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A review of the literature suggested four major causes for the increasing importance of the quality of working life (QWL): the declining rate of productivity increase, the restricted growth environment, the deteriorating quality of goods and services, and the changing nature of the work force. The QWL is discussed from three perspectives--reasons for concern over QWL, evidence available regarding benefits from improving QWL, and implications for the Federal Government. Findings/Conclusions: Concern about QWL has led to major workplace innovations throughout the industrialized world; in particular, considerable efforts to improve the QWL have been advanced in Western Europe. Since 1969, the Department of Labor has periodically assessed the QWL of a national cross-section of the labor force. Differences exist among experts in and out of Government concerning the potential impact of QWL-related activities, but increasing interest in QWL appears warranted. The QWL among Federal employees must be presumed to approximate that of the overall U.S. work force, and the concern for productivity must also apply to this group. A key indicator of effectiveness or productivity of Government is public reaction which in recent years has not been favorable. The level of QWL among Federal employees should be assessed and periodically monitored. (RRS)

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STUDY BY THE STAFF OF THE U.S.

# General Accounting Office

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## The Quality Of Working Life: An Important Issue For Managers Of The Federal Work Force

During the 1970s, "quality of working life" has become an increasingly visible issue throughout the industrialized world. This study presents the factors believed to have contributed to its importance in the United States.

The study summarizes the literature on this subject and discusses the implications for the Federal work force. It concludes that the quality of working life in the Federal work force needs to be assessed and periodically monitored.



FPCD-78-39  
JULY 3 1973

## PREFACE

This staff study on the quality of working life is part of GAO's continuing effort to provide the Congress with information on issues of national importance. It summarizes the findings from our review of the literature on this subject and discusses the implications for the Federal work force.

The first chapter discusses the circumstances believed responsible for the rising prominence of the quality of working life issue in the United States. Major factors cited for this added interest are the relative declines in productivity, the current restricted growth environment, declines in the quality of goods and services, and changes in the composition of the work force.

Chapter 2 describes some of the large-scale efforts involving the quality of working life both here and abroad. The chapter also describes the results of a rigorous examination of some quality of working life improvement efforts. It concludes that although efforts to improve quality of working life have not been uniformly successful, there have been enough positive outcomes to warrant continued interest in this area. Specific examples of such projects are presented in appendix I.

The final chapter examines the quality of working life issue from the perspective of the largest employer in the Nation, the Federal Government. The chapter identifies the need for an initial assessment and periodic monitoring of the quality of working life in the Federal sector.

Please feel free to direct any questions you may have regarding this study to Dr. John Harper or Dr. John Goral on (202) 275-2997.

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## CHAPTER 1

### INTRODUCTION

During the 1970s, quality of working life (QWL) has become a national issue. We examined the literature covering both research and theory on this subject in order to assess its relevance to the Federal work force. In addition to using major reviews and annotated bibliographies concerning QWL, we reviewed original sources on the subject. Over 2,000 references were covered, of which more than 600 involved actual field studies.

This paper discusses quality of working life from three perspectives: reasons for the recent concern over QWL, evidence available regarding benefits from improving QWL, and the implications for the Federal Government.

The literature suggested four major causes for the increasing importance of quality of working life: the declining rate of productivity increase, the restricted growth environment, the deteriorating quality of goods and services, and the changing nature of the work force.

### DECLINES IN PRODUCTIVITY

In the early part of this century, scientific management and the assembly line contributed enormously to this country's remarkable increase in productivity.

The principles of scientific management, or efficiency engineering, involved breaking down a job into discrete tasks and further dissecting those tasks into the smallest definable units of effort. The most efficient method of performing each unit was then determined based on scientific observation and experimentation. From those data, uniform standards were developed for each worker to follow. Thus, from the standpoint of task accomplishment, efficiency was maximized.

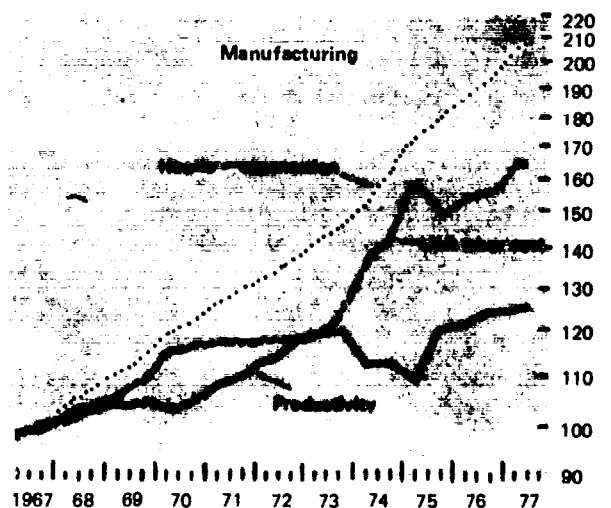
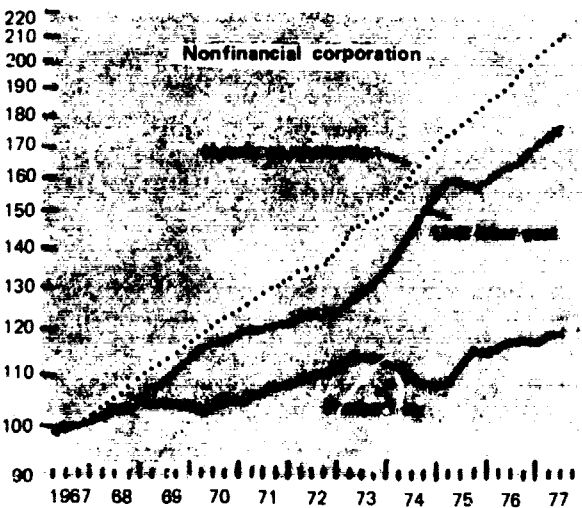
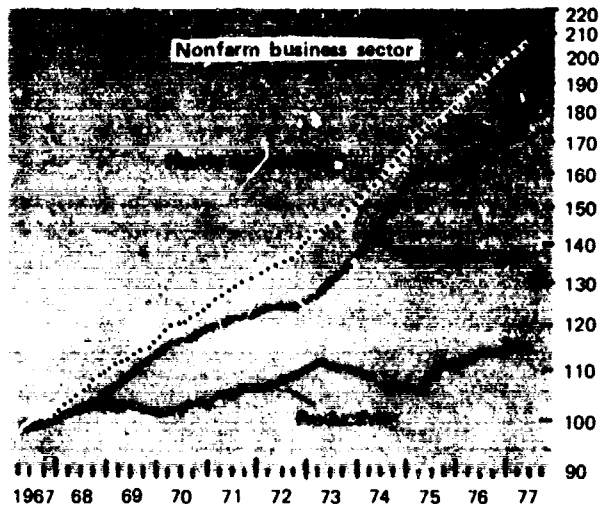
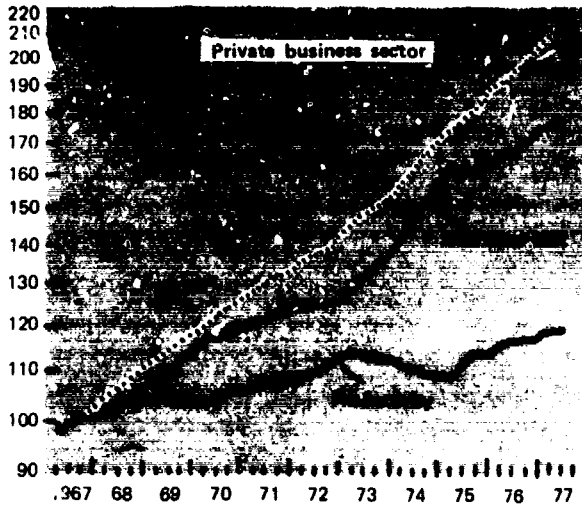
While the object of efficiency engineering was the most effective ordering of steps in a task, the purpose of assembly line production was to reduce to a minimum the number of tasks performed by an individual worker, so that time was not lost between completing one task and beginning another.

These innovations and their derivatives--such as operations research, industrial engineering, and automation--contributed to the sizable increases in productivity growth

that this country experienced in previous decades. More recently, however, there has been a downward trend in the rate of this growth. For example, output in the private sector grew at an average rate of 3.2 percent from 1947 to 1966; however, from 1966 to the present, the rate has dropped to about 2 percent. During the latter period, hourly compensation rose at an average rate of about 11 percent and unit labor cost at a rate of about 7.5 percent. The following Bureau of Labor Statistics charts show the relationship between productivity and unit labor cost over the last decade.

**Productivity, hourly compensation, and unit labor cost, 1967-77**

Ratio scale (1967 = 100)



## RESTRICTED GROWTH ENVIRONMENT

In addition to actual declines in rates of productivity growth, the belief that the future will see a major shift to an era of restricted growth is becoming more prominent. Concerns over shortages in natural (and human) resources, environmental pollution, externally imposed priorities, and inflation are the most important factors supporting this belief.

Actual and anticipated shortages of natural resources have led to an increasing concern for conservation. Examples of the public's reaction to the current situation are turning down the thermostat and using carpools and public transportation. There will eventually be human resource shortages in the work force because of population stabilization.

Concern for the environment is a related issue. Smoking factory chimneys and rivers filled with waste, which once may have been welcomed as signs of industrial activity, are now regarded by many as criminal matters. For every airline executive who views larger and faster aircraft as progress, thousands of residents near airports are more concerned with noise and pollution.

Both public and private organizations are confronted increasingly often with externally imposed priorities. Examples include environmental impact statements, consumer relations, more stringent health and safety regulations, and equal opportunity accountability.

The high rates of inflation in the past few years are expected to continue in the future, thus limiting growth and focusing concern on quality of working life in two ways. From the consumer's standpoint, there will be relatively less discretionary income if pay increases do not keep up with inflation. From the worker's standpoint, pay increases alone will be less likely to negate the effects of unsatisfying jobs, because of declining purchasing power.

## DECLINES IN PERFORMANCE QUALITY

Declining quality of goods and services has also been mentioned as a reason for the increased concern over quality of working life. Whether today's concern over declining quality is due to an actual decrease or simply increased visibility is not certain. In either case the effect is the same--the public believes that there are serious problems. Its concern with private business and industry is reflected

in the flourishing consumer movement. The government is also included in the public's discontent, as evidenced by recent opinion polls showing a low level of confidence in the effectiveness of government institutions. The standard reasons given for poor quality work include such indicators of low QWL as alienation, boredom, and lack of concern for one's work.

#### CHANGES IN THE NATURE OF THE WORK FORCE

The final major cause for the emerging importance of QWL is the changing composition of the work force. The percentage of young people in the work force has risen dramatically. Between 1952 and 1972, the number of teenagers in the labor force increased more than 100 percent.

These young workers bring an increasingly higher education level to their jobs. In 1920, only one in six people entering the work force was a high school graduate, compared to nearly four of every five in 1970. Furthermore, only about one in six high school graduates had obtained a college or professional degree in 1920; whereas in 1970 this figure approached one in three. It has been suggested that this younger and higher-educated work force expects more from a job than just a paycheck and is less willing to accept decisions viewed as arbitrary. Most young workers have known only relative prosperity and cannot relate to the time when a steady paycheck was sufficient reward to make a dissatisfying job acceptable.

Those with college educations have been taught to be inquisitive, analytical, and demanding of their environment, rather than accepting. Presumably these attitudes in many instances transfer to the job. That such a situation can be problematic is obvious, especially in cases of underemployment. This refers to a situation in which a highly educated individual has a job that makes little or no demand on his intellectual capabilities or training.

Additionally, the structure of the labor force has been altered by the influx of women into the job market. According to a 1952-72 comparison, the number of working women throughout all levels has increased about 75 percent. This, along with the increasing number and higher level of jobs being attained by minorities, has created a work force in which a large segment of the members have, either directly or indirectly, been involved in changing organizational personnel practices in order to obtain equality and justice.



It logically seems to follow that these efforts would carry over to concern about the nature of the job itself.

The effects of structural changes in the work force on the quality of working life movement can be seen in another current trend--white collar unionization. In recent years unionization has become a reality for teachers, Federal and local government workers, and other professionals. Physicians have become the most prestigious occupational group to organize. Doctors working for the Washington, D.C., Group Health Association voted for recognition as a bargaining unit and recently went on strike.

While the traditional bargaining topics of pay and job security are certainly important for these professionals, other issues, such as school class size, flexible working hours, and the specifying of responsibility (especially in the context of technical versus administrative authority disputes), are equally important.

The combined impact of the four above-discussed factors--declines in rate of productivity increase and in quality of goods and services, the emerging restricted growth environment, and the changing nature of the work force--has been a focusing of management's attention on the worker. This is understandable in that improved productivity in the years ahead will increasingly depend on the worker doing a better job. In attempting to change the quality of working life, organizations are seeking to provide a setting which will both be conducive to productivity improvement and will meet the expectations of employees regarding the nature of their jobs.

## CHAPTER 2

### QUALITY OF WORKING LIFE IMPROVEMENT

Concern about quality of working life has led to major workplace innovations throughout the industrialized world. For instance, considerable efforts to improve the quality of working life in western Europe have been made. The best publicized efforts have been those of several Swedish automobile manufacturers. Workplace changes they have used include job rotation, the team approach, worker councils, board representation, and participative decisionmaking. Indications of the effect of these changes include substantial drops in both turnover and absenteeism.

Although the Scandinavian countries are generally acknowledged as having taken the lead in QWL improvement efforts, perhaps the most extensive current activity is underway in West Germany. As of mid-1976, organizations throughout that country had over 130 experiments in progress under the "Humanization of Work" program, sponsored jointly by the Ministries of Technology and Labor. Research projects funded under this program are designed to improve jobs, work environments, and work organization. Strategies include job enlargement, job enrichment, autonomous work groups, technological changes, and flexible working hours. Strong support for this effort has come from government, employers, and unions.

Extensive QWL activity also exists in France, where the government-run Fund for the Improvement of Working Conditions provided \$9 million in grants between September 1976 and November 1977 to subsidize job improvement programs in over 60 private firms.

The United States has also been involved in the effort to improve its quality of working life. At the Federal level, since 1969 the Department of Labor has periodically assessed the quality of working life of a national cross-section of the labor force. Surveys were conducted in 1969, 1972, and again in 1977. The principal objectives were to:

- Determine the frequency and severity of workplace problems experienced by American workers.
- Assess the impact of jobs, employment conditions, and workplace problems on the well-being of workers, as gaged by economic, health, social, and psychological criteria.

- Produce baseline data that would enable the Department to determine short-term changes and detect long-term trends in working conditions and workers' well-being.
- Generate and make widely available a body of data that would be of value in testing hypotheses regarding the social and economic significance of employment experience.

Also at the Federal level, job enrichment and other QWL innovations have been undertaken within various departments and agencies. We plan to conduct a comprehensive survey of these innovations, and we are documenting in detail a job enrichment program in the Air Force.

Another Federal level effort has been the work of the National Center for Productivity and Quality of Working Life, chartered in 1975 to seek methods of encouraging "productivity growth consistent with needs of the economy, the natural environment and the needs, rights, and best interests of management, the work force and consumers."

Attempts to improve the quality of working life have also been reported in local government. Cities in California, Oregon, and Arizona have used job rotation and have included such employees as secretaries, police, personnel workers, and department heads. Other approaches to improving working life in local government organizations have included the team approach, participation in decisionmaking, career development, flexi-time, and the 4-day workweek. These efforts have been made in Washington, Oregon, California, New Jersey, Florida, Ohio, Georgia, Minnesota, and the District of Columbia.

A large number and wide variety of U.S. quality of working life improvement efforts have also been made at the individual organization level. Over the past few years, attempts have been made to organize the results of these efforts so that general conclusions can be reached about the effectiveness of QWL programs. The most recent review, published in 1977, examined 78 of the QWL improvement efforts most susceptible to scientific verification. These examples were culled from the larger number (over 500 since 1959) of documented studies dealing with the QWL issue. Each of these selected improvement efforts was viewed from three perspectives: type of changes made, outcomes for both the organizations and workers involved, and the specific background factors surrounding the situation.

General types of changes made were: (1) modifying the compensation system, (2) increasing the autonomy or discretion employees have in their work, (3) improving support services, (4) training, (5) modifying the organization's structure, (6) changing the physical work setting, (7) increasing the variety of tasks a worker performs, (8) providing information and feedback about the job itself and the organization in general, and (9) changing the interaction pattern among individuals and groups. Various combinations of these changes were found in the research we reviewed.

Five types of outcomes were assessed. The four involving the organization itself were organizational costs, productivity and effectiveness, quality of products or services, and turnover and absenteeism. The fifth outcome category concerned workers' attitudes toward their jobs. A tally of the results reported in the 78 major QWL improvement efforts revealed that for each of the five types of outcomes, a majority of the findings indicated a change to a more desirable state, such as reduced costs, increased quality, decreased absenteeism, and increased job satisfaction.

Examination of background factors associated with each of the efforts revealed that such improvements have been obtained in the United States and other countries, in large and small organizations, for workers of both sexes, for union and nonunion workers, and for blue-collar and white-collar employees in many types of jobs.

A brief description of some of the QWL improvement efforts examined in our review is included in appendix I. In addition to the examples cited there, quality of working life innovations have been initiated in sections of the following U.S. companies.

Alcoa	Kaiser Aluminum
American Airlines	Maytag
AT&T	Monsanto Chemicals
Bankers Trust	Motorola
Chrysler	Polaroid
Corning Glass	Proctor & Gamble
Ford Motor Company	TRW Systems
General Motors	U.S. Steel
IBM	Western Electric

Thus, QWL improvement has not been limited to a single industry, nor to particular types of jobs. Technical specialists, assembly line workers, laboratory personnel, insurance agents, production workers, and managers have been involved.

It should not be concluded that whenever QWL improvements have been attempted, success (in terms of both better QWL and productivity) has resulted in the short-term or even at all. For example, some of the 78 efforts referred to earlier produced undesirable results. In fact, 14 percent resulted in increased costs, 10 percent in decreased productivity, 11 percent in decreased quality, 22 percent in higher absenteeism, and 33 percent in lower morale.

Moreover, the substantial success in the cases cited cannot necessarily be attributed to such QWL improvement strategies as job enrichment and participative management. Experts in the field have differing views on efforts to improve quality of working life and the impact of these efforts on productivity.

At one end of this spectrum is Ted Mills, an advocate of QWL improvements, who states emphatically:

"Undramatic little devices such as rotation of jobs, work enlargement, formation of work teams to replace hierarchies and worker involvement in their own work design have in instance after instance everywhere in the industrialized world radically improved output and profit."

At the other end of the spectrum is Mitchell Fein, a professional engineer, who is especially critical of the purported usefulness of job enrichment. He points to alternative explanations for the benefits listed in many QWL improvement programs. Fein also believes that successful applications of job enrichment are necessarily limited by the following constraints: technology, cost, relative skill levels, work-group norms, and contrasting employer-employee goals.

Raymond Katzell and Daniel Yankelovich, who studied this area under a National Science Foundation grant, have reached a more moderate conclusion:

"Examination of the literature has demonstrated that when the appropriate variables are combined

under the proper conditions, significant improvements may occur in both job performance and quality of work life."

Clearly differences of opinion exist among the experts in the quality of working life area regarding the potential impact of QWL-related activities. However, from our review of the materials summarized in this chapter, we conclude that the increasing interest in QWL is warranted.

## CHAPTER 3

### IMPLICATIONS FOR THE FEDERAL GOVERNMENT

Concern about the quality of working life should not be viewed as a fad which can be expected to disappear in the future. Rather it must be interpreted as a developing aspect of modern worklife. Indications beyond the growing attention in the professional literature and the mounting list of organizations seeking to improve the quality of their employees' worklives point to that conclusion. The recent attention being paid the QWL issue is occurring during a period of increased inflation and slowed economic growth. Since funds are particularly scarce, this implies that increased attention to human resource programs has come at the expense of other areas. Another indicator is the widespread attention given QWL at high levels within organizations. A survey of major corporation presidents in 1974 found 85 percent believing that employee motivation was much more important than it had been 10 years before.

Within this national situation is the Federal Government, with some 2.8 million civilian employees. As the Nation's largest single employer, consisting of a primarily white-collar, service-oriented work force, concern for the quality of working life can hardly be avoided. Certainly there is no reason to believe that the quality of working life is any higher for Federal employees in the aggregate than for other types of workers. Data collected in the 1972 Department of Labor "Quality of Employment Survey," mentioned previously, did not find any advantage among Federal, State, and local government workers on the various quality of working life variables measured.

Not only must the quality of working life among Federal employees be presumed to approximate that of the overall U.S. work force, but the concern for productivity must also apply to this group. As a service organization, the Government is highly dependent upon its employees for the effective delivery of its services. A key indicator of effectiveness or productivity of Government is public reaction. Recently that reaction has not been good. A rather uncomplementary stereotype of the "typical" Government employee in vogue today includes adjectives such as lazy, unimaginative, and unmotivated. This widespread view is documented by the pollsters.

A 1975 Harris poll, asking respondents about the productivity of various groups, found 39 percent believing that

Government workers are below average. The Harris poll monitored a growing discontent with the executive branch of Government in the years between 1966 and 1972 (before the major impact of Watergate could be considered an influence).

Furthermore, the most recent results, based on a Harris survey conducted at the close of 1977, showed that 77 percent of the public did not place a great deal of confidence in the executive branch. The public reaction to local and State government was even less satisfactory, with low confidence ratings of 79 and 81 percent, respectively.

What then are the implications for those responsible for the overall management of the Federal work force? In particular, what are these implications given that (1) any issue that can be expected to have a positive impact on the various components of productivity is worth considering, (2) quality of working life is such an issue, and (3) considerable room exists for improving QWL?

Individual Federal agency efforts to improve the quality of working life have already been made in several instances. Is there an argument for any further Federal action other than letting the natural progression of isolated QWL improvement efforts run their course? We believe so. We do not think that relying on individual agency efforts constitutes an adequate strategy for overall Federal QWL and productivity improvement. It is likely that agencies most open to improving QWL are not those with the least satisfactory quality of working life. This is because such adaptability or openness to change is itself related to QWL. The result of relying on self-initiated QWL efforts would therefore be that many of those agencies most in need of improvement would fail to implement programs or would lag far behind, due to either lack of awareness or resistance to change.

On the other hand, attempts at change, without a careful preliminary assessment of each situation, have a high probability of failure. Several reasons for this pessimistic forecast exist. Individuals have different preferences for working life improvements. For example, not all workers have a strong desire for participation in decisions affecting their work, so attempts at forcing participative decision-making on them do not make sense from their standpoint or that of the Government.



A second factor requiring attention is the availability of different strategies. These strategies differ substantially, and some are more appropriate than others in particular situations. An organization's particular circumstances must be matched with the most suitable improvement strategies available. In some work settings, for example, the major difficulty may involve a need for a more participatory form of decisionmaking. In such a case, little may be gained by changing the individual jobs.

Some attempts at improving the quality of working life have not succeeded because the changes were not instituted broadly enough across the organization; a function within an organization may require considerable interaction with other functions that may not have been included in the QWL improvement program. Under such circumstances, the effectiveness of the changes can easily be diluted or negated.

To effectively deal with the QWL issue in the Government, the level of quality of working life among Federal employees should be assessed and periodically monitored. Once the Federal QWL level is determined, department and agency data, as well as QWL data from private industry, can be compared. Periodic monitoring will allow QWL trends to be identified. To the extent that productivity is dependent upon the quality of working life and to the extent that the latter improves or gets worse, QWL will serve as a predictive indicator of changes in productivity and can provide an early warning of productivity problems.

QWL trend data for Federal organizations, along with productivity data and information about implementation of quality of working life improvement programs, would enable the impact of those programs within the Government to be evaluated. It will be possible to examine whatever continuing effects those efforts have both on the quality of working life of the employees involved and on Federal productivity.

This process will serve to advance the state of the art in the evolving areas of QWL, especially in the white-collar job classifications. More and more precise statements about what strategies work under what conditions will be possible. The advantage here will not be limited to the Federal sector, where future quality of working life efforts, as their content is guided by earlier experiences, should have increasingly greater chances of success. As successes are achieved, confirmed, and publicized, a spillover into local government and the private sector should occur. In this way the Federal Government will have taken the lead as a "model employer" in

the national effort to improve the quality of working life and increase productivity.

Such a role for the Federal Government is not a new one. The Government has led the way in many employment issues, such as the merit principle, equal pay for equal work, retirement systems, an adequate minimum wage, employment for the physically handicapped, and equal employment opportunity. Improving the quality of working life may prove to be the next important challenge.

EXAMPLES OF QUALITY OF WORKING LIFEIMPROVEMENT EFFORTS

The following paragraphs provide a brief description of some of the QWL efforts most widely discussed in the literature we reviewed.

An automotive products company implemented an extensive participative management program in which employees were involved in setting standards, purchasing major equipment, developing cost reduction ideas, and improving benefits. The following results were associated with the program: turnover, tardiness, and absenteeism declined to minimal levels; quality increased nearly 10 percent; and productivity per person more than doubled.

A major insurance company experimented with enrichment of its keypunch jobs. Concentrating on the issues of achievement, recognition, task interest, responsibility, and advancement, an experimental group of keypunch jobs was modified. Hourly card output increased by 40 percent for the experimental group and only by 8 percent for a control group of non-job-enriched keypunchers.

The percent of keypunchers in the job enrichment group achieving outstanding quality rose from 40 percent to 55 percent. The percent of that group performing at a poor level of quality meanwhile decreased by 50 percent. In addition to demonstrated productivity and quality improvements, absenteeism declined substantially among keypunchers with enriched jobs while actually rising among those in the control group. Job enrichment in this organization has not been limited to clerical positions; it has shown applicability to other jobs ranging from accounting clerks to computer schedulers and even management.

Another example of an organizational attempt to improve the quality of working life is a pet food manufacturing plant. The plant began operation using the organizational development principles of work group autonomy and facilitative leadership. The plant has proved successful from many standpoints, including minimal turnover and absenteeism. In contrast to an older sister plant operating in more traditional fashion, productivity at this plant is 30 percent higher and quality is 80 percent higher.

An electronic instruments manufacturer has also shown positive results from implementing job enrichment and participative management principles. Cleaning and janitorial

functions, formerly contracted out, were made an in-house responsibility. Employees were included in planning, problem solving, and goal setting sessions. Turnover dropped 90 percent, the cleanliness rating increased significantly, and cost savings of over \$100,000 per year were realized. Other reports indicate that about 10 percent of the employees throughout this organization have become involved in job enrichment programs.

Another case in which participative decisionmaking was used involved a hospital laundry operation. Major changes implemented included formal and informal meetings to develop and discuss suggestions about work-related matters as well as an attempt to transfer as much as possible of the first level supervisor's task expertise to the employees.

In the first 15 months of this experiment, the 32 laundry employees generated 147 suggestions, most of which related to improving the work flow and equipment used. Ninety percent of the workers involved were found to have a positive attitude toward the program. While absenteeism among the other nonmedical staff actually rose, the rates for the laundry employees dropped substantially. Productivity, in terms of the amount of laundry processed, while not rising at either of two comparison hospitals, rose over 40 percent. Economic benefits in terms of reduced costs to the hospital were estimated at \$1,000 per employee per year.

The success of this QWL improvement effort in the laundry operation led to its adoption in that hospital's medical records section. A serious turnover problem and a high level of union grievances were reportedly eliminated in that section.

A QWL improvement effort at a light manufacturing plant is another example of the ability to increase productivity using the techniques that have been discussed. In this case, two groups of supervisors participated in the study. One group was provided training covering the analyses of work behavior which was intended to affect the supervisor-worker relationship in terms of the reward system, feedback, and the group interaction process. Outcomes at the individual supervisor level included a reduction in complaints, a decrease in scrap rate, and improved quality control. In terms of direct labor effectiveness, the performance of workers under supervisors in the training program increased and remained superior to that of a comparison group whose supervisors did not participate in the training.