management do that most hinders your performance?"

When my supervisor harrasses myself and/or my subordinates. My boss creates labor problems within a department then walks out and expects me to handle it.

Sometimes I feel my boss does not understand how hard it is to be a wife, mother, and supervisor all in one day.

Constantly have to stand up for what I want done. Until you prove to males that you are here to stay and will not be pushed aside, as a woman you will constantly have problems getting results.

I am forced to maintain the overtime hours if I want to keep the job. My family and personal life have suffered because of this situation and job performance has suffered as well.

These responses reflect but a few of the difficulty areas mentioned by our sample. Selected additional comments may be found in Appendix G.

MANAGERIAL STYLE

To identify the managerial style of our sample, the following variables shown in Table 3-20 were included in our research. These were derived from managerial style categories in a study by H. H. Meyer (1976). All of these were answered on a seven point scale with alternatives ranging from effective "to a very little extent" to effective "to a very great extent".

TABLE 3-20

MANAGEMENT STYLE VARIABLES

Variable	% Response Scale Values 6 & 7	Mean*
510 Act naturally	74	6.093
512 Maintain air of confidence	72	5.987
514 Become technically competent	69	5.900
513 Use participative approach	59	5.620
515 Work hard/do more than own share	59	5.475
511 Avoid authoritative approach	37	4.707
516 More helpful of subordinates	36	4.532
*7 point scale		

Examination of mean scores reveals that "acting naturally", on average was thought of as being the most effective approach or behavior in performing the job properly. Following closely is "maintain an air of confidence", and "become technically competent". The latter might suggest that although technical competence is thought of as a difficulty, as shown in the preceding section, our sample recognizes its effectiveness in performing their job. The approach receiving the lowest mean score is "be more helpful of subordinates than males" (variable 516).

The modal response for all variables except "avoid authoritative approach" and "be more helpful of subordinates" was 6 and 7 on the scale indicating perceived effectiveness to a "very great extent". The most significant of these are responses to "act naturally" (variable 510) and "maintain air of confidence" (variable 512) with 74 percent and 72 percent respectively answering on that end of the scale. The modal response to the other two variables, "avoid authoritative approach" and "be more helpful of subordinates" (variable 511 and 516) was 3, 4, or 5 on the numeric scale suggesting effectiveness to a "moderate extent". Interestingly, while 37 percent of the respondents stated that "avoidance of an authoritative approach" was very effective for them, a

larger number (48 percent) stated this was effective only "to a moderate extent" possibly indicating no hesitancy to utilize authoritarian style if the situation so required.

To further evaluate the managerial style of our respondents, we had hoped to test our hypothesis from Chapter I which stated that female supervisors exhibit more of a participative oriented style of management than an autocratic oriented style. As a base for the selection of participative and autocratic variables, we performed a factor analysis on variables 510 through 516. The principal factor matrix generated two factors with eigenvalues greater than 1.000. These two factors account for 53 percent of the common variance. The principal factors were then orthogonally rotated (quartimax) and forced to two and then to three factors. The three factor matrix is most easily interpreted and is located in Appendix E. The matrix suggests that "act naturally" (variable 510), "avoid authoritative approach" (variable 511), "maintain an air of confidence" (variable 512), and "use the participative approach" (variable 513) are closely correlated in Factor #1; "technical competence" (variable 514) and "work hard" (variable 515) similarly so in Factor #2; and "consideration" (variable 516) is alone in Factor #3.

The absence of a factor which could be referred to as authoritative prompted us to abandon our original hypothesis. Instead, we attempted to name the commonalities which the factor analysis had generated and test them for significant differences just as we would have tested participative versus authoritative.

In applying these commonalities to a managerial style, it may be helpful to recall that our review of the literature in Chapter I has indicated that people associate task oriented style with specific traits or behaviors. These may include "works very hard" and "become technically competent". On the other hand, participative oriented style with its own stereotypical associations may include "avoid an authoritative approach" and "use the participative approach".

Applying the aforementioned rationale, Factor #1 can be identified as task style, comprised of "become technically competent" and "work hard". No other variables have high loading in this factor. Factor #2 includes "act naturally", "avoid authoritative approach", "maintain confidence" and "use participative approach" (variables 510 through 513). We shall refer to this factor as participative although it is slightly androgynous as defined in Chapter I. The third factor points out one variable with high loading. That one, "be more helpful

of subordinates" (variable 516) is an additional style which we call "consideration".

To test our styles, therefore, "act naturally", "avoid authoritative approach", "maintain air of confidence", and "use participative approach" (variables 510 through 513) were combined into a derived participative variable (DV1); and "technical competence: and "work hard" (variables 514 and 515) into a derived task variable (DV2). The results of the paired t-test comparing the means of each versus the other, and versus "consideration" (variable 516), are shown in Table 3-21.

As can be seen in Table 3-21, there is a statistically significant difference between the participative variables and the consideration variable as well as between the participative and task variables. Although the task oriented style is not significantly different from the participative style, it is considered most effective of the three. The consideration style (variable 516) is statistically significantly different and deemed less effective than either the task style (variable DV2) or the participative style (DV1). The fact that both participative and task variables have a higher mean score than consideration, while not significantly different from each other, would suggest perceived effectiveness of either participative or task styles to

be greater than consideration oriented style. These interpretations of the significance levels should be approached with caution due to the multiple t-test comparisons performed. The high significance levels obtained, however, provide us the necessary confidence to make these inferences.

TABLE 3-21

COMPARISON OF MANAGEMENT STYLE

Variable	Mean	Std Dev	T-Value	2-Tail Prob.
DV1 Participative	5.525	1.072	-1.81	n.s.
DV2 Task n = 363 cases	5.648 df = 362	1.228		

DV1 Participative	5.546	1.034	9.69	< 0.0005*
516 Consideration n = 359 cases	4.532 df = 358	1.829		*significant

DV2 Task	5.672	1.185	11.46	< 0.0005*
516 Consideration n = 359 cases	4.532 df = 358	1.829		*significant

The somewhat androgynous nature of our respondents can be further supported by examination of selected crosstabulation tables in Appendix D. From the table crossing "avoid authoritative approach" with "technical competence", we see that of the respondents who feel "avoid an authoritative approach" is effective "to a very great extent" (numeric 7 on the scale), 58 percent feel "becoming technically competent" to also be effective "to a very great extent". Likewise, from the table crossing "use the participative approach" with "maintain an air of confidence", we can see that of the respondents who feel "use of the participative approach" to be effective "to a very great extent", 70 percent indicate that "maintain an air of confidence" is effective "to a very great extent". A similar trend is found when looking at "use the participative approach" crosstabulated with "become technically competent". In each of these tables, it may be recognizable that both task and participative styles are deemed effective "to a great extent" by a significant percentage of our sample.

MANAGEMENT SUPPORT

Several variables were considered pertinent to management's efforts to support our sample group. Table 3-22 specifies those considered from a general perspective.

TABLE 3-22

MANAGEMENT SUPPORT VARIABLES

Variable	% Response Scale Value 3,4,5	Mean*
404 Service department support	77	4.304
407 Supervisor support	80	3.925
410 Overall help given	86	3.848
401 Peer support	76	3.811
402 Communication flow received	73	3.519
531 Lack of management support	36	2.748
226 Support for disciplinary actions	**	**
*7 point scale		
**Not shown due to 6 point scale		

Within this grouping, all questions except "support for disciplinary actions" were answered on a seven point Likert scale with alternatives ranging from "definitely less than males" to "definitely more than males". "Disciplinary support" (variable 226) was answered on a six point scale with alternatives ranging from "definitely less than males" to "definitely more than males", and included a "don't know" category with a numeric value of 1. "Handicapped due to lack of management support" (variable 531) was answered on a seven point scale although alternatives ranged from "handicapped to a very little extent" to

"handicapped to a very great extent".

From the overall standpoint, it can be seen that "support from service departments" received the highest mean score. It is also significant that 76 percent of the respondents felt "support from peers" was about the same as that received by males in similar jobs with similar experience. These women answered numerically 3, 4, or 5 on the seven point scale while the next largest group of respondents to that question, 13 percent, answered 1 or 2 on the scale indicating they perceived less support from peers than that received by males.

Likewise, using the same subdivisions of the seven point scale, 80 percent of our sample indicated "support from their supervisor" as being about the same as that received by males. Again, the group perceiving less support (11 percent of the sample) was larger than those feeling they received more support than males. An almost identical response is recorded when we further examine supervisor support in variable 226 which concerns "support for disciplinary actions". Of the 94 percent who answered other than "don't know", 78 percent of these felt disciplinary actions initiated by them received about the same support from their supervisor as that received by males.

"Support received from service departments"

presents a slightly different trend. Although 77 percent of the respondents felt that support received from these critical areas was about the same as that received by males, 15 percent perceived support greater than males. This response is contrary to the patterns established in supervisor and peer support where in each case the next largest group answered as perceiving less support than males.

When we examine variable 502, "communication flow received", we find what could be considered a problem area. Twenty-two percent of our sample indicated receiving less communication flow than males with similar jobs and experience. In this regard, one unnamed respondent commented "Communicate and inform first line supervisors as to what higher management plans are. Employees know what is happening before their supervisors do."

Two questions in Table 3-22 addressed support from an overall standpoint. Variable 410 considered "overall help given to perform the job" as compared to that given males; and variable 531 pertained to extent of "handicap perceived due to lack of management support". Eighty-six percent of the respondents indicated they received about the same amount of overall help to perform the job properly as males. Fifty-four percent of our sample responded to "lack of management support" (variable 531)

by answering category 1 or 2 on the scale indicating they felt no significant handicap due to lack of management support. Thirty-five percent, however, felt handicapped to "a moderate extent" by answering category 3, 4, or 5 on the scale. The disparity of response to these two variables could indicate that although the respondents perceived they were receiving about the same support as males, they did not consider this amount adequate to perform their jobs properly. An examination of non-linear relationships between selected support variables through crosstabulation tables located in Appendix D fails to indicate trends regarding particular shift worked or number of supervisors reporting to the same general supervisor with perceived management support.

Table 3-23 lists additional variables considered in the area of management support. These were included to ascertain satisfaction within the overall realm of service department support by analyzing several departments on an individual basis. Within this grouping, all questions were answered on a seven point Likert scale with alternatives ranging from "satisfied to a very little extent" to "satisfied to a very great extent". In each case, the largest number of respondents answered 3, 4, or 5 on the respective scale indicating satisfaction "to a moderate extent". When compared to each other, we find the most

respondent dissatisfaction with janitorial service support with 18 percent of the sample answering 1 or 2 on the scale indicating very little satisfaction with that staff. This was followed by material control and labor relations with 17 percent and 16 percent respectively of the sample indicating satisfaction only to a "very little extent" with each department.

TABLE 3-23

SERVICE DEPARTMENT SUPPORT VARIABLES

Variable	% Response Scale Values 1 & 2	% Response Scale Values 6 & 7	Mean*
539 Maintenance (skilled)	13	44	4.898
545 Inspection	12	41	4.799
543 Personnel - other	13	39	4.736
542 Labor Relations	16	38	4.609
544 Engineering	15	35	4.544
546 Material Control	17	34	4.513
541 Industrial Engineering	14	33	4.503
540 Janitorial Services	18	28	4.294

*7 point scale

The service department support with which our sample was most satisfied was maintenance (skilled trades), with 44 percent of the respondents answering numerically 6 or 7 on the scale indicating satisfaction to "a very great extent". This was followed closely by inspection (quality control) which received a 41 percent vote of high satisfaction using the same numeric response criteria. Variable 539, "maintenance", received the highest mean score; while variable 540, "janitorial services", received the lowest mean score.

To further evaluate management support, we tested the null hypothesis from Chapter I which stated that women supervisors receive the same degree of support from supervisors, peers, and service departments. Variables 401 and 404 were selected to evaluate peer and service department support respectively; while the supervisor support factor was derived by combining "support from supervisor" (variable 407) and "support from supervisor for disciplinary actions" (variable 226) for "supervisor support" (DV3). The results of the paired t-test, comparing the means of each versus the other, are shown in Table 3-24.

As can be seen in Table 3-24, there is a statistically significant difference between supervisor and peer support as well as between peer and service department

support. Therefore, the null hypothesis is rejected. It should be noted, however, that support from supervisors and service departments is not perceived to be significantly different.

TABLE 3-24

COMPARISONS OF MANAGEMENT SUPPORT

Variable	Mean	Std Dev	T-Value	2-Tail Prob.
DV3 Supervisor	4.184	.899		
			5.55	<0.0005*
401 Peers	3.811	1.261		
n = 360 cases	df = 359	*significant		

DV3 Supervisor	4.181	.903		
			-1.72	n.s.
404 Service Depts.	4.304	1.165		
n = 362 cases	df = 361			

401 Peers	3.811	1.263		
			-5.93	<0.0005*
404 Service Depts.	4.293	1.165		
n = 359 cases	df = 358	*significant		

In summary, our sample perceived "support from service departments" to be greater than "support from supervisor" although not significantly different, and "support from supervisor" to be greater than "support from

peers". Once again, the interpretation of these significance levels should be approached with caution due to the multiple t-test comparisons. However, the high significance levels provide us with the necessary confidence to make these inferences.

From responses to our open ended questions, we find that our respondents, like we, feel that management support is extremely important. A few comments from unnamed women appear below.

When I need help on something that I can't seem to get done, I want to know that I have an immediate supervisor who is going to get involved and work with me.

The most important thing to a foreman (because of enormous pressures of the job) is having an immediate supervisor who backs her and buffers her from additional stress.

Let me run my department but be there with guidance, knowledge, and experience that I may need.

Anonymous Respondents

PERFORMANCE

I have never failed and don't expect to. I have too much confidence in myself as a good manager of people and in the job (that's why I've survived).

Anonymous Respondent

Performance is a broad category, covering all aspects of the supervisor's job responsibilities. It is the bottom line measurement of success for the female

supervisors in our target industry. The annual performance appraisal process is an integral part of our target industry's Human Resource Management program. A supervisor's performance rating not only bears directly on merit increases within a salary range, but is important during promotional consideration as well. Perhaps even more importantly, it is a tool whereby goals and objectives may be mutually established by a supervisor and her boss with a clear definition of what each participant is responsible for contributing to the attainment of these goals. Although our questionnaire included only one direct measurement of performance, that being the most recent performance appraisal rating, others relate and will be considered. Table 3-25 shows the distribution of the most recent performance appraisal ratings of our sample group.

With respect to the actual job performance rating assigned to our respondents (variable 213), 32 percent indicated they were either outstanding or highly effective performers based on their most recent performance appraisal. Fifty-three percent of our sample women were rated as "good competent performers", while 12 percent had been categorized as "needing either slight or great improvement" to meet standards for their jobs.

TABLE 3-25
PERFORMANCE APPRAISAL RATINGS

Rating	% Response
Outstanding	4.7
Highly effective	27.5
Good competent performance	53.2
Needs slight improvement	9.9
Needs much improvement	2.2
Did not answer	2.5

In the all important area of frequency of job performance discussion, the modal class of respondents answered "only at the annual appraisal period". This 41 percent response leads the "monthly discussion" frequency which placed second with 28 percent. Surprisingly, from a review of crosstabulation of "performance rating" with "frequency of discussion" in Appendix D, there is indication that there is no non-linear relationship between high or low performers and frequency of performance discussion.

For the most part, women perceived their own

competence in performing the job "about the same as males". The response to categories 3, 4, and 5 on the seven point scale shows that 75 percent of the supervisors perceived their own competence in this fashion. Interestingly, however, 24 percent felt they out performed their male counterparts. "Confidence" and "self esteem" do not appear to be lacking in the females who participated in our study.

Performance Predictors

One of our research questions in Chapter I was "what predicts performance?" We were interested in whether trends or correlations existed which might assist in placement of emphasis to improve average or low performers. Several data analyses were performed to gain valuable insight into this question. These will be discussed in the following order: (1) crosstabulations, (2) correlation coefficients, and (3) multiple regressions.

Crosstabulation - In our investigation of performance predictors, we analyzed a number of crosstabulations of performance (variable 213) with other single variables. Several of these which disclosed interesting non-linear relationships may be found in Appendix D. A crosstabulation, as explained in Chapter II, and often referred to also as a contingency table,

is a joint frequency distribution of cases as defined by the categories of two or more variables. The display of the distribution of cases is the chief component of crosstab analysis.

The relationship between performance and full time work experience is one we found of interest. It can be seen that there is a greater percentage of women needing both "slight and much improvement" with limited work experience of several years. Conversely, the number of supervisors in each high performance category decreases as the number of years decrease.

An additional observation from the crosstabulation of performance with male supervisor's attitude may be appropriate. Of the "outstanding" and "highly effective" performers, 56 percent and 63 percent respectively felt they were definitely accepted by their supervisor. On the other hand, of those needing slight and much improvement, these figures fall to 23 percent and 13 percent respectively. Of those women needing much improvement, 13 percent felt fairly strong resentment. To the credit of this industry, however, only 5 percent of the total sample in all performance categories reported fairly strong or very strong resentment from their supervisor at this time.

The non-linear relationship between performance and attitude of male peers depicts a different pattern

with the modal class of each performance category reporting a definite acceptance by male peers. When we look at "performance" crosstabulated with "support from peers", it is evident that of those supervisors needing much improvement, the modal class indicated such support was "about the same as males".

Of the "needs much improvement" in performance category, 24 percent responded that "lack of aggressiveness" was a handicap to them to a "very great extent". Additionally, of the respondents who felt "lack of aggressiveness" was a problem to a "very great extent", 38 percent needed either "slight or much performance improvement". This crosstabulation of "lack of aggressiveness" (variable 530) with "performance" also illustrates that none of the outstanding performers felt handicapped by a "lack of aggressiveness" even to a "moderate extent" (numeric value 4 on the scale).

"Mechanical or technical aspects" has previously been established as the difficulty perceived the greatest by our respondents. By reviewing this variable with performance in Appendix D, it can be seen that performers of all categories are cognizant of this problem. As a matter of fact, of those women indicating this difficulty to exist to "a very great extent", only 8 percent were low performers, (4 or 5 on the scale) while 24 percent

were high performers (1 or 2 on the scale). This ratio (3 to 1) is almost identical to the ratio of high to low performance ratings in Table 3-25; therefore, no trend is evident here which suggests that low performers have more technical difficulties than high performers.

Correlation Coefficients - As our next step in answering the question, "What predicts performance?", we were interested in determining the strengths of association of our questionnaire variables with performance. To accomplish this, Pearson's correlation coefficients were obtained for each variable and overall performance. Table 3-26 shows those variables which had an association significant to a 0.01 or greater with their respective correlation coefficient. In order to obtain positive coefficient numbers the rating scale for "performance" (variable 213) was reversed from its questionnaire order. Likewise, scales were reversed for "shift usually worked" (variable 203), "attitude of male supervisors" (variable 219), "mechanical or technical aspects" (variable 311), "lack of respect" (variable 526), "lack of aggressiveness" (variable 530), "lack of management support" (variable 531), and "subordinates show less respect" (variable 534). It can be seen that the variables shown in the table are from several of the result areas previously discussed in this chapter. When we group them according to these areas

TABLE 3-26
PERFORMANCE CORRELATION COEFFICIENTS

Variable*	Coefficient	# of Cases	Significance
102 Time with company	0.1859	353	0.001
104 Total work experience	0.2096	351	0.001
203 Shift usually worked**	0.1543	328	0.003
214 Fairness of appraisal	0.4411	354	0.001
215 Career progress satis.	0.2673	352	0.001
216 Future opportunities	0.2326	353	0.001
218 Management interest	0.1949	352	0.001
219 Attitude of male supv**	0.1910	344	0.001
302 Job variety	0.1728	351	0.001
304 Challenge	0.1294	351	0.008
307 Hours of work	0.1318	352	0.007
308 Responsibility	0.1382	353	0.005
310 Freedom to run job	0.1770	351	0.001
311 Mech/Tech aspects**	0.1518	353	0.002
312 Skill and training	0.1799	350	0.001
315 Opportunity to advance	0.1393	353	0.004
319 Opportunity to lead	0.1363	351	0.005
401 Peer support	0.1572	352	0.002
402 Communication flow	0.1825	353	0.001
405 Cooperation from union	0.1330	351	0.006
407 Supervisor support	0.1685	353	0.001
409 Competence	0.1623	352	0.001
519 Problem solving	0.1433	352	0.004
520 Coordination	0.1501	352	0.002
526 Lack of respect**	0.1512	353	0.002
530 Lack of aggressiveness**	0.1952	351	0.001
531 Lack of mgt. support**	0.2010	352	0.001
534 Subordinate respect	0.1437	348	0.004

*Only variables with significance 0.01 listed

** Rating scales reversed

a clearer picture may be obtained.

From the demographic variables we find that "time with the company", "total work experience", and "shift usually worked" are included. Since the rating scale of "shift usually worked" was reversed, this would suggest a higher association of performance with the first shift hours of work than the second and a higher association with the second shift than with the third.

From the area of job satisfaction, nine variables may be found. These are "job variety", "challenge", "hours of work", "responsibility", "freedom to run job", "mechanical/technical aspects", "skill and training", "opportunity to advance", and "opportunity to lead others". It is noteworthy that six of these nine variables are intrinsic factors while only three are extrinsic as derived earlier in Table 3-9.

Only one variable from our perceived attitudes of associates at work section has surfaced. "Attitude of male supervisors" (variable 219) has emerged as a factor of high performance association. Similarly, although not included in our previous attitude section of the chapter, is "management interest" (variable 218). While not clear that this member of upper management is one's immediate supervisor, his or her interest in our respondents' career progress does show a significant association with

high performance.

Difficulties on the job that appear in Table 3-26 are "lack of respect" (variable 526), "lack of aggressiveness" (variable 530), "lack of management support" (variable 531), and "subordinates show less respect" (variable 534). Since scales on these variables were reversed, they indicate that difficulty with "to a great extent" has a negative association with performance.

From those variables previously included in the management support section, "supervisor support" (variable 407), "peer support" (variable 401), and "communication flow" (variable 402) may be found. It can be seen that although "support from service departments" (variable 404) received the highest mean score, it is not significantly associated with performance while "support from supervisor" and "peers" are highly associated.

The amount of time spent on "problem solving" and "coordination" also appear as variables in Table 3-26. From the six job aspects measured in this manner, only the aforementioned two show significant association with performance.

No variables from the influence to accept job area of this chapter appear in the listing nor do any variables from the management style section. With regard to the latter, we may recall that both task and

participative styles were deemed effective by our respondents. It may be inferred that high performers, as a group, do not significantly associate with a particular single management style, but rather that the group includes individuals who have found various styles to be effective.

Multiple Regression - In order to determine if any of the variables within the questionnaire could predict job performance, two sets of multiple regression analyses were performed. The first regression contained variables that had correlated highly with performance and were obtained from the correlation matrix discussed earlier in this section on Correlation Coefficients as shown in Table 3-26. It should be noted that "fairness of appraisal" (variable 214), "career progress satisfaction" (variable 215), "future opportunities" (variable 216), and "personal competence" (variable 409) were not included in the first analysis because we felt that the high performers would have been biased to answer these questions favorably.

The second analysis attempted to predict performance using demographics (variables 101 through 114 and variables 201 through 205), support variables (401 through 404), and a total of twelve derived variables from several of the result areas previously discussed in this chapter (DV1 through DV12). The formulation details for the derived variables are shown in Appendix C, while the total results

of the two multiple regressions are shown in Appendix F. Discussion of these results in this section will be limited to those outcomes considered statistically significant. For each analysis, the variables and derived variables that were utilized were entered in a single step into the SPSS regression subprogram.

Analysis #1 - As indicated, this analysis attempts to predict job performance by using twenty-three variables that had initially shown high correlation (significance level 0.01) with overall performance. Table 3-27 shows selected summary statistics that were obtained as part of the output from the SPSS regression subprogram.

TABLE 3-27

MULTIPLE REGRESSION ANALYSIS OF PERFORMANCE

Overall F-Test #1

		Anal. of Variance	DF	F-Value
Multiple R	0.462	Regression	23	3.157*
R Square	0.214	Residual	267	
n = 291 cases		*significant($p < 0.05$)		

The value of R is equal to 0.462 indicating moderately high relationship between the independent variables tested and overall performance. Also from the R square value, it appears that 21.4 percent of the variation in performance is explained by the twenty-three variables used in the analysis. The overall F-value is significant at the 0.05 level. The F-values of the independent variables were tested for statistical significance (df = 1,267; 0.05 level) and this yielded two variables that could be considered as performance predictors. Table 3-28 shows these variables along with their respective Beta and F-values.

TABLE 3-28

MULTIPLE REGRESSION ANALYSIS OF PERFORMANCE
SIGNIFICANT INDEPENDENT VARIABLES #1

Variables	Beta	F
218 Mgmt interest in your career	0.16891	6.867*
530 Lack of aggressiveness	0.12980	3.880*
n = 291 cases	df = 1,267	*significant(p 0.05)

It can be seen from the table that the performance predictors are from two different results areas previously discussed in this chapter. "Management interest in your career" (variable 218) is a career related variable from the questionnaire section dealing with the supervisor's work situation, and it shows a direct relationship (positive Beta value) with overall performance. This predictor (variable 218) is related to mentoring and suggests that as the interest shown by a particular member of upper management in a supervisor's career increases, overall performance increases also. The implication here is that the supportive function of mentoring reinforces motivation to perform.

The second predictor in this analysis was "lack of aggressiveness" (variable 530). Its relationship with performance is inverse and indicates that as the handicap from "lack of aggressiveness" increases, "performance" decreases. This is consistent with the results discussed under the section on management style. The results in that section had indicated that the female supervisor had shown preference for both task and participative managerial styles as approaches for effective performance. Literature indicates that aggressiveness, authoritarianism, and confidence are all specific traits or behaviors that support the male managerial stereotype. Since the evaluation

of the female supervisor's performance is conducted primarily by males, it is not surprising to find that as lack of aggressiveness increases, performance is seen to decrease.

Analysis #2 - The variables used in this regression analysis included all demographics (variables 101 through 114 and 201 through 205), two variables from the section on support (variables 401 and 404), and twelve derived variables from several earlier sections of this chapter. The derived variables included "management style", "support", "job satisfaction", "reasons for job acceptance", and "attitudes of associates at work" (DV1 through DV12). Prior to conducting the second regression analysis, Pearson's correlation coefficients were obtained for each variable listed above and "overall performance" (variable 213). As indicated earlier, Table 3-26 shows the correlation coefficients (r values) for those variables that were statistically significant at the 0.01 significance level. Only three of the twelve derived variables showed significant association with overall performance. These three are "supervisory support"-DV3 ($r=0.1753$, $n=354$, $p < 0.001$), "intrinsic job satisfaction"-DV4 ($r=0.2055$, $n=354$, $p < 0.001$), and "extrinsic job satisfaction"-DV5 ($r=0.1337$, $n=354$, $p < 0.006$).

To perform the second regression analysis, all of

the aforementioned thirty-three independent variables were included in the regression equation. Table 3-29 provides selected statistics that were obtained as part of the SPSS output for this regression.

TABLE 3-29

MULTIPLE REGRESSION ANALYSIS OF PERFORMANCE

Overall F-test #2

		Anal. of Variance	DF	F-Value
Multiple R	0.443	Regression	33	1.999*
R Square	0.196	Residual	270	
n = 304 cases		*significant (p < 0.05)		

The R and R square values are moderately high but not as high as those in the first regression analysis. Evaluation of the independent variables resulted in three performance predictors that were statistically significant (df = 1,270; p < 0.05) as shown in Table 3-30.

TABLE 3-30

MULTIPLE REGRESSION ANALYSIS OF PERFORMANCE
SIGNIFICANT INDEPENDENT VARIABLES #2

Variables	Beta	F
102 Time with company	0.27327	7.146*
DV4 Intrinsic job satisfiers	0.17034	4.708*
DV9 Attitude of peers	0.25796	8.636*
n = 304 cases df = 1,270	*significanc (p <0.05)	

The results show that two of the predictors have a direct relationship with performance, indicating that as the independent variables increase, the dependent variable performance also increases. This presents some interesting inferences. As "time with the company" (variable 102) increases, performance is also indicated to increase. This relationship might be anticipated for as employees gain work experiences, it enhances their learning and skills thus resulting in better performance.

The second predictor generated by this analysis was "intrinsic job satisfiers" (DV4). This derived variable is from the section on job satisfaction and is composed of nine intrinsic factors as indicated earlier in Table 3-9. The regression results obtained here indicate that as satisfaction with intrinsic factors of

the job (challenge, responsibility, variety, etc.) increase, performance increases. This is supported by literature and research on motivation and job enrichment.

The final predictor in this section indicates that as the "attitude of peers" (DV9) decreases, performance increases. Derived variable (DV9) was discussed at length in an earlier section on attitudes of associates at work. Experience indicates that an accepting attitude and support from supervisors and peers may be essential for the success of a first line supervisor. The implication of this regression result is contrary to that expectation. One inference could be that low acceptance of women supervisors by their peers may provide the added impetus to increase performance.

In summary, the two regression analyses have generated five predictors of performance. Three of these predictors, "management interest in your career" (variable 218), "time with company" (variable 102), and "intrinsic job satisfiers" (DV4), have direct relationships with performance, indicating that as each of them increases, performance increases. Handicapped by "lack of aggressiveness" (variable 530), and an accepting "attitude of peers" (DV9) are the other two predictors - each having an inverse relationship with overall performance. As each of these independent variables increases, overall performance decreases.

CHAPTER IV

CONCLUSIONS

Increasing demands placed on first line supervisors along with reductions in delegated authority over the years have earned them a variety of recognitions. In 1978, Driscoll et al referred to them as "still the man in the middle". They must manage a changing work force on the one hand and meet management's demands for increased productivity on the other. The job is difficult, complicated, and involves interaction with many people and groups.

Women are gradually moving into these non-traditional production management jobs. Their role as supervisors is the same as their male counterparts. It is equally important and equally difficult. Rosabeth Kanter has said that she, like he, might be referred to as the "woman in the middle". But, because of stereotypical attitudes held by companies and male associates, she may have to overcome some difficulties that do not exist for him. While there is no scarcity of articles discussing these problems for women managers, the authors found almost

negligible research on the female supervisor in manufacturing.

The primary purpose of this thesis, therefore, was to gain an understanding of how female first line supervisors in manufacturing viewed their non-traditional roles. Data was obtained by the use of a written questionnaire survey instrument. Results were analyzed quantitatively using statistical procedures. Based on perceptions of female supervisors, the study specifically sought to evaluate factors influencing job acceptance, job satisfaction, attitude of working associates, difficulties on the job, managerial style, management support, and job performance. In this chapter the results of the data analysis for each of these research areas will be briefly reviewed and conclusions provided regarding the significance of our findings.

We have indicated in Chapter III that our sample is a well educated group of women. The impact of this finding may be more clearly recognized when compared with male first line supervisors in the same industry as our target company. Krygier (1974) found that nearly 11 percent of his sample did not have a high school education, and only 2 percent had earned a college degree. The contrast between these findings and ours in only five years is

astonishing. Of the women in our study, a mere 6 percent lack a high school education, but of greater significance, 28 percent of our respondents were at least college graduates. It can easily be concluded that educational accomplishments have received additional emphasis in the supervisory selection process in recent years.

The inexperience of our sample was somewhat anticipated. While it documents affirmative action results, nevertheless, it places a tremendous burden on the entire organization as well as the women themselves. Under these circumstances management must place far greater emphasis on training and development than if experience was not such a critical factor. It is noteworthy that our target company has been able to counter this difficulty and actually increase its product quality and success in the market place in recent years.

Our overall study results indicate that the integration of the target women into traditionally male dominated jobs is being accomplished successfully. While our findings reveal no problem areas of crisis proportions, the supervisors do have pressing problems and there are areas requiring additional emphasis on the part of upper management. These will be reviewed in the following sections of this chapter dealing with our research hypotheses and research questions. Finally, in the last section of

this chapter we will address specific areas in which we feel additional research is necessary.

RESEARCH HYPOTHESES

To investigate the areas of research interest for this study, six hypotheses had been formulated as indicated in Chapter I. The hypotheses were established to address quantitatively some of the issues that are relevant to the female first line supervisor and her job. These hypotheses were then tested using various statistical procedures in order to obtain significant conclusions to the specific items being evaluated. The results obtained for each of these hypotheses are summarized as follows.

Hypothesis One: In accepting jobs in this industry female first line supervisors consider intrinsic motivating factors equally important as extrinsic motivating factors.

This hypothesis is rejected. As indicated in Chapter I, many "myths" exist as to why women work including: women work as a hobby, or to provide luxuries, or are seen as working because they have to. Although many studies have sought to dispel these myths, few have investigated in depth the non-traditional work areas. Further, data on the career motivation of women seeking first line supervisory jobs in manufacturing is virtually non-existent.

Many of the studies that are seen in the area of women and non-traditional work deal with parental, social, and economical factors for job acceptance. Furthermore, these studies are based on opinions of women who aspire to non-traditional jobs rather than the opinions of those who are employed as supervisors. Our results indicate that female supervisors consider intrinsic motivating factors as having more significant influence than extrinsic factors in accepting their present jobs. Contrary to traditional expectations, it seems that these women respondents do not consider pay, status, or prestige as the primary motivating factors that influenced them to accept their jobs. This provides a significant contribution to research in this area.

Of the intrinsic factors motivating the respondents to accept their present positions, two factors had the largest responses in terms of mean scores. These are "opportunity" and "challenge". However, "pay", which is an extrinsic motivator, was not considered as favorably by the respondents. This fact should be of importance to management in this industry. It implies that when attempting to recruit women, management should emphasize the presence of challenge, responsibility, and career opportunities inherent in the first line supervisory jobs.

Hypothesis Two: There is no difference between male and female influence as a motivating factor for accepting jobs as first line supervisors. This hypothesis is also rejected. In our literature review discussion we had indicated that women who pursued non-traditional careers and were successful with them had some definable familial patterns. They tended to be raised in families that provided strong support and they experienced close relationships with their fathers, or they were raised in families where the mother worked full time. These studies also suggested that men, in general, have a significant influence on the career choices of women. The results of this hypothesis, therefore, are consistent with other research in this area. We find that the women respondents perceive encouragement from males as having a greater influence than that of other females in their decision to accept their non-traditional first line supervisory jobs. Our study did not attempt to determine the relationship these males had to the respondents. Since qualified women are not choosing to become first line supervisors in great numbers, management might consider making male managers aware that it is their influence on potential female candidates that could reverse this trend.

In summarizing this issue, Marion Woods (1975) has indicated "No matter what a successful woman's

strategy, it is certain that she had a supportive male influence, and for most, usually at each level in her career."

Hypothesis Three: The intrinsic and extrinsic factors related to job satisfaction for the female supervisor are equally important. This hypothesis was rejected indicating that intrinsic factors such as challenge, responsibility, working with people, etc., are considered more important for job satisfaction by the female supervisors than the extrinsic factors (paperwork, routines, pay, etc.).

The overall attitudes of the target women towards their non-traditional jobs were quite positive. This is evidenced by their response to the question on overall job satisfaction where only 1.1 percent of the females indicated that they disliked their jobs very much (numeric values 1 and 2 on the scale). On the other hand, approximately 75 percent indicated high overall satisfaction with their jobs (numeric values 6 and 7 on the scale).

The "myth" that women are more concerned with extrinsic than intrinsic rewards was refuted by the results of our study in this area - a significant finding. A majority of the responses about preferred aspects of the job were related to intrinsic factors; for example, 91 percent of the respondents showed a high degree of

liking for "working with people". This was followed closely by "challenge" and "responsibility". On the other hand, only about 60 percent of the women sampled indicated "pay" as an aspect of their jobs that they "liked very much". From the results, it is evident that the same aspects that attracted women to the first line supervisor's job are also translated into job satisfiers. These facts have important implications for management as well. Today's better informed and better educated supervisors tend to seek more from their jobs than wages and benefits. It appears that these female supervisors want to derive a greater degree of satisfaction and accomplishment from their work.

Our results suggest that there is a moderately high degree of association between some of the intrinsic aspects of the job (challenge, responsibility, opportunity to lead others, etc.) and overall job satisfaction. Some researchers believe that management can improve attitudes at work by enhancing job satisfaction of employees and that this improved employee attitude will in turn positively influence organizational efficiency. We can infer, therefore, that as long as management continues to provide the target supervisors with responsibility, challenge, freedom to run their jobs, and allows these supervisors a more active role in plant activities, the more these supervisors will

tend to contribute to organizational goals and to the overall effectiveness of the organization. It should be noted that in the job performance section of this study, the results indicate that as intrinsic factors of job satisfaction are increased, performance increases. This further validates our discussion above.

Management might consider increasing intrinsic satisfaction by looking at some of the variables that make-up the intrinsic factor DV4. "Challenge" is inherent to the first line supervisor's job; however, "job variety" can be introduced by occasionally rotating the assignments of the supervisor to different areas within the plant. A new supervisory assignment would also tend to provide new and increased challenges. Another variable that is also a part of the first line supervisor's job is responsibility and this can be enhanced by reducing external constraints to the supervisory role. Driscoll et al reinforce the presence of these constraints in their study (1978) which shows that first line supervisors feel lack of control over those aspects of their people's jobs that motivate them.

The implication here is that the general supervisor should provide adequate opportunities for the female first line supervisors to freely make decisions regarding various aspects of their jobs and also to allow them the

necessary freedom to run their jobs effectively. The general supervisor can play a key role in increasing the female supervisor's job satisfaction by enhancing the proper motivators. Nadler and Lawler (1977) state that "the supervisor's role in the motivation process becomes one of defining clear goals, setting clear reward expectancies, and providing the right rewards for different people."

Hypothesis Four: There is no difference between the attitudes of supervisors, peers, and subordinates toward female supervisors. This hypothesis is rejected. The results indicate that the female supervisors do not perceive significant differences between the attitudes of supervisors and peers; nor between supervisors and subordinates. However, subordinates were seen as more accepting than peers. This is contrary to other findings in literature which suggest that women and men are frequently unwilling to take orders from female managers.

A further evaluation of the data revealed that the respondents perceive female supervisors, female peers, and female subordinates as more accepting in each case, when compared to their male counterparts. These results are consistent with the studies of Myers and Lee (1976), and Badawy (1978). Our study did not attempt to measure attitudes toward women on a social or personal level.

This conclusion that female first line supervisors perceive their women associates as more accepting than males refutes other studies where it was found that females themselves frequently hold negative attitudes of each other. It should be noted that a very small percentage, approximately 2 to 4 percent, of the respondents in this study view any of their working associates as having strong resentful attitudes. To some extent, this acceptance of the female supervisor is a credit to the managers of this company; however, 20 percent of the respondents have indicated that acceptance by male supervisors was seen as due to equal employment opportunity commitments. This forced acceptance may lead to differential treatment of the women, posing problems that may be detrimental to their effective performance and ultimately to that of the organization. Management should consider a forthright approach to the identification and elimination of these attitudinal issues.

In this target company the majority of the second level supervisors and peers of the female supervisors are males. A less accepting attitude by these males could jeopardize successful integration of these women into their supervisory jobs. Therefore, it is important to establish an educational process for managers, both male and female, that leads to greater acceptance of the female

supervisory role. This education could be in the form of training programs that are related specifically to the attitudes about women. These programs could be directed at making managers more aware of the problems faced by women in work situations as well as making them examine traditional stereotypical thinking which hampers managerial effectiveness and performance.

An additional approach would be to utilize women who have been successful as role models to help the aspiring female supervisors. They could provide insight, share experiences, and provide guidance on overcoming potential attitudinal problems that the novice female supervisors may encounter.

This should be an area of vital concern to management as attitudes will probably shape the extent to which the women supervisors succeed or fail. This company has several training, awareness, and organizational development programs that address these concerns. These are essential and will probably need to expand.

Hypothesis Five: Female supervisors exhibit a greater participative style of management than an autocratic oriented style. This hypothesis was abandoned for a lack of autocratic style variables generated by our factor analysis. It was replaced by identification of participative, task, and consideration managerial styles.

While there is no statistically significant difference between the perceived effectiveness of task and participative styles, the task style was actually rated the most effective for our group of respondents. The third managerial style, which we have entitled consideration, was deemed to be least effective and statistically different from either task or participative styles.

Interestingly, the task style has often been referred to as the male model while studies in our literature review have shown the participative style to be widely used by females. In terms of leadership strategies, one would expect females to adopt more accomodative or relationship oriented behaviors, since these behaviors are consistent with societal expectations. Contrary to the study by Sadler (1970) where this relationship or participative style took preference over a task oriented style, our respondents perceive both to be highly effective with no significant difference between the two. These results would tend to support Bem's 1974 proposition of androgynous style where a supervisor may be able to choose from several behaviors in responding appropriately in different situations. In this regard we conclude that our sample does not have a significantly higher need for fostering good interpersonal relationships than do their male colleagues, nor are they significantly

more task oriented than are the males; although, they might be expected to be task oriented if they are to succeed in a traditional male environment.

Aggressiveness, or lack thereof, can also be associated with managerial style. Although not measured as an effective style in itself, it is worthy to note that our sample did not perceive lack of aggressiveness to be a handicap in their job performance. Here again, we conclude that the women feel comfortable with displaying aggressive behavior should the situation require it. While this behavior fits the stereotypical male model, as opposed to passive, dependent behavior, it further supports the androgynous style of our respondents.

Hypothesis Six: Women supervisors receive the same degree of support from supervisors, peers, and service departments within the organization. This hypothesis is rejected. Support from service departments was perceived greater than either that provided by supervisors or peers. It was perceived in a significantly different degree than support from peers but not significantly different than support from supervisors. Similarly, support from supervisor was deemed greater than that received from peers and significantly different. Although service department support was rated slightly higher than that received from supervisors, responses to open ended

questions and additional comments far more frequently mentioned the importance of supervisor support. This is reinforced in our performance correlation coefficients from Chapter III where we saw a high association of support from supervisor with performance. Additionally it was shown that supportive interest in career progress by a member of upper management was also significantly associated with performance.

Within the highly important area of service department support, some disparity may be observed in mean scores. To the credit of these staff activities, however, our respondents state, on the average, that they are more than moderately satisfied with all of these activities.

The inexperience of the women has previously been highlighted. This fact necessitates strong support from all areas of the organization to insure good performance. From an overall standpoint our target company is providing its female supervisors with that support. The majority of the women felt little handicap due to lack of management support. The authors are concerned, however, with the relatively high percentage of respondents (35 percent) who feel handicapped in this aspect to a moderate extent. While not signifying a severe problem, it does illustrate to us, the necessity for additional emphasis to prevent escalation of such problems and related reduction in levels

of performance.

Communication and information flow received by our respondents is less than desirable to them. While only one of the numerous aspects of support, it has been the experience of the authors, as well as documented in research studies that this is also a critical factor when observing success or failure in supervisory positions. Keeping supervisors informed with respect to the managerial decision making process and utilizing them to communicate information to their employees should be stressed at all levels of management.

ADDITIONAL RESEARCH QUESTIONS

In addition to the aforementioned hypotheses, the authors chose to focus on several relevant questions which pertain to female supervisors in a manufacturing organization. A survey of the literature revealed that past research left a number of these questions unanswered. Those which we considered pertinent may be found in the research objectives section of Chapter I. Many of these have been discussed as we answered our research hypotheses. Two important remaining aspects of this study which deal with difficulties on the job and performance predictors, will be subsequently addressed.

Question Three: What difficulties do women supervisors experience on the job? While on the average no single difficulty was advanced as being experienced to a "great extent" by our respondents, we are not prepared to conclude that no problems exist. To the contrary, several difficulties were perceived, on the average, to be experienced to a "moderate extent". Of possible greater concern to management is the fact that substantial percentages (10 percent or more) of women felt these, as well as additional difficulties, to be experienced to "a very great extent". Chief among these are "mechanical or technical aspects of the job", "lack of technical background", "discouraging sexual advances", and "discrimination against women". Five other difficulties in which at least 10 percent of our respondents experienced difficulty to a "very great extent" were "lack of management support", "harrassment from peers", "men have more responsibility", and "supervisor shows animosity". When we consider these in light of the subgroups derived through factor analysis, it can be seen that all except "men have more responsibility" can be found in the technical and interpersonal categories.

One conclusion that may be drawn is that technical difficulties are perceived as the most serious, both on the average, and from the percentage of women experiencing this problem to a "very great extent". While there is a

great deal that may be said for the role of the female socialization process in contributing to the problem, it nevertheless seems evident to the authors that management emphasis in this area through formal programs as well as awareness of, and attention to, by general supervisors would be an extremely worthwhile endeavor. On the one hand our respondents feel a task oriented managerial style, including "become technically competent", is most effective; while on the otherhand, it is perceived as their greatest difficulty. Numerous comments found in Appendix G illustrate both that the problem exists and that management assistance in this area would be helpful in improving performance.

With regard to the interpersonal difficulties subgroup, the authors are highly cognizant that individual relationships are dependent on many variables and, no doubt, are different from one location to another. Regardless of to what extent they exist, most of the aforementioned interpersonal difficulties which the women in our study perceive have a common thread of direct or indirect influence. That thread is the general supervisor. Whether or not he or she contributes directly to the problem by actions reflecting stereotypical thinking, non-support, or even overt discrimination, indirect contribution may also occur by the manner in which he or

she represents the woman subordinate to others. If her peers, subordinates, or the union sense a demeaning attitude toward, or lack of confidence in her from her boss, can we not expect some of them to emulate the same?

While it is unknown to what extent our respondents' behavior has contributed to the difficulties in our interpersonal subgroup, we strongly feel that training, in the form of awareness programs for her male peers, general supervisors, and others in higher management positions, who directly relate with her during the working day are in order. Our target company has begun programs of this type within several divisions and it is our hope that such is continued and expanded throughout the corporation.

Question Seven: What predicts performance of these female supervisors? Several data analyses were performed in an attempt to gain valuable insight into this question. These included crosstabulation or contingency tables, Pearson's correlation coefficients, and multiple regression analysis. We readily acknowledge that additional research is necessary in the performance area but conclude that our findings, while exploratory in nature, do shed light on the issue, and therefore, carry implications for management.

From our crosstabulation in Appendix D, we found

that a greater percentage of high performers may be found among those with more full time work experience while greater percentages of supervisors needing performance improvement may be found among those with limited work experience. This trend, by itself, may be considered predictable. In the opinion of the authors, it reinforces our description of the difficulties and complexities of the supervisor's job. While experience in itself may be the best teacher, consideration to emphasis on a formal schedule of training, even after assignment to a supervisory position, should assist women in reaching a high level of performance in much less time than the "school of hard knocks".

"Attitude of male supervisors" also depicted a significant pattern when compared to performance. High performers perceive high acceptance while low performers perceive less acceptance. Obviously, there is a bias in these answers inasmuch as a natural human reaction to being told of subpar performance may be resentment and the feeling of being treated unfairly or not being accepted. Nevertheless, the implication remains, as reinforced by our management support and difficulties on the job results, that the attitude and behavior of the male general supervisor is indeed highly associated with the performance of our respondents.

One other implication for management may be concluded from performance crosstabulation analysis with "lack of aggressiveness". A definite non-linear relationship may be observed regarding performance and experiencing this difficulty to a great extent. As indicated earlier, low performers experience more difficulty in this area while high performers experience less difficulty. Although clearly our study cannot describe the optimal degree of aggressiveness necessary for success on the job, management identification of extreme cases of inadequacy in this area appears desirable so that corrective counseling may be initiated or the individual channeled into other more compatible career paths. We do not, however, confuse aggressiveness or lack thereof with authoritative managerial style. We recognize that the responsibility placed on first line supervisors and the personal interactions required do call for individual initiative in decision making, problem solving, and coordination with others. This initiative is synonymous with the type of aggressive action we feel is necessary and alluded to by our respondents.

From the correlation coefficients, each of the crosstabulation inferences previously discussed is reinforced. Additionally, a significant association with performance is found within intrinsic job satisfiers,

management support, and time spent on various aspects of the job. The latter, which associates performance with time spent on problem solving and coordination implies to the authors that management should carefully consider the types of demands on time which are placed on first line supervisors. While time spent on paperwork, house-keeping, and other miscellaneous activities is necessary, caution should be exercised over the priorities established. Union-management agreements must also be carefully analyzed as to their impact on a supervisors time so that attention is focused on that which produces results.

Concerning difficulties on the job and management support which also show association with performance from our correlation coefficients, implications for management have been discussed in prior sections of our conclusions. These will not be reiterated for the sake of brevity.

The data analysis which comes nearest to answering our research question is the multiple regression. Two separate analyses were performed. The first regression contained variables that had correlated significantly with performance while the second contained demographics and the twelve derived variables from the result areas of the study. From the first analysis, two predictors emerged: (1) "Member of upper management showing interest

in career", and (2) Experience of "lack of aggressiveness" as a difficulty.

One of these, "management interest in your career" indicates that as interest shown by a particular member of upper management increases, performance increases. As previously stated in our results, the implication for management is that the supportive function serves to reinforce motivation to perform. It also implies to the authors that where this interest is present, also likely to be present is proper training, exposure to new situations, support, and an attitude of acceptance. All of these impact the degree to which difficulties are perceived on the job, which when combined with the resulting increase in motivation, should improve performance.

The other predictor, "lack of aggressiveness" implies that as difficulty with this variable increases, performance decreases. Management implications have already been discussed regarding this difficulty or handicap.

Our second regression analysis produced three performance predictors. (1) "time with the company", (2) "intrinsic job satisfiers", and (3) "attitude of peers". The regression reinforced our conclusions regarding "time with the company" from the correlation coefficients. Implications for management have already

been discussed. Likewise, several "intrinsic job satisfiers" as individual variables showed high association with performance in the correlation table. We can conclude more positively now, that as satisfaction with these job aspects increase, performance increases. Since literature and research on motivation support this finding, it was predictable. The concern for management should be how to increase satisfaction with these aspects of the job. One recommendation by the authors, which surfaced repeatedly in the respondents comments as well, is let the women run their areas to the maximum extent possible. Give direction and hold accountable, but allow the "challenge", "responsibility", "freedom to run job", and "use of skill and training" aspects to be accentuated as motivators. Management efforts to counter the stereotypical beliefs that women can do little without detailed guidance may prove beneficial. Occasional mobility, even on a lateral basis, from one job assignment to another may equally stimulate these intrinsic satisfiers and provide organizational advantages from the standpoint of performance.

The third and final predictor in regression analysis #2 is "attitude of peers". Because of the scale of the "attitude of peers" question, this result indicates that as peers become less accepting, performance improves.

A possible explanation for this, advanced by the authors, is that when peers are non-accepting, the women put forth extra effort to perform well and thus display their worth in spite of such difficulties. A caution we would relate to management is not to confuse an attitude of non-acceptance with failure to cooperate in the many tasks involving supervisory interaction. In other words, we see peer support as a necessity in the interaction process while poor peer attitudes of acceptance may be of lesser value even to the point of stimulating performance on the part of the women. Another possible explanation we would offer is that as women achieve success on the job, this success may be met with increased rejection by peers. It is left to future researchers to confirm or reject our explanations of peer attitudes as a performance predictor.

SUMMARY

The women who participated in our study are well educated although inexperienced on their jobs. Most of them have had previous experience as hourly rated employees. From an overall standpoint, they are being successfully integrated into non-traditional jobs of first line supervisors. Intrinsic factors such as "opportunity" and "challenge" exert the greatest influence on them to

accept these jobs and intrinsic satisfiers such as "working with people", "challenge", and "responsibility" motivate them after they assume these positions. They perceive attitudes of working associates to be generally acceptable, although influenced by organizational commitment to equal opportunity goals. Other women are generally seen as more accepting than male associates. While adequate support from management is being provided, communication and information flow received is less than desirable. Technical or mechanical difficulties are experienced to the greatest extent, followed by those difficulties which are interpersonal and discriminatory in nature.

The women exhibit a task oriented, as well as a participative, style of management. They feel well qualified to perform their jobs and are generally performing well. Our research has identified five performance predictors. These are "management interest in career", "lack of aggressiveness", "time with the company", "intrinsic job satisfiers", and "attitude of peers". Each of these carry implications for management as it attempts to improve supervisory job performance and the role of women in these non-traditional jobs.

AREAS FOR FURTHER RESEARCH

Unlimited possibilities exist for areas of future research on women in first line supervisory jobs. The findings from our study generated several other issues that were not pursued because of dual constraints of time and data. These issues present interesting topics for future exploration and study. Some of these areas are:

(1) Our study was based on the perceptions of female supervisors only. It would be useful to collect similar data on male supervisors using a similar questionnaire. This proposed study could look at relevant issues dealing with why males accept supervisory jobs, their management style, job satisfaction, difficulties on the job, management and peer support, performance, etc. Some further differentiation could be obtained by comparisons of the data from men and women. This could provide management with insight into whether the problems are sex role or situationally focused.

(2) An extended research effort might be made by means of periodic checks over a period of time to determine what changes are occurring in relevant areas. This would contribute to the evaluation of training programs aimed at issues discussed here, and other educational efforts within this company. This proposed study could assist the developers of these educational programs by informing

them of significant sociological and job related changes.

(3) A follow up to this study a few years from now would be useful to determine if the overall performance of women managers changes with time. The proposed study could also evaluate performance predictors for comparison with the present results. Another interesting area of performance that could be evaluated would be a comparison of relatively inexperienced supervisors with more experienced supervisors.

(4) Management style of the women supervisors is an area that has presented contradictory results through a wide variety of studies. Although our results are consistent with many of the findings, continued research is necessary in this complex area. Some consideration might be given to using a standardized leadership style questionnaire for future surveys.

These are but a few of the issues that can be explored in this area. The available knowledge is limited, and management with an eye to the future, will continue to explore these issues. We are but on the threshold of women's optimal contribution to supervisory management and only full recognition of this potential resource will maximally benefit the company, the individual, and society at large.

APPENDIX A

QUESTIONNAIRE AND LETTERS

Appendix A primarily consists of a copy of the written questionnaire which we developed as our survey instrument. An explanation of the questionnaire design, selection of respondents, and method of distribution may be found in Chapter II. Table 2-1 shows the quantities of questionnaires distributed and returned. This appendix also includes a copy of the authors' letter to participating personnel directors, letter to pre-test participants, and cover letter to respondents which accompanied the questionnaire.



This correspondence is a part of
research work being
done for a Master's thesis

Massachusetts Institute of Technology
Alfred P. Sloan School of Management
50 Memorial Drive
Cambridge, Massachusetts, 02139

In reply write to

December 18, 1978

Dear Mr.

As part of our one year assignment as Sloan Fellows at the Alfred P. Sloan School of Management, we are developing a thesis which is an analysis of the female first line supervisor in manufacturing. Our study will consider the female supervisor's attitudes toward the job, towards male employees, subordinates, and peers in this environment. We will also seek to determine factors which facilitate success or cause her problems. We plan to develop the data for our study through a combination of questionnaires and selected in depth interviews at several locations.

Our effort is part of research work being done for a Master's thesis. All information will be used in aggregate form and will be regarded as strictly confidential. Identities of corporations and divisions will not be revealed.

We solicit your assistance in obtaining your Division's cooperation in our study. Your Division's participation would include either questionnaire responses by female supervisors, on a volunteer basis, or granting us an opportunity to personally interview selected individuals within your organization.

In order to obtain your thoughts on this matter, we plan to follow up this letter with a telephone call to your office subsequent to the forthcoming holidays. This issue is of concern within industry today, and this work will allow all of us an opportunity to contribute to the investigation of this area.

Sincerely,

Henry C. Hale

Homi K. Patel

Dear Pre-Test Participant,

We are requesting that you complete the attached questionnaire as part of a validation process for its use in the near future. After completing the questionnaire please answer the following questions. Do not sign your name. We are interested in whether the directions and questions are clear to you as well as your actual response.

Thank you for your assistance.

1. How long did it take you to complete the survey? _____ minutes.

2. What directions did you not understand? _____

3. What questions did you not understand?

Page Number	Question Number	Comment
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

4. Was the cover letter adequate in explaining the purpose of the survey?

5. What other comments or suggestions do you have?



This correspondence is a part of
research work being
done for a Master's thesis

Massachusetts Institute of Technology
Alfred P. Sloan School of Management
50 Memorial Drive
Cambridge, Massachusetts, 02139

In reply write to:

January 19, 1979

As part of our one year assignment as Sloan Fellows at the Alfred P. Sloan School of Management, we are developing a thesis which is an analysis of the female first line supervisor's job in a basic manufacturing industry. Our study will consider the female first line supervisor's attitude toward the job and will seek to determine factors which facilitate her success or cause her problems in an environment which has been traditionally dominated by males. We feel it is important that a deeper and more sensitive understanding of her perceptions and problems be obtained. Our survey includes portions of several established questionnaires which have proven credibility in similar research projects. Some of the questions are of a personal nature. We have chosen them because of their relevance to our topic.

We are interested in your candid replies to the various questions contained in our survey. Please answer them as honestly as possible to provide us with valid research data. We estimate it will take about thirty minutes to complete. We would appreciate it if you would take the time to complete it and return in the enclosed envelope directly to us as soon as possible. Your honest evaluation is always the best answer. WE NEED YOUR HELP!

To insure your privacy, please do not sign your name. All information will be used in aggregate form and will be regarded as strictly confidential. While we will be summarizing the total group responses, no individual person or location will ever be mentioned in connection with a specific response.

We appreciate your prompt attention and thank you for your assistance in a project which is of interest to all of us.

Sincerely,


Henry C. Hale

Homi K. Patel

SECTION I
PERSONAL DATA

DIRECTIONS: IN THIS SECTION WE WOULD LIKE SOME BACKGROUND INFORMATION ON YOU.
FOR EACH ITEM BELOW, CIRCLE THE NUMBER NEXT TO THE MOST APPROPRIATE
RESPONSE. PLEASE IGNORE NUMBERS IN PARENTHESES TO THE LEFT OF QUESTIONS.
THEY ARE FOR DATA PROCESSING.

- | | |
|--|---|
| <p>1. How long have you been in your present job?</p> <ol style="list-style-type: none"> 1. Less than 6 months 2. Between 6 months and 1 year 3. 1 to 2 years 4. 3 to 5 years 5. 6 to 10 years 6. 11 to 15 years 7. 16 to 20 years 8. 21 years or over | <p>5. What is the highest level of education you have attained?</p> <ol style="list-style-type: none"> 1. Not high school graduate 2. High school graduate 3. Some college or Technical school 4. College graduate 5. Some graduate school 6. Graduate or Professional degree |
| <p>2. How long have you been with the company?</p> <ol style="list-style-type: none"> 1. Less than 6 months 2. Between 6 months and 1 year 3. 1 to 2 years 4. 3 to 5 years 5. 6 to 10 years 6. 11 to 15 years 7. 16 to 20 years 8. 21 years or over | <p>6. Are you</p> <ol style="list-style-type: none"> 1. White 2. Hispanic (Puerto Rican, Mexican American, other Spanish) 3. Black 4. Asian American 5. American Indian 6. Other |
| <p>3. Prior to obtaining the job you now hold, your most recent work experience with the company was?</p> <ol style="list-style-type: none"> 1. Hourly 2. Co-op student 3. College Graduate in training 4. Salaried employee 5. Salaried employee in training 6. Other _____ | <p>7. Age</p> <ol style="list-style-type: none"> 1. Under 20 2. 20-24 3. 25-29 4. 30-39 5. 40-49 6. 50-59 7. 60 or over |
| <p>4. How much total full time work experience do you have?</p> <ol style="list-style-type: none"> 1. Less than 1 year 2. 1 to 5 years 3. 6 to 10 years 4. 11 to 20 years 5. 21 or over | <p>8. Marital Status</p> <ol style="list-style-type: none"> 1. Single 2. Married 3. Divorced 4. Separated 5. Widowed |

9. How many children do you have who are under the age of 6?

1. None
2. One
3. Two
4. Three or more

10. How many children do you have between the ages of 6 and 18?

1. None
2. One
3. Two
4. Three or four
5. Five or more

11. What region of the country did you grow up in?

1. North-East
2. North-Central (Mid-West, etc.)
3. South
4. West

From the following list of occupations select the ones which best answer the questions below and write that number in the space provided.

1. Professional (engineer, doctor, teacher, etc.)
2. Technician (draftsman, computer operator, etc.)
3. Manager or administrator
4. Sales worker
5. Clerical worker
6. Foreman
7. Skilled craftsman (electrician, tool & die maker, etc.)
8. Semi-skilled worker (welder, truck driver, etc.)
9. Unskilled laborer (car washer, longshoreman, etc.)
10. Farmer or farm manager
11. Service worker, (policeman, waiter, waitress, etc.)
12. Private household worker
13. Not employed
14. Self employed
15. Housewife
16. Don't know

12. What is or was your mother's occupation? _____

13. What is or was your father's occupation? _____

14. What is or was your spouse's occupation? _____

SECTION II

JOB RELATED QUESTIONS

DIRECTIONS: FOR EACH ITEM BELOW, CIRCLE THE NUMBER NEXT TO THE MOST APPROPRIATE RESPONSE.

1. How many supervisors (foremen) including yourself report to the same general supervisor?

1. 1 to 5
2. 6 to 9
3. 10 to 14
4. 15 to 19
5. 20 or over

2. What shift are you presently working?

1. First
2. Second
3. Third

3. What shift do you usually work?

1. First
2. Second
3. Third

4. On what shift did you receive the majority of your training?

1. First
2. Second
3. Third

5. How many employees do you directly supervise?
 1. 1 to 10
 2. 11 to 20
 3. 21 to 30
 4. 31 to 40
 5. 40 or over
6. Most of the employees I supervise are:
 1. Men
 2. About equally divided - men and women
 3. Women
7. My immediate general supervisor is:
 1. Male
 2. Female
8. Would you rather work for a man or a woman if you had the choice?
 1. Man
 2. Woman
 3. Makes no difference
9. Do you believe your subordinates would rather work for a man or a woman if they had the choice?
 1. Man
 2. Woman
 3. Makes no difference
10. Do you experience any conflict between your role as a supervisor and your role as a personal friend and associate of other employees?
 1. no problems
 2. lost old friends
 3. loneliness, lack of companionship on the job
 4. difficult transition from peer to boss
 5. problems with superiors
11. The Union district committeeman (shop steward) that you work with is:
 1. Female
 2. Male
12. How often do you and your immediate supervisor discuss your job performance?
 1. at least monthly
 2. every 1 to 3 months
 3. every 3 to 6 months
 4. twice a year
 5. only at the annual appraisal period
13. The overall performance appraisal rating given to you during your last regular annual appraisal was:
 1. Outstanding performance
 2. Highly effective performance
 3. Good competent performance
 4. Needs slight improvement
 5. Needs much improvement
14. How do you assess the fairness of your most recent performance appraisal?
 1. very unfair
 2. more unfair than fair
 3. more fair than unfair
 4. very fair
15. How satisfied are you with your career progress here to date?
 1. not sure
 2. definitely dissatisfied
 3. not entirely satisfied
 4. fairly well satisfied
 5. very satisfied
16. How do you assess your future opportunities here?
 1. no opinion
 2. not sure
 3. not very good
 4. fairly good
 5. very good

17. What are your career aspirations in this company?
1. no definite plans
 2. leave the company
 3. get into other work
 4. stay in same job
 5. progress at least 1 level
 6. progress at least 2 levels
 7. progress more than 2 levels
18. To what extent has a particular member of upper management shown interest in your career progress?
1. None
 2. Very little extent
 3. To a moderate extent
 4. To a very great extent
19. What has been the attitude of male supervisors (your bosses) toward you?
1. Definitely accepting
 2. Accept because aware of EEO goals
 3. Some resentment - not strong
 4. Initial resentment - now dissipated
 5. Fairly strong resentment shown
 6. Very strong resentment shown
 7. Have never worked for a male boss
20. What has been the attitude of male peers toward you?
1. Definitely accepting
 2. Accept because aware of EEO goals
 3. Some resentment - not strong
 4. Initial resentment - now dissipated
 5. Fairly strong resentment shown
 6. Very strong resentment shown
21. What has been the attitude of male subordinates toward you?
1. Definitely accepting
 2. Accept because aware of EEO goals
 3. Some resentment - not strong
 4. Initial resentment - now dissipated
 5. Fairly strong resentment shown
 6. Very strong resentment shown
22. What has been the attitude of female supervisors (your bosses) toward you?
1. Definitely accepting
 2. Accept because aware of EEO goals
 3. Some resentment - not strong
 4. Initial resentment - now dissipated
 5. Fairly strong resentment shown
 6. Very strong resentment shown
 7. Have never worked for a female boss
23. What has been the attitude of female peers toward you?
1. Definitely accepting
 2. Accept because aware of EEO goals
 3. Some resentment - not strong
 4. Initial resentment - now dissipated
 5. Fairly strong resentment shown
 6. Very strong resentment shown
24. What has been the attitude of female subordinates toward you?
1. Definitely accepting
 2. Accept because aware of EEO goals
 3. Some resentment - not strong
 4. Initial resentment - now dissipated
 5. Fairly strong resentment shown
 6. Very strong resentment shown
25. To what extent do you feel your work pattern differs from that of most men in similar jobs with similar experience?
1. Do not know
 2. No difference
 3. Little difference
 4. Some difference
 5. Definitely different
26. Is disciplinary action initiated by you likely to receive more or less support from your supervisor than that received by males in similar jobs with similar experience?
1. Don't know
 2. Definitely less support
 3. Probably less - not sure
 4. No more - no less
 5. Probably more - not sure
 6. Definitely more support

SECTION IIILIKES AND DISLIKES

DIRECTIONS: IN THIS SECTION DESCRIBE HOW MUCH YOU LIKE OR DISLIKE EACH ASPECT OF YOUR JOB LISTED BELOW BY CIRCLING THE NUMBER WHICH MOST CLOSELY INDICATES YOUR FEELINGS.

	Dislike Very Much	2	3	Neither Like Nor Dislike	5	6	Like Very Much	7
1. Job pressure or stress	1	2	3	4	5	6	7	
2. Job variety	1	2	3	4	5	6	7	
3. The paperwork involved	1	2	3	4	5	6	7	
4. Challenge	1	2	3	4	5	6	7	
5. Routines	1	2	3	4	5	6	7	
6. Pay	1	2	3	4	5	6	7	
7. Hours of work	1	2	3	4	5	6	7	
8. Responsibility	1	2	3	4	5	6	7	
9. Physical working conditions	1	2	3	4	5	6	7	
10. Freedom to run job	1	2	3	4	5	6	7	
11. Mechanical or technical aspects of job	1	2	3	4	5	6	7	
12. Use of skill and training	1	2	3	4	5	6	7	
13. Male dominated environment	1	2	3	4	5	6	7	
14. Working with people	1	2	3	4	5	6	7	
15. Opportunities to advance	1	2	3	4	5	6	7	
16. The way your boss handles his employees	1	2	3	4	5	6	7	
17. Competence of your supervisor in making decisions	1	2	3	4	5	6	7	
18. Making Decisions on your job	1	2	3	4	5	6	7	
19. Opportunity to lead others	1	2	3	4	5	6	7	
20. Overtime	1	2	3	4	5	6	7	
21. Chance to tell people what to do	1	2	3	4	5	6	7	
22. The way your peers work with you	1	2	3	4	5	6	7	
23. <u>Overall</u> liking for your job	1	2	3	4	5	6	7	

SECTION IV
PERCEPTIONS OF JOB

DIRECTIONS: IN THIS SECTION STATE YOUR BELIEFS IN COMPARING THE FOLLOWING ASPECTS OF YOUR JOB WITH THAT OF MALES (FOREMEN) IN SIMILAR JOBS WITH SIMILAR EXPERIENCE. FOR EACH ITEM BELOW CIRCLE THE NUMBER 1 THROUGH 7 WHICH MOST CLOSELY INDICATES YOUR FEELINGS.

	Definitely Less than Males		About the same As Males			Definitely more than Males	
1. Support you receive from your peers	1	2	3	4	5	6	7
2. Communication and information flow you receive	1	2	3	4	5	6	7
3. Pay in this job	1	2	3	4	5	6	7
4. Support you receive from service departments (Labor relations, Maintenance, etc.)	1	2	3	4	5	6	7
5. Cooperation you receive from local union	1	2	3	4	5	6	7
6. Your qualifications to perform the job	1	2	3	4	5	6	7
7. Support you receive from your supervisor	1	2	3	4	5	6	7
8. Your effectiveness in dealing with the local union	1	2	3	4	5	6	7
9. Your competence in performing the job	1	2	3	4	5	6	7
10. Overall, are you given more or less help to perform the job properly	1	2	3	4	5	6	7

SECTION V
ATTITUDES AND BEHAVIOR

DIRECTIONS: IN THIS SECTION YOU ARE ASKED QUESTIONS COVERING SEVERAL CATEGORIES PERTAINING TO YOU AND YOUR JOB. FOR EACH OF THE ITEMS BELOW CIRCLE THE NUMBER 1 THROUGH 7 WHICH MOST CLOSELY INDICATES YOUR FEELINGS.

	To a very little extent		To a moderate extent			To a very great extent	
To what extent did the following factors influence your decision to accept your present job?							
1. Challenge	1	2	3	4	5	6	7
2. Scope of responsibility	1	2	3	4	5	6	7
3. Opportunity	1	2	3	4	5	6	7
4. Pay	1	2	3	4	5	6	7
5. Status and prestige	1	2	3	4	5	6	7
6. Attitude of management toward women	1	2	3	4	5	6	7
7. Encouragement from a male	1	2	3	4	5	6	7
8. Encouragement from a female	1	2	3	4	5	6	7
9. Need for achievement	1	2	3	4	5	6	7
To what extent have you found the following approaches or behavior effective in performing the job properly?							
10. Act naturally	1	2	3	4	5	6	7
11. Avoid an authoritative approach	1	2	3	4	5	6	7
12. Maintain an air of confidence	1	2	3	4	5	6	7
13. Use the participative approach	1	2	3	4	5	6	7
14. Learn the job well - become technically competent	1	2	3	4	5	6	7
15. Work hard - do more than own share	1	2	3	4	5	6	7
16. Be more helpful and considerate of subordinates than your male peers are	1	2	3	4	5	6	7

	To a very little extent			To a moderate extent			To a very great extent		
To what extent is your time spent on each of the following?									
17. Paperwork (general)	1	2	3	4	5	6	7		
18. Developing subordinates	1	2	3	4	5	6	7		
19. Problem solving	1	2	3	4	5	6	7		
20. Coordination	1	2	3	4	5	6	7		
21. Safety and Housekeeping	1	2	3	4	5	6	7		
22. Administering union-management agreement	1	2	3	4	5	6	7		
To what extent do you feel handicapped in the following aspects of the job?									
23. Mechanical or technical aspects	1	2	3	4	5	6	7		
24. Physical demands of job	1	2	3	4	5	6	7		
25. Working with people	1	2	3	4	5	6	7		
26. Lack of respect from others	1	2	3	4	5	6	7		
27. Visibility as a female	1	2	3	4	5	6	7		
28. Lack of education	1	2	3	4	5	6	7		
29. Lack of training	1	2	3	4	5	6	7		
30. Lack of aggressiveness	1	2	3	4	5	6	7		
31. Lack of management support	1	2	3	4	5	6	7		
To what extent have you experienced the following difficulties in the job that most men probably do not experience?									
32. Harrassment from peers	1	2	3	4	5	6	7		
33. Supervisor shows animosity	1	2	3	4	5	6	7		
34. Subordinates show less respect	1	2	3	4	5	6	7		
35. Lack of technical background	1	2	3	4	5	6	7		

To what extent have you experienced the following difficulties in the job that most men probably do not experience?	To a very little extent			To a moderate extent		To a very great extent	
36. Discouraging sexual advances	1	2	3	4	5	6	7
37. Harrassment from the union	1	2	3	4	5	6	7
38. Discrimination against women	1	2	3	4	5	6	7
To what extent are you satisfied with the support you receive from the following service departments?							
39. Maintenance (Skilled trades)	1	2	3	4	5	6	7
40. Janitorial services	1	2	3	4	5	6	7
41. Industrial Engineering (Methods, layout, time study, etc.)	1	2	3	4	5	6	7
42. Labor relations	1	2	3	4	5	6	7
43. Personnel - other (Safety, training, etc.)	1	2	3	4	5	6	7
44. Engineering (Tooling, process, etc.)	1	2	3	4	5	6	7
45. Inspection (Quality control)	1	2	3	4	5	6	7
46. Material control (Production, control, Scheduling, etc.)	1	2	3	4	5	6	7
To what extent do the following statements apply to female supervisors as compared to male supervisors (foremen) at your location?							
47. Men have more responsibility	1	2	3	4	5	6	7
48. Women are not included in some meetings	1	2	3	4	5	6	7
49. Women are excluded from some bad assignments	1	2	3	4	5	6	7
50. Women perform some tasks that men don't	1	2	3	4	5	6	7
51. Women are given more responsibility	1	2	3	4	5	6	7

SECTION VI

COMMENTS AND SUGGESTIONS

DIRECTIONS: IN THIS FINAL SECTION OF THE SURVEY WE'D LIKE TO ASK YOU TO COMMENT BRIEFLY ON THE FOLLOWING:

1. What aspects of the job do you feel you perform best? _____

Perform least well? _____

2. What does your management (higher management, supervisor, service departments, etc.) do that is most helpful to you in performing the job properly? _____

That most hinders your performance? _____

3. What can your management do to help you improve your job performance?

Thank you very much for your cooperation. We appreciate your time and effort. If you have any additional comments or observations you would like to share with us, please use space below and on reverse side.

ACKNOWLEDGEMENT

Several notable sources of information were reviewed during the process of developing this questionnaire. We particularly wish to acknowledge the 1976 study conducted by Dr. Herbert H. Meyers and Mary Dean Lee, University of South Florida, entitled "Integration of Females into Male Oriented Jobs", from which a number of our questions were developed. We also wish to thank Cheryl Fennessey, MIT, for typing and assistance in the layout of this questionnaire.

APPENDIX B

LIST OF VARIABLES

Appendix B contains a list of individual and derived variables which were utilized in our data analysis. An explanation of the coding of these variables as well as how they relate to questions in the written questionnaire may be found in Chapter II. Tables of respective individual and/or derived variables that relate to a specific area of our research may be found in the results of that area located in Chapter III.

LISTING OF INDIVIDUAL VARIABLES

<u>Number</u>	<u>Description</u>
101	Present job longevity
102	Time with company
103	Most recent work experience
104	Full time work experience
105	Highest education level
106	Race
107	Age
108	Marital status
109	Children under six
110	Children six to eighteen
111	Region you grew up in
112	Mothers occupation
113	Fathers occupation
114	Spouses occupation
201	# Supervisors reporting to general supervisor
202	Shift you are presently working
203	Shift you usually work
204	Shift you received training on
205	# Employees you directly supervise
206	Employee male/female ratio
207	Sex of general supervisor
208	Choice of man or women to work for
209	Subordinates choice of whom to work for
210	Conflict between supervisor/friend roles
211	Sex of union committeeman
212	Frequency of job performance discussion
213	Overall performance appraisal
214	Fairness of most recent appraisal
215	Career progress satisfaction
216	Assessment of future opportunities

INDIVIDUAL VARIABLES (continued)

<u>Number</u>	<u>Description</u>
217	Career aspirations in company
218	Management interest in your career
219	Attitude of male supervisor toward you
220	Attitudes of male peers toward you
221	Attitude of male subordinates to you
222	Attitude of female supervisors to you
223	Attitude of female peers to you
224	Attitude of female subordinates to you
225	Work pattern difference from men
226	Support for disciplinary action
301	Job pressure or stress
302	Job variety
303	Paperwork involved
304	Challenge
305	Routines
306	Pay
307	Hours of work
308	Responsibility
309	Physical working conditions
310	Freedom to run job
311	Mechanical/technical aspects of job
312	Use of skill and training
313	Male dominated environment
314	Working with people
315	Opportunities to advance
316	Way your boss handles employees
317	Competence of supervisor in decision making
318	Making decisions on your job
319	Opportunity to lead others
320	Overtime

INDIVIDUAL VARIABLES (continued)

<u>Number</u>	<u>Description</u>
321	Chance to tell people what to do
322	Way your peers work with you
323	Overall liking for your job
401	Support you receive from peers
402	Communication flow you receive
403	Pay in this job
404	Support from service departments
405	Cooperation from local union
406	Qualifications to perform job
407	Support from your supervisor
408	Effectiveness in dealing with union
409	Competence in performing job
410	Overall help in performing job
501	Challenge
502	Scope of responsibility
503	Opportunity
504	Pay
505	Status and prestige
506	Attitude of management toward women
507	Encouragement from a male
508	Encouragement from a female
509	Need for achievement
510	Act naturally
511	Avoid an authoritative approach
512	Maintain an air of confidence
513	Use the participative approach
514	Become technically competent
515	Work hard; do more than own share
516	More helpful of subordinates than males
517	Time spent on paperwork

INDIVIDUAL VARIABLES (continued)

<u>Number</u>	<u>Description</u>
518	Time spent on developing subordinates
519	Time spent on problem solving
520	Time spent on coordination
521	Time spent on safety and housekeeping
522	Time spent on administering union/mgt. agreement
523	Mechanical or technical aspects
524	Physical demands
525	Working with people
526	Lack of respect from others
527	Visibility as a female
528	Lack of education
529	Lack of training
530	Lack of aggressiveness
531	Lack of mgt. support
532	Harrassment from peers
533	Supervisor shows animosity
534	Subordinates show less respect
535	Lack of technical background
536	Discouraging sexual advances
537	Harrassment from the union
538	Discrimination against women
539	Satisfaction with maintenance
540	Satisfaction with janitorial services
541	Satisfaction with industrial engineering
542	Satisfaction with labor relations
543	Satisfaction with personnel - other
544	Satisfaction with engineering
545	Satisfaction with inspection
546	Satisfaction with material control
547	Men have more responsibility

INDIVIDUAL VARIABLES (continued)

<u>Number</u>	<u>Description</u>
548	Women not included in some meetings
549	Women excluded from some bad assignments
550	Women perform some tasks that men don't
551	Women given more responsibility

LISTING OF DERIVED VARIABLES

<u>Derived Variable</u>	<u>Description</u>	<u>From Variables</u>
DV1	Participative managerial style	510,511,512,513
DV2	Task managerial style	514,515
DV3	Support from supervisor	226,407
DV4	Intrinsic job satisfaction	301,302,304,308,310,312, 314,318,319
DV5	Extrinsic job satisfaction	303,305,306,307,309,311, 313,315,316,317,320,321, 322
DV6	Intrinsic influence to accept job	501,502,503,509
DV7	Extrinsic influence to accept job	504,505,506,507,508
DV8	Attitude of supervisor	219,222,533
DV9	Attitude of peers	220,223,532
DV10	Attitude of subordinates	221,224
DV11	Attitude of males	219,220,221
DV12	Attitude of females	222,223,224

APPENDIX C

FREQUENCY DISTRIBUTIONS OF RESPONSES

Appendix C contains the frequency distribution of responses to each question from the survey questionnaire. The column entitled "CODE" depicts the rating scale of the respective question. Code zero represents "did not answer". The column entitled "NO." represents the absolute frequency of response while the column entitled "PCT" represents the relative frequency of response. Also shown for each question (variable) are the mean response and standard deviation. Details of the rating scale are explained in Chapter II.

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 101</u>	Present Job Longevity			<u>Var 104</u>	Full Time Work Experience		
Less than 1/2 yr	1	18	5.0	Less than 1 yr	1	8	2.2
1/2 yr - 1 yr	2	51	14.0	1-5 yrs	2	79	21.8
1-2 yrs	3	136	37.5	6-10 yrs	3	84	23.1
3-5 yrs	4	116	32.0	11-20 yrs	4	125	34.4
6-10 yrs	5	39	10.7	21 yrs & over	5	64	17.6
16-20 yrs	7	1	0.3		0	3	0.8
21 yrs & over	8	1	0.3	$\bar{X} = 3.439$	$SD = 1.085$		
$\bar{X} = 3.320$				<u>Var 105</u>	Highest Education Level		
$SD = 1.051$				Not HS Grad.	1	23	6.3
				HS Grad	2	96	26.4
<u>Var 102</u>	Time With Company			Some College	3	141	38.8
Less than 1/2 yr	1	3	0.8	College Grad	4	57	15.7
1/2 yr - 1 yr	2	15	4.1	Some Grad School	5	23	6.3
1-2 yrs	3	63	17.4	Grad or Prof Degree	6	21	5.8
3-5 yrs	4	71	19.6		0	2	0.6
6-10 yrs	5	77	21.2	$\bar{X} = 3.066$	$SD = 1.207$		
11-15 yrs	6	73	20.1				
16-20 yrs	7	20	5.5	<u>Var 106</u>	Race		
21 yrs & over	8	40	11.0	White	1	279	76.9
$\bar{X} = 4.942$				Hispanic	2	3	0.8
$SD = 1.679$				Black	3	77	21.2
				American Indian	5	2	0.6
				Other	6	1	0.3
				$\bar{X} = 1.470$	$SD = 0.893$		
<u>Var 103</u>	Most Recent Work Experience						
Hourly	1	214	59.0				
Co-op Student	2	7	1.9				
Coll. Grad-Training	3	15	4.1				
Salariied Employee	4	68	18.7				
Sal-Empl. Training	5	20	5.5				
Other	6	29	8.0				
$\bar{X} = 2.320$							
$SD = 1.775$							

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 107</u>	<u>Age</u>			<u>Var 110</u>	<u>Children 6-18</u>		
20-24	2	34	9.4	None	1	185	51.0
25-29	3	64	17.6	One	2	69	19.0
30-39	4	154	42.4	Two	3	64	17.6
40-49	5	78	21.5	Three or Four	4	35	9.6
50-59	6	30	8.3	Five or More	5	6	1.7
60 +	7	1	0.3		0	4	1.1
$\bar{X} = 4.025$	$SD = 1.063$			$\bar{X} = 1.908$	$SD = 1.109$		
<u>Var 108</u>	<u>Marital Status</u>			<u>Var 111</u>	<u>Region Grew Up In</u>		
Single	1	77	21.2	Northeast	1	118	32.5
Married	2	179	49.3	North-Central	2	179	49.3
Divorced	3	91	25.1	South	3	51	14.0
Separated	4	6	1.7	West	4	7	1.9
Widowed	5	9	2.5		0	8	2.2
$\bar{X} = 2.146$	$SD = 0.857$			$\bar{X} = 1.810$	$SD = 0.772$		
<u>Var 109</u>	<u>Children Under Six</u>						
None	1	296	81.5				
One	2	35	9.6				
Two	3	15	4.1				
Three or more	4	14	3.9				
$\bar{X} = 1.287$	$SD = 0.732$						

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 112</u>	Mothers Occupation						
Professional	1	27	7.4	<u>Var 113</u>	Fathers Occupation		
Technician	2	6	1.7	Professional	1	28	7.7
Manager	3	9	2.5	Technician	2	2	0.6
Sales Worker	4	12	3.3	Manager	3	39	10.7
Clerical	5	31	8.5	Sales Worker	4	4	1.1
Foreman	6	5	1.4	Clerical	5	2	0.6
Skilled Craftsmen	7	2	0.6	Foreman	6	18	5.0
Semi-Skld Worker	8	18	5.0	Skilled Craftsmen	7	60	16.5
Unskld Laborer	9	23	6.3	Semi-Skld Worker	8	84	23.1
Farmer	10	4	1.1	Unskilled Laborer	9	50	13.8
Service Worker	11	28	7.7	Farmer	10	26	7.2
Priv. Hshld Worker	12	14	3.9	Service Worker	11	16	4.4
Not Employed	13	6	1.7	Not Employed	13	2	0.6
Self Employed	14	10	2.8	Self Employed	14	22	6.1
Housewife	15	162	44.6	Don't Know	16	6	1.7
Don't Know	16	3	0.8		0	4	1.1
	0			$\bar{X} = 7.413$	$SD = 3.442$		
$\bar{X} = 10.678$	$SD = 4.987$			<u>Var 114</u>	Spouses Occupation		
Professional	1	27	7.4	Professional	1	27	7.4
Technician	2	12	3.3	Technician	2	12	3.3
Manager	3	27	7.4	Manager	3	27	7.4
Sales Worker	4	6	1.7	Sales Worker	4	6	1.7
Clerical	5	6	1.7	Clerical	5	6	1.7
Foreman	6	42	11.6	Foreman	6	42	11.6
Skilled Craftsmen	7	38	10.5	Skilled Craftsmen	7	38	10.5
Semi-Skld Worker	8	55	15.2	Semi-Skld Worker	8	55	15.2
Unskilled Worker	9	36	9.9	Unskilled Worker	9	36	9.9
Farmer	10	2	0.6	Farmer	10	2	0.6
Service Worker	11	9	2.5	Service Worker	11	9	2.5
Not Employed	13	4	1.1	Not Employed	13	4	1.1
Self Employed	14	15	4.1	Self Employed	14	15	4.1
Don't Know	16	2	0.6	Don't Know	16	2	0.6
	0	82	22.6		0	82	22.6
$\bar{X} = 5.182$	$SD = 4.086$			$\bar{X} = 5.182$	$SD = 4.086$		

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 208</u>	Choice - Man or Woman to Work For			<u>Var 212</u>	Job Performance Discussion Frequency		
Man	1	97	26.7	Monthly	1	101	27.8
Woman	2	4	1.1	Every 1-3 mos	2	45	12.4
No Difference	3	261	71.9	Every 3-6 mos	3	36	9.9
$\bar{X} = 2.453$	$SD = 0.886$		0.3	Twice a Year	4	28	7.7
				At Appraisal Time	5	148	40.8
					0	5	1.4
				$\bar{X} = 3.215$	$SD = 1.717$		
<u>Var 209</u>	Subordinates Choice of Whom to Work For			<u>Var 213</u>	Overall Performance Appraisal		
Man	1	149	41.0	Outstanding	1	17	4.7
Woman	2	10	2.8	Highly Effective	2	100	27.5
No Difference	3	199	54.8	Good Competent	3	193	53.2
$\bar{X} = 2.140$	$SD = 0.977$		1.4	Needs Slight Improv.	4	36	9.9
				Much Improv. Needed	5	8	2.2
					0	9	2.5
				$\bar{X} = 2.768$	$SD = 0.784$		
<u>Var 210</u>	Conflict Between Supv/Friend Roles			<u>Var 214</u>	Fairness of Most Recent Appraisal		
No Problems	1	267	73.6	Very Unfair	1	16	4.4
Lost Old Friends	2	16	4.4	More Unfair Than Fair	2	49	13.5
Loneliness	3	40	11.0	More Fair Than Unfair	3	123	33.9
Transition Prob.	4	18	5.0	Very Fair	4	167	46.0
Prob. with Supv.	5	19	5.2		0	8	2.2
$\bar{X} = 1.628$	$SD = 1.180$		0.8	$\bar{X} = 3.171$	$SD = 0.971$		
<u>Var 211</u>	Union Committeeman Sex						
Male	1	26	7.2				
Female	2	331	91.2				
$\bar{X} = 1.927$	$SD = 0.260$		1.7				

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 215</u>	Career Progress Satisfaction			<u>Var 218</u>	Management Interest In Your Career		
Not Sure	1	18	5.0	None	1	75	20.7
Dissatisfied	2	18	5.0	Very Little Extent	2	82	22.6
Not Entirely Sat.	3	129	35.5	Moderate Extent	3	134	36.9
Fairly Well Sat.	4	131	36.1	Very Great Extent	4	70	19.3
Very Satisfied	5	65	17.9		0	2	0.6
	0	2	0.6				
$\bar{X} = 3.573$			SD = 1.003	$\bar{X} = 2.551$			SD = 1.026
<u>Var 216</u>	Assessment Future Opportunities			<u>Var 219</u>	Male Supv. Attitudes Toward You		
No Opinion	1	16	4.4	Definitely Accept	1	156	43.0
Not Sure	2	76	20.9	Accept EEO Goals	2	71	19.6
Not Very Good	3	47	12.9	Some Resentment	3	55	15.2
Fairly Good	4	125	34.4	Initial Resentment	4	52	14.3
Very Good	5	98	27.0	Fairly Strong Resent.	5	13	3.6
	0	1	0.3	Very Strong Resent.	6	6	1.7
$\bar{X} = 3.588$			SD = 1.214	$\bar{X} = 2.187$			SD = 1.327
<u>Var 217</u>	Career Aspirations In Company			<u>Var 220</u>	Attitudes Male Peers Toward You		
No Definite Plans	1	27	7.4	Definitely Accept	1	130	35.8
Leave Company	2	1	0.3	Accept EEO Goals	2	30	8.3
Get Other Work	3	21	5.8	Some Resentment	3	114	31.4
Stay Same Job	4	18	5.0	Initial Resentment	4	61	16.8
Progress 1 Lvl	5	130	35.8	Fairly Strong Resent.	5	14	3.9
Progress 2 Lvl	6	88	24.2	Very Strong Resent.	6	8	2.2
Progress 2+ Lvl	7	71	19.6		0	6	1.7
	0	7	1.9				
$\bar{X} = 5.166$			SD = 1.597	$\bar{X} = 2.504$			SD = 1.353

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 221</u>	Attitude Male Subordinates To You			<u>Var 224</u>	Attitude Female Subordinates To You		
Definitely Accept	1	131	36.1	Definitely Accept	1	197	54.3
Accept EEO Goals	2	24	6.6	Accept EEO Goals	2	6	1.7
Some Resentment	3	112	30.9	Some Resentment	3	97	26.7
Initial Resent.	4	85	23.4	Initial Resent.	4	40	11.0
Fairly Strong Resent.	5	5	1.4	Fairly Strong Resent.	5	9	2.5
Very Strong Resent.	6	1	0.3		6	14	3.9
$\bar{X} = 2.475$	0	5	1.4	$\bar{X} = 2.020$	0		
SD = 1.256				SD = 1.240			
<u>Var 222</u>	Attitude Female Supv. To You			<u>Var 225</u>	Work Pattern Difference From Men		
Definitely Accept	1	68	18.7	Don't Know	1	15	4.1
Accept EEO Goals	2	3	0.8	No Difference	2	114	31.4
Some Resentment	3	20	5.5	Little Difference	3	97	26.7
Initial Resent.	4	2	0.6	Some Difference	4	91	25.1
Fairly Strong Resent.	5	3	0.8	Definitely Different	5	45	12.4
Very Strong Resent.	6	2	0.6		6	1	0.3
No Male Boss	7	253	69.7	$\bar{X} = 3.094$	0		
$\bar{X} = 5.527$	0	12	3.3	SD = 1.116			
SD = 2.457				<u>Var 226</u>	Support For Disciplinary Action VS. Men		
<u>Var 223</u>	Attitude Female Peers To You			Don't Know	1	21	5.8
Definitely Accept	1	223	61.4	Definitely Less Spt.	2	20	5.5
Accept EEO Goals	2	5	1.4	Probable Less	3	17	4.7
Some Resentment	3	83	22.9	No More No Less	4	268	73.8
Initial Resentment	4	18	5.0	Probably More	5	22	6.1
Fairly Strong Resent.	5	14	3.9	Def. More	6	15	4.1
$\bar{X} = 1.819$	0	20	5.5	$\bar{X} = 3.813$			
SD = 1.200				SD = 0.991			

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var. 301</u>	Job Pressure or Stress			<u>Var 304</u>	Challenge		
Dislike Very Much	1	42	11.6	Dislike Very Much	1	0	0.0
	2	23	6.3		2	1	0.3
	3	46	12.7	Neither Like/Dislike	3	6	1.7
Neither Like/Dislike	4	125	34.4		4	8	2.2
	5	60	16.5		5	34	9.4
	6	42	11.6	Like Very Much	6	74	20.4
Like Very Much	7	19	5.2		7	237	65.3
$\bar{X} = 3.952$	0	6	1.7	$\bar{X} = 6.458$	0	3	0.8
				SD = 1.602			
<u>Var 302</u>	Job Variety			<u>Var 305</u>	Routines		
Dislike Very Much	1	4	1.1	Dislike Very Much	1	25	6.9
	2	9	2.5		2	25	6.9
	3	18	5.0	Neither Like/Dislike	3	44	12.1
Neither Like/Dislike	4	34	9.4		4	130	35.8
	5	40	11.0		5	57	15.7
	6	78	21.5	Like Very Much	6	40	11.0
Like Very Much	7	177	48.8		7	31	8.5
$\bar{X} = 5.886$	0	3	0.8	$\bar{X} = 4.187$	0	11	3.1
				SD = 1.450			
<u>Var 303</u>	Paperwork Involved			<u>Var 306</u>	Pay		
Dislike Very Much	1	25	6.9	Dislike Very Much	1	26	7.2
	2	11	3.0		2	15	4.1
	3	36	9.9	Neither Like/Dislike	3	26	7.2
Neither Like/Dislike	4	142	39.1		4	31	8.5
	5	59	16.3		5	63	17.4
	6	40	11.0	Like Very Much	6	95	26.2
Like Very Much	7	48	13.2		7	104	28.7
$\bar{X} = 4.416$	0	2	0.6	$\bar{X} = 5.197$	0	3	0.8
				SD = 1.576			
				SD = 1.815			

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 313</u>	<u>Male Dominated Environment</u>						
Dislike	1	26	7.2	Dislike	1	28	7.7
Very Much	2	18	5.0	Very Much	2	32	8.8
Neither	3	31	8.5	Neither	3	42	11.6
Like/Dislike	4	185	51.0	Like/Dislike	4	70	19.3
	5	51	14.0		5	55	15.2
	6	21	5.8		6	67	18.5
Like	7	26	7.2	Like	7	69	19.0
Very Much	0	5	1.4	Very Much			
\bar{X} = 4.073	SD = 1.404			\bar{X} = 4.567	SD = 1.858		

<u>Var 314</u>	<u>Working With People</u>						
Dislike	1	0	0.0	Dislike	1	18	5.0
Very Much	3	2	0.6	Very Much	2	23	6.3
Neither	4	9	2.5	Neither	3	35	9.6
Like/Dislike	5	21	5.8	Like/Dislike	4	59	16.3
	6	70	19.3		5	64	17.6
	7	260	71.6		6	78	21.5
Like	0	1	0.3	Like	7	85	23.4
Very Much				Very Much	0	1	0.3
\bar{X} = 6.594	SD = 0.758			\bar{X} = 4.939	SD = 1.754		

<u>Var 317</u>	<u>Competence of Supv. in Decision Making</u>						
Dislike	1	18	5.0	Dislike	1	3	0.8
Very Much	2	23	6.3	Very Much	2	1	0.3
Neither	3	35	9.6	Neither	3	1	0.3
Like/Dislike	4	59	16.3	Like/Dislike	4	22	6.1
	5	64	17.6		5	42	11.6
	6	78	21.5		6	109	30.0
	7	85	23.4		7	185	51.0
Like	0	1	0.3	Like	7	185	51.0
Very Much				Very Much			
\bar{X} = 4.939	SD = 1.754			\bar{X} = 6.212	SD = 1.049		

<u>Var 318</u>	<u>Making Decisions on Your Job</u>						
Dislike	1	3	0.8	Dislike	1	3	0.8
Very Much	2	1	0.3	Very Much	2	1	0.3
Neither	3	1	0.3	Neither	3	1	0.3
Like/Dislike	4	22	6.1	Like/Dislike	4	22	6.1
	5	42	11.6		5	42	11.6
	6	109	30.0		6	109	30.0
	7	185	51.0		7	185	51.0
Like	0	1	0.3	Like	0	1	0.3
Very Much				Very Much			
\bar{X} = 5.166	SD = 1.930			\bar{X} = 6.212	SD = 1.049		

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 319</u>	<u>Opportunity to Lead Others</u>						
Dislike Very Much	1	1	0.3	<u>Var 322</u>	<u>Way Your Peers Work With You</u>		
Neither Like/Dislike	2	1	0.3	Dislike Very Much	1	9	2.5
Like Very Much	4	20	5.5	Neither Like/Dislike	2	12	3.3
	5	39	10.7	Like Very Much	3	26	7.2
	6	107	29.5		4	50	13.8
	7	192	52.9		5	79	21.8
	0	3	0.8		6	107	29.5
$\bar{X} = 6.289$	$SD = 0.947$				7	77	21.2
					0	3	0.8
<u>Var 320</u>	<u>Overtime</u>						
Dislike Very Much	1	77	21.2	<u>Var 323</u>	<u>Overall Liking For Your Job</u>		
Neither Like/Dislike	2	13	3.6	Dislike Very Much	1	1	0.3
Like Very Much	3	39	10.7	Neither Like/Dislike	2	3	0.8
	4	96	26.4	Like Very Much	3	13	3.6
	5	46	12.7		4	16	4.4
	6	48	13.2		5	58	16.0
	7	43	11.8		6	110	30.3
	0	1	0.3		7	161	44.4
$\bar{X} = 3.931$	$SD = 1.974$				0	1	0.3
					$\bar{X} = 6.041$ $SD = 1.144$		
<u>Var 321</u>	<u>Chance to Tell People What To Do</u>						
Dislike Very Much	1	7	1.9	<u>Var 401</u>	<u>Support You Receive From Peers</u>		
Neither Like/Dislike	2	5	1.4	Less than Males	1	27	7.4
Like Very Much	3	15	4.1	Same As Males	2	29	8.0
	4	174	47.9	More Than Males	3	38	10.5
	5	74	20.4		4	190	52.3
	6	48	13.2		5	49	13.5
	7	38	10.5		6	21	5.8
	0	2	0.6		7	6	1.7
$\bar{X} = 4.659$	$SD = 1.235$				0	3	0.8
					$\bar{X} = 3.811$ $SD = 1.261$		

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 402</u>	Communication Flow You Receive			<u>Var 405</u>	Cooperation From Local Union		
Less Than Males	1	37	10.2	Less Than Males	1	16	4.4
	2	44	12.1		2	18	5.0
	3	52	14.3		3	18	5.0
Same As Males	4	175	48.2	Same As Males	4	207	57.0
	5	38	10.5		5	61	16.8
	6	9	2.5		6	30	8.3
More Than Males	7	7	1.9	More Than Males	7	10	2.8
	0	1	0.3		0	3	0.8
$\bar{X} = 3.519$	$SD = 1.305$			$\bar{X} = 4.136$	$SD = 1.178$		
<u>Var 403</u>	Pay In This Job			<u>Var 406</u>	Your Qualifications To Perform The Job		
Less Than Males	1	43	11.8	Less Than Males	1	2	0.6
	2	28	7.7		2	4	1.1
	3	45	12.4		3	21	5.8
Same As Males	4	206	56.7	Same As Males	4	204	56.2
	5	24	6.6		5	60	16.5
	6	5	1.4		6	47	12.9
More Than Males	7	1	0.3	More Than Males	7	23	6.3
	0	11	3.0		0	2	0.6
$\bar{X} = 3.452$	$SD = 1.183$			$\bar{X} = 4.521$	$SD = 1.070$		
<u>Var 404</u>	Support From Service Depts.			<u>Var 407</u>	Support From Your Supv.		
Less Than Males	1	5	1.4	Less Than Males	1	19	5.2
	2	21	5.8		2	22	6.1
	3	27	7.4		3	41	11.3
Same As Males	4	188	51.8	Same As Males	4	199	54.8
	5	65	17.9		5	52	14.3
	6	39	10.7		6	24	6.6
More Than Males	7	17	4.7	More Than Males	7	5	1.4
	0	1	0.3		0	1	0.3
$\bar{X} = 4.304$	$SD = 1.173$			$\bar{X} = 3.925$	$SD = 1.166$		

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 408</u>	Effectiveness In Dealing With Union			<u>Var 501</u>	Challenge		
Less Than Males	1	6	1.7	Very Little Extent	1	5	1.4
	2	7	1.9		2	1	0.3
Same As Males	3	31	8.5	Moderate Extent	3	8	2.2
	4	181	49.9		4	35	9.6
	5	81	22.3	Very Great Extent	5	37	10.2
More Than Males	6	35	9.6		6	77	21.2
	7	20	5.5	$\bar{X} = 6.108$	7	199	54.8
$\bar{X} = 4.410$	$SD = 1.122$	2	0.6	$SD = 1.273$	0	1	0.3
<u>Var 409</u>	Your Competence in Perform. Job			<u>Var 502</u>	Scope of Responsibility		
Less Than Males	1	0	0.0	Very Little Extent	1	5	1.4
	3	9	2.5		2	5	1.4
Same As Males	4	174	47.9	Moderate Extent	3	6	1.7
	5	90	24.8		4	49	13.5
	6	64	17.6	Very Great Extent	5	66	18.2
More Than Males	7	24	6.6		6	97	26.7
$\bar{X} = 4.778$	$SD = 0.989$	2	0.6	$\bar{X} = 5.736$	7	132	36.4
<u>Var 410</u>	Overall Help In Perform. Job			$SD = 1.323$	0	3	0.8
Less Than Males	1	14	3.9	<u>Var 503</u>	Opportunity		
	2	20	5.5	Very Little Extent	1	2	0.6
Same As Males	3	47	12.9		2	2	0.6
	4	222	61.2	Moderate Extent	3	4	1.1
	5	44	12.1		4	27	7.4
More Than Males	6	12	3.3	Very Great Extent	5	37	10.2
	7	2	0.6		6	98	27.0
$\bar{X} = 3.848$	$SD = 0.992$	2	0.6	$\bar{X} = 6.194$	7	191	52.6
				$SD = 1.106$	0	2	0.6

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 504</u> Pay				<u>Var 507</u> Encouragement From A Male			
Very Little Extent	1	7	1.9	Very Little Extent	1	103	28.4
	2	7	1.9		2	26	7.2
	3	14	3.9	Moderate Extent	3	19	5.2
Moderate Extent	4	44	12.1		4	65	17.9
	5	44	12.1	Very Great Extent	5	29	8.0
	6	79	21.8		6	41	11.3
Very Great Extent	7	166	45.7		7	78	21.5
$\bar{X} = 5.803$ SD = 1.477	0	2	0.6	$\bar{X} = 3.903$ SD = 2.322	0	2	0.6
<u>Var 505</u> Status and Prestige				<u>Var 508</u> Encouragement From A Female			
Very Little Extent	1	44	12.1	Very Little Extent	1	158	43.5
	2	31	8.5		2	36	9.9
	3	22	6.1	Moderate Extent	3	23	6.3
Moderate Extent	4	112	30.9		4	60	16.5
	5	47	12.9	Very Great Extent	5	21	5.8
	6	58	16.0		6	33	9.1
Very Great Extent	7	45	12.4		7	25	6.9
$\bar{X} = 4.228$ SD = 1.836	0	4	1.1	$\bar{X} = 2.857$ SD = 2.057	0	7	1.9
<u>Var 506</u> Attitude of Mgmt. Toward Women				<u>Var 509</u> Need For Achievement			
Very Little Extent	1	84	23.1	Very Little Extent	1	15	4.1
	2	38	10.5		2	8	2.2
	3	28	7.7	Moderate Extent	3	7	1.9
Moderate Extent	4	102	28.1		4	39	10.7
	5	39	10.7	Very Great Extent	5	35	9.6
	6	32	8.8		6	89	24.5
Very Great Extent	7	37	10.2		7	166	45.7
$\bar{X} = 3.606$ SD = 1.961	0	3	0.8	$\bar{X} = 5.791$ SD = 1.592	0	4	1.1

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 510</u>	Act Naturally			<u>Var 513</u>	Use The Participative Approach		
Very Little Extent	1	7	1.9	Very Little Extent	1	3	0.8
	2	2	0.6		2	5	1.4
	3	2	0.6	Moderate Extent	3	6	1.7
Moderate Extent	4	48	13.2		4	68	18.7
	5	34	9.4	Very Great Extent	5	62	17.1
	6	74	20.4		6	99	27.3
Very Great Extent	7	193	53.2	$\bar{X} = 5.620$	7	115	31.7
$\bar{X} = 6.039$	0	3	0.8	SD = 1.303	0	5	1.4
SD = 1.339							
<u>Var 511</u>	Avoid An Authoritative Approach			<u>Var 514</u>	Become Technically Competent		
Very Little Extent	1	27	7.4	Very Little Extent	1	2	0.6
	2	20	5.5		2	4	1.1
	3	24	6.6	Moderate Extent	3	12	3.3
Moderate Extent	4	109	30.0		4	42	11.6
	5	43	11.8	Very Great Extent	5	50	13.8
	6	50	13.8		6	91	25.1
Very Great Extent	7	85	23.4	$\bar{X} = 5.900$	7	160	44.1
$\bar{X} = 4.707$	0	5	1.4	SD = 1.287	0	2	0.6
SD = 1.815							
<u>Var 512</u>	Maintain An Air of Confidence			<u>Var 515</u>	Work Hard/Do More Than Own Share		
Very Little Extent	1	4	1.1	Very Little Extent	1	10	2.8
	2	2	0.6		2	9	2.5
	3	1	0.3	Moderate Extent	3	17	4.7
Moderate Extent	4	40	11.0		4	58	16.0
	5	51	14.0	Very Great Extent	5	56	15.4
	6	108	29.8		6	90	24.8
Very Great Extent	7	154	42.4	$\bar{X} = 5.475$	7	120	33.1
$\bar{X} = 5.978$	0	3	0.8	SD = 1.544	0	3	0.8
SD = 1.187							

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 516</u>	More Helpful of Subordinates Than Males			<u>Var 519</u>	Problem Solving		
Very Little Extent	1	38	10.5	Very Little Extent	1	3	0.8
	2	19	5.2		2	6	1.7
	3	30	8.3	Moderate Extent	3	11	3.0
Moderate Extent	4	83	22.9		4	68	18.7
	5	60	16.5	Very Great Extent	5	82	22.6
	6	74	20.4		6	94	25.9
Very Great Extent	7	55	15.2	Very Great Extent	7	97	26.7
$\bar{X} = 4.532$	SD = 1.829	4	1.1	$\bar{X} = 5.465$	SD = 1.310	2	0.6
<u>Var 517</u>	Paperwork			<u>Var 520</u>	Coordination		
Very Little Extent	1	36	9.9	Very Little Extent	1	3	0.8
	2	29	8.0		2	3	0.8
	3	51	14.0	Moderate Extent	3	8	2.2
Moderate Extent	4	126	34.7		4	72	19.8
	5	64	17.6	Very Great Extent	5	76	20.9
	6	33	9.1		6	97	26.7
Very Great Extent	7	23	6.3	Very Great Extent	7	102	28.1
$\bar{X} = 3.950$	SD = 1.573	1	0.3	$\bar{X} = 5.532$	SD = 1.271	2	0.6
<u>Var 518</u>	Developing Subordinates			<u>Var 521</u>	Safety and Housekeeping		
Very Little Extent	1	12	3.3	Very Little Extent	1	4	1.1
	2	18	5.0		2	12	3.3
	3	27	7.4	Moderate Extent	3	17	4.7
Moderate Extent	4	114	31.4		4	65	17.9
	5	75	20.7	Very Great Extent	5	60	16.5
	6	68	18.7		6	84	23.1
Very Great Extent	7	44	12.1	Very Great Extent	7	119	32.8
$\bar{X} = 4.682$	SD = 1.482	5	1.4	$\bar{X} = 5.474$	SD = 1.476	2	0.6

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 528</u>	Lack of Education			<u>Var 531</u>	Lack of Mgt. Support		
Very Little Extent	1	189	52.1	Very Little Extent	1	137	37.7
	2	53	14.6		2	59	16.3
	3	26	7.2	Moderate Extent	3	45	12.4
Moderate Extent	4	55	15.2		4	52	14.3
	5	23	6.3		5	31	8.5
	6	9	2.5	Very Great Extent	6	20	5.5
Very Great Extent	7	4	1.1		7	17	4.7
	0	4	1.1	$\bar{X} = 2.201$	0	2	0.6
				SD = 1.560			
<u>Var 529</u>	Lack of Training			<u>Var 532</u>	Harassment From Peers		
Very Little Extent	1	159	43.8	Very Little Extent	1	145	39.9
	2	74	20.4		2	62	17.1
	3	32	8.8	Moderate Extent	3	31	8.5
Moderate Extent	4	50	13.8		4	60	16.5
	5	22	6.1		5	24	6.6
	6	14	3.9	Very Great Extent	6	17	4.7
Very Great Extent	7	6	1.7		7	21	5.8
	0	6	1.7	$\bar{X} = 2.350$	0	3	0.8
				SD = 1.607			
<u>Var 530</u>	Lack of Aggressiveness			<u>Var 533</u>	Supervisor Shows Animosity		
Very Little Extent	1	200	55.1	Very Little Extent	1	170	46.8
	2	51	14.0		2	52	14.3
	3	29	8.0	Moderate Extent	3	38	10.5
Moderate Extent	4	38	10.5		4	44	12.1
	5	26	7.2		5	20	5.5
	6	7	1.9	Very Great Extent	6	22	6.1
Very Great Extent	7	8	2.2		7	14	3.9
	0	4	1.1	$\bar{X} = 2.142$	0	3	0.8
				SD = 1.603			

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 534</u>	Subordinates Show Less Respect			<u>Var 537</u>	Harassment From Union		
Very Little Extent	1	191	52.6	Very Little Extent	1	169	46.6
	2	62	17.1		2	76	20.9
	3	34	9.4	Moderate Extent	3	30	8.3
Moderate Extent	4	39	10.7		4	52	14.3
	5	13	3.6	Very Great Extent	5	14	3.9
	6	11	3.0		6	11	3.0
Very Great Extent	7	7	1.9		7	8	2.2
	0	6	1.7	$\bar{X} = 2.253$	SD = 1.571	3	0.8
$\bar{X} = 2.109$	SD = 1.540						
<u>Var 535</u>	Lack of Technical Background			<u>Var 538</u>	Discrimination Against Women		
Very Little Extent	1	91	25.1	Very Little Extent	1	131	36.1
	2	45	12.4		2	66	18.2
	3	45	12.4	Moderate Extent	3	37	10.2
Moderate Extent	4	78	21.5		4	48	13.2
	5	43	11.8	Very Great Extent	5	28	7.7
	6	34	9.4		6	24	6.6
Very Great Extent	7	23	6.3		7	24	6.6
	0	4	1.1	$\bar{X} = 2.844$	SD = 1.938	5	1.4
$\bar{X} = 3.365$	SD = 1.895						
<u>Var 536</u>	Discouraging Sexual Advances			<u>Var 539</u>	Maintenance (Skilled trades)		
Very Little Extent	1	125	34.4	Very Little Extent	1	26	7.2
	2	40	11.0		2	22	6.1
	3	34	9.4	Moderate Extent	3	15	4.1
Moderate Extent	4	64	17.6		4	72	19.8
	5	37	10.2	Very Great Extent	5	66	18.2
	6	25	6.9		6	87	24.0
Very Great Extent	7	34	9.4		7	74	20.4
	0	4	1.1	$\bar{X} = 4.898$	SD = 1.765	1	0.3
$\bar{X} = 3.164$	SD = 2.055						

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 540</u>	Janitorial Services			<u>Var 543</u>	Personnel - other		
Very Little Extent	1	38	10.5	Very Little Extent	1	28	7.7
	2	28	7.7		2	18	5.0
	3	32	8.8	Moderate Extent	3	21	5.8
Moderate Extent	4	101	27.8		4	93	25.6
	5	56	15.4	Very Great Extent	5	59	16.3
	6	55	15.2		6	76	20.9
Very Great Extent	7	47	12.9		7	65	17.9
$\bar{X} = 4.294$	SD = 1.801	6	1.7	$\bar{X} = 4.736$	SD = 1.749	3	0.8
<u>Var 541</u>	Industrial Engineering			<u>Var 544</u>	Engineering		
Very Little Extent	1	29	8.0	Very Little Extent	1	30	8.3
	2	23	6.3		2	25	6.9
	3	37	10.2	Moderate Extent	3	27	7.4
Moderate Extent	4	94	25.9		4	99	27.3
	5	58	16.0	Very Great Extent	5	53	14.6
	6	69	19.0		6	68	18.7
Very Great Extent	7	52	14.3		7	58	16.0
$\bar{X} = 4.503$	SD = 1.746	1	0.3	$\bar{X} = 4.544$	SD = 1.780	3	0.8
<u>Var 542</u>	Labor Relations			<u>Var 545</u>	Inspection		
Very Little Extent	1	32	8.8	Very Little Extent	1	27	7.4
	2	27	7.4		2	17	4.7
	3	20	5.5	Moderate Extent	3	20	5.5
Moderate Extent	4	89	24.5		4	86	23.7
	5	56	15.4	Very Great Extent	5	59	16.3
	6	82	22.6		6	85	23.4
Very Great Extent	7	57	15.7		7	64	17.6
$\bar{X} = 4.609$	SD = 1.804			$\bar{X} = 4.799$	SD = 1.737	5	1.4

<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>	<u>CATEGORY</u>	<u>CODE</u>	<u>NO.</u>	<u>PCT.</u>
<u>Var 546</u>	Material Control			<u>Var 549</u>	Women Excluded Some Bad Assignments		
Very Little Extent	1	36	9.9	Very Little Extent	1	200	55.1
	2	27	7.4		2	57	15.7
	3	24	6.6	Moderate Extent	3	31	8.5
Moderate Extent	4	79	21.8		4	40	11.0
	5	68	18.7	Very Great Extent	5	16	4.4
	6	73	20.1		6	8	2.2
Very Great Extent	7	52	14.3		7	7	1.9
	0	4	1.1	$\bar{X} = 2.072$	0	4	1.1
$\bar{X} = 4.513$	SD = 1.823			SD = 1.528			
<u>Var 547</u>	Men Have More Responsibility			<u>Var 550</u>	Women Perform Some Tasks Men Don't		
Very Little Extent	1	185	51.0	Very Little Extent	1	192	52.9
	2	40	11.0		2	52	14.3
	3	32	8.8	Moderate Extent	3	24	6.6
Moderate Extent	4	54	14.9		4	43	11.8
	5	12	3.3	Very Great Extent	5	18	5.0
	6	19	5.2		6	14	3.9
Very Great Extent	7	19	5.2		7	17	4.7
	0	2	0.6	$\bar{X} = 2.449$	0	3	0.8
$\bar{X} = 2.449$	SD = 1.861			SD = 1.800			
<u>Var 548</u>	Women Not Inc. in Some Meetings			<u>Var 551</u>	Women Given More Responsibility		
Very Little Extent	1	215	59.2	Very Little Extent	1	213	58.7
	2	32	8.8		2	58	16.0
	3	28	7.7	Moderate Extent	3	26	7.2
Moderate Extent	4	34	9.4		4	25	6.9
	5	16	4.4	Very Great Extent	5	7	1.9
	6	17	4.7		6	16	4.4
Very Great Extent	7	19	5.2		7	14	3.9
	0	2	0.6	$\bar{X} = 2.255$	0	4	1.1
$\bar{X} = 2.255$	SD = 1.861			SD = 1.677			

APPENDIX D

CROSSTABULATION TABLES

Appendix D contains selected crosstabulation or contingency tables which were utilized in our data analysis and referenced in the respective results areas in Chapter III of our research. Identification of variables being compared by this non-linear analysis may be found at the top of each table. An explanation of crosstabulation may be found in Chapter II in the method of analysis section of that chapter.

***** C R O S S T A B U L A T I O N O F M E C H A N I C A L O R T E C H N I C A L A S P E C T S *****
 V A R 5 3 5 L A C K O F T E C H N I C A L B A C K G R O U N D B Y V A R 5 2 3 M E C H A N I C A L O R T E C H N I C A L A S P E C T S
 ***** P A G E 1 O F 1 *****

COUNT		V A R 5 2 3							ROW
NO	PCT	VERY LIT	MODERATE	VERY GRE	VERY GRE	VERY GRE	VERY GRE	TOTAL	
COL	PCT	ITLE EXTE	EXTENT	AT EXTEN	AT EXTEN	AT EXTEN	AT EXTEN		
TOT	PCT	1.1	2.1	3.1	4.1	5.1	6.1	7.1	
1.	31	11	10	27	8	1	3	91	
VERY LITTLE EXTE	34.1	12.1	11.0	29.7	8.8	1.1	3.3	25.3	
	67.4	29.7	30.3	25.7	15.4	2.1	7.9		
	8.6	3.1	2.8	7.5	2.2	0.3	0.8		
2.	5	16	7	10	6	1	0	45	
	11.1	35.6	15.6	22.2	13.3	2.2	0.0	12.5	
	10.9	43.2	21.2	9.5	11.5	2.1	0.0		
	1.4	4.5	1.9	2.8	1.7	0.3	0.0		
3.	2	4	7	19	11	2	0	45	
	4.4	6.9	15.6	42.2	24.4	4.4	0.0	12.5	
	4.3	10.8	21.2	18.1	21.2	4.2	0.0		
	0.6	1.1	1.9	5.3	3.1	0.6	0.0		
4.	5	5	6	33	10	9	10	78	
MODERATE EXTE	6.4	6.4	7.7	42.3	12.8	11.5	12.8	21.7	
	10.9	13.5	18.2	31.4	19.2	18.8	26.3		
	1.4	1.4	1.7	9.2	2.8	2.5	2.8		
5.	0	1	1	11	14	13	3	43	
	0.0	2.3	2.3	25.6	32.6	30.2	7.0	12.0	
	0.0	2.7	3.0	10.5	26.9	27.1	7.9		
	0.0	0.3	0.3	3.1	3.9	3.6	0.8		
6.	2	0	2	1	3	18	4	34	
	5.9	0.0	5.9	2.9	8.8	52.9	23.5	9.5	
	4.3	0.0	6.1	1.0	5.8	37.5	21.1		
	0.6	0.0	0.6	0.3	0.8	5.0	2.2		
7.	1	0	0	4	0	4	14	23	
VERY GREAT EXTE	4.3	0.0	0.0	17.4	0.0	17.4	60.9	6.4	
	2.2	0.0	0.0	3.8	0.0	8.3	36.8		
	0.3	0.0	0.0	1.1	0.0	1.1	3.9		
COLUMN	46	37	33	105	52	48	38	359	
TOTAL	12.8	10.3	9.2	29.2	14.5	13.4	10.6	100.0	

G M I S Q U A R E = 270.49536 WITH 36 DEGREES OF FREEDOM SIGNIFICANCE = 0.0000
 C H A M P E R S V = 0.35437
 C O N T I N G E N C Y C O E F F I C I E N T = 0.65552
 L A M B D A (A S Y M M E T R I C) = 0.16791 WITH VAR535 D E P E N D E N T .
 L A M B D A (S Y M M E T R I C) = 0.16284 = 0.15748 WITH VAR523 D E P E N D E N T .

***** C R O S S T A B U L A T I O N O F ***** BECOME TECHNICALLY COMPETENT *****
 VARS11 AVOID AN AUTHORITATIVE APPROACH ***** BY VARS14 ***** PAGE 1 OF 1

COUNT		VARS14							ROW	
40% PCT	VERY LIT	1.1	2.1	3.1	4.1	5.1	6.1	7.1	EXTEN	TOTAL
TOT PCT	EXTEN									
1.	1	1	1	1	1	1	1	1	1	7
VERY LITTLE EXTEN	3.7	3.7	3.7	6	6	2	6	10	27	7.6
	50.0	25.0	8.3	14.3	14.3	4.1	22.2	37.0		
	0.3	0.3	0.3	1.7	1.7	0.6	6.7	6.3		
2.	0	0	0	2	2	3	7	8	20	5.6
	0.0	0.0	0.0	10.0	10.0	15.0	35.0	40.0		
	0.0	0.0	0.0	4.8	4.8	6.1	7.8	5.1		
	0.0	0.0	0.0	0.6	0.6	0.8	2.0	2.2		
3.	0	0	1	4	4	3	7	9	24	6.7
	0.0	0.0	4.2	16.7	16.7	12.5	29.2	37.5		
	0.0	0.0	8.3	9.5	6.1	6.1	7.8	5.7		
	0.0	0.0	0.3	1.1	1.1	0.8	2.0	2.5		
4.	1	1	2	10	10	18	31	45	108	30.3
MODERATE EXTEN	0.9	0.9	1.9	9.3	9.3	16.7	28.7	41.7		
	50.0	25.0	16.7	23.8	23.8	36.7	34.4	28.5		
	0.3	0.3	0.6	2.8	2.8	5.0	8.7	12.6		
5.	0	1	2	0	0	11	12	17	43	12.0
	0.0	2.3	4.7	0.0	0.0	25.6	27.9	39.5		
	0.0	25.0	16.7	0.0	0.0	22.4	13.3	10.8		
	0.0	0.3	0.6	0.0	0.0	3.1	3.4	4.8		
6.	0	0	2	3	3	5	20	20	50	14.0
	0.0	0.0	4.0	6.0	6.0	10.0	40.0	40.0		
	0.0	0.0	16.7	7.1	7.1	10.2	22.2	12.7		
	0.0	0.0	0.6	0.8	0.8	1.4	5.6	5.6		
7.	0	1	4	17	17	7	7	49	85	23.8
VERY GREAT EXTEN	0.0	1.2	4.7	20.0	20.0	8.2	8.2	57.6		
	0.0	25.0	33.3	40.5	40.5	14.3	7.8	31.0		
	0.0	0.3	1.1	4.8	4.8	2.0	2.0	13.7		
COLUMN	2	4	12	42	42	49	90	158	357	100.0
TOTAL	0.6	1.1	3.4	11.8	11.8	13.7	25.2	44.3		

CHI SQUARE = 55.34568 WITH 36 DEGREES OF FREEDOM SIGNIFICANCE = 0.0204
 Cramer's V = 0.16080
 Contingency Coefficient = 0.36648
 Lambda (Asymmetric) = 0.05221 WITH VARS11 DEPENDENT.
 Lambda (Symmetric) = 0.02902
 = 0.0 WITH VARS14 DEPENDENT.

VAR512	COUNT	ROW PCT	VERY LIT	MODERATE	VERY GRE	ROW	
	TOT PCT	EXTENT	EXTENT	AT EXTEN	TOTAL		
	1.1	2.1	3.1	4.1	5.1	6.1	7.1
1. VERY LITTLE EXTEN	2	0	0	0	1	0	1
	50.0	0.0	0.0	0.0	25.0	0.0	25.0
	46.7	0.0	0.0	0.0	1.6	0.0	0.9
	0.6	0.0	0.0	0.0	0.3	0.0	0.3
2.	0	0	1	1	0	0	1
	0.0	0.0	50.0	0.0	0.0	0.0	50.0
	0.0	0.0	1.5	0.0	0.0	0.0	0.9
	0.0	0.0	0.3	0.0	0.0	0.0	0.3
3.	0	0	0	0	1	0	0
	0.0	0.0	0.0	0.0	100.0	0.0	0.0
	0.0	0.0	0.0	0.0	1.6	0.0	0.0
	0.0	0.0	0.0	0.0	0.3	0.0	0.0
4. MODERATE EXTENT	1	3	2	17	6	6	5
	2.5	7.5	5.0	42.5	15.0	15.0	12.5
	33.3	60.0	33.3	25.4	9.7	6.1	4.3
	0.3	0.8	0.6	4.8	1.7	1.7	1.4
5.	0	1	1	8	20	12	9
	0.0	2.0	2.0	15.7	39.2	23.5	17.6
	0.0	20.0	16.7	11.9	32.3	12.2	7.8
	0.0	0.3	0.3	2.2	5.6	3.4	2.5
6.	0	1	1	24	16	46	19
	0.0	0.9	0.9	22.4	15.0	43.0	17.8
	0.0	20.0	16.7	35.8	25.8	46.9	16.5
	0.0	0.3	0.3	6.7	4.5	12.9	5.3
7. VERY GREAT EXTEN	0	0	2	17	18	34	80
	0.0	0.0	1.3	11.3	11.9	22.5	53.0
	0.0	0.0	33.3	25.4	29.0	34.7	69.6
	0.0	0.0	0.6	4.8	5.1	9.6	22.5
COLUMN TOTAL	3	5	6	67	62	98	115
	0.8	1.4	1.7	18.8	17.4	27.5	32.3
							100.0

CHI SQUARE = 226.86081 WITH 36 DEGREES OF FREEDOM SIGNIFICANCE = 0.0000
 Cramer's V = 0.32590
 CONTINGENCY COEFFICIENT = 0.62387
 LAMBDA (ASYMMETRIC) = 0.12683 WITH VARS12 DEPENDENT.
 LAMBDA (SYMMETRIC) = 0.17489 WITH VARS13 DEPENDENT.

***** C H O S T A B U L A T I O N O F * * * * * B E C O M E T E C H N I C A L L Y C O M P E T E N T * * * * *
 V A R S I 3 U S E T H E P A R T I C I P A T I V E A P P R O A C H B Y V A R S I 4 * * * * * P A G E 1 O F 1

COUNT		VARS14							VERY GRE	ROW
FROM PCT	EVERY LIT	1.1	2.1	3.1	4.1	5.1	6.1	AT EXTEN	TOTAL	
COL PCT	ITL Ekte	1.1	2.1	3.1	4.1	5.1	6.1	7.1		
1.	VERY LITTLE EXTE	33.3	33.3	0.0	0.0	0.0	0.0	0.0	3	
		50.0	25.0	0.0	0.0	0.0	0.0	0.0	0.8	
		0.3	0.3	0.0	0.0	0.0	0.0	0.3		
2.		0.0	0.0	1.0	0.0	1.0	0.0	3.0	5	
		0.0	20.0	0.0	0.0	20.0	0.0	60.0	1.4	
		0.0	8.3	0.0	0.0	2.0	0.0	1.9		
		0.0	0.3	0.0	0.0	0.3	0.0	0.8		
3.		0.0	0.0	0.0	2.0	1.0	2.0	1.0	6	
		0.0	0.0	0.0	33.3	16.7	33.3	16.7	1.7	
		0.0	0.0	0.0	4.8	2.0	2.2	0.6		
		0.0	0.0	0.0	0.6	0.3	0.6	0.3		
4.	MODERATE EXTE	1.5	2.0	1.0	12.0	10.0	14.0	27.0	67	
		50.0	50.0	8.3	28.6	20.0	15.7	17.1	18.8	
		0.3	0.6	0.3	3.4	2.8	3.9	7.6		
5.		0.0	1.0	2.0	9.0	19.0	19.0	12.0	62	
		0.0	1.6	3.2	14.5	30.6	30.6	19.4	17.4	
		0.0	25.0	16.7	21.4	38.0	21.3	7.6		
		0.0	0.3	0.6	2.5	5.3	5.3	3.4		
6.		0.0	0.0	5.0	11.0	11.0	38.0	34.0	99	
		0.0	0.0	5.1	11.1	11.1	42.7	21.5	27.7	
		0.0	0.0	4.7	26.2	3.1	10.6	9.5		
7.	VERY GREAT EXTE	0.0	0.0	3.0	8.0	8.0	16.0	80.0	115	
		0.0	0.0	2.6	7.0	7.0	13.9	69.6	32.2	
		0.0	0.0	25.0	19.0	16.0	18.0	50.6		
		0.0	0.0	0.8	2.2	2.2	4.5	22.4		
COLUMN	TOTAL	2	4	12	42	50	89	158	357	
		0.6	1.1	3.4	11.8	14.0	24.9	44.3	100.0	

GMI SQUARE = 169.90326 WITH 36 DEGREES OF FREEDOM SIGNIFICANCE = 0.0000
 Cramer's V = 0.28164
 Contingency Coefficient = 0.56785
 Lambda (Asymmetric) = 0.17355 WITH VARS13 DEPENDENT.
 Lambda (Symmetric) = 0.12245 = 0.06030 WITH VARS14 DEPENDENT.

***** C R O S S T A B U L A T I O N O F ***** MAINTAIN AN AIR OF CONFIDENCE *****
 VARS11 AVOID AN AUTHORITATIVE APPROACH BY VARS12 ***** PAGE 1 OF 1

COUNT		VARS12							ROW
ROW PCT	VERY LIT	COL PCT	VERY LIT	MODERATE	VERY GRE	AT EXTEN	VERY GRE	TOTAL	
TOT PCT	EXTEN	TOT PCT	EXTEN	EXTEN	EXTEN	EXTEN	EXTEN		
1.	11.1	0.0	0.0	22.2	6	1	4	13	
	75.0	0.0	0.0	15.0	3.7	2.0	14.8	48.1	
	0.4	0.0	0.0	1.7	0.3	0.3	3.7	8.6	
2.	0	2	0	0	3	11	4	20	
	0.0	10.0	0.0	0.0	15.0	55.0	20.0	5.6	
	0.0	100.0	0.0	0.0	6.0	10.3	2.6		
	0.0	0.6	0.0	0.0	0.8	3.1	1.1		
3.	0	0	1	5	5	9	4	24	
	0.0	0.0	4.2	20.8	20.8	37.5	16.7	6.7	
	0.0	0.0	100.0	12.5	10.0	8.4	2.6		
	0.0	0.0	0.3	1.4	1.4	2.5	1.1		
4.	0	0	0	21	18	29	41	109	
	0.0	0.0	0.0	19.3	16.5	26.6	37.6	30.6	
	0.0	0.0	0.0	52.5	36.0	27.1	27.0		
	0.0	0.0	0.0	5.9	5.1	8.1	11.5		
5.	0	0	0	1	10	17	15	43	
	0.0	0.0	0.0	2.3	23.3	39.5	34.9	12.1	
	0.0	0.0	0.0	2.5	20.0	15.9	9.9		
	0.0	0.0	0.0	0.3	2.8	4.8	4.2		
6.	0	0	0	2	6	27	14	49	
	0.0	0.0	0.0	4.1	12.2	55.1	28.6	13.8	
	0.0	0.0	0.0	5.0	12.0	25.2	9.2		
	0.0	0.0	0.0	0.6	1.7	7.6	3.9		
7.	1	0	0	5	7	10	61	84	
	1.2	0.0	0.0	6.0	8.3	11.9	72.6	23.6	
	25.0	0.0	0.0	12.5	14.0	9.3	40.1		
	0.3	0.0	0.0	1.4	2.0	2.8	17.1		
COLUMN	4	2	1	40	50	107	152	356	
TOTAL	1.1	0.6	0.3	11.2	14.0	30.1	42.7	100.0	

CHI SQUARE = 158.28766 WITH 36 DEGREES OF FREEDOM SIGNIFICANCE = 0.0000
 GAMMA'S V = 0.27222
 CONTINGENCY COEFFICIENT = 0.55478
 LAMBDA (ASYMMETRIC) = 0.10526 WITH VARS11 DEPENDENT.
 LAMBDA (SYMMETRIC) = 0.11752 = 0.13235 WITH VARS12 DEPENDENT.

***** C R O S S T A B U L A T I O N O F * * * * *
 VAR402 COMMUNICATION FLOW YOU RECEIVE BY VAR202 SHIFT YOU ARE PRESENTLY WORKING
 ***** PAGE 1 OF 1

		VAR202			ROW
COUNT	ROW	IFIRST	SECOND	THIRD	TOTAL
COL PCT	PCT I	1.I	2.I	3.I	
VAR402					
LESS THAN MALES					
1.	I	15	I 19	I 2	I 36
	I	41.7	I 52.8	I 5.6	I 10.3
	I	8.6	I 12.5	I 8.0	I
	I	4.3	I 5.4	I 0.6	I
2.	I	23	I 17	I 3	I 43
	I	53.5	I 39.5	I 7.0	I 12.3
	I	13.2	I 11.2	I 12.0	I
	I	6.6	I 4.8	I 0.9	I
3.	I	25	I 18	I 7	I 50
	I	50.0	I 36.0	I 14.0	I 14.2
	I	14.4	I 11.8	I 28.0	I
	I	7.1	I 5.1	I 2.0	I
4.	I	84	I 75	I 9	I 168
	I	50.0	I 44.6	I 5.4	I 47.9
	I	48.3	I 49.3	I 36.0	I
	I	23.9	I 21.4	I 2.6	I
5.	I	18	I 18	I 2	I 38
	I	47.4	I 47.4	I 5.3	I 10.8
	I	10.3	I 11.8	I 8.0	I
	I	5.1	I 5.1	I 0.6	I
6.	I	5	I 2	I 2	I 9
	I	55.6	I 22.2	I 22.2	I 2.6
	I	2.9	I 1.3	I 8.0	I
	I	1.4	I 0.6	I 0.6	I
7.	I	4	I 3	I 0	I 7
	I	57.1	I 42.9	I 0.0	I 2.0
	I	2.3	I 2.0	I 0.0	I
	I	1.1	I 0.9	I 0.0	I
COLUMN		174	152	25	351
TOTAL		49.6	43.3	7.1	100.0

CHI SQUARE = 11.16472 WITH 12 DEGREES OF FREEDOM SIGNIFICANCE = 0.5149
 CRAMER'S V = 0.12611
 CONTINGENCY COEFFICIENT = 0.17558
 LAMBDA (ASYMMETRIC) = 0.0 WITH VAR402 DEPENDENT.
 LAMBDA (SYMMETRIC) = 0.01111 = 0.02260 WITH VAR202 DEPENDENT.

VAR407	COUNT	ROW PCT	COL PCT	LESS THA	TOT PCT	1.1	2.1	3.1	4.1	5.1	6.1	MORE THA	ROW
				IN MALES				SAME AS	MALES			N MALES	TOTAL
VAR201													
1-5	1.	9	13	1	20	75	27	11	7.0	1.3	2	157	43.5
		5.7	8.3	12.7	47.8	17.2	7.0	1.3	1.3	1.3	2	157	43.5
		47.4	59.1	48.8	37.9	51.9	45.8	40.0	40.0	40.0	0.6	151	41.8
		2.5	3.6	5.5	20.8	7.5	3.0	0.6	0.6	0.6	0.6	151	41.8
		8	13	18	90	16	9	2	2	2	2	151	41.8
		5.3	8.3	11.9	59.6	10.6	6.0	1.3	1.3	1.3	2	151	41.8
		42.1	36.4	43.9	45.5	30.8	37.5	40.0	40.0	40.0	0.6	35	9.7
		2.2	2.2	5.0	24.9	4.4	2.5	0.6	0.6	0.6	0.6	35	9.7
		2	1	2	21	5	4	0	0	0	0	11	3.0
		5.7	2.9	5.7	60.0	14.3	11.4	0.0	0.0	0.0	0.0	11	3.0
		10.5	4.5	4.9	10.6	9.6	16.7	0.0	0.0	0.0	0.0	11	3.0
		0.6	0.3	0.6	5.8	1.4	1.1	0.0	0.0	0.0	0.0	11	3.0
		0	0	1	7	2	2	0	0	0	0	7	1.9
		0.0	0.0	9.1	63.6	18.2	0.0	9.1	0.0	0.0	0.0	7	1.9
		0.0	0.0	2.4	3.5	3.8	0.0	20.0	0.0	0.0	0.0	7	1.9
		0.0	0.0	0.3	1.9	0.6	0.0	0.0	0.0	0.0	0.0	7	1.9
		0	0	0	5	2	2	0	0	0	0	7	1.9
		0.0	0.0	0.0	71.4	28.6	0.0	0.0	0.0	0.0	0.0	7	1.9
		0.0	0.0	0.0	2.5	3.8	0.0	0.0	0.0	0.0	0.0	7	1.9
		0.0	0.0	0.0	1.4	0.6	0.0	0.0	0.0	0.0	0.0	7	1.9
		19	22	41	198	52	24	5	361	100.0			
		5.3	6.1	11.4	54.8	14.4	6.6	1.4	100.0				

CHI SQUARE = 20.28583 WITH 24 DEGREES OF FREEDOM SIGNIFICANCE = 0.6804
 CRAMER'S V = 0.11853
 CONTINGENCY COEFFICIENT = 0.23066
 LAMBDA (ASYMMETRIC) = 0.07353 WITH VAR201 DEPENDENT. = 0.0 WITH VAR407 DEPENDENT.
 LAMBDA (SYMMETRIC) = 0.04087
 UNCERTAINTY COEFFICIENT (ASYMMETRIC) = 0.02704 WITH VAR201 DEPENDENT. = 0.02162 WITH VAR407 DEPENDENT.
 UNCERTAINTY COEFFICIENT (SYMMETRIC) = 0.02403
 KENDALL'S TAU B = 0.04499 SIGNIFICANCE = 0.1639
 KENDALL'S TAU C = 0.03597 SIGNIFICANCE = 0.1639
 GAMMA = 0.07070
 SOMERS'S D (ASYMMETRIC) = 0.04397 WITH VAR201 DEPENDENT. = 0.04603 WITH VAR407 DEPENDENT.
 SOMERS'S D (SYMMETRIC) = 0.04497
 ETA = 0.14652 WITH VAR201 DEPENDENT. = 0.09549 WITH VAR407 DEPENDENT.
 PEARSON'S R = 0.07822 SIGNIFICANCE = 0.0690

CROSSTABULATION OF
 VAR 213 OVERALL PERFORMANCE APPRAISAL BY VAR 212 JOB PERFORMANCE DISCUSSION FREQUENCY

COUNT	VARIABLE 212					ROW TOTAL
	MONTHLY	1-3 MOS	3-6 MOS	TWICE A YEAR	ANNUAL	
	1	2	3	4	5	
1 OUTSTANDING	5 29.4 5.2 1.4	2 11.8 4.7 0.6	0 0.0 0.0 0.0	0 0.0 0.0 0.0	10 58.8 6.8 2.8	17 4.8
2 HIGHLY EFFECTIVE	34 34.3 35.1 9.7	12 12.1 27.9 3.4	11 11.1 30.6 3.1	14 14.1 50.0 4.0	28 28.3 19.0 8.0	99 28.2
3 GOOD COMPETENT	43 22.5 44.3 12.3	25 13.1 58.1 7.1	20 10.5 55.6 5.7	13 6.8 46.4 3.7	90 47.1 61.2 25.6	191 54.4
4 NEEDS SLIGHT IMPROVEMENT	12 33.3 12.4 3.4	3 8.3 7.0 0.9	4 11.1 11.1 1.1	0 0.0 0.0 0.0	17 47.2 11.6 4.8	36 10.3
5 NEEDS MUCH IMPROVEMENT	3 37.5 3.1 0.9 97 27.6	1 12.5 2.3 0.3 43 12.3	1 12.5 2.8 0.3 36 10.3	1 12.5 3.6 0.3 28 8.0	2 25.0 1.4 0.3 147 41.9	8 2.3 351 100.0

CHI SQUARE = 23.65724 WITH 16 DEGREES OF FREEDOM SIGNIFICANCE = 0.0973

***** C H O S T A B L A T I O N O F F U L L T I M E W O R K E X P E R I E N C E *****
 VAR213 OVERALL PERFORMANCE APPRAISAL BY VAR104 FULL TIME WORK EXPERIENCE
 ***** PAGE 1 OF 1 *****

COUNT		VAR104					ROW
VAR213	COL	1-5 YRS	6-10 YRS	11-20 YRS	21 YRS	OR OVER	TOTAL
TOT PCT	1.1	2.1	3.1	4.1	5.1		
1.	0	1	4	7	5		17
	0.0	5.9	23.5	41.2	29.4		4.8
	0.0	1.3	4.9	5.8	7.9		
	0.0	0.3	1.1	2.0	1.4		
2.	1	16	18	39	25		99
	12.5	16.2	18.2	39.4	25.3		28.2
	0.3	4.6	5.1	11.1	7.1		
3.	7	46	47	66	26		192
	3.6	24.0	24.5	34.4	13.5		54.7
	87.5	58.2	58.0	41.3	41.3		
	2.0	13.1	13.4	18.8	7.4		
4.	0	12	11	7	6		36
	0.0	33.3	30.6	19.4	16.7		10.3
	0.0	15.2	13.6	5.8	9.5		
	0.0	3.4	3.1	2.0	1.7		
5.	0	4	1	1	1		7
	0.0	57.1	14.3	14.3	14.3		2.0
	0.0	5.1	1.2	0.8	1.6		
	0.0	1.1	0.3	0.3	0.3		
COLUMN	R	79	81	120	63		351
TOTAL		2.3	23.1	34.2	17.9		100.0

CHI SQUARE = 24.06387 WITH 16 DEGREES OF FREEDOM SIGNIFICANCE = 0.0531
 CRAMER'S V = 0.13625
 CONTINGENCY COEFFICIENT = 0.26294
 LAMBDA (ASYMMETRIC) = 0.0 WITH VAR213 DEPENDENT. = 0.03463 WITH VAR104 DEPENDENT.
 LAMBDA (SYMMETRIC) = 0.02051
 UNCF-TAINTY COEFFICIENT (ASYMMETRIC) = 0.03406 WITH VAR213 DEPENDENT. = 0.02717 WITH VAR104 DEPENDENT.
 UNCF-TAINTY COEFFICIENT (SYMMETRIC) = 0.03023
 KENDALL'S TAU B = -0.18579 SIGNIFICANCE = 0.0000
 KENDALL'S TAU C = -0.15645 SIGNIFICANCE = 0.0000
 GAMMA = -0.27404
 SOMERS'S D (ASYMMETRIC) = -0.16767 WITH VAR213 DEPENDENT. = -0.20587 WITH VAR104 DEPENDENT.
 SOMERS'S D (SYMMETRIC) = -0.18482
 ETA = 0.22117 WITH VAR213 DEPENDENT. = 0.21898 WITH VAR104 DEPENDENT.
 PEARSON'S R = 0.20956 SIGNIFICANCE = 0.0000

***** OVERALL PERFORMANCE APPRAISAL ***** CROSS TABULATION OF ATTITUDES OF MALE PEERS TOWARD YOU *****
 VAR213 ***** BY VAR220 ***** PAGE 1 OF 1

VAR213	COUNT	COL PCT	ROW PCT	DEFINITE	ACCEPT	GOALS	ENTMENT	RESENTMENT	INITIAL	FAIRLY	VERY	STR	ROW
		TOT PCT		ILY	ACCEP	EO	ENTMENT	RESENTMENT	TRONG	ME	ONG	HESE	TOTAL
		1.1	2.1	3.1	4.1	5.1	6.1						
OUTSTANDING	1.	4	4	3	4	0	1	16					16
		25.0	25.0	18.8	25.0	0.0	6.3	4.6					4.6
		3.1	13.8	2.7	6.7	0.0	14.3						
		1.1	1.1	0.9	1.1	0.0	0.3						
HIGHLY EFFECTIVE	2.	40	5	32	19	1	2	99					99
		40.4	5.1	32.3	19.2	1.0	2.0	28.4					28.4
		31.3	17.2	29.1	31.7	7.1	28.6						
		11.5	1.4	9.2	5.5	0.3	0.6						
GOOD COMPETENT	3.	69	10	65	31	13	3	191					191
		36.1	5.2	34.0	16.2	6.8	1.6	54.9					54.9
		53.9	34.5	59.1	51.7	92.9	42.9						
		19.8	2.9	18.7	8.9	3.7	0.9						
NEEDS SLIGHT IMP	4.	11	8	8	6	0	1	34					34
		32.4	23.5	23.5	17.6	0.0	2.9	9.8					9.8
		8.6	27.6	7.3	10.0	0.0	14.3						
		3.2	2.3	2.3	1.7	0.0	0.3						
MUCH IMPROV. NEE	5.	4	2	2	0	0	0	8					8
		50.0	25.0	25.0	0.0	0.0	0.0	2.3					2.3
		3.1	6.9	1.8	0.0	0.0	0.0						
		1.1	0.6	0.6	0.0	0.0	0.0						
COLUMN TOTAL		128	29	110	60	14	7	348					348
TOTAL		36.8	8.3	31.6	17.2	4.0	2.0	100.0					100.0

CHI SQUARE = 36.90059 WITH 20 DEGREES OF FREEDOM SIGNIFICANCE = 0.0120
 CRAMER'S V = 0.16282
 CONTINGENCY COEFFICIENT = 0.30963
 LAMBDA (ASYMMETRIC) = 0.0 WITH VAR213 DEPENDENT.
 LAMBDA (SYMMETRIC) = 0.0 WITH VAR220 DEPENDENT.
 UNCERTAINTY COEFFICIENT (ASYMMETRIC) = 0.04445 WITH VAR213 DEPENDENT.
 UNCERTAINTY COEFFICIENT (SYMMETRIC) = 0.03918
 KENDALL'S TAU B = -0.01604 SIGNIFICANCE = 0.3649
 KENDALL'S TAU C = -0.01329 SIGNIFICANCE = 0.3649
 GAMMA = -0.02395
 SOMERS'S D (ASYMMETRIC) = -0.01465 WITH VAR213 DEPENDENT.
 SOMERS'S D (SYMMETRIC) = -0.01597
 ETA = 0.11132 WITH VAR213 DEPENDENT.
 PEARSON'S R = -0.03835 SIGNIFICANCE = 0.2379

VAR213	COUNT	ROW PCT	COL PCT	VERY GRE AT EXTEN	MODERATE EXTENT	VERY GRE AT EXTEN	ROW TOTAL
OUTSTANDING	17	11.8	11.8	23.5	11.8	11.8	4.8
HIGHLY EFFECTIVE	100	13.0	13.0	9.0	7.0	7.0	28.4
GOOD COMPETENT	192	7.8	7.8	16.1	12.5	12.5	54.5
NEEDS SLIGHT IMP	35	2.3	2.3	0.6	0.6	0.6	9.9
MUCH IMPROV. NEE	8	0.9	0.9	0.9	0.6	0.6	2.3
COLUMN TOTAL	352	33	33	47	36	36	100.0

CHI SQUARE = 33.42595 WITH 24 DEGREES OF FREEDOM SIGNIFICANCE = 0.0954
 CRAMER'S V = 0.15408
 CONTINGENCY COEFFICIENT = 0.29449
 LAMBDA (ASYMMETRIC) = 0.03750 WITH VAR213 DEPENDENT.
 LAMBDA (ASYMMETRIC) = 0.01956
 UNCERTAINTY COEFFICIENT (ASYMMETRIC) = 0.04469 WITH VAR213 DEPENDENT.
 UNCERTAINTY COEFFICIENT (SYMMETRIC) = 0.03414
 KENDALL'S TAU B = 0.04463 SIGNIFICANCE = 0.1573
 KENDALL'S TAU C = 0.03963 SIGNIFICANCE = 0.1573
 GAMMA = 0.06227
 SOMERS'S D (ASYMMETRIC) = 0.03827 WITH VAR213 DEPENDENT.
 SOMERS'S D (SYMMETRIC) = 0.04411
 ETA = 0.10594 WITH VAR213 DEPENDENT.
 PEARSON'S R = 0.00367 SIGNIFICANCE = 0.4727

APPENDIX E

FACTOR ANALYSES

Appendix E contains quartimax rotated factor matrices which are referenced in the respective result sections of Chapter III. The principal factor matrices are not included, nor are rotated matrices other than those used in our analyses as stated in Chapter III. An explanation of factor analysis may be found in the method of analysis section of Chapter II.

BASIC FREQUENCIES OF FEMALE SUPERVISOR STUDY

FILE NONAME (CREATION DATE = 04/09/79)

QUARTIMAX ROTATED FACTOR MATRIX - JOB ACCEPTANCE

	FACTOR 1	FACTOR 2	FACTOR 3
VAR501	0.86222	-0.00148	0.01396
VAR502	0.82185	0.12873	-0.03317
VAR503	0.60333	0.02924	0.43956
VAR504	0.18415	0.08441	0.86501
VAR505	0.21909	0.50609	0.47128
VAR506	0.20548	0.58133	0.22900
VAR507	0.01867	0.72828	-0.11998
VAR508	0.07789	0.72702	0.00561
VAR509	0.51947	0.20949	0.09796

TRANSFORMATION MATRIX

	FACTOR 1	FACTOR 2	FACTOR 3
FACTOR 1	0.76310	0.50263	0.40626
FACTOR 2	-0.54254	0.83979	-0.01992
FACTOR 3	0.35119	0.20521	-0.91354

BASIC FREQUENCIES OF FEMALE SUPERVISOR STUDY

FILE NONAME (CREATION DATE = 04/09/79)

QUARTIMAX ROTATED FACTOR MATRIX - JOB SATISFACTION

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
VAR301	0.34601	0.33871	0.19331	0.06247
VAR302	0.56432	0.11756	0.00001	-0.19323
VAR303	0.17271	0.11855	0.32190	0.54117
VAR304	0.57592	0.16234	-0.17861	0.06892
VAR305	0.06297	0.65146	0.06908	0.14270
VAR306	0.07228	0.26606	0.27962	-0.32117
VAR307	0.21453	0.62036	0.02822	0.02251
VAR308	0.68473	0.15559	-0.08283	0.11408
VAR309	0.31561	0.55151	0.05722	0.24813
VAR310	0.57407	0.11159	0.37013	-0.14526
VAR311	0.60648	0.07556	0.13988	-0.06625
VAR312	0.63592	0.25463	0.00584	-0.11119
VAR313	0.06752	0.54982	0.08281	-0.09826
VAR314	0.51317	0.11916	-0.11141	0.30756
VAR315	0.38341	0.36754	0.26819	-0.24303
VAR316	0.19481	0.30461	0.81436	0.03623
VAR317	0.14357	0.29392	0.81931	0.09038
VAR318	0.69530	-0.09035	0.26422	0.23569
VAR319	0.69060	-0.00182	0.03134	0.39033
VAR320	0.16075	0.58289	-0.03597	0.30545
VAR321	0.14815	0.26217	-0.03480	0.63974
VAR322	0.24020	0.51508	0.12180	-0.11376

TRANSFORMATION MATRIX

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
FACTOR 1	0.76456	0.53820	0.31152	0.16954
FACTOR 2	-0.56651	0.54534	0.57338	-0.23001
FACTOR 3	-0.28911	0.50047	-0.50428	0.64159
FACTOR 4	0.10457	0.40307	-0.56559	-0.71183

BASIC FREQUENCIES OF FEMALE SUPERVISOR STUDY

FILE NONAME (CREATION DATE = 04/09/79)

QUARTIMAX ROTATED FACTOR MATRIX - JOB DIFFICULTIES

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
VAR523	0.20124	0.12600	0.05438	0.73777
VAR524	0.55952	0.21498	0.03720	-0.03256
VAR525	0.78024	-0.01793	0.09834	-0.08163
VAR526	0.61953	0.38239	0.07586	-0.07685
VAR527	0.58004	0.43135	0.15921	-0.01086
VAR528	0.53220	-0.06000	0.09533	0.16212
VAR529	0.59074	0.13645	0.10747	0.39939
VAR530	0.68410	0.11579	-0.00734	0.16978
VAR531	0.42898	0.50236	0.14492	-0.04864
VAR532	0.09848	0.74249	0.10781	0.12249
VAR533	0.11185	0.73681	0.12361	-0.08424
VAR534	0.36188	0.59458	-0.01984	0.13146
VAR535	0.16702	0.29747	0.05147	0.78552
VAR536	-0.05452	0.61428	0.10624	0.24056
VAR537	0.12708	0.68917	0.02082	0.04671
VAR538	0.05954	0.72517	0.28164	0.01524
VAR547	0.14469	0.11343	0.60160	0.30565
VAR548	0.11356	0.24496	0.74391	-0.01052
VAR549	0.04211	0.04936	0.66728	0.21682
VAR550	0.15880	0.27617	0.78132	-0.15132
VAR551	0.18753	0.26621	0.65451	-0.23309

TRANSFORMATION MATRIX

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
FACTOR 1	0.56465	0.68824	0.41724	0.18274
FACTOR 2	0.66784	-0.26522	-0.61143	0.33136
FACTOR 3	0.40659	-0.64662	0.60943	-0.21250
FACTOR 4	-0.26427	-0.19457	0.28400	0.90091

BASIC FREQUENCIES OF FEMALE SUPERVISOR STUDY

FILE NONAME (CREATION DATE = 04/09/79)

QUARTIMAX ROTATED FACTOR MATRIX - JOB DIFFICULTIES

	FACTOR 1	FACTOR 2	FACTOR 3
VAR524	0.18897	0.63801	-0.03879
VAR525	-0.01747	0.78958	0.16179
VAR526	0.36676	0.67039	0.02012
VAR527	0.44291	0.62494	0.05173
VAR528	0.04137	0.19200	0.82559
VAR529	0.23430	0.34743	0.70413
VAR530	0.12518	0.66062	0.23772
VAR531	0.54036	0.27704	0.35601
VAR532	0.75239	0.09379	0.02847
VAR533	0.75508	0.02063	0.14389
VAR534	0.58516	0.38601	0.02976
VAR536	0.62965	0.03734	-0.13791
VAR537	0.68278	0.16372	-0.06494
VAR538	0.78241	0.02202	0.08651

TRANSFORMATION MATRIX

	FACTOR 1	FACTOR 2	FACTOR 3
FACTOR 1	0.76977	0.58643	0.25210
FACTOR 2	-0.63173	0.64327	0.43258
FACTOR 3	0.09151	-0.49224	0.86563

BASIC FREQUENCIES OF FEMALE SUPERVISOR STUDY

FILE NONAME (CREATION DATE = 04/09/79)

QUARTIMAX ROTATED FACTOR MATRIX - MANAGEMENT STYLE

	FACTOR 1	FACTOR 2	FACTOR 3
VAR510	0.72020	0.08781	-0.00452
VAR511	0.72971	-0.36651	0.16003
VAR512	0.69599	0.21237	-0.11420
VAR513	0.70091	0.18708	0.13647
VAR514	0.27858	0.83072	0.03254
VAR515	0.21351	0.57032	0.54602
VAR516	0.07217	0.03323	0.91526

TRANSFORMATION MATRIX

	FACTOR 1	FACTOR 2	FACTOR 3
FACTOR 1	0.86734	0.38542	0.31492
FACTOR 2	-0.49241	0.57235	0.65570
FACTOR 3	0.07248	-0.72379	0.68621

APPENDIX F

MULTIPLE REGRESSION

Appendix F contains a list of the respective variables included in each of the two multiple regression analyses performed in an attempt to predict job performance of female supervisors. Also included, in addition to the multiple "r" values for each analysis, are the overall F-tests and the tables showing both "Beta" and "F" values for each independent variable. An explanation of multiple regression analysis may be found in the methods of analysis section of Chapter II.

ANALYSIS #1 (continued)

<u>Analysis of Variance</u>	<u>DF</u>	<u>Sum of Squares</u>	<u>Mean Square</u>	<u>F</u>
Regression	23	35.31484	1.53543	3.15726
Residual	267	129.84667	0.48632	

VARIABLES IN THE EQUATION

<u>Variable</u>	<u>B</u>	<u>Beta</u>	<u>Std. Error</u> <u>B</u>	<u>F</u>
102	0.6145737D-01	0.13775	0.03621	2.880
104	0.3376543D-01	0.04879	0.05481	0.380
203	0.3158333D-01	0.02539	0.07642	0.171
218	0.1246846	0.16891	0.04758	6.867
219	0.5354560D-01	0.09270	0.03464	2.389
302	0.8176119D-02	0.01559	0.03353	0.059
304	0.3338542D-01	0.04286	0.05133	0.423
307	-0.1488376D-01	-0.03918	0.02399	0.385
308	0.6477737D-01	0.08137	0.05638	1.320
310	0.5958467D-02	0.01182	0.03497	0.029
311	0.5548589D-01	0.09510	0.03851	2.076
312	-0.5744871D-02	-0.01070	0.03732	0.024
315	0.2652545D-01	0.06631	0.02637	1.012
319	-0.8857868D-01	-0.10997	0.05645	2.462
401	-0.1199617D-01	-0.01990	0.04385	0.075
402	0.3651766D-01	0.06217	0.04217	0.750
405	0.2237083D-01	0.03458	0.03870	0.334
407	0.2499756D-01	0.03633	0.04613	0.294
519	0.2729991D-01	0.04734	0.03640	0.562
520	0.6777973D-01	0.11514	0.03809	3.167
526	0.2041301D-01	0.03825	0.03516	0.337
530	0.6051618D-01	0.12980	0.03072	3.880
534	-0.1915946D-01	-0.03825	0.03301	0.337
(CONSTANT)	0.4725278			

ALL VARIABLES ARE IN THE EQUATION

MULTIPLE REGRESSION

ANALYSIS #2

Dependent Variable Var 213 Overall Performance Appraisal

Variables entered on step number 1:

Var 101	Present job longevity
Var 102	Time with the company
Var 103	Most recent work experience
Var 104	Full time work experience
Var 105	Highest education level
Var 106	Race
Var 107	Age
Var 108	Marital status
Var 109	Children under six
Var 110	Children six to eighteen
Var 111	Region you grew up in
Var 112	Mothers occupation
Var 113	Fathers occupation
Var 114	Spouses occupation
Var 201	# Supvs.reporting to gen. supv.
Var 202	Shift you are presently working
Var 203	Shift you usually work
Var 204	Shift you received training on
Var 205	# Employees you directly supervise
Var 401	Support you receive from peers
Var 404	Support from service departments
DV1	Participative management style
DV2	Task management style
DV3	Supervisory support
DV4	Intrinsic - job satisfaction
DV5	Extrinsic - job satisfaction
DV6	Intrinsic - job acceptance
DV7	Extrinsic - job acceptance
DV8	Supervisor attitude

ANALYSIS #2 (continued)

DV9 Peer attitude
 DV10 Subordinate attitude
 DV11 Attitude of males
 DV12 Attitude of females

Multiple R 0.44312
 R Square 0.19636
 Adjusted R Square 0.09813
 Standard Error 0.73193

<u>Analysis of Variance</u>	<u>DF</u>	<u>Sum of Squares</u>	<u>Mean Square</u>	<u>F</u>
Regression	33.	35.34160	1.07096	1.99909
Residual	270.	144.64524	0.53572	

ANALYSIS #2 (continued)

VARIABLES IN THE EQUATION

Variable			Std. Error	
	B	Beta	B	F
101	-0.8794825D-01	-0.11579	0.05607	2.460
102	0.1250402	0.27327	0.04678	7.146
103	0.1227794D-01	0.02865	0.02841	0.187
104	0.4647465D-01	0.06542	0.06168	0.568
105	-0.4407648D-01	-0.06672	0.04855	0.824
106	0.8056418D-01	0.09058	0.05495	2.149
107	-0.7577703D-01	-0.10440	0.06308	1.443
108	-0.4211494D-03	-0.00047	0.05874	0.000
109	-0.5368946D-01	-0.04624	0.06653	0.651
110	0.5778734D-02	0.00832	0.04485	0.017
111	0.2179481D-01	0.02095	0.06093	0.128
112	-0.8145683D-03	-0.00533	0.00923	0.008
113	0.1317440D-01	0.05882	0.01408	0.875
114	0.1290763D-01	0.06792	0.01253	1.061
201	-0.4192722D-01	-0.04770	0.05133	0.667
202	-0.4835261D-01	-0.03866	0.11883	0.166
203	0.1148733	0.09222	0.12442	0.852
204	0.1694277D-01	0.01267	0.08378	0.041
205	-0.4588324D-02	-0.00666	0.04140	0.012
401	0.5933762D-01	0.09892	0.03958	2.247
404	0.6656413D-01	0.10164	0.04004	2.763
DV1	-0.6406011D-01	-0.09007	0.04803	1.779
DV2	0.3839708D-01	0.06200	0.03852	0.994
DV3	0.6303749D-01	0.07055	0.05663	1.239
DV4	0.1700419	0.17034	0.07836	4.708
DV5	-0.2593768D-01	-0.02827	0.07377	0.124
DV6	0.1923042D-01	0.02668	0.04960	0.150
DV7	-0.7983179D-01	-0.12779	0.04224	3.572
DV8	0.1577869D-01	0.02432	0.07809	0.041
DV9	0.2003380	0.25796	0.06817	8.636
DV10	0.2718878D-01	0.03594	0.07540	0.130
DV11	-0.1572860	-0.20260	0.09681	2.639
DV12	0.7458649D-03	0.00109	0.08177	0.000
(CONSTANT)	1.145114			

ALL VARIABLES ARE IN THE EQUATION

APPENDIX G

SELECTED RESPONSES TO OPEN-ENDED QUESTIONS

Appendix G contains selected responses to Section VI of our written questionnaire. The respective question being responded to is identified at the top of each page of responses. Selected additional comments or observations by our respondents are also included in the appendix. The responses are not intended to necessarily represent the frequency of similar responses from all respondents; but were selected so as to illustrate the variety of response to a particular question. No attempt has been made to consolidate or edit these responses. The purpose for including Section VI in our questionnaire is stated in Chapter II.

What aspects of the job do you feel you perform best?

Utilizing the work areas and storage of material, "special" projects; maintains housekeeping standards and safety, new ideas, making job assignments.

Writing job descriptions, communicating with peers and superiors, determine priorities.

Solving problems, and the inter-relation with all people involved to do so. Help in training of younger people.

Communications, written and oral, human relations, cooperation of support groups, good labor relations, and planning and scheduling.

Getting people to work--without force; I'm myself, most people will work because I treat them fairly.

(1) Organization of function/records, (2) total training aspects, (3) forward planning functions.

Getting job done through effective and appropriate communication with peers and subordinates.

Planning, organizing, coordinating, problem solving, decision making, give and follow instruction well.

Managing people, putting the right person on the job. Working with other departments in plant.

The "people" part - good rapport with people both horizontally and vertically in organizations.

Making sure that they understand what the job assignment is and checking the work after it is completed.

Working with subordinates in creating a team effort work climate and maintaining efficiency within a healthy work climate.

Counseling and developing subordinates; instilling enthusiasm and confidence.

Personal awareness of employee's needs which seems to improve work environment and hopefully productivity.

My communication skills with my subordinates are very good; developing skills with superiors. My technical abilities have developed superbly.

What aspects of the job do you feel you perform best?

Working with people and the union, especially preventing potential people problems.

Communications with my employees; training the expert way; do not tolerate absenteeism; being fair; I love working with people.

In communicating with my supervisors, peers and subordinates. And also in my ability to get things done well.

Maintain schedule, setup priorities, seek help from resource people, establish good work habits.

Trying to innovate new ideas and products into the house-keeping program, to get everyone more interested.

Technical, planning, organization, written communications, acceptance of responsibility.

Getting to know the people and getting involved in the job itself.

Making decisions and placing people to get the job done.

Delegating - methodical planning - instructing - follow up. Urgency to perform when needed. (Shut down situations)

Organizing my department. Developing my employees who have potential, communication within the department.

Handling people . I try to build a high quality product. With quality comes quantity. If people are motivated to do quality work they take pride in their work. So I feel I handle people well. They respect me because I insist on quality and I am fair.

Getting production out by letting the employees know I care. By knowing what to do without getting help from my supervisor.

Organizing and completing tasks; relations with subordinates; effective communicator.

Training subordinates; meeting production schedules dealing with union.

Controlling the work force. People will work for me and I can get the job done.

What aspects of the job do you feel you perform best?

Communication with subordinates, peers and a shift supervisor. Problem solving in areas such as parts shortage, service requirements, etc.

Training my people in the best and easiest way to do their job well.

Supervising, training, and relating to subordinates. Planning and organizing work to best utilize time. Determining reason for and solving problems.

Ability to comprehend and resolve problems dealing with personnel on the job, to perceive, develop and resolve difficulties with tools.

Utilization of supervisory skills, handling people - positive approach to problems, involving (participatory) employees.

Working relationship with my people. I know them, what they are capable of doing and they know what I expect in return.

Being able to handle my employees and get the job done. Also, being a woman I have more compassion and empathy for my employees.

I am able to communicate extremely well with any type of personality, either male or female.

Working with people, ability to get the job done, paperwork, and meeting safety and housekeeping standards.

Paperwork, more thorough with training, instructing subordinates and discipline of employees.

I feel that I run a well organized, safe, and productive department. I work daily to keep the quality up.

Communication, job-instruction, problem solving, scheduling employee development, and supporting peers whenever able.

Working together with my subordinates and peers to accomplish job related tasks and solve problems.

What aspects of the job do you feel you perform least well?

Planning ahead, to be prepared for unexpected situations.

Labor problems - discipline. Knowing all the technical aspects of the job.

Making my peers and supervisors in support areas to do their job.

Communicating with some maintenance depts - not sure just what causes my mechanical problems.

Although I have improved a great deal in my mechanical abilities I still have much to learn.

Getting along with the union and people who don't want to do their jobs.

Mechanical (some technical) aspects, especially as far as physical strength.

My own personal disability to demand of the assigned people, their better performance on the job. Lack of confidence in standing up to my superiors when I know or feel they are wrong.

Paperwork - I do it but I dislike being bogged down with it. Also I have trouble coming up with foremens proposals.

Technical aspects of the job.

Dealing with labor relations because procedures seem to fluctuate.

Mechanical aspects - must depend on subordinates knowledge.

I still need more training as far as the disciplinary procedure - apply the correct plant rule at the correct time. I still need to consult my boss in many cases.

Any part concerning the technical and mechanics of the product - being manufactured (understanding exactly how and why it performs).

Technical skills as far as fixing machines and always being able to spot the problem.

What aspects of the job do you feel you perform least well?

There isn't anything - I have to excell just to be considered as good as an average male supervisor. Men use a lot of politics to get promoted higher. I am not allowed to join the Elks or Masons.

I still lack knowledge of machines but this must be expected since I was never in a manufacturing area before. The challenge is quite intense as is the pressure to do well.

I am quite weak in remembering that I am a supervisor and have a tendency to put myself back as hourly worker.

Calm outward appearance.

Controlling items that are not my direct responsibility or would require 100% attention to control.

Taking instructions (knit-picking (newspapers and etc)) and relaying them to subordinates as being my idea and instruction when I do not really agree.

Must spend a lot of time and concentration in developing an understanding of the mechanical fixtures in my area.

I need better understanding of my machinery from the maintenance aspects, ability to diagnose machine problems and correct them.

Trying to get some things done which the guys don't want to do. I've found they tend to think of me more as a sex object than a boss most of the time... even the ones who work the best.

Being authoritative.

Knowing who is on what shift so to call for problems, material handling, inspection, cleaners, etc.

Keeping my temper when management tries to make me do the impossible.

At times I fail to assert myself concerning my feelings and ideas in relation to my job. However, this difficulty has improved a great deal now that I have more experience in supervision.

What aspects of the job do you feel you perform least well?

Sometimes I am too lenient with my employees.

Probably discipline - thus far I have not had any problem that couldn't be solved without discipline. Would discipline if necessary though.

Getting confidence and trust of superiors and subordinates - just because they feel my place is at home.

Having the full responsibility to run my area the way I want.

Speaking, when I should be listening. I sometimes jump to conclusions and speak too soon. I also need to become more patient and in some cases considerate of others.

Lack of technical skill, lack assertiveness, lack experience.

Being forceful and maintaining peer cooperation.

Inability to explain in technical terms the problems with machines, due to lack of mechanical background.

Dealing with general supervisor's antagonism toward my job performance.

The labor relations aspect - in that since each case is different, foremen on the floor sometimes take action that is later undone. If I know the rules better, and labor relations points of view, I could be more effective.

What does your management do that is most helpful to you in performing the job properly?

They do very little unless asked.

My bosses are all very encouraging and helpful. The service departments are understanding of my problems and are helpful.

Careful explanation of problems unfamiliar to me.
Constructive advice.

Allowing me to express my point of view and use my style of supervising, and being available when I need assistance or information.

Recognize that I am a foreman first and have a responsibility to run a job and support me in the performance of said area.

My boss encourages me and points out areas of my job to work on to improve my performance.

Explain technical aspects about machinery.

Allowing me to supervise - by using free rein technique, very seldom autocratic.

Gives me an answer that I can understand and doesn't make you feel like you ask foolish questions.

Generally are very "protective" of females in my position. Most men I work with treat me as a daughter or as they do their wives. Essentially very respectful.

Make sure I have everything I need to get the job done properly.

Gives support, praise when appropriate and good constructive criticism.

The immediate attention given to technical and/or tooling problems to keep line running.

Nothing that I could really brag about.

Service departments are very prompt and always do the best they can to help me with a problem.

Lets me work my problems out by myself.

What does your management do that is most helpful to you in performing the job properly?

Very little; peers and employees essentially have provided training and assistance.

Give me all the support I need.

Lets you manage your own business and backs you when necessary.

They give me support. When you have this you become pretty confident in your job assignment.

Clear and complete explanations to my questions, offer suggestions or varied approaches to problem solving.

Give credit when credit is due.

Gives me the authority to run the job by myself and is willing to assist if needed.

By letting me know when I have done well and telling me what I am lacking in. (Good communication).

Aid in ways to learn mechanical aspects, where to go for help, with whom, etc.

Nothing comes to mind. Either you do the job or you don't.

My immediate supervisor is very open and honest with me. He's given a good deal of performance feedback.

Trust my capabilities on performing my job; leave me alone.

My immediate supervisor supports my decisions and defends my positions when necessary.

Supply and relay information so that I am able to schedule and perform my job effectively.

Remind me, at times, where my downfalls are; also suggest ideas or improvements.

Allowing me to attend training schools in all aspects of my job when they deem it necessary. Assuring me of the cooperation of other source department and staff.

Nothing.

What does your management do that is most helpful to you in performing the job properly?

Offer on-site training courses, which have been very valuable to be.

They help me by letting me know that they trust and respect me.

General supervisor shows no difference between supervisors in job assignments and expected performance.

I am in complete charge of my dept. I make all the decisions and my general supervisor does not harrass me.

Service depts. always willing to send expert help to get things running ASAP.

My present supervisor treats me more as a foreman than just another female.

Communicates information on dept as whole. Clearly indicates expectations, supports decisions.

Their best help is when they back me up with the union, point out a job well done, let me in on future events.

The encouragement I've experienced from my supervisors and co-workers has been great.

Training programs have been outstanding for airing problems as well as correcting them.

Make me feel like part of the team.

Feedback, communication, and letting me know how well I am doing - good or bad.

What does your management do that most hinders your performance?

Attitude and performance of immediate supervisor.

Sometimes lack of communication or not understanding certain problems when they exist.

"Attitude" toward women is poor--filtering down throughout system.

When the former shift does not communicate with the following shift.

Lack of getting back with me when I've asked a question. It seems I always have to keep bringing the matter up again and again.

When I am not informed as to what is going on in my dept.

Not enough trust and dependence on female foremen.

Labor relations; Lets union have their way in too many issues.

Not letting me run my own job. I know what I'm doing, if I need help I will call them.

When I first went on the floor I worked for a supervisor that would not accept me nor give me any help. This caused me to lose a lot of self confidence. When being interviewed for job, I was told it was not necessary to have mechanical or technical background because I would have job setters and service groups to assist me; yet on yearly appraisals we are rated lower because of lack of this knowledge.

Responsibility without authority - union's power - poor maintenance support.

I am not informed of decisions which often directly affect me including personnel changes in our department.

Lack of response from service groups. This is not because I'm female but a condition that affects my peers as well.

Mainly on disciplinary case - I feel that the system is slow to take action - or I should say the process is slow - it is like having a child - 1st a verbal warning, etc.

What does your management do that most hinders your performance?

I don't feel I get enough backing when I bring out specific quality problems and their causes.

Skilled trades and service depts. "assume" you don't have any idea of what you're talking about and will double check with my male counterparts.

Not expecting more of me.

Does not give proper encouragement. Does not give enough guidance with union dealings.

My supervisor will do my job instead of telling me what I am supposed to do.

Not enough regular feedback on my performance. Procrastination from other departments.

Could offer more experiences to develop the first line supervisors to keep up their enthusiasm.

When you have superiors breathing down your neck. Added pressure sometimes.

I must always ask questions that I feel should have been covered by my supervisor or as part of my training as a foreman.

The feeling that you are being watched has a negative effect on natural confidence.

Moves employees from one job to another without consulting me.

Task interference - constant ringing of phone, too many meetings - incomplete or no communications.

Withhold information; allow my subordinates to deal directly with them; have a "golden boy"; give vague instructions; don't take me serious or my ideas seriously until a male supervisor suggests the very same thing.

I feel management has let the union have too much control in our plant.

Lack of support or helpful suggestions from my general supv.

What does your management do that most hinders your performance?

The bawdiness of higher management. It's hard for a woman to go out drinking with the men.

Higher management appears to be almost exclusively quantity orientated as opposed to quality orientated and often unrealistic in their expectations of quality assemblies with subquality components. Service dept. - no complaints.

They bicker or put me off because I'm female. They don't give me the service I need.

The biggest obstacle in my job performance has been the lack of training and cooperation.

"Finger-pointing" instead of solving problems that would help to eliminate future problems.

Lack of communication - "Foremen are the last to know" I don't care for the attitude "Tell them only what they need to know to run the job" (The communication from shift to shift is fine - from the top on down, it needs improvement).

Sometimes I feel my boss does not understand how hard it is to be a wife, mother, and supervisor all in 1 day.

Lack of communication and cooperation of peer group.

Lack of opportunity to really discuss problems and establish a two way communication line.

No communication eg policy changes; no comradeship with women. Women in management are treated as subordinates by men at same level.

Not getting help from superiors in trouble areas when I ask for it; is the biggest performance block.

Lack of aggressiveness that I am trying to overcome.

Having to chase down stock daily in order to meet the production schedule.

Lack of coordination between shifts.

What can your management do to help you improve your job performance?

I feel that my job performance could improve considerably with an occasional mention of something that was done well by me. I could more readily accept criticism and be more willing to work on improving if my superiors would give me a pat on the back occasionally and treat me like a human being!

I was the first female supervisor at our plant approx. 6 years ago. There have been many more behind me and I don't believe any of us know where we can go. We've never been encouraged for advancement. I think I've lost my drive.

Give me the same backing that male supervisors get and stop being so demanding of overtime.

Give more supportive criticism and less degrading criticism. I have received many lectures from general supervisors on why I should not be a supervisor, (or even work at all) and very few discussions on why I should. This is very discouraging at times.

Acceptance - most important. Women aren't going to just disappear. It will take time but attitude must change. Working together as a team must now become effective and bias opinions must disappear.

Except the fact that women do have the ability to do a job well as men, not as a minority but as people. No matter what management says women will be tolerated but not excepted.

Give me some mechanical and technical classes.

Management cannot do anymore to improve my job performance, that would be up to me.

(1) Positive approach to women (2) Help on technical problems (3) Spending more time in training women (4) Sitting down and having informal sessions on job performance/appraisal.

I believe I get sufficient cooperation and as long as it continues there are no problems.

What can your management do to help you improve your job performance?

Support me more in labor relations matters and push for the equipment we need to perform properly.

Make more problem solving courses available.

I would like to have more training in the technical aspects of the job...More sessions in labor management would also be helpful.

(1) Let me know what I am doing correct as well as what I do wrong. (2) Give me more responsibility so I can live up to my potential.

Remain supportive, continue to see me as a new supervisor not a female supervisor; more schooling in technical aspects of job.

Training classes in direct job related areas. Would like pamphlets on how our product "works" so I can explain and answer employees questions.

Allowing me to make decisions and support those decisions. Communicate more openly and keep information relative to my area of responsibility flowing to me from all levels of management. Delegate my responsibilities to me rather than to others without my knowledge.

If they would just put more faith in me as a supervisor and accept the fact that I can do the job.

Treat me the same as the men foremen and include me in all that is going on.

Stop judging me as a woman and judge me as a person doing a job. Of all my supervisors I have one that is doing this. If I lose my temper and argue with him, I'm too emotional. If a man were to argue with him it would be a different story. A man is described as having a temper or sticking up for his rights and a woman is emotional. This particular supervisor doesn't believe women should be supervisors.

Relieve me of clerical/red tape endeavors.

I don't really know; I don't think women supervisors are treated all that much different from male supervisors.

What can your management do to help you improve your job performance?

By constantly keeping me informed on my good or weak points.

To become more in tune with women as people, as supervisors, as assets to the management team - providing the mentor type help necessary to make it.

Service depts can be more efficiently maintained so as to render necessary services when needed.

Back-up my decisions and respect my way of doing my job. Explain what I do right and wrong so I will be aware of my performance. Also, provide an alternate way of handling the situation.

Continue to be sensitive and responsive to my changing (educational) needs.

Better communication methods are needed. The lack of it is my greatest hinderance.

The biggest "help" that management could do to help my job is training me for the job and letting me know I'm one of the team - not something to babysit or put up with.

Training sessions for labor relations problems would be an asset.

Not expect me to be better than a man on the job.

Evaluate me more regularly - once a year does not give room for improvement.

I am forced to maintain the overtime hours if I want to keep my job. My family and personal life have suffered because of this situation, and because of this situation your job performance suffers as well.

Recognize me as a supervisor and not a female.

What can management do to help you improve your job performance?

Treat me the same as a male supervisor. Don't assume help is needed, I can ask if necessary. I don't want any extra favors, I want criticism (if I deserve it) and backing (when I need it).

Offer more available changes so we don't get too comfortable in one area. Move around.

Just talk to me more, get more involved with me and the problems I have in my area. More feedback on how I am coming along as a supervisor.

Provide more training in mechanical aspects of job; discourage sex-oriented harrassment by peers (usually conducted under guise of joking); reinforce my endeavor to establish more humane treatment of subordinates.

Giving more technical training; answering questions without hostility; making time for my problems.

Since I have been employed at this plant for many years, I feel that I truly feel dedicated to its survival. I am not "women lib" as I expect to do whatever necessary to supervise my area. However, I will never be "male" and I hope that somewhere along the line that we understand that it does not make me less a female by the job I am doing. There is a very clear void in our plant between the wanting us for the job and training us for it or giving us the job and hoping we do not make it.

Treat us like humans on a day to day basis instead of like dirt (whether male or female). Periodic evaluations are very fair if you can survive that long. Personal life is completely ignored. Company must do better by hourly people because of union; salary has no recourse.

Accept the fact that ladies can do the job..

Have more job advancements - no women are in a general supervisor's or higher positions.

Eliminate competition between supervisors and encourage cooperations.

Keep adequate amounts of parts on hand. Back up supervisors during disciplinary action. Speak with respect when addressing supervisors - male or female.

What can your management do to help you improve your job performance?

We have no higher management role models. Accept me as an intelligent individual with first hand knowledge of the situation - to be consulted when decisions about my dept. are to be made. EXPECT MORE OF ME.

Keep reminding me of my weak points and help me to overcome them. At times, it is best for me if my supervisor screams or raises his voice at me.

Recognize that I have worthwhile ideas; include me in information concerning my department. Give me the classes they say I need every year on my evaluations. Council me on where I stand for promotion.

Promote by ability to perform a job using the same standards for all, so men will finally admit that women don't get a job or promotion because of sex.

Nothing, I feel it is up to me now.

Sometimes saying "Good job"; not just saying and pointing out mistakes. I know I'm paid to do a good job but it's nice to hear it once in a while.

Often I might not ask a question because I'm not sure how much or how little I know on a subject. I believe management could help female supervisors or male supervisors who have come out of college into this manufacturing area by conducting special classes for people without prior experience. My job performance could also be improved if I could be more honest and truthful about my feelings. Often I have a need to let off a little steam but in a corporation this large you must be very careful what you say. I should be more exposed to areas pertaining to supervising my people and the National Agreement than I have been. I am asked to indoctrinate a new hire when I have not been indoctrinated thoroughly myself. My supervisor indoctrinated a new hire for me but I was not allowed to sit in and listen.

Clean house of ineffective supervisors. Give more support against union problems.

Be more informing - sometimes important items are discussed during golf or social functions where men are in attendance only (by their choice).

Additional comments and observations:

If more female supervisors would use common every day sense, I believe they would not have as many problems. I don't!

Female and younger supervisors can often be as effective as male supervisors if they are allowed to exercise their style of supervising (as long as the job is being accomplished). They must be worked with, and not dictated to. Reasons should be given to help them understand procedures or things they disagree with or need clear understanding of.

I had twice the qualifications of any man in the same training class. I had to be twice as good as any man to get the job. I've been "tested" and held up under it. I make less than men doing the same job. Blacks are being promoted to fill quota, but women who are QUALIFIED AREN'T.

As one of the first women in the plant, I suffered enormously and shed many tears in private. I had to pave the way for others. My greatest strength, joys and achievements come from hourly employees who taught me everything I know. What my own peers did to me is shocking, even as far as trying to make me fail. Because my first two supervisors were a source of strength and encouragement, what my peers did was not harmful to me because I knew they were aware and cared. I am one of the most successful foremen in the plant because the people do a good job for me. They make me look good! I thank God for the hourly people. Unlike what you might think they are the reason I succeeded and why I love my job.

I do not appreciate the low pay that I am receiving. I am doing as much work and more than the supervisor that I replaced. If management doesn't recognize this soon, I intend to go back on hourly.

The morale of all the first line supervisors (male and female) is very low. Management pampers the union demands yet we are criticized when our employees step out of line. When we discipline higher management gives in to union demands, its like hitting your head against a brick wall eight times a day.

Additional comments and observations:

Respect and support are things that are earned by all supervisors male or female. They do not come with the job. A supervisor can be just as good as he or she wants to be. The opportunity is here all we have to do is take it and work with it.

I've found that when employees find I have a degree they expect more from me. They obviously associate higher education with intelligence. A degree in no way readys you for being a supervisor. Experience in the work place certainly is an asset, one I wished I'd had, but I actually had never been in that type of environment. A lot of people at work call women supervisors "tokens". True but my attitude is, so what, I can and will do what my job requires and it'll become obvious that I'm as capable as anyone.

My only advice - Don't quit! Demand change, verbalize through proper channels, put everything in writing, but don't quit. Persistence can give you time to learn what they (men) unconsciously believe you should know already and don't. "Can't" never did anything, the only way is up.

I honestly feel that there are very few male General Supervisors that are supportive to their females. They should be reminded that this is part of their job.

Responsibility - I do like the responsibility but I don't like the fact that I don't have the authority I feel goes along with responsibility due to the constrictions of the union contract.

I was one of the first women supervisor's. I am well pleased with the compliments I receive. They feel that women have done an excellent job in supervising. We tend to step up to discipline more than most male supervisors.

First line supervisors are normally not a part of management nor are they a part of the union. Therefore if you ain't self satisfied with your accomplishments, its a thankless job.

I like my job, the money is good and I feel my superiors are doing everything they can to train and help me.

Additional comments and observations:

Since becoming one of "management" I've seen the men become more relaxed and accept female supervisors. At first a great hesitancy but now find there are good, capable and qualified women just as there are men and vice versa for poorly qualified.

Five years ago I had a very difficult time being accepted by my immediate supervisor but since that time I've had two other supervisors and they have accepted me. But it should be noted I did have to prove I could handle the job. This proving one's ability put a tremendous amount of stress upon the physical body. I look back now and wonder how I made it.

I would like to say it took me 1½ years in a training supv. program to get where I am today. While men supv. in training would take 10 weeks of very minor training. I wanted to throw in the towel many times, but I had to get the victory and I knew a lot of women here was counting on me making the grade. I love my job and the responsibility that I have here. I have a lot to learn here, and I intend on staying here and doing a good job. It takes pure guts and determination to break the ground for more women in the future. Nobody will ever know the hard work it took to climb this mountain, but I've arrived!

Your questionnaire was very extensive and applicable to my job experiences.

I have found your survey very interesting and enjoyable.

This questionnaire reaffirms in my mind that there will always be division between male and female supervisors. I would personally like to be considered only a supervisor - no distinction. But continually the distinction is made - often to our harm.

This is the best job I have ever had. I feel good about coming into work regardless of the problems, the rewards are worth it.

I feel that in the past couple of years, female supervisors have become accepted and respected by both salaried and hourly personnel.

In my opinion, males as a whole (although they may not admit) resent the invasion of females in a so called mans domain.

Additional comments and observations:

What I have found to be true in my work situation, that it is not a matter if you're female or male, it's job performance, attitude etc. which determines where you'll be in the future, I do want to say though as a mother of 2 children under the age of six it has been difficult for me to maintain a house, further schooling, work and two children especially with working the night shift. I guess this is a risk that every mother takes when entering the work force of losing the close ties with family and children. But I have to believe that this is a plus to have this experience and there is always hope in the future for better hours, advancement, etc. Believe me the opportunity here is unlimited!

I have found it easier for me to supervise men than women. Women seem to show a lot of jealousy. Women don't like to be told by another women what to do.

After giving the issue much consideration, I have decided that my frustrations often surface when I am identified (in the work setting) as a woman first and only as supervisor secondly. This is not done so much out of discrimination but rather in confusion. A factory setting is extremely non-professional. People are objects rather than effective working components in a system. Until more professional objectivity is instilled, women will remain quotas rather than being individuals with potential.

What I am trying to say is that whereas males in our group are spoken to as adults (given reasons for decisions and asked for opinions about those decisions). The females are often just told that's what we've decided and treated as though they are either too "fragile" or "ninny brained" to understand the situation. You can't function effectively as a group if there are members of that group who feel totally left out.

I have never regreted taking a supervisory position. I'm very happy with my work and every day is a challenge.

I have gotten much "tougher" and "thick-skinned" on this job since I first began. But the constant anger and criticism from my supervisors does nothing to motivate me. I have also heard these same feelings expressed by my male peers, so I don't think this is strictly a "female" problem.

Additional comments and observations:

Initially the problems were more severe than now. This is a very large manufacturing organization and I was one of the first three female first line supervisors and took the first blasts of resentment, confusion, and hostility. Attitudes have improved, personally and division wide. It was necessary for me to experiment with a variety of management styles to find the one most effective in dealing with employees and supervisors as well as support groups and in the process of trial and error took a few bumps. Having settled on the participative approach I find this would be the best not only for females but males as well. Employees who are allowed to become involved in the decision-making process become self motivated, active contributors to departmental goals and attain a sense of belonging. Quality improves and absenteeism is virtually eliminated.

Sexual harassment and un-called for comments must be put to a stop. I have during my six years as supervisor experienced both. It will take years to change the feelings in the male minds, women are now a threat. All minorities pose a threat and time is the only cure we have in dissolving our peers inner feelings.

Initially a female in a male oriented work place gets treated differently than a male - I did. However, I think that after a newcomer proves themselves whether male or female, they are respected as a person and as a peer or supervisor or subordinate. With exceptions of course, I think that in general any female who cries "discrimination" is copping out - in 9 out of 10 cases those I have personally seen, the female supervisor in question was not pulling her load - plain and simple. Being female may get someone in the door, due to EEO requirements, etc; but once you're in, you've got to prove yourself and earn your bread and butter just like everyone else.

When there are 28 supervisors, 24 male and 4 female, there is a lack of companionship that at times is very tiresome. My supervisor who is a good man, tends to ignore me when he just wants to talk (not about the job). I do understand that he and my fellow peers have a lot in common, sports, young babies, etc. At these times there is a left out feeling.

To be a "first" was very difficult. I was somewhat like a guinea pig. I couldn't let myself fail and found I had to work much harder than the men to prove myself worth.

Additional comments or observations:

I found my experience in the plant, for the most part, free of difficulties due to sex. Usually was able to win peers over after they became used to my presence. Generally, I was given at least as much support as male supervisors. Enjoy the job very much.

Unlike many women in male-oriented jobs, I don't get caught up in my sexual but rather my professionalism as it relates to this job; I am good at what I do and demand respect, support, etc., as a supervisor. I have a clear definition of myself and would urge others to do likewise; otherwise as a woman I could spend a lot of unproductive time dwelling on sex, race, etc., and forget my prime objective - SURVIVAL.

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