SECRETARIAL JOB ENRICHMENT IN A SCANLON PLAN ORGANIZATIONAL CLIMATE

Thesis for the Degree of M. A.

MICHIGAN STATE UNIVERSITY
RODNEY L. LOWMAN

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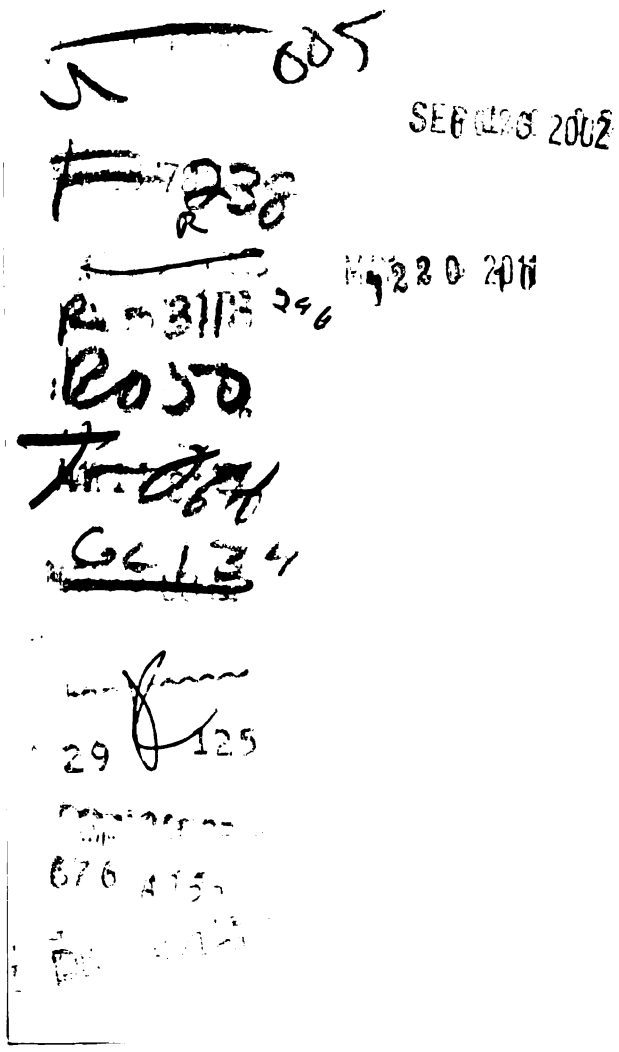

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ABSTRACT

SECRETARIAL JOB ENRICHMENT IN A
SCANLON PLAN ORGANIZATIONAL CLIMATE

By

Rodney L. Lowman

A field study was conducted to test the effects of a job enrichment training session held for secretaries and their supervisors from western Michigan Scanlon Plan organizations. The Solomon Four Group design was used for both supervisory and secretarial groups to assess the effects of training. As hypothesized, the job enrichment sessions, which attempted to inculcate higher level job responsibilities for the secretaries, resulted in experimental groups' achieving a higher enriched job duty composite, but, contrary to expectations, in no statistically significant differences between trained and untrained secretarial groups in terms of the number of enriched job duties assumed. The hypotheses were also supported that the training would produce no significant differences for non-enriched job duties, or for the relatively stable organizational dependent variables of job satisfaction, motivation, perceived work effectiveness, and perceived leadership of the supervisor.

Implications of the results for job enrichment and

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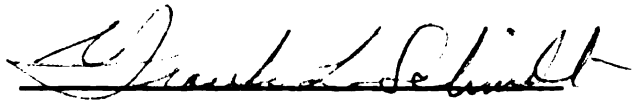
for training are discussed, as are the limitations of the study.

Approved by Thesis Committee:

Dr. Frank L. Schmidt, Chairman 

Dr. Eugene Jacobson _____

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SECRETARIAL JOB ENRICHMENT IN A SCANLON PLAN ORGANIZATIONAL CLIMATE

by

Rodney L. Lowman

A THESIS

Submitted to
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in partial fulfillment of the requirements
for the degree of

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My sincere thanks to Dr. Frank Schmidt for his extensive help with the numerous statistical and design problems this research raised, and for his exemplary modeling of the characteristics of an effective researcher; to Dr. Eugene Jacobson, for his contributions to the experimental design and literature review, and whose many discussions with me regarding this research proved exceptionally valuable; and to Dr. Fred Wickert for his helpful assistance with reviewing the training literature, with the paper's style, and for his enthusiastic encouragement throughout the research.

Special thanks go to Dr. Carl Frost for facilitating access to Scanlon Plan organizations and for his indefatigable efforts in my behalf throughout and beyond this study; to Anne Montgomery and Kathye Kubica for their cooperation with the research, and to Sue Weesner for her unfailing typing and clerical support.

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INTRODUCTION

The allegedly doleful plight of the worker has long been a popular theme among the literati, from Coleridge ("Work without hope draws nectar in a sieve . . .") to Camus ("Without work all life goes rotten. But when work is soulless, life stifles and dies.") It creates both good copy and lively discussions to lament the horrific state of drudgery in which workers are said to toil.

The alienation of the contemporary worker is hardly a new or original concept, however. The dissatisfaction and ennui of the workers, assigned as they supposedly are to intrinsically worthless tasks, has been a common theme pervading the writings of many social critics and philosophers for some time. The "blue collar blues" and "white collar woes" said to characterize the modern American worker, are not fundamentally different, in concept, from the anomie of Durkheim or the alienation of Marx and Fromm. Indeed, it was Karl Marx's early (1840's) and persistent writings on the alienation of the industrial worker that have been the cornerstone of much of the recent ideas on alienation (Blauner, 1964), although the concept of alienation itself, outside of its original pathological meaning, was introduced by the philosopher Hegel, not by Marx (Branden, 1971). It is a small step, conceptually, from Marx's contention that a worker cannot achieve self-fulfillment without control

over the product he is producing, to Fromm's decrying the "anonymity of the social forces . . . inherent in the structure of the capitalistic mode of production," (Fromm, 1955, 138) to Blauner's assertion (1964) that freedom is at its lowest in the assembly line industries of the 20th century, to the recent HEW Secretary's Task Force's statement that " . . . employment in meaningless work is creating an increasingly intolerable situation" (Work In America, 1973, 186).

More recently, the bandwagon headed for improving the lot of the working person has been joined by psychologists, sometimes taking a more empirical approach. Workers, said the human relations advocates of the 1950's, are happiest--and most productive--when they are both treated as human beings and assigned to jobs that are meaningful (Ash, 1973). Herzberg and his followers, in the 1960's, contended (and do contend) that a two-factor phenomenon is operative in the employees' work: once an individual's basic "hygiene" needs are met (salary, working conditions, etc.) motivators (self-esteem, achievement, etc.) become important (Herzberg, 1966). Worker dissatisfaction is both understandable and unavoidable when higher level "motivators" are deficient.

The image that emerges from much of the contemporary musings on the subject of worker dissatisfaction suggests widespread worker discontent. The Work In America study, for example, states that " . . . significant numbers of American workers are dissatisfied with the quality of their

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working lives. Dull, repetitive, seemingly meaningless tasks, offering little challenge or autonomy, are causing discontent among workers at all occupational levels . . . the productivity of the worker is low--as measured by absenteeism, turnover rates, wildcat strikes, sabotage, poor quality products, and a reluctance by workers to commit themselves to their work tasks," (Work In America, 1973, xi-xvi). Similarly, Herrick (1972) reporting on a 1500 subject study commissioned by the United States Department of Labor Employment Standards Administration to the Survey Research Center of the University of Michigan, reports "The overall survey shows that the chance to do meaningful work and to achieve and grow on the job is of great importance to the average American worker--perhaps even overshadowing financial considerations. It also appears that this chance is sadly lacking in the average job" (Herrick, 1972, 7).

But is the American worker all that dissatisfied? Perhaps the most comprehensive look at job satisfaction is provided by the recent Department of Labor monograph (Job Satisfaction: Is There a Trend?, 1974). This study demonstrates that, viewing the overall research picture, the 1958-1973 time period saw very little change in the percentage of self-reported "satisfied" workers. And, considering the fact that the percentage of workers who consider themselves satisfied stays relatively constant at about the 90th percentile, the phenomenon of widespread worker dissatisfaction is probably more illusionary than real.

Whether real or illusionary, the problem of worker dissatisfaction has not been without its suggested panaceas.

One of the most frequently touted of the current nostrums is "job enrichment," an intuitively appealing concept that is anything but pleasant to define. As Judson Gooding remarks, "Job enrichment is a diffuse, open ended kind of concept. It is more an attitude or a strategy than it is a definable entity. In fact there is no one term for it that is accepted by all the experts" (Gooding, 1972a, 24).

What, then, is job enrichment? Essentially, it is an attempt to bring responsibility down to the lowest level possible, to allow individual workers a great deal of initiative and responsibility in their jobs, to group tasks into meaningful units, in short, to make work meaningful. It is to be distinguished from "job enlargement" (though the two terms are increasingly used interchangeably) which refers to early attempts to "improve" the boredom of the worker's job by adding a greater number of the same tasks to his job, rather than adding higher level responsibilities. Again, from Gooding: "Central [to job enrichment] is the basic idea of giving the worker more of a say about what he or she is doing, including more responsibility for establishing procedures, more responsibility for setting goals, and more responsibility for the excellence of the completed product" (Gooding, 1972a, 24).

The intuitive appeal of job enrichment in America is obvious. In a culture which finds it desirable to espouse

the success motif, the inherent pleasures of hard work, and the right of all citizens to self-actualization, job enrichment strikes a harmonious chord. More recently, European countries and England have begun to turn to job enrichment as a technique to combat seemingly endemic problems of low productivity and worker angst.

How widespread is the use of job enrichment in industry? Several surveys have been reported to date in the literature.

Reif and Schoderbek (1966) and Schoderbek (1968) report that 80.5 percent of a 210 company sample indicated that they were not using job enlargement. Of the 41 companies that responded positively, the three main reasons for use were: reduction of costs, "enriching" the worker's job, and decreasing job specialization. However, when queried as to the number of job enlargement projects installed during the five years preceding the study, the number of projects reported is quite low (only 14 firms even indicated a figure). The respondents were also asked to list advantages and disadvantages of job enlargement, though unfortunately the authors did not use open-ended response format, thus potentially biasing the responses. The three most frequently mentioned advantages were increased job satisfaction, cost reduction, and increased work quality, whereas the three major disadvantages were overcoming resistance to change, the fact that some workers were not capable of growing with the job, and increased training time.

Although Reif and Schoderbek conclude, in their original report of the study (1966), that " . . . the advantages far outweigh the disadvantages" (23), this conclusion is not clearly supported by the authors' data, particularly in view of the small number of respondents even using job enrichment.

In a similar, more recent study, Reif, Ferrazzi, and Evans (1974) report questionnaire results from a 125 company sample. Forty-eight percent of this sample reported that they did not use job enrichment, and of the 23 percent indicating that they planned to use job enrichment in the future, the authors report that, based on the comments written on the returned forms, these companies seemed cautious regarding the practice. Only 29 percent of the rather small sample used in the study reported employing job enrichment at the time of the study, with only 4 percent of the respondents reporting a formal job enlargement program. The enthusiastic, over-generalizing tone of the previous surveys is lacking in the Reif, Ferrazzi, and Evans study, and they conclude, in part, that probably the majority of firms practicing job enrichment have a rather limited understanding of the concept.

A great deal has been written about job enrichment, especially in the last decade, most of it, regrettably, of little scientific value. Typically published are glowing success stories (for example, Rush, 1971, and Butteriss, 1971) with little information provided that would enable a dispassionate reader to draw his own conclusions. Instead,

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one is typically offered proselytizing rodomontade from the already converted, odes of praise, case histories, or "how to" articles, usually with the implicit assumption that job enrichment is the cure for all industry's ills, especially for workers' boredom and alienation. More recently, however, serious researchers have turned their attention to job enrichment, and the results of their more controlled and less idolizing studies have somewhat dampened the pious pronouncements of praise of the earlier job enrichment advocates.

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REVIEW OF THE LITERATURE

Concern with job design has been pursued at least since the delineation of "job specialization" (i.e., breaking jobs down to their simplest components) by Adam Smith in 1776 (Hulin and Blood, 1968). Later, Lillian Gilbreth, Frederick Taylor, and others, promulgated the same fundamental concept of specialization into "scientific management," an attempt to precisely specify the optimal combination of job component tasks and methods (Reif and Schoderbek, 1969). Men, being fundamentally interchangeable units, especially in the immigrant-dominated, low intellectual level America of Taylor's era, were of less importance than the "scientific" specification of job performance techniques. Jobs, not people, were the variables of concern (Gilmer, 1971; Reif and Schoderbek, 1969).

Experimentation with job enlargement, the opposite of job specialization, is reported as early as 1944 at the Endicott plant of IBM (Walker, 1950). Walker reports that the IBM experiment, which consisted primarily of adding skills and responsibilities to the single operation worker, including the inspection of the final product, resulted in decreased costs, improved quality, less idle time, "enriched" workers' jobs, and enhanced social relations between the workers and the foremen. Interestingly, despite hosannas for the results, Walker suggests a limited application of

job enlargement, perhaps to a half million American workers' jobs, and concludes that job enlargement should be avoided unless a number of factors are favorable, including shop practices and company policies.

It was not until the 1950's and later, however, that job designers and management personnel seriously began to experiment with alternatives to specialization in any kind of systematic manner. Early 1950's popular magazines reported the then revolutionary ideas aimed at decreasing the monotony of the (typically) blue collar jobs: job enlargement and job rotation (Davis, 1957).

Walker and Guest, (1952a) cite one of the first attempts to deal systematically with the problems associated with job specialization. They suggest that mass production technology has developed these characteristics: (a) standardization; (b) interchangeability of parts; (c) orderly progression of the product through the plant; (d) mechanical delivery of parts to work stations at the right time and mechanical removal of the assembled product or subproduct; (e) minute subdivision of the product; (f) severe limitations on social interaction; and (g) the requirement of only surface mental attention being needed for the worker to accomplish his job. While these characteristics have produced high production levels and low unit costs, the results have also been expensive in terms of enormous social costs, including the fact that, according to Walker and Guest, the average production worker is dissatisfied with his job.

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One of the first empirical research attempts aimed at determining the effects of job enlargement in a rigorous, scientific manner is reported by Marks (1954). His study deals with the introduction of job expansion in a formerly assembly line production operation that manufactured hospital appliances. In the redesigned job, the workers in the experimental groups controlled the sequence of production steps and provided their own quality control. The results, Marks notes, were quality improvement and employee attitude improvement, and, according to one summary of the research, " . . . increases in productivity above the Group Job Design [in which employees performed the assembly line production tasks, but rotated among the various tasks]" (Davis and Canter, 1956, 279; Davis, 1957). The data provided, however, indicate that the "enriched" job design resulted in an average of 2.5 percent lower output than the control group's production. In addition, the period of the experimental treatment (16 and 27 days in the two experimental groups) was so short as to constitute, at best, a short term test of the changes attributed to the new production methods.

In another study, Rice (1953) suggests that job design on the premise of placing all inter-dependent workers in the same geographical area in the plant accounted for a 15 percent improvement in worker efficiency in a 60 day trial period. This suggests that functionally arranged jobs (i.e., placing all of those workers with the same job duties in the same place) are perhaps less efficient than unit-of-production

arranged jobs, which later became a fundamental tenet of job enrichment principles (Ford, 1973). However, the short term nature of Rice's study, and the comparatively low level of improvement, suggests that the results are only suggestive and must be interpreted cautiously.

Further empirical research supporting the job enrichment/enlargement principles is provided by Davis and Werling (1960). In this study the authors report the quantitative changes in production associated with a company that had enlarged employees' jobs in three departments (maintenance, distribution, and operating), all of which had been enlarged from 2 1/2 to 3 years prior to the study. The researchers report performance improvement in terms of increased production volume and decreased costs. They do not, however, make a convincing case that the improved performance is attributable to the job changes themselves and not to other, extraneous, sources. This is a particularly relevant criticism, since this was not a controlled study, but rather one that relied almost exclusively on post hoc analysis, without benefit of appropriate control groups. They do attempt, however, on the basis of questionnaire data, to determine the specific job factors associated with each of four criterion variables: mean quantity of output, improvement of quality, reduction in operating costs, and mean quality of output. On the basis of correlational data, they identify a number of job factors associated with each of these criteria, as summarized below:

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Criterion	Associated Job Factor(s)
Mean Quantity of Output	Restricted, closely specified job
Improvement in Quality	Fully specified work assignment and work rate
Reduction in operating costs	Has or perceives as having a full work assignment
Mean Quality of Output	Perceives job as being important Identifies high quality needs; worker control over quality; relates success to high performance Worker control of work organization, high evaluation of fellow workers Peer communication
Improvement in quantity of output	Full work assignment and some worker control over activities preparatory to work Relates job success to management fairness; meets specified minimal standards of performance

In spite of the above attempt at specification of specific job factors associated with specific changes, the criteria were found to be highly intercorrelated (range of correlations: .777 - .964) so the value of delineating separate factors seems of little importance.

Warren (1958) asserts that the two criteria relevant to evaluating job enlargement are productivity and cost changes. He further argues for a long-range cost evaluation since, over the long run, the costs savings of job specialization may be usurped by boredom and alienation. Finally, he decries the lack of empirical studies done to that time regarding job enlargement, and suggest that generalization regarding its efficacy was premature.

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Few such empirical studies were promptly forthcoming, however. Kennedy and O'Neill (1958) provided a look at the effects of job enlargement on job satisfaction. They found no significant differences in the job attitudes of the workers in repetitive and in varied jobs. Assembly operators, who were assigned a specific task to be performed at an assembly line station, were compared in job attitudes with utility men, workers who relieved the assembly operators and performed training duties as well. The researchers observe that "The biggest difference in the assembly operator's job and the utility man's job was that the former performed a single, routine and repetitive task while the latter performed a wide number of the same routine tasks. . . ." (Kennedy and O'Neill, 1958, 373). This is hardly very conclusive evidence against job enrichment, however, since one may argue that the difference between the assembly and the utility positions was slight, though the study does perhaps, argue against job enlargement (the horizontal addition of a larger number of similar job duties).

Another study found job satisfaction less related to the specific work than to geographical location. Katzell, Barrett, and Parker (1961), using correlational and centroid factor analyses, found that job satisfaction was associated with a "small town culture" more than with an "urban culture." In addition, they found, in their samples, that job satisfaction was not significantly associated either with quality or production or with turnover. Rather, employee satisfaction

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was found to be a function of size of work force, wage rate, unionization, and percentage of work force that is male; these variables were roughly characterized as expressing an urbanization dimension.

Another empirical study, essentially a case study, is reported by Conant and Kilbridge (1965). The criteria they apply to studying an enlarged job are cost analysis and social interaction consequences. They investigate, ex post facto, the general hypothesis that bench work (enlarged job) is superior to traditional work. The study is set in a home laundry equipment manufacturing concern, located in a small, rural location in the Midwest.

The authors present data which show that bench work (essentially, assembling the bulk of the machine by the individual worker, rather than working on a small part of it) apparently resulted in cost savings over line work, in fewer rejects, and slightly higher efficiency levels, but also in increased production time. Unfortunately, no statistical significance levels for the group differences are provided. Interestingly, also, social interaction was markedly reduced in the enlarged jobs, although this appears to be primarily a function of the physical arrangement of the new work stations, and not to the work changes themselves. Conant and Kilbridge also report that the workers responded with improved job attitudes toward the enlarged jobs. Finally, a comparison via correlational analysis of preferences for the old versus the new (enlarged) job on various personal

characteristics (e.g., age, years of education, length of time with company, number of children, etc.) found no significant correlations on any of the variables.

Unfortunately, the Conant and Kilbridge study suffers from numerous flaws. The use of after-the-fact data and the absence of a control group seriously limits the generalizability of the data. The questionnaire used by the authors to measure worker attitudes is of uncertain validity, nor are any data supporting the reliability of the instrument provided. Finally, the fact that over half of the workers expressed neutral or favorable attitudes toward the old (line) work suggests that job enrichment is not a universally applicable panacea.

Davis and Valfer (1968) provide evidence supporting job enrichment principles. They reject the still dominant managerial belief that the supervisor's job should be designed with a primary emphasis on production requirements, without much regard for the wider view of the final output (i.e., production testing quality control output.) They test the general hypothesis that production and attitudes will improve as greater responsibility for the final output is assigned to the supervisors. Specifically, they hypothesize that higher economic productivity (i.e., lower total costs) and greater needs satisfaction for group members and supervisors will result from supervisory job designs in the direction of increasing authority and responsibility by including direct control over all operation and inspection

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functions required in the work unit's production.

Two experimental treatments were employed in the Davis and Valfer study: one set of work groups and comparison groups were given a "product responsibility" treatment in which the supervisor's job design was changed to provide authority and responsibility for overall functions required to complete the products produced in the shop. The second treatment method was called "quality responsibility" treatment, and consisted of the addition of quality control responsibility added to the product responsibility treatment.

Objective dependent variables measured were productivity, direct production costs (labor + materials), product quality, personnel costs (absenteeism, lateness, grievances, transfers, injuries) and time distribution of supervisor's activities. Subjective dependent variables were "changes in attitudes" and "changes in perceptions of supervisors and workers" which were obtained by "questionnaire, interviews, and ratings," by instruments and/or protocols of an unspecified nature. The results of the study are summarized below:

1. Production costs/Productivity
   A. Product Responsibility groups: No statistically significant changes in pre- or post-periods for either experimental or comparison groups.
   B. Quality Responsibility groups: One quarter of the experimental groups showed a statistically significant productivity improvement. Costs showed a significant decrease in one-half of the experimental groups and a non-significant decrease in the other half; controls showed a cost increase, significant in only one shop.

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2. Personnel Costs
   A. Product Responsibility groups: No change.
   B. Quality Responsibility groups: No change.

3. Time Distribution of Supervisor's Activities:
   A. Product Responsibility groups;
   B. Quality Responsibility groups:
   For both groups, supervisors were reported to be more concerned with the technical aspects of the job, to have more autonomy, and to have less free time available.

4. Attitude Changes:
   A. Supervisors (both treatments): mild to vigorous support for changes (interview data), with negative evaluation of only the decreased time available in the new system for personnel management.
   B. Workers: Responses were directly related to the degree to which responsibility and authority were granted to them. That is, Product Responsibility workers showed neutral attitudes toward the changes, whereas Quality Responsibility groups showed favorable attitudes to the changes.

5. Perception Changes:
   The major variable here was leadership: Product Responsibility Groups viewed their supervisors as decreasing in initiating structure and participation; Quality Responsibility groups viewed their supervisors as increasing in both dimensions. (For both groups, initiating structure and participation were "positively correlated" at an unspecified level.)

The authors conclude on the basis of their studies that supervisors' jobs should be designed to increase responsibility and authority for all the functions required to complete the product, including quality acceptance, and that responsibility should be delegated to the lowest organizational level performing the work. Such generalization from this study seems unwarranted. The lack of specification of the post-matching group comparability leaves serious doubts about the actual similarity of the groups, and hence questions

as to whether group differences are attributable to between group variance rather than to the experimental treatment. In addition, the absence of control groups for the Product Responsibility groups is no minor flaw. Also, the specification of changes in attitudes and perceptions as being measured by "interviews and questionnaires," with no further amplification, leaves extremely serious doubts regarding the reliability and validity of the instruments employed. Lastly, one cannot but be impressed by the promptness of the authors to attribute non-significant findings, or findings against predictions, to hypothesized causes, that may or may not be valid.

One of the key advocates of job enrichment, Robert Ford, reports a series of predominantly successful implementations of job enrichment (Ford, 1969, 1973). He details 19 experiments at A.T.& T., many of which were reasonably well controlled. The studies were conducted in a variety of settings within the company: Treasury, Commercial, Traffic, Plant, Comptroller, Engineering, and Traffic departments. A total of ten of A.T.& T.'s companies and nine different jobs were involved in the changes.

Perhaps the most scientifically acceptable of the Ford studies is the initial one, involving customer service representatives responsible for answering customers' letters and telephone inquiries (Ford, 1969; Janson, 1971). The experimental group changes included the assignment of greater control over the letters written, less pressure for increased

production, full accountability for output, and the appointment of "subject matter experts" in each unit for employees to consult prior to consulting the supervisors. Control groups were treated in the usual (i.e., highly supervised) manner. Working conditions (wages, policies, hours, training) were maintained for all groups at the pre-experimental levels. To control for the Hawthorne effect, neither first line supervisors or employees were told that an experiment was in progress.

Data regarding the results of this study are presented primarily in chart and qualitative form; there is inadequate quantitative data provided to determine the significance of differences between groups.

Specific results included:

a. Customer Service Index (a measure of quality) increased for the experimental groups;
b. Turnover was "significantly reduced" for the experimental groups;
c. Production levels were increased for the experimental groups;
d. More promotions were made for girls in the experimental groups;
e. Verification costs were reduced from 100 percent to 10 percent for the experimental groups; training costs were reduced for the experimental groups;
f. Job satisfaction scores increased for experimental groups more than for control groups.

The remaining 18 experiments generally reported similar results, with the following typical gains noted: productivity improvement, decreased employee grievances, improved employee job satisfaction, improved customer satisfaction, and decreased turnover. Overall, the experiments are rated by Ford

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and the applicable supervisors as 11 "quite successful," six "modestly successful," and one "not successful."

Several problems, of varying severity, must temper the reader's interpretation of Ford's findings. Although the studies are reasonably well controlled experiments, at least as far as field work is concerned, there are several problems with the experimental design and with the data reported. Ideally, workers should have been assigned at random to the control and experimental groups; as it is, taking intact groups for experiments assumes (if changes are to be attributed to the experimental treatment) that the groups are virtually identical. However, no data are provided by Ford as to the mean group characteristics. There is thus no way of determining if the results attained are attributable to the experimental treatment or to some other characteristic of the groups. The unusually high education of the groups in the Treasury Department (over 70 percent college educated) severely limits any generalization of the results. While more representative working groups are provided in the subsequent 18 studies, Ford refuses to report (and apparently to employ) any statistical tests of significance regarding group differences. He provides instead raw data or his own interpretations of the results. While he points out that the changes appeared real enough to management and to the experimenters, this is no substitute for employment of statistical tests, particularly those tests resilient against assumption violations. Thus, at best,

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Ford's studies provide data pointing toward a general trend supporting his job enrichment efforts, but the enthusiasm with which Ford in this and subsequent (1973) writings proffers job enrichment as a "proven" technique is unjustified.

A series of similar studies was conducted in England by Imperial Chemical Industries (Paul and Robertson, 1970; Paul, Robertson, and Herzberg, 1969; Cotgrove, Dunham, and Vamplew, 1971). Although the studies involved a variety of widely divergent jobs (sales representatives, design engineers, experimental officers, draftsmen, production and engineering foremen) there are central themes to both the changes and the results. Essentially, the changes were consistent with job enrichment tenets: more responsibility and less supervision was given to the incumbents. For example, the sales representatives no longer had to write up reports on every customer call; they decided for themselves the frequency of calling on clients; in the event of customer complaints, the salesman had the authority to make immediate settlement for up to 100 pounds; authority was given the sales representative to buy back unwanted stock; and a discretion range of 10 percent of product prices was given the salesmen.

Results were, for the most part, in the direction predicted by the job enrichment enthusiasts. Production generally increased, as did job satisfaction and quality of work, with no reduction in profit margins. Continuing the sales representative example, Paul and Robertson report that sales for the experimental group increased by 18.6 percent,

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while decreasing 5 percent for the control group. Similarly, job satisfaction increased more for the experimental group than for the control group.

Generally these studies at ICI suffer from very small n's, frequently questionable control groups, at times changes that do not really seem to be "job enrichment," and an endemic tendency to over-generalize and too enthusiastically tout the results as being universally applicable. With respect to the last criticism, for example, Paul and Robertson claim that the cultural differences between the United States and Great Britain do not render the results inapplicable to both countries, and suggest that virtually all jobs are amenable to job enrichment efforts. Similarly, Paul, Robertson, and Herzberg (1969) claim that the scope of job enrichment's applications is enormous, and that they have not encountered any situations in which the passing down of increased responsibility would be inadvisable.

An additional study performed at ICI is reported by Cotgrove, Dunham, and Vamplew (1971) in which the jobs of nylon spinners were enlarged. In this study, however, the job changes were primarily horizontal additions of similar level tasks. Generally, manning savings were realized, and workers reported much less boredom in their new jobs. In addition, changes of various dependent variables are not clearly interpretable since other changes that are not really job enrichment were also introduced, e.g., work teams.

Several older studies may be viewed in a job enrichment

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frame of reference. Katz and Kahn (1966) point to Trist's classic coal mining study as being evidence for job satisfaction's increasing with an increase in the meaningful cycle of activities. Another well-known study, Morse and Reimer (1956) demonstrates the consequences of changing female insurance clerks' jobs in the direction of increased responsibility. Finally, a persistent, but essentially non-empirical voice advocating the importance of meaningful work long before it became a cause célèbre is that of Whiting Williams (1920, 1921, 1967).

There are numerous other case histories reported in the literature, for example, Taylor (1972), Butteriss (1971), Myers (1970) and Maher (1971). However, a detailed review of each of these many cases is both needlessly tedious and unnecessary. Virtually all of these case histories are strongly favorable toward job enrichment in their results, and also, for the most part, of very little use since they have not employed scientifically acceptable methodologies.

More recently, there has been a flurry of anti-job enrichment studies in the literature, and of studies tempering the erstwhile paens of praise of job enrichment's virtues.

Hulin and Blood (1968) after an extensive review of the job enrichment literature, conclude that the job enrichment studies are, for the most part, poorly done. "The studies . . . appear to be of two types. Those which have used acceptable methodology, control groups, appropriate analyses, and multivariate designs have generally not

yielded much evidence which could be considered as supporting the job enlargement thesis. Those studies which do appear to support such a thesis frequently contain a number of deviations from normally accepted research practice." (Hulin and Blood, 1968, 50). The researchers also conclude that job enlargement cannot be held to positively correlate with job satisfaction. Rather, there are moderating influences that make the effect variable. The job level of the individual (white collar, supervisory, and non-alienated blue collar personnel are amenable to job enlargement efforts), and the alienation of the worker from middle class work ethic values (roughly measured by a rural versus urban distinction).

Another study, Alderfer (1969), demonstrates that job enrichment efforts may have negative as well as positive results. Although workers whose jobs were enlarged in this study reported a higher satisfaction with pay and the ability the job offered them to utilize their skills and abilities, they also reported a decreased satisfaction with respect received from their superiors after the changes. Although there were some design problems in Alderfer's study (e.g., non-random assignment of subjects to control and experimental groups and the choosing of the "best possible" workers for the experimental group), their main finding that job enrichment can be a mixed blessing is of note.

Lawler (1969) attempts to tie job enrichment into an expectancy theory framework. He argues that the motivation

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to perform effectively is determined by the likelihood that effort will result in expected reward. There are, Lawler states, three characteristics necessary for jobs to arouse higher order needs: (a) meaningful feedback, (b) the job must be perceived as requiring the individual to use abilities that he possesses which he regards as important, and (c) the worker must feel that he has a high degree of self control over setting his own goals and defining the paths to achieving these goals. With this framework in hand, Lawler then goes on to suggest that job design changes, to be effective, must be enlarged both horizontally (the addition of more tasks similar to the ones presently assigned) and vertically (the integration of higher level duties into the job). He suggests that jobs enriched on both horizontal and vertical dimensions will be motivating because they provide the three characteristics necessary for effective motivation.

Equally important, Lawler (1969) discusses the importance of considering individual differences in job design. Unless, he argues, one is enriching jobs of individuals who have higher order needs, one is wasting time in job enrichment. And further, in line with expectancy theory, jobs that are enriched must be fit to individuals whose valued abilities are challenged by the job.

Lawler goes on to address the issue of quantity and quality of production as dependent variables, concluding that, for two reasons, job enlargement is more likely to lead to

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quality rather than quantity increases. This is because, (a) in Lawler's scheme, performing well is a sine qua non of experiencing feelings of accomplishment; performing well, in turn, rests on turning out a high quality product, but not necessarily in large numbers; (b) Lawler states that because many job enrichment schemes involve decreased reliance on machinery, individual workers may be working harder to produce less; hence, the tangibly measured job change improvements will be reflected as improved quality.

It is impossible here to discuss the many exigencies of expectancy theory. Lawler's work rests heavily on the theory, but regardless of its validity, the criticisms that he raises in this study that challenge job enrichment are of note, particularly the point that job enrichment does not appear to be universally applicable to all workers. In addition, Lawler provides an at least feasible explanation of the typical finding in the job enrichment studies that quantity does not usually improve as the result of job redesign.

Approaching job enlargement from a similar expectancy theory framework, Hackman (1969) classifies the performance process into a conceptual model, suggesting four types of impact by which the task itself may influence the performance process: (a) Influence through "hypothesis control" (i.e., what people think they ought to do); (b) motive arousal, as determined by the task; (c) task impact on cognitive and physiological activation level; and (d) "process outcome

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links" (i.e., the specification of exactly what outcome will result from an action). Hackman maintains that these four kinds of task impact on worker behavior enable the prediction of the effects tasks will have on performance. Thus, job enrichment is not a simple cause-and-effect affair, but must be considered in light of the differential impact tasks may have.

In a subsequent, empirical, study, Hackman and Lawler (1971) consolidate their previous theories to posit higher order need satisfaction as, essentially, a moderator variable determining the effects of job enrichment efforts. They test, in this important study, the specific hypothesis that if employees are desirous of higher order need satisfaction there should be a positive relation (correlation) between the four task dimensions of variety, autonomy, task identity, and feedback, and the dependent variables of motivation, satisfaction, performance, and attendance. This is to say, jobs high on the four dimensions (e.g., properly "enriched" jobs) will result in employees who are desirous of higher order need satisfactions tending to be highly motivated, satisfied, and rated by supervisors, and to have a low absenteeism rate.

In general, Hackman and Lawler's hypotheses were supported by their study, although many of their correlations, although statistically significant, were of such low magnitude as to be of questionable "practical significance." In addition, the mean higher order need strength of their

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samples was so high (6.01 of 7.0 maximum) as to suggest a severe restriction of range problem in the study. What is impressive in this research, however, is its soundness of design and its connection to an integrated theoretical base, so frequently lacking in the typical job enrichment study. In addition, the implications of this research for job design are important: to the extent that Hackman and Lawler's conclusions are valid, there is no one best way of designing a job. Rather, the psychological demands of jobs must be matched to the personal needs of workers for optimal results.

The same contingency approach to job enrichment is detailed by Monczka and Reif (1973) and by Morse (1973). The former study attempts to provide a conceptual model of job design, identifying those factors most important to job enrichment's success. The authors identify ten key job characteristics manageable by job designers: variety, autonomy, interaction, knowledge and skills levels, responsibility, task identity, feedback, pay, working conditions, and cycle time. More importantly, they point out three fundamental questions, frequently ignored in piece-meal approaches to job re-design: (a) where are the workers positioned on Maslow's hierarchy of needs scale; (b) are workers capable of handling the increased requirements of enriched jobs; and (c) do the workers themselves want job enrichment. This last question is of particular relevance, since it is so frequently ignored, at least in print, by job enrichers. Finally, Monczka and Reif point to two other

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dimensions influencing the success of job enrichment: the state of technology (jobs dominated by expensive fixed asset machinery are not easily amenable to change); and management's philosophy and style (job enrichment efforts may fail in a hostile managerial climate).

Morse (1973) again calls for individual differences considerations in job re-design. He points, for example, to General Motors' celebrated Lordstown, Ohio, plant, where union officials wanted eliminated some of the jobs management had consolidated, in part, to alleviate boredom. "Humanizing work," he states, "is work that is motivating to the individual and is suited to his behavioral preferences" (Morse, 1973, 74). Morse provides a conceptualization of dimensions relevant to job enrichment: (a) task and technical variables; (b) individual personality variables; (c) organization and job design attributes; (d) organization effectiveness level; and (e) level of individual motivation. He suggests that successful job enlargement rests on both fitting the predispositions of workers to the jobs being re-designed and fitting the re-designed jobs to the applicable technology. Morse criticizes the job enrichment studies to date for failing to provide a specification of either the worker's personality attributes or the specific, concrete, job attributes being changed. There are, he holds, four personality tendencies of relevance to job designers: (a) attitude toward authority; (b) attitude toward being and working alone or in highly coordinated groups; (c) tolerance for ambiguity,

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and (d) cognitive complexity. Relevant task attributes, he suggests, are: (a) clarity of information about the task; (b) the ability of the task to be programmed; and (c) the time span before performance feedback is available.

Susman (1973), challenges Hulin and Blood's (1969), and others', contention that a rural/urban dichotomy is a valid way of depicting amenability to job enrichment efforts. In an empirical study dealing with 26 manufacturing plants, 11 of which were in rural locations (defined as less than 50,000 population) and 15 of which were in urban locations, he also obtained the community in which the Ss had been raised (i.e., rural v. urban). Susman's results did not confirm the previously suggested hypothesis that rural workers respond more favorably to job enrichment than do urban workers. Rather, Susman concludes, rural employees respond to greater discretion in jobs with increased pride in job accomplishment and lower instrumental work orientation. Urban workers, and transitional workers, however, respond to increased discretion with increased general job interest. Further, he maintains that current residence is a more effective guide to this differential effect than the childhood residence of the worker.

Additional empirical evidence showing the mixed blessings that job enrichment can bring is presented by Lawler, Hackman, and Kaufman (1973). In a study set in a telephone company, the authors examine the effects of the enrichment of the directory assistance operator's job.

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Although improvements were noted in the amount and variety of decision making allowed the operators, there was also a significant and negative effect on interpersonal relationships, with older employees reporting less post-change satisfaction with their interpersonal relationships and the Supervisory Assistants (the intermediate supervisors of the operators) reporting less job security and less interpersonal satisfaction.

But, while the point that job enrichment of one job may mean job disenchantment of another is not insignificant, the emphasis placed by Lawler et al. on this finding seems too great. Job enrichment proponents in fact, have frequently cited decreases in the number of jobs needed for the same work to be done as one of job enrichment's accomplishments. In fact, another interpretation of the findings is that the supervisors were made redundant by the job changes, and that this resulted in a costs savings. The authors' statement that " . . . some [operators] even suggested that the office might function more effectively if the job of the [intermediate supervisor] were eliminated," (61) implies, incorrectly, that the number and type of jobs are to be taken as a given, clearly an approach antithetical to job enrichment.

Another job enrichment critic, Mitchell Fein, offers little hope for job expansion. In somewhat virulent writings that border at times on diatribe, Fein (1973, 1974) excoriates job enrichment as an unworkable, ill-conceived technique that

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is of little value, use, or importance. Unfortunately, Fein indulges in a great deal of non-scientific, non-empirical criticisms that offer little scientific evidence to support his views. He is particularly fond, in his published writings to date, of quoting single individuals or case studies to support his points, while simultaneously castigating job enrichment studies for using identical techniques. He criticizes numerous job enrichment "success stories," often with assumption-ridden, contrived criticisms. For example, he claims the often cited General Foods Topeka plant job enrichment was a "controlled experiment in a small plant with conditions set up to achieve desired results . . . The plant and its operations are not typical of those in industry today . . . what makes this plant so unique is not only the management style but the workers themselves who were handpicked" (Fein, 1974, 72). Or again, Fein throws out Proctor and Gamble's job enrichment efforts because "[Proctor and Gamble] is an unusual company with a history of concern for its employees that is matched by few other firms in the country" (1974, 73). Apparently, to Fein, the only suitable test for job enrichment would be with a hostile, antagonistic management.

Fein also spends a great deal of effort discarding "job enrichment" efforts that do not meet some unspecified definition of the term. He says, for example, that Polaroid Corporation's experiments involved only job rotation, and are therefore not job enrichment, and that the famous A.T.& T.

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job enrichment studies (Ford, 1969, 1973) merely re-designed jobs "which had been ineffectively set up in the first place" (Fein, 1974, 74).

But even if Fein's anti-job enrichment tone and relatively non-empirical, frequently ad hominem, comments must be approached cautiously, one should not discard his views simply for their apparent hostility. In fact, several of the points he raises are relevant job enrichment criticisms, even if only of heuristic interest.

Specifically, Fein notes the previously cited limits to job enrichment imposed by technology (also cited by Anderson, 1970), claiming, with some overstatement, that job structure in the United States today is "dictated largely by the technology employed in the production process" (1974, 75). While this is true to some extent in manufacturing, one cannot ignore the fact that the American economy is today more service oriented than manufacturing oriented. He notes additional problems as well. Job enrichment can result in higher costs rather than lower, there are relatively few jobs (he claims) with higher skill requirements, group norms may work against job enrichment efforts, and many workers express fear that they will be penalized if they improve their productivity.

Claiming to present "a more balanced approach," Fein suggests that "there are no data which show that restructing and enriching jobs will raise productivity" (1974, 80). He suggests an alternative, more correctly, the status

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quo: workers self-select themselves into higher level jobs; those dissatisfied with boring jobs get out of them. While Fein admits that some workers do want larger jobs, he maintains that "Most workers want more freedom to act on personal things outside of their work place" (1974, 86). Ignoring the lack of any supporting data for this statement, even if it were true, another interpretation is possible. Workers who see their jobs as hopeless, but inescapable, dead ends, may very well turn their energies to outside activities, which they perceive as the only avenue available for creative work.

It is impossible here to detail any more thoroughly the many deficiencies in Fein's reasoning and writings. He remains less a formidable critic of job enrichment than a purveyor of questions job enrichment theorists must legitimately address, but on the basis of hard core research findings, not on unsupported generalizations.

Levitan and Johnston (1973) offer a bit more balanced, though also essentially non-empirical, criticism of job enrichment. They argue that dull, tedious jobs still exist because there is still an economic demand for them. They claim that the job enrichment literature is filled mostly with success stories since the failures are, understandably, not publicized. In addition, the production benefits frequently attributed to job enrichment efforts are typically not controlled against gains from alternative sources. They also point out that attitude changes attributed to job

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enlargement cannot be guaranteed to be non-transitory. They hold that technology is the most important factor in job design, and cite the statistic that the average plant manufacturing durable goods averages over $25,000 fixed capital investment for each worker. As for those who suggest a social efficiency model approach to job enrichment (i.e., make jobs more interesting regardless of whether production gains result), Johnson and Levitan state: "Improved social efficiency cannot proceed along opposite paths to industrial efficiency, but must parallel it. Without the tremendous affluence generated in large part by efficient mass production, there would be no alternative life styles or occupations for workers to envy, and no time to invest in the education which has contributed to some workers' dissatisfaction with their jobs" (Levitan and Johnston, 1973, 39).

Reif and Tinnell (1973) address the frequently ignored problem of which jobs are most suitable to job enrichment efforts, acknowledging at the outset that all are not. They propose an eighteen element scheme by which to rate the suitability of jobs to enlargement efforts. The elements they propose fall into four categories: (a) the job itself; (b) technology; (c) the workers; and (d) management. The specific elements suggested are: (a) job: importance of quality, flexibility, extent of coordination required, specialization benefits, conversion and training costs, wage payment plan, and role of job satisfaction in affecting production rates; (b) technology: role of fixed

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investment in equipment and technology; (c) workers: susceptibility of workers to change, job security, present job satisfaction levels, skill levels, education levels, rural vs. urban location, and unionization; (d) management: commitment of managers to job enrichment, experience and training of managers in job enrichment, and willingness of management to tolerate a time lag between job enrichment implementation and observable results. Reif and Tinnell do not suggest that the diagnostic instrument they provide based on the above schemata is ideal for all situations, especially in cases in which one factor (e.g., technology or union opposition) is of paramount importance. What is of particular value in this presentation is the gestalt view it provides to would-be job enrichers.

A non-empirical job enrichment broadside is provided by Schappe (1974) in an article auspiciously entitled: "Twenty Two Arguments Against Job Enrichment." Many of Schappe's criticisms have already been discussed above. Essentially, he argues, and generally without supporting documentation, that workers, especially unions, do not want job enrichment, that it is too expensive, unworkable, and is simply another manipulative device in management's nefarious bag of tricks.

Finally, two quite recent studies provide additional empirical evidence for an individual differences approach to job enlargement.

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determine which, if any, of the following variables acted as moderators between individual workers' job description and reported satisfaction with the specific characteristics attributed to the job, the behaviors exhibited by the employee (absenteeism), and his supervisor's ratings of him and the employee's job description, and the job description and the employee's reported overall job satisfaction: urban v. rural location, high v. low Protestant ethic beliefs; and high v. low need satisfaction levels. They found, essentially, that the urban v. rural distinction was not a moderator variable for any of the relationships, that the Protestant ethic dimension mediated the job description/job characteristic satisfaction relationship and the job description/overall satisfaction relationship (but to a lesser extent) but not the job description/behaviors relationship, and that the need satisfaction variable showed the same moderating pattern as did the Protestant ethic variable.

Finally, Standing (1973) investigated satisfaction with the work itself as a function of the cognitive complexity level of the worker. He found that an inverted U-shaped curve best describes the relationship between the two.

A brief review of the job enrichment literature is provided by Miner and Dachler (1973) and a more detailed one by Friedlander and Brown (1974). The latter authors conclude that the studies regarding job enrichment to date are generally suggestive of increased quality, lowered absenteeism and turnover, and increased job satisfaction, but that the

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studies so far have been, for the most part, poorly designed, incorporating many simultaneous changes at the expense of being able to delineate with any specificity the causes of any study's results.

If much of the job enrichment literature supporting the practice is over-zealous proselytizing, the same must be said of the criticisms, with a few notable exceptions. Both advocates and detractors of job enrichment have regrettably chosen all too often to address themselves to a management audience with a "how to" or "why not to" message. Such evidence is unacceptable in the scientific arena; it is at best suggestive, not conclusive.

In conclusion, what seems to emerge from the wealth of job enrichment literature is that job enrichment is neither as wicked as its detractors maintain, or as useful as its advocates suggest. Rather, job enrichment is very valuable for some workers at some locations, with some technologies, managerial attitudes, etc. It is not a panacea, nor is it an instant cure for the alienation of the worker (to the extent that such alienation even exists). A great deal more research is necessary covering numerous aspects of job enrichment before any conclusive characteristics can be delineated.

Because the present study deals with the implementation of a job enrichment scheme through a seminar, training approach, it is desirable to review some of the training evaluation literature in addition to the job enrichment studies.

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In what is perhaps the best review of the training evaluation literature to date, Campbell, Dunnette, Lawler, and Weick (1970) classify the existing training evaluation approaches as falling into four positions. These approaches form a continuum ranging from rigid adherence to an economic criterion of measurable change (Odiorne, 1965) to acceptance of trainees' and superiors' opinions of the training's value as the standard of appraisal of training's value (Korb, 1957). In between the two extremes, Campbell et al. cite MacKinney (1957) who maintains that training should be avoided unless a pre-post, experimental versus control group design is possible, and Andrews (1966) who considers the opinions of the trainees as the most important criterion for measuring successful training.

Kirkpatrick (1967) suggests that there are four important steps relevant to a training evaluation: reaction, learning, behavior, and results. Reaction refers to the subjective reactions of the training session participants, i.e., how well did they like the training? Learning deals with specific facts or techniques that were successfully learned by the participants. Behavior refers to job behavior changes attributable to the training program and results to job behavior changes attributable to the training, e.g., reduced costs or decreased turnover. Kirkpatrick's scheme, like to much of the training evaluation literature, is directed primarily to a training director type audience, interested foremost in the narrowly practical applications

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Schwarz, Stilwell, and Scanlan (1968), though primarily addressing themselves to managerial type training, conclude that more than one method should be used in evaluating the effect of training on behavior. They further advocate that there should be long term followups, when possible, that the inculcation in a training session of principles and concepts is of limited value if they are not subsequently applied in the right on-the-job climate with the right attitude, and that managers trained in new principles must also receive training with respect to how their supervisees will perceive the "changed" manager. The same advocacy of evaluation on more than one level is suggested by Lindbom and Osterberg (1954), who advocate evaluation of the trainee's in-classroom behavior, his self- or supervisor-reported on-the-job behaviors, and, finally, the trainee's subordinates' changed behaviors and reactions.

The limited value of training sessions conducted without regard to the post-training job situation is best illustrated by the famous study at International Harvester (Fleishman, 1967), in which leadership changes reported during training were found to rapidly dissipate when trainees returned to their jobs, particularly, as in the Fleishman studies, when the company's climate on-the-job is relatively inimical to increased consideration (a leadership dimension) among its foremen.

In the only study found pertaining to the present

research in a direct manner, O'Rourke and Goldbloom (1968) discuss a training program conducted by the authors for executive secretaries. They advocate off-site training, and involvement of the bosses before the training in order to facilitate the secretary's assuming responsibilities presently performed by the boss. Regrettably, however, this too is more of a "how to" report than a formal study, and the only "hard" criterion of successful training is the fact that 25 percent of the attendees enrolled after the training in the Institute for Certifying Secretaries and planned to sit for the Certified Professional Secretaries exam, a dubious standard, at best. (The authors do report that evaluations of an unspecified nature yielded generally positive results).

It would be possible, but not particularly worthwhile, to expand in great detail a review of a plethora of training studies and training evaluation recommendations in the literature. As with the job enrichment literature, too much attention has thus far been directed to semi- and non-scientific summaries of training techniques, all too frequently without benefit of control groups, quantitative measures of changes, or even much specification as to the goals to which the training is directed.

The overall picture that emerges from the best of the training evaluation studies is that a variety of training evaluation techniques are desirable, with particular attention, when possible, to behavioral changes attributable to the training. In addition, the serious training evaluation

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experts wisely argue for as tight controls as field research permits, since the tighter the experimental design employed, the more the researcher is able to suggest causality (Campbell and Stanley, 1963). In addition, it is important, say the researchers of training, to obtain measures of changes not just from the trainees themselves, but, when feasible, from subordinates and superiors as well.

Finally, an admonition by Korb (1956) is still of particular relevance, especially in view of the ubiquitous commercial training programs now on the market, most replete with suggestions of magnificent changes to take place after the training: "There is a tendency to expect too much from short, formal training courses. We cannot look for large results from one shot courses, or for dramatic changes in the basic social behavior of people on the basis of a few weeks of training" (Korb, 1956, 391).

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STUDY SETTING AND HYPOTHESES

The present study represents an opportunity to study the effectiveness of a job enrichment scheme in a realistic field setting, and, simultaneously, an attempt to evaluate a multiple-company, seminar approach to job enrichment's implementation involving both the incumbents of the jobs to be enriched and their bosses.

The training involved management support group personnel, primarily secretaries (all female), and their supervisors (all male) who attended January, 1974 seminars conducted by a major midwestern management institute specializing in management training programs. Both secretaries and bosses for the study were employees of Scanlon Plan manufacturing organizations, located in western Michigan rural and semi-rural locations. These companies have a long tradition of association with each other through the Scanlon Plan, a participative management plan that attempts to give employees a strong voice in their work organizations, including profit sharing (Frost, Wakeley, and Ruh, 1974). The management support staffs of these companies had just organized themselves into an irregularly meeting group to exchange ideas and to promote their own development as staff members.

It must be strongly emphasized that the Scanlon Plan places a great deal of emphasis on employees' contribution

to the profit picture and strongly encourages individual employee development. Because of this, one would expect that if job enrichment were to have an effect on employees' jobs and attitudes, Scanlon Plan employees would be particularly likely to exhibit these effects, much more so than employees of more traditional or authoritarian work settings. The Scanlon Plan climate for this study is thus viewed as a factor enhancing the likelihood of changes attributable to job enrichment training, if such changes occur at all.

The seminars themselves were entitled "Getting the Best Return from your Management Support Group Investment," and "The Secretary's Role in Successful Management," for the bosses and their secretaries, respectively. They were billed as a means of adding additional responsibility to the secretary's job and for establishing a team relationship between the boss and the secretary, bringing as many of the boss's duties as possible down to the secretary. The instructor for the seminars had worked as a secretary, a high school teacher of business subjects, a secretarial training specialist for a large retailing firm, an editor of a secretarial publication, and as a secretarial consultant to industry. The seminars were held in an off-site location in one of the company's training centers. The bosses met for one half day, followed by a full day session for the secretaries. This is a unique feature of the training: it is one thing to fill secretaries with visions of enriched jobs

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and then to immerse them into the same working situation from which they emerged. It is another, and seemingly better, approach to first attempt to lay the ground work for change with the bosses, and then to attempt to instill the desire for change in the employees themselves. It may be asked, and indeed was, by the participants, why the bosses and secretaries were not dealt with simultaneously in the same session. This was not done because of the instructor's view that this procedure was inimical to honest expression of job problems, especially in a group setting, and that this approach would necessitate an encounter group type approach to training, for which the instructor felt neither qualified or desirous of undertaking.

In short, the present study capitalized on a chance to evaluate whether or not job enrichment (the adoption by employees of higher level responsibilities in their job tasks) can be implemented in a group seminar type approach, and whether such a job enrichment scheme results in changes in the employees' attitudes and work efficiency, and in the way employees view their bosses' leadership. The specific hypotheses being tested in this study are presented below.

Management Support Group Hypotheses

1. Experimental groups (exposed to training sessions) will self-report accomplishing more duties in the enriched job duty cluster post training than will control groups.

2. There will be no significant differences in

experimental and control groups on routine job duties, or on social/personal job duties (e.g., assisting boss in income tax return).*

3. There will be no significant differences in experimental and control groups on self-assessed job performance measures (quantity and quality of work produced, boss and secretary as team).*

4. There will be no significant differences in experimental and control groups of secretaries' assessment of post-training boss leadership dimensions (here conceived as consideration, participation, and initiating structure).*

5. There will be no significant differences in job satisfaction variables (job satisfaction with work and with supervision) attributable to the training session.*

6. There will be no significant differences in reported motivation ("devotion of energy to job tasks") attributable to the training session.*

Supervisor Hypotheses

7. Experimental groups (exposed to training sessions) will report that their secretaries accomplish more duties in the enriched job duty cluster than will control groups.

8. There will be no significant differences among experimental and control groups on routine job duties, or on

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*Please note that this is not a statement of the null hypothesis, but rather represents the predicted result of the training session, i.e., no change.

social/personal job duties (e.g., planning of office parties) reported being performed by their secretaries than control groups.*

9. There will be no significant differences among experimental and control groups on self-assessed job performance measures (quantity and quality of work produced, boss and secretary as a team).*

10. There will no significant differences among experimental and control groups for bosses' self-reported leadership dimensions (consideration, participation, and initiating structure).*

11. There will be no significant differences among experimental and control groups in job satisfaction with the work attributable to the training session.*

12. There will be no significant experimental/control group differences in reported motivation of the bosses after the training.*

Because of the somewhat unusual nature of these sets of hypotheses, i.e., on all but one variable, predicting no changes as a result of the seminars, some comment is necessary. These predictions of no change are not meant to reflect a cynical view that training sessions such as those in the present study are a priori to be considered utterly worthless, but rather to reflect a seemingly realistic view that short,

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*Again, these are <u>not</u> statements of null hypotheses, but rather predictions of the results of the training sessions for these variables, i.e., no change.

intensive training sessions cannot be expected to produce, at least in the short run, changes in major organizational dependent variables. It does seem reasonable, however, to expect that specific job duty changes of "enriched" job duties will result from training of the type being evaluated. There is, however, no reason to expect differences in experimental and control groups on routine job duties--i.e., non-enriched duties--nor on the "social/personal" job duty variables.

At the outset, it is acknowledged that these hypotheses are of a quasi-post hoc nature. They were conceived in their final form after the questionnaire was administered (but before any data analysis had been undertaken). This was due to the severe time constraints on the study, and the very short time period between the discovery of the research opportunity and the time the instrument was to be administered. This, however, is not viewed as a defect of great importance in this research, since these hypotheses are primarily exploratory. As demonstrated in the literature review section above, the literature provides no clearcut evidence one way or the other regarding the efficacy of job enrichment training. While some studies (e.g., Conant and Kilbridge, 1965; Ford, 1969) have purported to demonstrate motivational changes from job enrichment efforts, others (e.g., Hulin and Blood, 1968; Hackman and Lawler, 1971) have shown mixed effects. In addition, no studies were found in the literature dealing with the specific job duty changes for which job enrichment

training is valuable. Since, therefore, this study is not the next logical step in a carefully developed hierarchy of studies that have demonstrated predictable cause-and-effect relationships, the hypotheses tested here do not clearly emanate from a well-directed line of job enrichment training literature, but rather reflect the confusing and unsettled state of the art.

In essence, it is being argued here (mostly on a reasonable, common sense basis, in the absence of clear literature evidence) that compacted training sessions are suitable perhaps for implementing specific, narrowly defined types of goals, but rather unlikely to result, at least in the short run, in changes on major organizational variables, variables that are fairly constant over time.

METHODS

The Experimental Design

The experimental paradigm chosen for this study was the Solomon Four-Group Design (Campbell and Stanley, 1963). Its strong virtue is its effective control of pre-test effects in addition to providing the more traditional control v. experimental group training effect, if any. The pre-test control feature makes this design especially attractive for evaluations such as the present one in which the pre- and post-tests are not separated by a very long time interval. Campbell, Dunnette, Lawler, and Weick (1970) as well as Campbell and Stanley (1963) argue for the use of this design whenever possible, since it controls for most of the potential sources of ambiguity in experimentation.

For ease of interpretation, the design is graphically illustrated in its application to the present study in Figure 1 below.

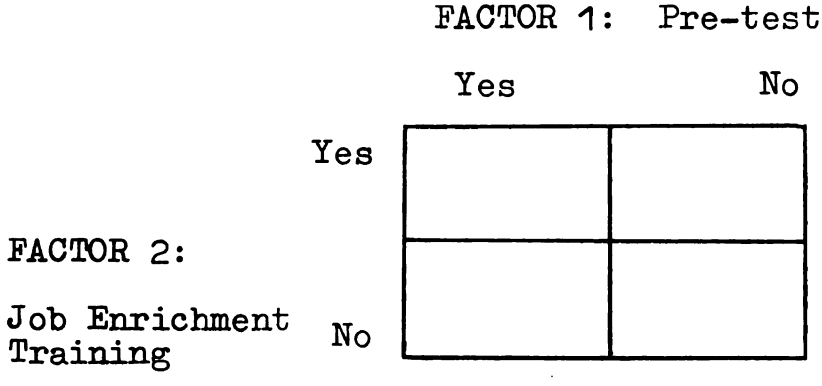

Figure 1. Graphical Representation of the Solomon Four-Group Design

The design can be further illustrated in Campbell and Stanley's (1963, 24) representation as follows:

Pretest	Treatment	Posttest
O_1	X	O_2
O_3		O_4
	X	O_5
		O_6

By means of analysis of variance, it is thus possible to determine (a) the effect of the pre-testing (Factor 1); (b) the effect of the training (Factor 2); and (c) any interaction effect between the two main effects.

Subjects

Subjects were secretaries and their supervisors from western Michigan Scanlon Plan industrial companies. Control group members were chosen from the same companies.

Two unavoidable defects in the present study must temper the otherwise strong experimental design. First, random assignment to control and experimental groups was not possible, and secondly, the n's, especially for the control groups, were smaller than desirable.

Random assignment to control and experimental groups attempts to alleviate any potential source of bias arising from differences in the groups prior to the experimental treatment. Non-random assignment of subjects to the groups arose in this study because, at the time of its conception,

the training session to be evaluated had already been established, and the participants chosen. To alleviate the potential bias of non-random assignment, a matching technique was used. A representative sample of training session attendees was chosen from the experimental groups. The number selected from each company was roughly proportional to the companies' representation at the training session. Then, each attendee pair was carefully matched with a boss and secretary of as close similarity as possible. This matching process was primarily subjective, assisted in large measure by Dr. Carl Frost, a long-time Scanlon Plan consultant, intimately familiar with each company's personnel, having consulted with each company for periods of time ranging to over 20 years. Specific attention was directed to matching on the following variables: company, position within the company, age, length of time with boss and comapny. In the end, it was felt that the matched control group represented as close a match for bosses and their secretaries as field research ordinarily permits. In addition to the matched groups, instruments were sent, both pre- and post-training, to all participants in the training session (these were not matched because of inadequate numbers of control group members suitable for matching).

Regardless of whether subjects are matched or randomly assigned, the best test of pre-experimental comparability is the similarity of the groups on the pre-test scores, since these represent the variables of interest. This study's

design has only two groups that are pre-tested, so, in order to demonstrate pre-test comparability, one must be able to demonstrate that the two pre-tested groups were not significantly different on the variables of interest prior to the treatment. This evidence is provided in the Results section.

As for the small n's, this too was an undesirable, but unavoidable, feature of the present study. There were 33 bosses and 37 secretaries attending the seminars. Adequate matching was available for only eight boss-secretary teams. In addition to the matched boss-secretary teams, questionnaires were sent, both pre- and post-training, to all participants in the seminars. These experimental group trainees constituted individuals for whom adequate boss-secretary pairs were not available, but who were included in an expanded sample to test for the generality of the results (such tests rest, of course, on the premise that the expanded groups showed no pretest significant differences on the variables of interest).

Thus, four matched and four expanded secretarial samples were used in the study. First, a matched sample of eight control group secretaries and eight experimental group secretaries was employed, which secretaries were both pre- and post-tested. Then, two samples of secretaries who were only post-tested (one experimental, one control) was used. Lastly, there are the four "expanded" samples which consist of the aforementioned samples plus additional subjects for whom

adequate matches were not available. The same situation applies to the supervisory samples. A summary of returned questionnaires is provided in Table 1.

Of what, then, are these samples representative? In light of the breadth of cross section from middle-to-top managers attending the sessions and the adequacy of the matched controls, it is felt that the samples are an adequate representation of middle and upper management supervisors and secretaries of these Scanlon Plan organizations. This is supported by the lack of significant differences for the matched samples on the pretest analyses (See Results section below). That is, if the groups attending the training had not been representative of the companies as a whole, matching would have been difficult, if not impossible, considering the limited size of the companies. No strong claim can be made, however, for the generality of the results beyond small companies of participative management philosophy in rural to semi-rural locations.

TABLE 1. Summary of Returned Questionnaires[1]

Secretaries

	Pretest	No Pretest	
Training	8/20	8/11	16/31
No Training	8/9	8/9	16/18
	16/29	16/20	32/49

[1]The first number in each box represents the matched subjects; the second number represents the "expanded" sample. Note that in each instance the second number includes the first one.

TABLE 1.--Continued

Supervisors

	Pretest	No Pretest	
Training	7/11	7/12	14/23
No Training	7/7	7/7	14/14
	14/18	14/19	28/37

The Instrument

Six areas (dependent variables) were investigated in this study: job duty changes attributable to the training, and motivation, job satisfaction, quantity of work, quality of work, and perceived leadership changes in the boss attributable to training. The instruments chosen to measure these variables are detailed below.

Job Duty Measure: Secretarial job descriptions were obtained from state government, educational institutions, private industry, and published sources. A compilation of two types of job duties was made: routine, standard secretarial type duties (e.g., typing and taking dictation) and executive secretary, administrative assistant duties (e.g., screening boss's correspondence). The latter category was used to represent the "enriched" job duties.

Because of the small size of the sample, it was not possible to conduct a viable cluster analysis of the job

duty portion of the questionnaires. Therefore, content analysis and clustering of the items based on content was utilized. This analysis resulted in four fairly distinct categories of items: (a) routine job duties; (b) higher responsibility, "enriched" job duties; (c) social/personal items, that dealt with doing personal types of activities for the boss, e.g., civic association responsibilities, or social interaction type duties, such as planning an office party; and (d) miscellaneous items, items which, though covered in training, represented tasks that the secretary could not reasonably assume on her own, or items for which no reasonable hypothesis regarding the "enriched" or "routine" nature of the task emerged. In the supervisor "miscellaneous" grouping, filler items that had been included to obscure the purpose of the instrument were also included. The specific job items falling into each category are listed below.

Secretaries

(a) Routine Job Duties

Take notes and prepare minutes for meetings.
Make and record appointments.
Handle incoming and outgoing telephone calls.
Sign boss's name (adding your own initials after signature) when boss is absent.
Housekeeping functions in office.
Set up and maintain office files.
Perform secretarial duties for office visitors, branch representatives.
Maintain specific office or company records.
Take and transcribe dictation from dictating machine or over the telephone.
Read and sort incoming mail; handle outgoing mail.
Order office supplies.
Make coffee or obtain from vending machine, etc.; serve it, and clean up after it.

Prepare agenda for meetings and conferences.
Record executive's business expenses and prepare necessary forms.
Take dictation and transcribe material.
Maintain reading material in waiting room.
Prepare trip iteneraries.
Make hotel reservations.
Receive office visitors.

(b) Enriched Job Duties

Supervise office operations.
Remind boss of next most urgent priority task when visitors appear to stay an unreasonable length of time.
Make a daily summary of incoming mail, in order of importance, highlight important points in the mail.
Request, schedule, and coordinate work submitted to executive by others.
Have final responsibility for editing reports, letters, or printed speeches.
Handle timekeeping records and salary distribution.
In receiving office visitors, dispose of inquiries personally when possible; when visitor must see boss, obtain as much information as possible to assist boss.
Initiate correspondence and memoranda necessary in carrying out established policies and procedures (over own signature or over boss's).
Contact other departments for information you anticipate will be needed.
Creative writing of advertising (including classified ads), public relations or house organ copy or announcements.
Subscribe to magazines you think office needs; discontinue subscriptions no longer needed.
Screen incoming telephone calls, give information to caller yourself when available; refer callers to proper source for technical or specialized information.
Initiate and sign requisitions, vouchers, or payrolls, and keep the budget accounts for your section.
Analyze periodic budget reports and advise supervisor of changes or unauthorized expenditures.
Prepare digest or summaries of articles, letters or books.
Maintain office equipment; channel maintenance complaints to appropriate department.
Sign name to letters under own signature element.
Circulate tables of contents to executive(s) to enable them to decide if they need to read an article.
Make agenda suggestions that sometimes appear on the agenda for meetings and conferences.
Maintain lists of long-range (over six months) and short range objectives for the office; revise these at regular intervals.
Calculate and initially prepare office operating budget.

Type material for publication and have final responsibility for accuracy of proofs.
In making appointments, obtain information in advance as to purpose of appointment, length of time required, etc., and have responsibility for refusing appointments that seem inappropriate.
Compose letters from oral instructions or brief notes.
Personnel recruiting, interviewing, and placement.
Assist in the training and orientation of new employees.
Arrange to have calls returned at a set time; prepare a list of grouped calls with pertinent information for boss.
Mark or clip articles for executive to read and/or maintain clipping file.
Organize and type reports from rough data.
Answer letters on own initiative when you have the requested information.
Gather material for reports or speeches.
Determine priority of items for boss's attention; maintain a special file for items of immediate importance.
Meet at regular intervals with boss to determine how you can function more effectively as a team.
Supervise clerical and/or stenographic employees, including responsibility for hiring and firing.
Sign boss's name to letters without using your initials (reference initials) after the signature.
Use rubber signature stamp to "sign" boss's name.
Use collater to assemble reports.
Arrange for specific individuals at specific times to take material to copying machines or run other errands, in order to minimize the time you are away from the desk.
Sub-divide files when you have more than 25 papers in a given file.
In composing responses to letters, type final copies (rather than rough drafts) for boss's signature.
Put initials of typist or stenographer (reference initials) only on file copies of correspondence, not on the final letters sent out.
Make written (rather than verbal) notes to boss of reminders, information, or requests.
Maintain a "file plan" for all files in your office, including any files kept in your boss's desk; insure that both you and your boss have a copy.
In answering telephones, after initial greeting, state "May I tell him (her) you're calling and the nature of your call?"

(c) Social/Personal Job Duties

Handle executive's personal business.
Help plan and organize social functions that involve the boss and his peers.
Help plan and organize social functions that involve the office employees.

Assist in preparation of executive's income tax returns.
Prepare work for executive's civic activities or business associations.

(d) Miscellaneous Job Duties

Use (or submit material to) "word processing" (automatic typing machine) to process final copies of typed material.
Identify self by full name on telephone ("Mary Jones," rather than "Mary.")

Supervisors

(a) Routine Job Duties

Prepare agenda for meetings and conferences.
Make transportation reservations.
Take notes and prepare minutes for meetings.
Make hotel reservations.
Maintain specific office or company records.
Maintain reading material in waiting room.
Read and sort incoming mail.
Prepare trip iteneraries.
Record business expenses and prepare necessary forms.
Order office supplies.

(b) Enriched Job Duties

Make agenda suggestions that sometimes appear on the agenda for meetings and conferences.
Subscribe to magazines you think the office needs; discontinue subscriptions no longer needed.
Determine priority of items for attention; maintain a special file for items of immediate importance.
Review a list of grouped telephone calls to be returned at a set time.
Prepare a daily summary of incoming mail, in order of importance, highlight important points in the mail.
Analyze periodic budget reports and take appropriate action for changes or unauthorized expenditures.
Organize reports from rough data.
Mark or clip articles to read and/or maintain clipping file.
Maintain lists of long-range (over six months) and short range objectives for the office; revise these at regular intervals.
Personnel recruiting, interviewing, and placement.
Screen office visitors, disposing of inquiries personally when possible.
Tactfully dismiss visitors who appear to stay an unreasonable length of time.
Obtain information in advance of scheduled appointments regarding purpose of visit; secure appropriate background material prior to appointment.

Initiate and sign requisitions, vouchers, or payrolls, and keep the budget accounts for your section.
Compose letters from oral instructions or brief notes.
Contact other departments for information you anticipate will be needed.
Circulate tables of contents of magazines to enable executive(s) to decide if they need to read an article.
Supervise office operations.
Supervise clerical and/or stenographic employees, including responsibility for hiring and firing.
Screen incoming telephone calls; give information to caller yourself when available; refer callers to proper source for technical or specialized information.
Have final responsibility for accuracy of proofs of material prepared for publication.
Have final responsibility for editing reports, letters, or printed speeches.
Creative writing of advertising (including classified ads), public relations, or house organ copy or announcements.
Calculate and initially prepare office budget.
Maintain systematic followup so that all reports memoranda, etc., are submitted on time.
Gather material for reports or speeches.
Handle time keeping records and salary distribution.
Assist in training and orientation of new employees.
Maintain office equipment; channel maintenance complaints to appropriate department.
In making appointments, obtain information in advance as to purpose of appointment, length of time required, etc.; refuse appointments that seem inappropriate.
Prepare digest or summaries of articles, letters, or books.
Request, schedule, and coordinate work submitted to office by others.
If secretary signs your name to correspondence, use "reference initials" of secretary only on file copies, not on final, outgoing copies.
Insure that specific individuals have been designated specific times to run errands (getting coffee, making trips to copy machine, etc.) to minimize time any one person is gone from his-her desk.
Maintain a "file plan" of all files in office, including files in boss's desk; copy kept with both boss and secretary.
Insure that initials of typist or stenographer (reference initials) appear only on file copies of correspondence, not on the letters sent out.
Make written (rather than verbal) notes or reminders, information or requests.

(c) Social/Personal Job Duties

Help plan and organize executive social functions.
Assist in preparation of executive's income tax returns.

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Handle executive's personal business.
Help plan and organize social functions for office employees.
Prepare work for executive's civic activities or business associations.

(d) Miscellaneous Job Duties

Establishing a formal structure of authority within the organization.
Meet at regular intervals with secretary to determine how you can function more effectively as a team.*
Interrelating the various parts of projects or ongoing activities.
Inspecting section or plan operations.
Keeping superiors informed of your department's operations.
Dictate letters to dictating machine.
Directing implementation of policy decisions.
Use "word processing" equipment (automatic typing machine) to process final copies of typed material.

For each of the above job duties (presented in randomized order) secretaries were asked to designate whether or not they performed the activity, and, if so, whether or not they wished they did or did not perform it. Thus, a four category set of responses was provided:

Do This Now Glad I Do	Do This Now Wish I Didn't	Don't Do Now Wish I Did	Don't Do Now Glad I Don't

Bosses were simply asked to indicate whether or not the activity listed was performed by the boss, the secretary, or neither, i.e.,

Done By Me	Done By My Secretary	Done By Neither Me Nor Secretary

Except for those duties that were strictly secretarial, the job duties listed in the secretarial questionnaire were included in the bosses' questionnaire, with appropriate word

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*Excluded because of the improper wording of the statement in light of the three alternative responses, "Done By Me," "Done By My Secretary," "Not Done."

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changes. In addition, filler items of typical managerial type functions were interspersed in the list to disguise the purpose of the items (these items were not, of course, considered in any of the analyses).

Validity of the Job Duty Measures

For these job duties, it is essential that content validity requirements be met. This requires that the domain of secretarial job duties, both routine and enriched, be adequately represented in the items presented and that "sensible" methods of test construction be employed (Nunnally, 1967).

The validity of this instrument seems well supported by the unusually large number of sources for the job duties used in the final version of the questionnaire and because of the essential correspondence of the "enriched" job duties to the items and suggestions made in the training session. Since content validity is primarily a non-quantifiable phenomenon, of which existence must be established by argument, no further support will here be provided of the experimenter's strong conviction that the relevant domain was adequately represented.

Job Satisfaction Measures

Two scales from the Job Description Index (JDI) (Smith, Kendall, and Hulin, 1969) were employed to measure changes, if any, in job satisfaction resulting from the enrichment

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exercise: satisfaction with work, and satisfaction with supervision. (In the case of the Supervisor samples, only the former scale was used, since the boss's supervisor was not affected by the training.) Extensive validation studies and reliability estimates have been used and published in the development of the scales. JDI scales are simple and quick to complete, utilizing an adjective check list, and require only that the respondent describe his job, rather than his perhaps not easily expressed feelings about the job (Robinson, Athanasiou, and Head, 1969). There is also evidence that the instrument is relatively sensitive to changes in job satisfaction components, thus maximizing the probability of capturing job satisfaction changes attributable to the experimental treatment. The two check lists utilized are as follows:

Work

__Fascinating
__Routine
__Satisfying
__Boring
__Good
__Creative
__Respected
__Hot
__Pleasant
__Useful
__Tiresome
__Healthful
__Challenging
__On your feet
__Frustrating
__Simple
__Endless
__Gives sense of accomplishment

Supervision

__Asks my advice
__Hard to please
__Impolite
__Praises good work
__Tactful
__Influential
__Up-to-date
__Doesn't supervise enough
__Quick-tempered
__Tells me where I stand
__Annoying
__Stubborn
__Knows job well
__Bad
__Intelligent
__Leaves me on my own
__Around when needed
__Lazy

Validity of the Job Satisfaction Measures

Extensive evidence for discriminant and convergent validity for the JDI is presented by Smith, Kendall, and Hulin (1969). In addition, the JDI has been shown to correlate significantly with a number of other variables (e.g., age, absences, performance ratings, etc.), as well as, in at least one study, showing a "substantial relationship" with turnover over a 12 month period.

Motivation

Patchen's Job Motivation Index was used to assess changes in amount of energy respondents devoted to job tasks. This is a simple, four question, Likert response format instrument consisting of the following items: (Robinson, Athanasiou, and Head, 1969)

On most days on your job, how often does time seem to drag for you?

(1) About half the day or more
(2) About one-third of the day
(3) About one-quarter of the day
(4) About one-eighth of the day
(5) Time never seems to drag

Some people are completely involved in their job--they are absorbed in it night and day. For other people, their job is simply one of several interests. How involved do you feel in your job?

(1) Very little involved; my other interests are more absorbing
(2) Slightly involved
(3) Moderately involved; my job and my other interests are equally absorbing to me
(4) Strongly involved
(5) Very strongly involved; my work is the most absorbing interest in my life

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How often do you do some extra work for your job which isn't really required of you?

(5) Almost every day
(4) Several times a week
(3) About once a week
(2) Once every few weeks
(1) About once a month or less

Would you say you work harder, less hard, or about the same as other people doing your type of work at your organization?

(5) Much harder than most others
(4) A little harder than most others
(3) About the same as most others
(2) A little less hard than most others
(1) Much less hard than most others

Validity of the Job Motivation Index

Moderate to slight correlations between supervisors ratings of "concern for doing a good job" are reported; relatively strong correlations between motivation (as measured by this scale) and absence rates are also indicated. In addition, the scale correlates with mixed results for production volume, but fairly strongly with job satisfaction, the latter correlation being substantiated over 90 work groups (Robinson, Athanasiou, and Head, 1969).

Leadership Dimensions

A wealth of attention has been directed through the years to the definition and measurement of leadership dimensions. The present research adopted the results of a recent study (Johnson, 1973) which determined, using multiple dimensional scaling analysis, a third component to be added to the usually delineated factors of initiating structure and

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consideration: participative decision making. Johnson's work, however, involved laboratory studies with college students, using hypothetical leaders, at best a limited source of data for field leadership analysis. Thus, in addition to its other purposes, the present study enabled a field test (to the experimenter's knowledge, the first) of Johnson's three dimensional leadership scales. The questions were presented with Likert response format, with five selection alternatives, ranging from "greatly" (1) to "almost none" (5). To ameliorate potential response bias, response alternatives were presented in alternate scaling order from one question to the next (i.e., 1 to 5, followed by 5 to 1). The question stems for each dimension are as follows (the secretarial question stems are presented; bosses were asked to rate themselves):

Consideration:

How friendly and easily approached is your boss?
How much appreciation does your boss express when you do a good job?
When you first began working with your present boss, how much did he (she) facilitate adjustments to your new work setting?
How much at ease do you feel in talking with your boss?
How much does your boss look out for your personal welfare?

Participation:

How much does your boss allow you to modify the procedures required in your job?
How much does your boss have you share in decision making?
To what extent does your boss assign you a task, then let you handle it?
To what extent does your boss allow you influence equal to his (her) own in decisions which affect you?
How much does your boss let you work the way you think best?

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Initiating Structure:

How much does your boss let you know what is expected of you?
How much does your boss schedule the work you have to do?
How much does your boss make sure you understand his place in the work group?
How much does your boss maintain definite standards of performance for you?
How much does your boss see to it that you have the material you need to work with?

Validity of the Leadership Instrument

The items listed above were generated from leader behavior items on standard leadership questionnaires (e.g., Stodgill, 1963; Fleishman, Harris and Burtt, 1955). An initial sample of 36 items (13 for participation, 12 for consideration, and 11 for initiating structure) was reduced to 15 items (5 for each dimension) by industrial psychology graduate student judges using a Q sort technique. The final items were those on which at least .80 interjudge agreement was obtained.

Because of the method of generating the questions and the absence of field testing of the instrument, no strong claim can be made for the construct validity of the instrument. Although extensive validation studies have been conducted with most of the questions, it was in their original form, as a separate leadership instrument that these questions were employed, and hence no mention is made here of the results of such studies.

The only "hard core" validity evidence yet available for these questions as a separate instrument, and it is admittedly pretty soft "hard core," is a study done with

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college students dealing with the instrument in relation to four dependent variables: satisfaction with the supervisor, motivation, task competence, and interpersonal style (Johnson, 1973). In the case of each dimension, the four dependent variables were found to positively correlate. This was, however, against the experimenter's prediction in the case of initiating structure, for which the prediction was that the dimension would negatively correlate with subordinate's satisfaction with the supervisor and the task competence of the supervisor. Although there is conflicting evidence from other studies, this finding against the prediction probably more faithfully reflects a deficiency in hypothesizing than a defect in the construct validity of the instrument. (The view that American workers automatically want freedom from restrictions and not to be told what to do dies slowly.)

Job Performance Effectiveness Measures

The measurement of production in white collar jobs is an enormously complicated undertaking. Unlike production work, in which one has a tangible product whose amounts produced can be assessed relatively easily, secretarial work admits to no ready measure. In certain very repetitive type secretarial clerk jobs one might conceivably deal with some such measure as number of letters typed or phone calls answered, but any except the most basic secretarial positions involve a variety of tasks beyond that. This is especially important in a study such as the present one, in which

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results of a job enrichment scheme are being studied. To the extent the training is successful, secretaries exposed to it should assume a number of additional duties, indeed, should be on the premise of accepting as many of the boss's job duties as possible. Thus, no "hard" measures of production effectiveness are possible.

A subjective, self-perceived measure of job production was therefore adopted. The best measure encountered for this purpose was a set of two questions from Mott (1972) intended to assess the quantity and quality of work produced. These items are:

> Thinking now of the various services produced by you and your boss, how much are you producing?
>
> How good would you say is the quality of the services produced by you and your boss as a team?

As might be expected, these two items correlate fairly highly with each other. This is understandable, since it is unlikely that quality and quantity of work produced would be perceived by respondents as two separate, unrelated dimensions. However, this is not an altogether unmixed blessing, since, if the correlation holds up in the present study, it permits a rough assessment of reliability of the measures, an assessment impossible with a single item.

Validity of the Job Effectiveness Items

Other than face validity, what evidence is there for content validity of these items? Mott (1972) reports the use of the questions (plus a good many more) in field studies

with NASA, the State Department, an office of the HEW department, numerous hospitals in Michigan, and a state mental institution in Pennsylvania. These two items were found to correlate strongly with such measures as overall effectiveness, adaptability, and flexibility. In addition, the author validated his instrument against top management's rating of organizational effectiveness of the sub-units measured. Mott concludes that: ". . . the effectiveness index is a valid and inexpensive measure except when responses reflect outmoded standards. Such situations can usually be revealed by comparing internal assessments with those of top management and other outside rankers and by examining disagreements through followup interviews," (Mott, 1972, 199).

The Overall Instrument

The final version of the pretest is presented as Appendix A and Appendix B for secretaries and bosses, respectively. The posttest for bosses is presented in Appendix C and that for secretaries in Appendix D. The pretest was administered approximately one week prior to the training; the posttest was sent out about one month after the session. Specimen cover letters for the various questionnaires, as well as the followup letter for recalcitrants, are presented as Appendix E.

It will be noted that there are four job duties present on the supervisor posttest and twelve on the secretary

posttest that are not present on the pretest. These represent job duties that were specifically covered in the training session that were not known at the time the pretest was composed. The Solomon Four Group design looks only at posttest results; because only a small number of items were added to the posttest that were not on the pretest, it is argued that this addition constitutes no threat to obscuring a pretesting effect. A stronger demonstration of this contention would be fulfilled by running analyses with and without the added items and noting any differences in the pretest effect. However, both because of time and financial constraints, and because of the extremely small pretest effect, accounting for 0 percent of the variance (See Results section), such an analysis was not run.

It will also be noted that a series of six questions are asked regarding biographical data on the subjects. These represent hypothesized dimensions on which it is desirable that experimental and control groups be similar, since, especially in the case of secretaries, differences on these variables could represent different susceptibility to job enrichment efforts.

Finally, it should be observed that there are a number of questions on each instrument that are not utilized in the present study (e.g., JDI supervision scores for bosses). These items represent responses collected in some cases for purposes irrelevant to the present study, and, in other cases, for an intention that was impossible to achieve.

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With respect to the latter category, it was initially anticipated that it would be possible to look at dependent variable changes as a function of the discrepancy between bosses'and secretaries' perceptions of the secretary's aptness for assuming new job duties. However, because of the nature of the returned questionnaires, boss-secretary teams did not complete the questionnaires in adequate numbers to make this type of analysis possible.

Data Analysis

Reliabilities of the scales used in this study are determined by computing coefficient alphas by means of a correlational program permitting use of communalities in the diagonals.

The determination of the effect, if any, of the training on the supervisory and secretarial groups is assessed by means of analysis of variance. Because of the multivariate nature of the dependent variables, multivariate analysis of variance (MANOVA) is essential for testing hypotheses 2 through 6 and 8 through 12 (Hummel and Sligo, 1971), the variables on which no change due to the training session is predicted. Only if there is a significant overall F ratio for the effects of the entire set of variables (which would be against the hypothesized direction of the results) is one justified in looking at the univariate F ratios. Therefore, to demonstrate evidence supporting the previously mentioned hypotheses, it is necessary to demonstrate that the overall F's are not significant. To test

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these sets of hypotheses, Jeremy D. Finn's Multivariance program was employed (Scheifley and Schmidt, 1973).

On the single variable for which change is predicted (enriched job duties), a univariate analysis of variance was performed for both the number of job duties assumed by the secretaries and for an average of the duties assumed and not assumed for the enriched job duty cluster. It is not appropriate, despite the multivariate nature of the dependent variables, to include a single variable hypothesized to change in a multivariate analysis consisting of all other variables hypothesized not to change (Hunter and Schmidt, 1974).

A note is in order regarding scoring of the job duty portion of the instrument. A simple dichotomy was used to score the job duties for the secretarial samples (1 Do the task; 2 Do not do the task). Then the various scores were summated and divided by the number of duties in the category. Thus, the closer the cluster average was to 1.00, the more cluster duties the secretary reported accomplishing.

The supervisors' scales were, through an unfortunate scoring error, scored in the opposite direction. A "1" was assigned to job duties the supervisor indicated he did himself or were not done, and a "2" to job duties that the supervisor reported were done by his secretary (or by both he and his secretary). Thus, the closer the cluster average was to 2.00, the more cluster duties, on average, the

secretary was reported by her boss to be accomplishing.

As noted above, the present study consists of 2x2 analyses of variance with four groups: a matched and an expanded secretarial group, and a matched and an expanded supervisory group. Only those variables demonstrating no significant differences on the pretest are included in the posttest analyses.

RESULTS

Pretest Analyses

Pretest comparability was tested for the matched and expanded groups by the appropriate *t* test. Results for the matched samples are presented in Tables 2 and 3, and for the expanded samples in Tables 4 and 5.

For both secretaries and bosses, no pretest group differences were noted in either matched sample, including the finding of no significant differences on the biographical variables. However, .05 alpha level significant differences did emerge for the participation leadership dimension for bosses in the expanded sample. This is not a particularly alarming finding, however, since in a group of 14 variables such as this five percent of the variables, or .7 or a variable, could be expected to be significantly different by chance. On the other hand, the expanded secretarial sample showed significant differences on three dependent variables: motivation, quantity of work produced, and participation of bosses. In addition, three of the biographical variables showed significant differences: age, time on job, and time with present boss.

Dependent variables with significant differences on the pretests are omitted from posttest MANOVA analysis. In the case of the expanded secretarial sample, the relatively

TABLE 2. t Tests for Pretest Differences on All Variables Matched Samples, Secretaries.

Variable	Control Group Mean	Experimental Group Mean	t[1]
Dependent Variables:		n=16	
Routine Job Duties Composite[2]	1.522	1.417	.833
Enriched Job Duties Composite[2]	1.639	1.558	.743
Social/Personal Job Duties Composite[2]	1.775	1.625	.898
Motivation	14.750	16.875	-1.747
Quantity of Work Produced[3]	2.166	1.833	1.000
Quality of Work Produced[3]	2.250	2.000	.608
Job Description Index--Work	40.250	41.625	-.577
Job Description Index--Supervision	45.500	44.500	.225
Consideration of Boss	11.625	10.125	.760
Participation of Boss	13.875	10.875	1.612
Initiating Structure of Boss	12.375	11.500	.622
Biographical Variables:			
Age[4]	3.125	3.875	-1.112
Time on Job[5]	2.875	3.750	-1.830
Time with Boss[5]	2.571	3.571	-1.383
Marital Status[6]	1.500	1.130	2.17
No. of Children	1.250	1.000	.386

[1] *t* test for matched samples, df = 7

[2] 1 = Done by Secretary; 2 = Not Done by Secretary

[3] 1 = Excellent; 2 = Good; 3 = Fair; 4 = Not too good; 5 = Poor

[4] Under 20 = 1; 20-29 = 2; 30-39 = 3; 40-49 = 4; 50-59 = 5; 60-65 = 6; Over 65 = 7

[5] Less than 6 months = 1; 6 months to 1 year = 2; 1 to 2 years = 3; Over 2 years = 4

[6] Married = 1; Other = 2

TABLE 3. t Tests for Pretest Differences on All Variables Matched Samples, Supervisors

Variable	Control Group Mean	Experimental Group Mean	t[1]
Dependent Variables:	n=14		
Routine Job Duties Composite[2]	1.300	1.223	1.000
Enriched Job Duties Composite[2]	1.425	1.344	.743
Social/Personal Job Duties Composite[2]	1.257	1.150	1.389
Motivation	16.714	18.571	-1.596
Quantity[3]	2.000	1.715	.680
Quality[3]	3.142	2.000	1.804
Job Description Index--Work	45.428	43.143	.697
Consideration	12.285	12.570	-.257
Initiating Structure	11.142	11.856	-.442
Participation	12.285	13.999	-1.333
Biographical Variables:			
Age[4]	4.000	4.285	-.547
Time on Job[5]	4.000	3.572	1.002
Time with Secretary[5]	2.714	3.428	-1.110
Marital Status[6]	1.000	1.000	0.000
No. of Children	3.000	2.572	.891

[1] t test for matched samples, df = 6

[2] 1 = Done by Boss or Not Done; 2 = Done by Secretary or By Both Boss and Secretary

[3] 1 = Excellent; 2 = Good; 3 = Fair; 4 = Not too good; 5 = Poor

[4] Under 20 = 1; 20-29 = 2; 30-39 = 3; 40-49 = 4; 50-59 = 5; 60-65 = 6; Over 65 = 7

[5] Less than 6 months = 1; 6 months to 1 year = 2; 1 to 2 years = 3; Over 2 years = 4

[6] Married = 1; Other = 2

TABLE 4. t Tests for Pretest Differences on All Variables Expanded Samples, Secretaries

Variable	Control Group Mean	Experimental Group Mean	t[1]
Dependent Variables:		n=29	
Routine Job Duties Composite[2]	1.437	1.409	.337
Enriched Job Duties Composite[2]	1.591	1.532	.936
Social/Personal Job Duties Composite[2]	1.742	1.622	1.016
Motivation	15.368	17.000	-1.886*
Quantity of Work Produced[3]	2.000	1.555	2.060*
Quality of Work Produced[3]	1.789	1.888	-.292
Job Description Index--Work	39.842	42.777	-1.093
Job Description Index--Supervision	46.210	45.222	.258
Consideration	11.421	9.666	1.279
Participation	13.421	10.666	2.293*
Initiating Structure	12.526	10.888	.959
Biographical Variables:			
Age[4]	2.947	4.000	-1.857*
Time on Job[5]	2.789	3.777	-3.454**
Time with Boss[5]	2.473	3.555	-3.501**
Marital Status[6]	1.210	1.440	-1.350
No. of Children	1.000	.888	.214

[1] t test for independent samples, df = 27 *p < .05 **p < .01

[2] 1 = Done by Secretary; 2 = Not Done by Secretary

[3] 1 = Excellent; 2 = Good; 3 = Fair; 4 = Not too good; 5 = Poor

[4] Under 20 = 1; 20-29 = 2; 30-39 = 3; 40-49 = 5; 50-59 = 5; 60-65 = 6; Over 65 = 7

[5] Less than 6 months = 1; 6 months to 1 year = 2; 1 to 2 years = 3; Over 2 years = 4

[6] Married = 1; Other = 2

TABLE 5. *t* Tests for Pretest Differences on All Variables Expanded Sample, Supervisors

Variable	Control Group Mean	Experimental Group Mean	t[1]
Dependent Variables:	n=18		
Routine Job Duties Composite[2]	1.275	1.222	.486
Enriched Job Duties Composite[2]	1.431	1.343	.698
Social/Personal Job Duties Composite[2]	1.283	1.150	1.330
Motivation	16.727	18.571	1.414
Quantity of Work Produced[3]	1.916	1.714	.588
Quality of Work Produced[3]	2.416	2.000	.804
Job Description Index--Work	43.833	43.142	.197
Consideration	11.666	12.571	.632
Initiating Structure	11.083	11.857	.506
Participation	12.000	14.000	2.127*
Biographical Variables:			
Age[4]	3.916	4.285	.680
Time on Job[5]	3.666	3.571	.191
Time with Secretary[5]	2.818	3.428	0.000
Marital Status[6]	1.000	1.000	0.000
No. of Children	2.916	2.571	.552

[1] *t* test for independent samples, df= 16 *p < .05

[2] 1 = Done by Boss or Not Done; 2= Done by Secretary or By Both Boss and Secretary

[3] 1 = Excellent; 2= Good; 3 = Fair; 4= Not too good; 5 = Poor

[4] Under 20 = 1; 20-29= 2; 30-39 = 3; 40-49 = 4; 50-59= 5; 60-65 = 6; Over 65 = 7

[5] Less than 6 months = 1; 6 months to 1 year = 2; 1 to 2 years = 3; Over 2 years = 4

[6] Married= 1; Other = 2

large number of significant difference variables argues for extremely cautious interpretation of the results for this sample, despite the fact that there is no particular pattern to the direction of the differences.

Reliability of the Measures

The Job Duties Instrument

Correlational analysis with coefficient alpha in the diagonal was performed on the a priori constructed job duty scales using FACTRB (Hunter, 1974), a FORTRAN program that permits, in its Multiple Groups routine, user specification of subscale components. Resultant coefficient alphas, as well as the between scale correlations, are presented in Table 6 for the secretaries and Table 7 for the supervisors. Coefficient alpha is an internal consistency measure (range: 0.0 - 1.0 $\pm$ rounding error). It provides a measure of the reliability of a test or scale, and is especially useful when alternative tests for the same phenomenon are not available.

For the secretarial sample, it will be observed that the coefficient alphas were reasonably high, indicating adequate reliability levels for the purposes of this study. This is especially true for the enriched and routine job duty clusters. The general stability of the measures is fairly good from pre- to posttest, although it should be noted that the posttest correlations are based on larger samples than the pretest correlations. This accounts for the general

TABLE 6. Correlations and Reliabilities for the Secretarial Job Duty Scales[1]

Scale	Routine	Enriched	Social-Personal
	Pretest, Matched Sample		n=16
Routine	(.83)		
Enriched	.54	(.82)	
Social/Personal	.93	.75	(.47)
	Pretest, Expanded Sample		n=29
Routine	(.82)		
Enriched	.58	(.79)	
Social/Personal	.87	.90	(.38)
	Posttest, Matched Sample		n=32
Routine	(.87)		
Enriched	.91	(.90)	
Social/Personal	.88	.87	(.51)
	Posttest, Expanded Sample		n=49
Routine	(.89)		
Enriched	.92	(.91)	
Social/Personal	.83	.90	(.60)

[1]Correlations corrected for attenuation with coefficient alpha's in the diagonals.

TABLE 7. Correlations and Reliabilities for the Supervisors' Job Duty Scales

Scale	Routine	Enriched	Social-Personal
	Pretest, Matched Sample		n=14
Routine	(.81)		
Enriched	1.01	(.93)	
Social/Personal	.45	.53	(.62)
	Pretest, Expanded Sample		n=18
Routine	(.76)		
Enriched	1.01	(.91)	
Social/Personal	.58	.50	(.51)
	Posttest, Matched Sample		n=28
Routine	(.71)		
Enriched	.92	(.88)	
Social/Personal	.52	.80	(.57)
	Posttest, Expanded Sample		n=37
Routine	(.71)		
Enriched	.93	(.86)	
Social/Personal	.66	.81	(.66)

[1]Correlations corrected for attenuation with coefficient alphas in the diagonals.

increase in the coefficient alphas from the pre- to the posttests since the large sample sizes provide increased variance. In both pre- and posttests, both the control and the experimental groups are combined to enable a determination of the coefficient alpha for a reasonably large sample, though in all cases, the n's are still smaller than desirable.

For the secretarial samples, the between-scale correlations are moderate in the pretest samples, but, in the case of the routine/enriched correlation, jump from .50's level correlations to low .90's level correlations. There is thus some indication that, especially in the posttests, the routine and enriched job duty clusters are tapping a similar factor. However, because of the hypotheses generated prior to the data analysis, and because of the relative instability of the routine/enriched correlations from pre- to posttests, the analysis of variance procedures will still be carried out as indicated in the Methods section.

As for the supervisors, essentially the same situation exists. The coefficient alphas, with the exception of the social-personal duty cluster are reasonably strong. Again, however, there are quite high interscale correlations between the routine and the enriched clusters (with little instability from pre- to posttest). These strong interscale correlations indicate that a similar, if not identical, factor is being tapped. This may indicate that the respondents did not discriminate between "enriched" and "routine" duties, i.e., to the respondents the level of the job task was an irrelevant

issue to whether or not they did the task. If true, this suggests a possible defect in hypothesizing: the idea of change on one cluster of job duties and lack of change on another, highly correlated, cluster, presents a contradiction. It should be recalled, however, that these interscale correlations are only estimates and are based on the combination of the experimental and control groups to increase the size of the n's. The extent that change occurred in the experimental group due to training but not in the control group complicates the picture by obscuring the real interscale correlations. In any event, the original analysis of variance procedures will be employed for the supervisors for the same reasons discussed above for the secretarial samples.

Job Satisfaction Index Reliabilities

The split-half internal consistency coefficients for the JDI are reported to be greater than .80 for each scale, and there is evidence for the stability of the measures over time (Robinson, Athanasiou , and Head, 1969). Smith, Kendall, and Hulin (1969) also report numerous correlations above the .70 to .80 range between the JDI and other measures of job satisfaction, indicating, they state, the lower bounds of the JDI's reliability. In this study, a conservative .80 estimate of the two scales' reliabilities will be employed.

Reliability of Patchen's Job Motivation Index

Robinson, Athanasiou, and Head (1969) report test-retest reliability of .80 for a subset of two of the Motivation Index questions with a sample of 49. To augment this limited reported reliability, coefficient alphas were computed for the four item test and are reported in Table 8. Although fairly strong and consistent alphas are indicated for the secretarial sub-sample, only the posttest alphas for the boss samples are reasonably high. This is probably accounted for by the small sample size of the pretest samples (n's of 14 and 18). In any case, the posttest alphas for the supervisors are judged adequate, as are all alpha values for the secretaries.

Leadership Dimension Reliabilities

As previously mentioned, this study appears to embody the first field test for the Johnson (1973) three dimensional leadership scales. Accordingly, there are no published reliabilities yet determined, at least to the experimenter's knowledge. Interscale correlation matrices for the three dimensions are presented for the secretaries in Table 9 and for the bosses in Table 10. Please recall that the bosses were asked to rate themselves on leadership dimensions (with respect to their secretaries), and so the results of such ratings may be expected to be much less accurate than the secretaries' appraisal of the same leadership characteristics.

The secretaries' coefficient alphas are all reasonably high (.80's and .90's) except for the moderate pretest

TABLE 8. Reliability Estimates for the Job Motivation Index

Sample	n	Coefficient Alpha
Secretaries, Pretest, Matched Sample	16	.77
Secretaries, Pretest, Expanded Sample	29	.70
Secretaries, Posttest, Matched Sample	32	.78
Secretaries, Posttest, Expanded Sample	49	.73
Bosses, Pretest, Matched Sample	14	.11
Bosses, Pretest, Expanded Sample	18	.24
Bosses, Posttest, Matched Sample	28	.61
Bosses, Posttest, Expanded Sample	37	.62

TABLE 9. Correlations and Reliability Estimates for the Leadership Dimensions, Secretaries Rating Supervisors[1]

Scale	Consideration	Participation	Initiating Structure	
	Pretest, Matched Sample			n=16
Consideration	(.85)			
Participation	.91	(.80)		
Init. Structure	.74	.64	(.42)	
	Pretest, Expanded Sample			n=29
Consideration	(.90)			
Participation	.69	(.80)		
Init. Structure	.80	.62	(.53)	
	Posttest, Matched Sample			n=32
Consideration	(.84)			
Participation	.42	(.82)		
Init. Structure	.48	.37	(.67)	
	Posttest, Expanded Sample			n=49
Consideration	(.80)			
Participation	.40	(.81)		
Init. Structure	.53	.53	(.62)	

[1]Correlations corrected for attenuation with coefficient alphas in the diagonal.

TABLE 10. Correlations and Reliability Estimates for the Leadership Dimensions, Supervisors Rating Selves[1]

Scale	Consideration	Participation	Initiating Structure	
	Pretest, Matched Sample			n=14
Consideration	(.60)			
Participation	.23	(.75)		
Init. Structure	.47	-.09	(.42)	
	Pretest, Expanded Sample			n=18
Consideration	(.73)			
Participation	.50	(.79)		
Init. Structure	.72	.41	(.48)	
	Posttest, Matched Sample			n=28
Consideration	(.76)			
Participation	.29	(.87)		
Init. Structure	.87	.63	(.46)	
	Posttest, Expanded Sample			n=37
Consideration	(.76)			
Participation	.34	(.86)		
Init. Structure	.83	.60	(.47)	

[1]Correlations corrected for attenuation with coefficient alphas in the diagonal.

initiating structure reliabilities (.42 and .53). The intercorrelations among the three dimensions do not show adequate stability from the pre- to the posttest. This may simply represent an artifact of dealing with small samples in the pretest. Looking at the posttests, however, (which are probably the most reliable of the groups) we see moderate correlations among the scales, suggesting that, at least for these samples, participation does appear to be a viable third dimension of leadership.

The boss coefficient alphas are reasonably strong (.60's to .80's) except for the initiating structure scale, which is only moderate. The boss samples do show more stability on the measures from pre- to posttest than did the secretaries, but there still exist a few problems, especially the participation, initiating structure for the matched samples. Again, participation appears to be a promising third dimension of leadership, even when dealing with self-reported scores.

Job Effectiveness Measure Reliabilities

Because single item questions were used to assess quantity and quality of work produced, no measure of the reliability of these questions can be reported. Unfortunately, Mott (1972) does not present any sort of reliability data for his questions.

The best estimate that can be made for the questions' reliability, and it is admittedly a far from satisfactory

suggestion, is to look at the two questions together as a "job effectiveness" cluster. While it is fully recognized that quantity and quality are not necessarily responded to by subjects in a similar manner, the moderate correlations both reported by Mott (1972) and found in the present study suggest that there might be some similar response to the two items. As simply suggestive data, the correlations for the various samples for the quantity and quality dependent variables, along with the coefficient alphas for the hypothesized job efficiency cluster are presented in Table 11.

Relations Among the Dependent Variables

Tables 12 and 13 present the overall correlation matrices for all four samples for all dependent variables on the posttest. Although several variables (viz., secretarial job duty clusters, leadership dimensions, and job efficiency items) were "negatively scored" in the data coding (i.e., the lower the score, the more enriched job duties assumed, the higher the leadership score, etc.), this correlation matrix has been presented as if all items were "positively" scored (i.e., higher score=more of the trait). Thus, each variable's correlation is interpreted in the intuitive direction: positive correlations indicate the variables vary in the same direction. It will also be noted that this matrix provides a summary of the coefficient alphas for the various scales in its diagonal. Correlations in the parentheses in the matrix have been corrected for attenuation.

TABLE 11. Inter-item Correlations with Coefficient Alphas, Hypothesized Job Efficiency Cluster[1]

Sample	Quantity/Quality Correlation	n	Coefficient Alpha
Pretest, Secretaries, Matched Sample	.37	16	.54
Pretest, Secretaries, Expanded Sample	.42	29	.60
Posttest, Secretaries, Matched Sample	.55	32	.71
Posttest, Secretaries, Expanded Sample	.50	49	.67
Pretest, Bosses, Matched Sample	.57	14	.73
Pretest, Bosses, Expanded Sample	.60	18	.75
Posttest, Bosses, Matched Sample	.41	28	.58
Posttest, Bosses, Expanded Sample	.35	37	.52

[1]Correlations are corrected for attenuation.

TABLE 12. Correlations Among All Dependent Variables, Secretaries[1]

Variable	1	2	3	4	5	6	7	8	9	10	11
Matched Sample											n=32
1. Enr. Dtys.	(87)										
2. Rout. Dtys.	81(91)	(90)									
3. S/P Dtys.	59(88)	59(87)	(51)								
4. JDI-Work	38(46)	52(61)	37(58)	(80)							
5. JDI-Sprvsn.	54(65)	32(38)	35(55)	32(40)	(80)						
6. Consideration	52(61)	43(49)	43(66)	35(44)	82(84)	(84)					
7. Participation	33(39)	40(47)	51(79)	44(54)	14(17)	36(42)	(82)				
8. Init. Struct.	19(25)	12(15)	08(14)	41(56)	37(51)	36(48)	27(37)	(67)			
9. Quantity	04(05)	10(13)	28(47)	04(05)	17(23)	23(30)	25(33)	40(67)	(71)		
10. Quality	09(11)	10(13)	40(78)	22(29)	22(29)	39(51)	52(68)	57(83)	39(55)	(71)	
11. Motivation	20(24)	29(35)	26(41)	12(15)	12(15)	18(22)	51(64)	19(26)	12(16)	03(04)	(78)

[1]Correlations in parentheses have been corrected for unreliability; coefficient alpha's are in the diagonals.

TABLE 12.--Continued

Variable	1	2	3	4	5	6	7	8
Expanded Sample[2]								n=49
1. Enr. Dtys.	(89)							
2. Rout. Dtys.	83(92)	(91)						
3. S/P Dtys.	61(83)	67(90)	(60)					
4. JDI-Work	32(51)	43(50)	27(39)	(80)				
5. JDI-Sprvsn.	45(40)	34(40)	41(59)	48(60)	(80)			
6. Consideration	46(55)	38(45)	32(46)	41(51)	79(99)	(80)		
7. Init. Struct.	29(39)	28(37)	47(77)	44(63)	60(85)	37(53)	(62)	
8. Quality	29(38)	30(38)	42(66)	33(45)	49(67)	48(66)	48(74)	(67)

[2]Only variables that showed no significant differences on the pretest are included in the Expanded Sample correlation matrix.

TABLE 13. Correlations Among All Dependent Variables, Supervisors[1]

Variable	1	2	3	4	5	6	7	8	9	10
Matched Sample										n=28
1. Enr. Dtys.	(71)									
2. Rout. Dtys.	73(92)	(88)								
3. S/P Dtys.	33(52)	57(80)	(57)							
4. JDI-Work	03(04)	02(03)	-01(-01)	(80)						
5. Consideration	22(30)	25(31)	02(03)	-06(-08)	(76)					
6. Participation	17(22)	15(17)	-19(-27)	32(38)	24(29)	(87)				
7. Init. Struct.	21(37)	01(02)	-15(-29)	22(36)	51(87)	40(63)	(46)			
8. Quantity	-12(-19)	28(39)	04(07)	23(34)	21(32)	02(03)	02(04)	(58)		
9. Quality	-24(-37)	20(28)	31(54)	03(04)	28(42)	02(03)	12(23)	24(41)	(58)	
10. Motivation	08(12)	14(19)	-14(-24)	22(31)	09(13)	19(26)	-14(-24)	47(81)	03(05)	(61)

[1]Correlations in parentheses have been corrected for unreliability; coefficient alpha's are in the diagonals.

TABLE 13.--Continued

Variable	1	2	3	4	5	6	7	8	9
Expanded Sample									n=37
1. Enr. Dtys.	(71)								
2. Rout. Dtys.	73(93)	(86)							
3. S/P Dtys.	37(66)	59(81)	(66)						
4. JDI-Work	05(06)	00(00)	-02(-03)	(80)					
5. Consideration	09(12)	13(16)	03(04)	01(01)	(76)				
6. Init. Struct.	15(26)	00(00)	-15(-27)	18(29)	50(83)	(47)			
7. Quantity	-08(-13)	30(45)	-06(-10)	02(03)	11(18)	27(55)	(52)		
8. Quality	00(00)	15(22)	-19(-32)	15(23)	15(24)	03(06)	18(35)	(52)	
9. Motivation	14(21)	15(21)	-13(-20)	18(26)	08(12)	25(46)	49(94)	03(05)	(62)

[2]Only variables that showed no significant differences on the pretest are included in the Expanded Sample correlation matrix.

For both the supervisors and secretaries, the pattern of correlations that emerges is of interest. Most relationships are as expected (e.g., quantity correlates with quality, job satisfaction with motivation, etc.). Of particular interest is the pattern of relationships for the job duty clusters. For both secretaries and their bosses, the reporting of more job duties being accomplished by the secretaries correlates positively with job satisfaction, perceived leadership of the boss, and motivation, although a few exceptions to this generalization are noted, especially in the case of the supervisors. The so-called "social-personal" job duty cluster is particularly unpredictable in the supervisory samples. But despite the exceptions, the findings with respect to the job duty clusters lends some evidence to the validity of the instrument. It is also worth noting that the moderate correlations noted for the quantity and quality measures lend support to the use of the "job efficiency" cluster used to test for the reliability of the measures of quantity and quality.

Lastly, it will be noted that the correlations among the various dependent variables make obligatory the employment of multivariate analyses for testing for group differences, with the exception of the enriched job duty cluster, as noted above.

Management Support Group Hypotheses

> Hypothesis 1: Experimental groups (exposed to training sessions) will self-report accomplishing more duties in the enriched job duty cluster post training than will control groups.

Results of a two-way, two-by-two analysis of variance for the enriched job duty cluster are reported in Table 14. A significant F ratio is reported for the expanded sample training effect (.028 significance level), and a borderline significant effect for the matched sample was obtained (.083 significance level). The differences were in the predicted direction. In addition, it is of note that there is neither an effect for pretesting nor an interaction effect.

Tempering these results somewhat, however, are the Eta^2 values, which indicate that only a relatively small portion of the variance (9.5 percent for the Matched Sample and 9.9 percent for the Expanded Sample) is explained by the training session effect. The pretest effect accounts for virtually no variance, and there is a similarly small interaction effect accountability for variance. Unfortunately, though not atypically, most of the variance is attributable to within cell variation, i.e., individual differences.

It is also noted that there is a tendency for the standard deviations of the pretested groups to be lower than the standard deviations of those groups not pretested. If significantly different, this would imply that the effect of pretesting was to make the groups more homogenous in their responses, an artifact attributable to the pretesting.

TABLE 14. Univariate Analysis of Variance, Enriched Job Duties Composite, Secretaries

Factor	df	MS	Univariate F	Significance	Eta^2
Matched Sample					
Pretest	1	.0004	.008	.928	.000
Training Session	1	.148	3.229	.083	.095
Interaction	1	.115	2.408	.132	.074
Within Cells	28	.046			.830

	Cell Mean	Cell Std. Dev.
Pretested Experimental	1.580	.179
No Pretest, Experimental	1.454	.234
Pretested, Control	1.597	.170
No Pretest, Control	1.709	.261

Factor	df	MS	Univariate F	Significance	Eta^2
Expanded Sample					
Pretest	1	.023	.482	.491	.009
Training Session	1	.248	5.138	.028*	.099
Interaction	1	.069	1.430	.239	.028
Within Cells	45	.048			.864

	Cell Mean	Cell Std. Dev.
Pretested, Experimental	1.500	.217
No Pretest, Experimental	1.483	.233
Pretested, Control	1.570	.177
No Pretest, Control	1.712	.244

*$p < .05$

Thus, a test for homogeneity of variance was employed to see if these standard deviations were significantly different. Because the formula* for this *t* test requires the use of a correlation coefficient, the test cannot be computed for the expanded experimental groups, in which the asymmetries of the design make a correlation coefficient impossible to compute.

The *t* test for the matched samples was .271 for the experimental groups and 1.096 for the control groups, neither of which is statistically significant. The control groups for the expanded sample resulted in a *t* of .860, which was also not statistically significant.

Thus, the standard deviations are not significantly different from each other, although there is a trend in the direction of increased central tendency responses with pre-tested groups, suggesting a potential problem in any future uses of this instrument.

It will be recalled that the job duties composite is an average based on summation of the 1's (duty reported as being done by the secretary) and 2's (duty reported as not being done by the secretary). To test more directly the above hypothesis, an analysis of variance was performed based on the number of duties the subjects reported accomplishing: i.e., with no consideration of the duties not being done. The results of this ANOVA are reported in

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*$t = \dfrac{\sigma_1^2 - \sigma_2^2}{\sqrt{\dfrac{4\,\sigma_1^2\sigma_2^2}{n-2}\,(1 - r_{1,2}^2)^2}}$

Table 15. Here it will be seen that the F ratio for the training session was not significant for either the matched or the expanded sample, although in the case of the expanded sample, the F does border on significance, and in the predicted direction. This suggests that while the job duty composite was significant, that this significance was influenced, in part, by the job duties not done, since they entered into the computation of the average. This implies that the hypothesis is only partially supported, that there is a tendency to assume more job duties as the result of training, but that it is not a clearcut, definitive trend.

As in the composite ANOVA, the standard deviations for the number of enriched duties analysis suggests that the effect of the pretest for the control groups was to decrease the standard deviation. This hypothesis was again tested by the appropriate t test for homogeneity of variance, which yielded a t of 1.1915, which was not significant at either the .01 or .05 probability level. Despite this lack of significance, there is a trend for the standard deviation to decrease with the pretested group vis-à-vis the unpretested one. This suggests that there was a tendency on the part of those pretested to report in the posttest more central tendency responses, perhaps indicating a frustration with the questionnaire and a tendency to answer in a uniform manner on the second taking of the instrument.

Thus, the data for the first hypothesis, in summary, suggest that the training session in job enrichment was

TABLE 15. Univariate Analysis of Variance, Number of Enriched Job Duties, Secretaries

Factor	df	MS	Univariate F	Significance	Eta^2
Matched Sample					
Pretest	1	10.125	.1546	NS	.005
Training Session	1	91.125	1.391	NS	.044
Interaction	1	112.500	1.717	NS	.055
Within Cells	28	65.509			.896

	Cell Mean	Cell Std. Dev.
Pretested, Experimental	17.125	7.32
Not pretested, Experimental	19.750	6.41
Pretested, Control	17.500	6.89
Not pretested, Control	10.950	12.63

Expanded Sample					
Pretest	1	150.19	2.069	NS	.041
Training Session	1	249.91	3.443	NS	.077
Interaction	1	29.84	.411	NS	.008
Within Cells	45	72.58			.884

	Cell Mean	Cell Std. Dev.
Pretested, Experimental	20.45	8.80
Not pretested, Experimental	19.55	7.33
Pretested, Control	18.56	7.18
Not pretested, Control	12.33	10.28

effective in implementing some change, but the trend is not an unambiguous one.

Hypotheses 2-6: There will be no significant differences in experimental and control groups after training on:

2. Routine job duty or social/personal job duty composites;
3. Self-assessed job performance measures (quantity and quality of production);
4. Secretaries' ratings of their bosses' leadership dimensions, viz., consideration, participation, and initiating structure;
5. Job satisfaction variables (satisfaction with work and with supervision); and
6. Motivation.

Results of the multivariate analysis of variance (MANOVA) for the above dependent variables are reported in Table 16. As hypothesized, multivariate F's for both the matched and the expanded samples show no significant results for the training factor, the pretest factor, or for any interaction.

Because of this lack of overall significance, it is not possible to look any further at the individual variables to determine whether or not any of them changed. What is implied by this finding is that the training session did not have any effect on the variables listed above, which includes primarily relatively stable organizational dimensions. Further interpretation of this finding, as well as its limitations, will be made in the Discussion section below.

TABLE 16. Multivariate Analysis of Variance, Secretaries

Factor	F Ratio for Equality of Mean Vectors	Significance (p less than:)
	Matched Sample[1] n=32	
Pretest	.802	.630
Training	.722	.695
Interaction	.986	.487
	Expanded Sample[2] n=49	
Pretest	1.126	.367
Training	1.574	.172
Interaction	1.29	.283

[1]Based on all dependent variables except the enriched job duty cluster.

[2]Only variables that showed no significant differences on the pretest are included in this analysis.

Supervisor Hypotheses

> Hypothesis 7: Experimental groups (exposed to training sessions) will report that their secretaries accomplish more duties in the enriched job duty cluster than will control groups.

Results of a two-way, two-by-two analysis of variance for the enriched job duty composite are reported in Table 17. It is noted that there is a significant F ratio for the training session effect ($p<.024$) for the matched sample and an F ratio of borderline significanct ($p<.070$) for the expanded sample. Both of the effects are in the predicted direction (recall that the lower the score on the supervisory job duty composites, the more duties the secretaries were reported to have assumed).

As with the secretarial samples, the Eta^2 values indicated the significance of the effect are less high than desirable. Thus, the training session accounts for only 14.5 percent of the matched sample variance and 9.1 percent of the expanded sample variance. Again, most of the variance is represented by individual differences (i.e., within cells variance). This suggests that, while there is clearly some effect attributable to the training, it is, practically, less of one than the statistical significance would imply. It should be noted, however, that the Eta^2 values obtained are quite typical of field research studies.

There is a tendency in the supervisory samples for the standard deviation to be higher for the pretested control groups than for the unpretested control group. In the

TABLE 17. Univariate Analysis of Variance, Enriched Job Duties Composite, Supervisors

Factor	df	MS	Univariate F	Significance	Eta^2
Matched Sample					
Pretest	1	.036	1.06	.312	.027
Training Session	1	.195	5.78	.024*	.145
Interaction	1	.008	.24	.629	.006
Within Cells	24	.046			.822

	Cell Mean	Cell Std. Dev.
Pretested, Experimental Group	1.47	.190
No Pretest, Experimental Group	1.51	.191
Pretested, Control Group	1.27	.200
No Pretest, Control Group	1.38	.150

Expanded Sample					
Pretest	1	.0002	.0045	.950	.000
Training Session	1	.123	3.510	.070	.091
Interaction	1	.068	1.952	.173	.051
Within Cells	33	.035			.858

	Cell Mean	Cell Std. Dev.
Pretested, Experimental Group	1.480	.156
No Pretest, Experimental Group	1.409	.220
Pretested, Control Group	1.272	.200
No Pretest, Control Group	1.378	.150

*$p < .05$

case of the experimental groups, the deviations are approximately equal for the matched sample, but lower in the pretested group for the expanded sample. The significance of the difference for the control groups' standard deviations were tested by the appropriate t test, which yielded a value of .6976, which was not significant. (Note that the control samples were identical in the matched and the expanded samples; thus, only one t test was performed.) Observe too that the standard deviations for the expanded experimental groups cannot be tested for their difference's significance because of the asymmetries of the expanded sample cell frequencies.

An analysis was also made of the number of enriched job duties reported by the supervisors to be performed by the secretaries. The results of this ANOVA are presented in Table 18. Here we see that there is a significant training effect for both the matched sample and the expanded sample, accounting for 16.7 percent and 11.0 percent respectively of the total variance. Again, these Eta^2 values are less than ideal, but still high enough to make the statistical significance finding of interest.

The finding of a significant training effect for the number of duties assumed by the secretary (as reported by the supervisor) suggests an apparent contradiction in light of the non-significance of the training effect for the number of enriched duties reported by the secretaries. One explanation might be that bosses are less aware of their

TABLE 18. Univariate Analysis of Variance, Number of Enriched Job Duties Performed by Secretaries as Reported by Supervisors

Factor	df	MS	Univariate F	Significance	Eta^2
Matched Sample					
Pretest	1	57.14	1.125	NS	.037
Training Session	1	264.14	5.201	*	.167
Interaction	1	14.29	.281	NS	.009
Within Groups	24	50.786			.784

	Cell Mean	Cell Std. Dev.
Pretested, Experimental	17.71	7.52
Not pretested, Experimental	19.14	7.71
Pretested, Control	10.14	7.52
Not pretested, Control	14.43	5.53

Expanded Sample					
Pretest	1	1.706	.050	NS	.001
Training Session	1	159.38	4.659	*	.110
Interaction	1	130.774	3.823	NS	.090
Within Groups	34	34.207			.799

	Cell Mean	Cell Std. Dev.
Pretested, Experimental	18.36	6.23
Not pretested, Experimental	14.92	8.26
Pretested, Control	10.14	7.52
Not pretested, Control	14.43	5.53

*$p < .05$

secretaries' activities than the secretaries themselves, seemingly a reasonable proposition. It should also be recalled, however, that the scoring procedure for the supervisors' questionnaire was such that a job duty reported as being done by both the secretary and her supervisor was scored as a duty done by the secretary, thus providing a lenient interpretation of the secretarial duties.

Apparent differences between cell standard deviations are noted for the matched and the expanded controls and the expanded experimental groups. Although the expanded experimental groups cannot be tested because of the unequal n's, the t test for the control groups had a value of .7328, which was not significant. (A t test run on the matched experimental groups had a value of .0567, also not significant.)

In short, there is some evidence that bosses exposed to training report their secretaries as performing more "enriched" duties than those not exposed to training. The composite enriched cluster, which includes the duties done by the supervisor himself or not done, in the average, also resulted in a significant training effect. The number of duties analysis supported this finding by showing a significant training effect for the number of duties assumed by the secretary. Eta^2 values for this effect, especially in the number of duties analysis, indicate that the effect was reasonably strong in terms of amount of variance accounted for, but far from ideal.

Hypotheses 8-12: There will be no significant differences between experimental and control groups after training on:

8. Routine job duty or social/personal job duty composites;
9. Self-assessed job performance measures (quantity and quality of production):
10. Supervisors' ratings of their own leadership ratings with respect to their secretaries on three dimensions: consideration, participation, and initiating structure;
11. Job satisfaction with work; and
12. Motivation.

Results of the MANOVA's for the above dependent variables are reported in Table 19. As hypothesized, multivariate F's for both the matched and the expanded samples show no significant results for the training effect, the pretest effect, or the interaction effect.

Again, it is not justified to look at the results of specific dependent variables in a multivariate analysis when the overall F is not significant. As with the secretarial samples, the results of this finding will be further discussed in the Discussion section.

TABLE 19. Multivariate Analysis of Variance, Supervisors

Factor	F Ratio for Equality of Mean Vectors	Significance (p less than:)
	Matched Sample[1] n=28	
Pretest	.149	.996
Training	.579	.786
Pretest x Training	1.370	.254
	Expanded Sample[2] n=37	
Pretest	.508	.848
Training	.719	.685
Pretest x Training	1.069	.434

[1]Based on all dependent variables except enriched job duty cluster.

[2]Only variables that showed no significant differences on the pretest are included in this analysis.

DISCUSSION

In general, the hypotheses of this study were confirmed. The enriched job duty composite showed statistically significant differences between experimental and control groups for both the secretaries and their supervisors, and in the predicted direction. The number of enriched duties analysis, however, showed statistically significant results only for the supervisory samples, but not for the secretarial samples, although the results for all samples were in the hypothesized direction. This, overall, provides general, but not unambiguous, support for the efficacy of the training on the enriched job duty variables. Such a finding must be tempered by the size of the effect, however, which was far less than optimal, as the Eta^2 analysis attests, although not particularly atypical for field research.

On the other hand, the multivariate measures showed no significant overall F, and hence no change on these dependent variables can be attributed to the enrichment training, as predicted. There is, as noted in the Results section, a possibly serious defect in hypothesizing regarding the enriched job duty variables in relation to the multivariate analysis. Because it is inappropriate to include variables hypothesized to change in a multivariate analysis of dependent variables hypothesized not to change, univariate

ANOVA's were performed on the enriched variables. However, the strong correlations between the enriched and the other job duty clusters suggest that the enriched composite is not a distinct entity. Hopefully, future uses of the job duty instrument will be performed with sample sizes large enough to permit blind cluster or factor analysis of the duties, resulting in statistically distinct job duty dimensions.

The preliminary conclusion that emerges from the present study is that job enrichment training similar to the type studied here is best suited for specific job duty changes, and that few changes should be expected in terms of attitude changes, perception of bosses' leadership, or perceived job efficiency. Such a conclusion must be moderated, however, by other considerations.

To begin with, it may be argued that the effects of training are long-term and thus were not captured by the present study. Although the posttest was conducted one month after the training, it is possible that the training's recommendations had not been implemented by then, but rather required a more leisurely beginning. In some training sessions, for example, units are built into the training that may not be needed until some time after the session. Thus, conceivably, a questionnaire administered six months, or even a year, after the training session could result in more changes being attributable to the training than the one-month-after posttest. The emergence of any such time-delayed changes is, however, by no means a certain, or even probable

phenomenon, but it is certainly an unknown in the present research. In a future study, the addition of a second, or even a third, posttest some time after the original should be able to capture the emergence of any training effects over a more extended time period, as well as the stability of any changes over time.

Even if repeated questionnaire administrations revealed no attitude or job duty changes, training such as that studied here is not necessarily of no value. Not to be ignored is the possibility of a cumulative effect of training. While one individual training sessions, isolated in time, may have comparatively little, if any, direct results, it is certainly arguable that a series of training sessions may, collectively, cause considerable changes. The research in this study was not, of course, designed to measure such a phenomenon nor were the companies involved here conducting a long term training series for their secretaries. Indeed, such a longitudinal study would likely be quite difficult to implement in a field setting. However, management contemplating the implementation of training should not ignore the possibility that seemingly ineffective training may be more efficacious than first appearances might suggest, especially if it is part of a series of employee development exercises.

Finally, there are those who would argue that a training session is merely a means of demonstrating management's authentic concern for the welfare and development of its employees. Under this view, it is relatively unimportant

that a given session shows no change in organizational dependent variables; it is sufficient that employees view their management as interested enough in them to undertake the expense of training sessions. Such an approach may be good management, but its unscientific nature makes it relatively immune to serious testing.

What about the job enrichment aspects of this study? Is job enrichment, as the better studies to date have shown, unlikely to result in any significant changes in perceptions of one's job, boss, and work attitudes? This is a difficult question to address directly. The design of this study looked at two sets of results: specific job duty changes resulting from job enrichment training, and, the motivational, production effectiveness, leadership, and attitudinal changes resulting from the training. Although differences were obtained in the predicted direction for the enriched job duty cluster, though not in all cases of statistical significance (particularly in terms of the number of job duties assumed), no differences between control and experimental groups were noted for the other variables. Because of the small magnitude of the size of the group differences on the enriched variables as reflected by the relatively small variance accounted for by the training factor, it is at least arguable that the seminars were not particularly effective in implementing job enrichment, and hence offer no real test of whether or not job enrichment results in changes in organizational dependent variables.

Thus, conclusions from this study about the efficacy of job enrichment assume a causal model: training causes enrichment, and enrichment causes (more accurately, does not cause) changes in other variables. Since the implementation of enriched duties was limited in this study, conclusions regarding the effects of enrichment must themselves be of limited scope. However, to the extent that job enrichment was induced, there appears to be little association between job enrichment and the dependent variables studied here.

The question of the means of implementing job enrichment is an important one. In one sense, the results in the predicted direction for the enriched job duty cluster is a rather strong indication that the training resulted in changes. Because of the variety of job duties included in the enriched cluster, to get an overall significant F ratio suggests that the experimental groups must really have been affected by the training. However, this conclusion must be considered in the light of the analyses of the number of job duties adopted, which is less heartening. What seems to emerge from the overall picture is that job enrichment can be inculcated to some extent by a seminar approach, but that other means of training should also be investigated that might be more significant in terms of the size of the effect. It should be noted, too, that enrichment by seminar has applicability primarily to service jobs, where there is very little equipment and where there are relatively few employees involved. A high level of fixed assets in a job, or an

interface between many different kinds of jobs, would seem to contraindicate a seminar approach to job enrichment.

The flaws in this study must not be overlooked or underestimated. Matching is inevitably a second-best substitute for randomization. Even though no pretest differences emerged for the matched samples, the researcher is still never fully sure of the group comparability on non-delineated variables, ones that may pose an undetected threat to an otherwise strong experimental design. Small n's are also an unfortunate, if not atypical, defect of this study. This is particularly relevant to the job duty measures, where small sample size necessitated some rather crude techniques to create clusters and estimate their internal consistency. The job efficiency measures are appropriate as far as they go, but it would have been desirable to have some "hard" production measures. Admittedly businesspeople are very reluctant to permit access to such measures to researchers, and indeed, few such measures exist for a secretarial position. Nor, finally, should the limited generalizability suggested for the samples be ignored. As noted above, this study dealt with participants from Scanlon Plan companies, which possess considerable built-in rewards for improving productivity and augmenting growth. If a similar seminar approach were employed to enrich the jobs of secretaries in less cooperative or participative climates, entirely different results might ensue.

But for all its faults--and they are inevitably many--

this study is still a step in the right direction. It is in accord with a long line of literature advocating tight experimental designs for training evaluations. It is in line with a shorter collection of job enrichment studies advocating tight experimental designs and multivariate data analysis. And, it is in accord with the more recent better-done job enrichment research in its findings, tempering somewhat the all-too-frequent overly zealous magnificence ascribed to job enrichment.

APPENDICES

APPENDIX A

EXECUTIVE QUESTIONNAIRE I Form____

In the following list of job responsibilities, please check the appropriate category as it applies to your own work situation.

	DONE BY ME	DONE BY MY SECRETARY	DONE BY NEITHER ME NOR MY SECRETARY
1. Inspecting section or plant operations	____	____	____
2. Gather material for reports or speeches	____	____	____
3. Creative writing of advertising (including classified ads), public relations or house organ copy or announcements	____	____	____
4. Request, schedule, and coordinate work submitted to office by others	____	____	____
5. Initiate correspondence and memoranda necessary in carrying out established policies and procedures	____	____	____
6. Make hotel reservations	____	____	____
7. Make transportation reservations	____	____	____
8. Prepare trip itineraries	____	____	____
9. Record business expenses and prepare necessary forms	____	____	____
10. Establishing a formal structure of authority within the organization	____	____	____
11. Calculate and initially prepare office budget	____	____	____
12. Analyze periodic budget reports and take appropriate of action for changes or unauthorized expenditures	____	____	____
13. Initiate and sign requisitions, vouchers, or payrolls, and keep the budget accounts for your section	____	____	____
14. Order office supplies	____	____	____
15. Maintain office equipment; channel maintenance complaints to appropriate department	____	____	____
16. Maintain lists of long-range (over six months) and short range objectives for the office; revise these at regular intervals	____	____	____
17. Directing implementation of policy decisions	____	____	____
18. Maintain specific office or company records	____	____	____
19. Organize reports from rough data	____	____	____
20. Dictate letters to dictating machine	____	____	____

	DO THIS NOW, GLAD I DO	DO THIS NOW, WISH I DIDN'T	DON'T DO NOW, WISH I DID	DON'T DO GLAD I DO
21. Supervise office operations				
22. Mark or clip articles for executive to read and/or maintain clipping file				
23. Prepare digest or summaries of articles, letters, or books				
24. Set up and maintain office files				
25. Determine priority of items for boss's attention; maintain a special file for items of immediate importance				
26. Read and sort incoming mail; handle outgoing mail				
27. Make a daily summary of incoming mail, in order of importance; highlight important points in the mail				
28. Answer letters on own initiative when you have the requested information				
29. Sign name to letters under own signature element				
30. Sign boss's name (adding your own initials after signature) when boss is absent				
31. Make hotel reservations				
32. Make transportation reservations				
33. Prepare trip itineraries				
34. Record executive's business expenses and prepare necessary forms				
35. Perform secretarial duties for office visitors, branch representatives				
36. Help plan and organize social functions for office employees				
37. Help plan and organize social functions that involve the boss and his associates				
38. Handle executive's personal business				
39. Assist in preparation of executive's income tax returns				
40. Prepare work for executive's civic activities or business associations				
41. Maintain specific office or company records				
42. Calculate and initially prepare office operating budget				
43. Analyze periodic budget reports and advise supervisor of changes or unauthorized expenditures				

	DO THIS NOW, GLAD I DO	DO THIS NOW, WISH I DIDN'T	DON'T DO NOW, WISH I DID	DON'T DO NOW, GLAD I DON'T
44. Initiate and sign requisitions, vouchers, or payrolls, and keep the budget accounts for your section				
45. Order office supplies				
46. Maintain office equipment; channel maintenance complaints to appropriate department				
47. Creative writing of advertising (including classified ads), public relations or house organ copy or announcements				
48. Request, schedule, and coordinate work submitted to executive by others				
49. Maintain lists of long-range (over six months) and short range objectives for the office; revise these at regular intervals				
50. Contact other departments for information you anticipate will be needed				
51. Initiate correspondence and memoranda necessary in carrying out established policies and procedures (over own signature or over boss's).				
52. Make coffee or obtain from vending machine, etc.; serve it, and clean up after it				
53. Housekeeping functions in office				
54. Circulate tables of contents of magazines to executive(s) to enable them to decide if they need to read an article				
55. Subscribe to magazines you think office needs; discontinue subscriptions no longer needed				
56. Maintain reading material in waiting room				
57. Meet at regular intervals with boss to determine how you can function more effectively as a team				
58. Take and transcribe dictation from dictating machine or over the telephone				
59. Remind boss of next most urgent priority task when visitors stay an unreasonable length of time				

PLEASE USE SPACE BELOW AND BACK OF THIS PAGE FOR ANY JOB DUTIES YOU DO THAT WERE NOT LISTED ABOVE. THEN, CONTINUE THE QUESTIONNAIRE

IN THE FOLLOWING QUESTIONS, SIMPLY CHECK THE APPROPRIATE ANSWER:

1. On most days on your job, how often does time seem to drag for you?
   (1) ___About half the day or more
   (2) ___About one third of the day
   (3) ___About one quarter of the day
   (4) ___About one eighth of the day
   (5) ___Time never seems to drag

2. Thinking now of the various services produced by you and your boss, how much are you producing?
   (1) ___Our production is very high
   (2) ___It is fairly high
   (3) ___It is neither high nor low
   (4) ___It is fairly low
   (5) ___It is very low

3. Some people are completely involved in their job--they are absorbed in it night and day. For other people, their job is simply one of several interests. How involved do you feel in your job?
   (1) ___Very little involved; my other interests are more absorbing
   (2) ___Slightly involved
   (3) ___Moderately involved; my job and my other interests are equally absorbing to me
   (4) ___Strongly involved
   (5) ___Very strongly involved; my work is the most absorbing interest in my life

4. How good would you say is the quality of the services produced by you and your boss as a team?
   (1) ___Our services are of excellent quality
   (2) ___Good quality
   (3) ___Fair quality
   (4) ___Their quality is not too good
   (5) ___Their quality is poor

5. How often do you do some extra work for your job which isn't really required of you?
   (5) ___Almost every day
   (4) ___Several times a week
   (3) ___About once a week
   (2) ___Once every few weeks
   (1) ___About once a month or less

6. Even though additional work might be involved for you, how capable do you feel you are of assuming additional job duties?
   (1) ___I feel I am extremely capable of assuming additional job duties
   (2) ___Very capable
   (3) ___Moderately capable
   (2) ___Not very capable
   (1) ___Almost no capability of assuming additional job duties

7. How much would you like to assume additional job duties, particularly some of the tasks now being performed by your boss?
   (5) ___I would not like to assume any additional job duties
   (4) ___I would moderately dislike assuming additional job duties
   (3) ___Neither like nor dislike
   (2) ___I would moderately like to assume additional job duties
   (1) ___I would very much like to assume additional job duties

8. Would you say you work harder, less hard, or about the same as other people doing your type of work at your organization?
   (5) ___Much harder than most others
   (4) ___A little harder than most others
   (3) ___About the same as most others
   (2) ___A little less hard than most others
   (1) ___Much less hard than most others

9. How much do you think your boss would like for you to assume additional job duties, especially some of the tasks he now does himself?
   (1) ___I think my boss would be extremely willing for me to take on additional duties
   (2) ___Very willing
   (3) ___Moderately willing
   (4) ___Not very willing
   (5) ___Very unwilling

10. If you were to assume additional job duties, especially some of the things now done by your boss, how much more interesting would this make your job?
   (5) ___Wouldn't make it any more interesting at all
   (4) ___Not very much more interesting
   (3) ___Moderately more interesting
   (2) ___Quite a bit more interesting
   (1) ___A great deal more interesting

11. In the following two lists, put a "Y" (for Yes) beside those items that describe your work situation, an "N" (for No) beside those items that do not describe your work situation, or a "?" if you can't decide. (When you are finished, each item in the lists should have either a "Y," an "N," or a "?" by it.)

Y= Yes N= No ?= Can't decide

Your work	Supervision
___Fascinating	___Asks my advice
___Routine	___Hard to please
___Satisfying	___Never satisfied
___Boring	___Impolite
___Good	___Praises good work
___Creative	___Tactful
___Respected	___Influential
___Hot	___Up-to-date
___Pleasant	___Doesn't supervise enough
___Useful	___Quick-tempered
___Tiresome	___Tells me where I stand
___Healthful	___Annoying
___Challenging	___Irritating
___On your feet	___Stubborn
___Frustrating	___Doesn't listen
___Simple	___Knows job well
___Endless	___Bad
___Gives sense of accomplishment	___Intelligent
	___Leaves me on my own
	___Around when needed
	___Lazy
	___Inefficient

IN THE FOLLOWING QUESTIONS, SIMPLY CHECK THE APPROPRIATE ANSWER:

12. How friendly and easily approached are you?
(1) ___Extremely friendly and easily approached
(2) ___Very friendly and easily approached
(3) ___Moderately
(4) ___Not very
(5) ___Not at all

13. How much appreciation do you express when your secretary does a good job?
(5) ___Almost none
(4) ___Very little
(3) ___A moderate amount
(2) ___Quite a bit
(1) ___A great deal

14. When your present secretary first began working with you, how much did you facilitate adjustments to her new work setting?
(1) ___To a very great extent
(2) ___Quite a bit
(3) ___A moderate amount
(4) ___A little
(5) ___Very little

15. How much at ease does your secretary feel in talking with you?
(5) ___Almost none
(4) ___Very little
(3) ___A moderate amount
(2) ___Quite a bit
(1) ___A great deal

16. How much do you look out for your secretary's personal welfare?
(1) ___I very much look out for her personal welfare
(2) ___Quite a bit
(3) ___Moderately
(4) ___Very little
(5) ___Almost not at all

17. How much do you allow your secretary to modify the procedures required in her job?
(5) ___Almost none
(4) ___Very little
(3) ___Moderately
(2) ___Very much
(1) ___Greatly

18. How much do you let your secretary share in decision making?
(1) ___Greatly
(2) ___Very much
(3) ___Moderately
(4) ___Very little
(5) ___Almost none

19. To What extent do you assign your secretary a task, then let her handle it??
(5) ___Almost none
(4) ___Very little
(3) ___Moderately
(2) ___Very much
(1) ___Greatly

20. To what extent does your boss allow you influence equal to his (her) own in decisions which affect your job?
    (1) ___To a very great extent
    (2) ___Very much
    (3) ___Moderately
    (4) ___To a very small extent
    (5) ___To almost no extent

21. How much does your boss let you do your work the way you think best?
    (5) ___To almost no extent
    (4) ___Very little
    (3) ___A moderate amount
    (2) ___Very much
    (1) ___Almost totally

22. How much does your boss let you know what is expected of you?
    (1) ___To a very great extent
    (2) ___Very much
    (3) ___Moderately
    (4) ___To a little extent
    (5) ___To a very little extent

23. How much does your boss schedule the work you have to do?
    (5) ___A great deal
    (4) ___Quite a bit
    (3) ___A moderate amount
    (2) ___Not too much
    (1) ___Almost none

24. How much does your boss make sure that you understand his part in the work group?
    (1) ___Very much
    (2) ___Quite a bit
    (3) ___Moderately
    (4) ___Not too much
    (5) ___Very little

25. How much does your boss maintain definite standards of performance for you?
    (5) ___Very little
    (4) ___A little
    (3) ___A moderate amount
    (2) ___Quite a bit
    (1) ___Very much

26. How much does your boss see to it that you have the material you need to work with?
    (1) ___Very much
    (2) ___Quite a bit
    (3) ___Moderately
    (4) ___Not too much
    (5) ___Very little

27. Lastly (whew!) a few brief questions regarding yourself:

Sex: Male___ Female___

Age: Under 20___ 20-29___ 30-39___ 40-49___ 50-59___
60-65___ Over 65___

Length of time on present job:
Less than 6 months___ 6 months to 1 year___ 1 to 2 years___ Over 2 years___

Length of time with present boss:
Less than 6 months___ 6 months to 1 year___ 1 to 2 years___
Over 2 years___

Marital status:
Never married___ Married___ Divorced, Separated___

Number of children: (Only those living with you)
0___ 1___ 2___ 3___ Over 3___

You have now completed this questionnaire. Now just slip it in the stamped, addressed envelope provided and mail. We again thank you for your valuable assistance with this project.

APPENDIX C

MANAGEMENT SUPPORT GROUP QUESTIONNAIRE 2 Form 2

In the following list of management support responsibilities, please check the appropriate category as it applies to your own job.

	DO THIS NOW, GLAD I DO	DO THIS NOW, WISH I DIDN'T	DON'T DO NOW, WISH I DID	DON'T DO NOW, GLAD I DON'T
1. Handle executive's personal business				
2. Help plan and organize social functions that involve the boss and his peers.				
3. Supervise office operations.				
4. Take notes and prepare minutes for meetings.				
5. Make and record appointments.				
6. Assist in preparation of executive's income tax returns.				
7. Remind boss of next most urgent priority task when visitors stay an unreasonable length of time.				
8. Sign boss's name (adding your own initials after signature) when boss is absent.				
9. Make a daily summary of incoming mail, in order of importance, highlight important points in the mail.				
10. Request, schedule, and coordinate work submitted to executive by others.				
11. Have final responsibility for editing reports, letters, or printed speeches.				
12. Handle incoming and outgoing telephone calls.				
13. Handle timekeeping records and salary distribution.				
14. Housekeeping functions in office.				
15. Set up and maintain office files.				
16. In receiving office visitors, dispose of inquiries personally when possible; when visitor must see boss, obtain as much information as possible to assist the boss.				
17. Perform secretarial duties for office visitors, branch representatives.				
18. Maintain specific office or company records.				

	DO THIS NOW, GLAD I DO	DO THIS NOW, WISH I DIDN'T	DON'T DO NOW, WISH I DID	DON'T DO NOW, GLAD I DON'T
19. Initiate correspondence and memoranda necessary in carrying out established policies and procedures (over own signature or over boss's).				
20. Contact other departments for information you anticipate will be needed.				
21. Creative writing of advertising (including classified ads), public relations or house organ copy or announcements.				
22. Subscribe to magazines you think office needs; discontinue subscriptions no longer needed.				
23. Screen incoming telephone calls; give information to caller yourself when available; refer callers to proper source for technical or specialized information.				
24. Prepare work for executive's civic activities or business associations.				
25. Take and transcribe dictation from dictating machine or over the telephone.				
26. Initiate and sign requisitions, vouchers, or payrolls, and keep the budget accounts for your section.				
27. Read and sort incoming mail; handle outgoing mail.				
28. Analyze periodic budget reports and advise supervisor of changes or unauthorized expenditures.				
29. Order office supplies.				
30. Make coffee or obtain from vending machine, etc.; serve it, and clean up after it.				
31. Prepare agenda for meetings and conferences.				
32. Prepare digest or summaries of articles, letters, or books.				
33. Maintain office equipment; channel maintenance complaints to appropriate department.				
34. Record executive's business expenses and prepare necessary forms.				
35. Sign name to letters under own signature element.				

	DO THIS NOW, GLAD I DO	DO THIS NOW, WISH I DIDN'T	DON'T DO NOW, WISH I DID	DON'T DO NOW, GLAD I DON'T
36. Circulate tables of contents of magazines to executive(s) to enable them to decide if they need to read an article.				
37. Make agenda suggestions that sometimes appear on the agenda for meetings and conferences.				
38. Maintain lists of long-range (over six months) and short range objectives for the office; revise these at regular intervals.				
39. Take dictation and transcribe material.				
40. Calculate and initially prepare office operating budget.				
41. Make transportation reservations.				
42. Type material for publication and have final responsibility for accuracy of proofs.				
43. In making appointments, obtain information in advance as to purpose of appointment, length of time required, etc., and have responsibility for refusing appointments that seem inappropriate.				
44. Maintain reading material in waiting room.				
45. Compose letters from oral instructions or brief notes.				
46. Prepare trip itineraries.				
47. Personnel recruiting, interviewing, and placement.				
48. Make hotel reservations.				
49. Assist in the training and orientation of new employees.				
50. Arrange to have calls returned at a set time; prepare a list of grouped calls with pertinent information for boss.				
51. Receive office visitors.				
52. Help plan and organize social functions for office employees.				
53. Mark or clip articles for executive to read and/or maintain clipping file.				
54. Organize and type reports from rough data.				
55. Answer letters on own initiative when you have the requested information.				
56. Gather material for reports or speeches.				

	DO THIS NOW, GLAD I DO	DO THIS NOW, WISH I DIDN'	DON'T DO NOW, WISH I DID	DON'T DO NOW, GLAD I DON'T
57. Determine priority of items for boss's attention; maintain a special file for items of immediate importance.				
58. Meet at regular intervals with boss to determine how you can function more effectively as a team.				
59. Supervise clerical and/or stenographic employees, including responsibility for hiring and firing.				
60. Sign boss's name to letters without using your initials (reference initials) after the signature.				
61. Use rubber signature stamp to "sign" bosses name.				
62. Use collater to assemble reports.				
63. Use (or submit material to) "word processing" (automatic typing machine) to process final copies of typed material.				
64. Arrange for specific individuals at specific times to take material to copying machines, or run other errands, in order to minimize the time you are away from the desk.				
65. Sub-divide files when you have more than 25 papers in a given file.				
66. In composing responses to letters, type final copies (rather than rough drafts) for boss's signature.				
67. Put initials of typist or stenographer (reference initials) only on file copies of correspondence, not on the final letters sent out.				
68. Identify self by full name on telephone ("Mary Jones," rather than "Mary").				
69. Make written (rather than verbal) notes to boss of reminders, information, or requests.				
70. Maintain a "file plan" for all files in your office, including any files kept in your boss's desk; insure that both you and your boss have a copy.				
71. In answering telephones, after initial greeting, state "may I tell him (her) you're calling and the nature of your call?"				

IN THE FOLLOWING QUESTIONS, SIMPLY CHECK THE APPROPRIATE ANSWER:

1. How good would you say is the quality of the services produced by you and your boss as a team?
   (1) ___ Our services are of excellent quality
   (2) ___ Good quality
   (3) ___ Fair quality
   (4) ___ Their quality is not too good
   (5) ___ Their quality is poor

2. Even though additional work might be involved for you, how capable do you feel you are of assuming additional job duties?
   (1) ___ I feel I am extremely capable of assuming additional job duties
   (2) ___ Very capable
   (3) ___ Moderately capable
   (4) ___ Not very capable
   (5) ___ Almost no capability of assuming additional job duties

3. How often do you do some extra work for your job which isn't really required of you?
   (5) ___ Almost every day
   (4) ___ Several times a week
   (3) ___ About once a week
   (2) ___ Once every few weeks
   (1) ___ About once a month or less

4. If you were to assume additional job duties, especially some of the things now done by your boss, how much more interesting would this make your job?
   (5) ___ Wouldn't make it any more interesting at all
   (4) ___ Not very much more interesting
   (3) ___ Moderately more interesting
   (2) ___ Quite a bit more interesting
   (1) ___ A great deal more interesting

5. How much do you think your boss would like for you to assume additional job duties, especially some of the tasks he now does himself?
   (1) ___ I think my boss would be extremely willing for me to take on additional duties
   (2) ___ Very willing
   (3) ___ Moderately willing
   (4) ___ Not very willing
   (5) ___ Very unwilling

6. Thinking now of the various services produced by you and your boss, how much are you producing?
   (1) ___ Our production is very high
   (2) ___ It is fairly high
   (3) ___ It is neither high nor low
   (4) ___ It is fairly low
   (5) ___ It is very low

7. How much would you like to assume additional job duties, particularly some of the tasks now being performed by your boss?
   (5) ___ I would not like to assume any additional job duties.
   (4) ___ I would moderately dislike assuming additional job duties
   (3) ___ Neither like nor dislike
   (2) ___ I would moderately like to assume additional job duties
   (1) ___ I would very much like to assume additional job duties

8. On most days on your job, how often does time seem to drag for you?
   (1) ___ About half the day or more
   (2) ___ About one third of the day
   (3) ___ About one quarter of the day
   (4) ___ About one eighth of the day
   (5) ___ Time never seems to drag

9. In the following two lists, put a "Y" (for Yes) beside those items that describe your work situation, an "N" (for No) beside those items that do not describe your work situation, or a "?" if you can't decide. (When you are finished, each item in the lists should have either a "Y," "N," or a "?" by it).

Y = Yes N = No ? = Can't decide

Your Work	Supervision
___ Facinating	___ Asks my advice
___ Routine	___ Hard to please
___ Satisfying	___ Never satisfied
___ Boring	___ Impolite
___ Good	___ Praises good work
___ Creative	___ Tactful
___ Respected	___ Influential
___ Hot	___ Up-to-date
___ Pleasant	___ Doesn't supervise enough
___ Useful	___ Quick-tempered
___ Tiresome	___ Tells me where I stand
___ Healthful	___ Annoying
___ Challenging	___ Irritating
___ On your feet	___ Stubborn
___ Frustrating	___ Doesn't listen
___ Simple	___ Knows job well
___ Endless	___ Bad
___ Gives sense of accomplishment	___ Intelligent
	___ Leaves me on my own
	___ Around when needed
	___ Lazy
	___ Inefficient

10. Would you say you work harder, less hard, or about the same as other people doing your type of work at your organization?
   (5) ___ Much harder than most others
   (4) ___ A little harder than most others
   (3) ___ About the same as most others
   (2) ___ A little less hard than most others
   (1) ___ Much less hard than most others

11. Some people are completely involved in their job--they are absorbed in it night and day. For other people, their job is simply one of several interests. How involved do you feel in your job?
    (1) ___ Very little involved; my other interests are more absorbing
    (2) ___ Slightly involved
    (3) ___ Moderately involved; my job and my other interests are equally absorbing to me
    (4) ___ Strongly involved
    (5) ___ Very strongly involved; my work is the most absorbing interest in my life

12. How much do you look out for your secretary's personal welfare?
    (1) ___ I very much look out for her personal welfare
    (2) ___ Quite a bit
    (3) ___ Moderately
    (4) ___ Very little
    (5) ___ Almost not at all

13. How much appreciation do you express when your secretary does a good job?
    (5) ___ Almost none
    (4) ___ Very little
    (3) ___ A moderate amount
    (2) ___ Quite a bit
    (1) ___ A great deal

14. How friendly and easily approached are you?
    (1) ___ Extremely friendly and easily approached
    (2) ___ Very friendly and easily approached
    (3) ___ Moderately
    (4) ___ Not very
    (5) ___ Not at all

15. How much do you allow your secretary to modify the procedures required in her job?
    (5) ___ Almost none
    (4) ___ Very little
    (3) ___ Moderately
    (2) ___ Very much
    (1) ___ Greatly

16. How much do you maintain definite standards of performance for your secretary?
    (5) ___ Very little
    (4) ___ A little
    (3) ___ A moderate amount
    (2) ___ Quite a bit
    (1) ___ Very much

17. How much do you let your secretary do her work the way she thinks best?
    (5) ___ To almost no extent
    (4) ___ Very little
    (3) ___ A moderate amount
    (2) ___ Very much
    (1) ___ Almost totally

(OVER)

18. When you first began working with your present boss, how much did he (she) facilitate adjustments to your new work setting?
    (1) ___ To a very great extent
    (2) ___ Quite a bit
    (3) ___ A moderate amount
    (4) ___ A little
    (5) ___ Very little

19. How much does your boss make sure that you understand his part in the work group?
    (1) ___ Very much
    (2) ___ Quite a bit
    (3) ___ Moderately
    (4) ___ Not too much
    (5) ___ Very little

20. How much at ease do you feel in talking with your boss?
    (5) ___ Almost none
    (4) ___ Very little
    (3) ___ A moderate amount
    (2) ___ Quite a bit
    (1) ___ A great deal

21. How much does your boss let you know what is expected of you?
    (1) ___ To a very great extent
    (2) ___ Very much
    (3) ___ Moderately
    (4) ___ To a little extent
    (5) ___ To a very little extent

22. How much does your boss have you share in decision making?
    (1) ___ Greatly
    (2) ___ Very much
    (3) ___ Moderately
    (4) ___ Very little
    (5) ___ Almost none

23. To what extent does your boss allow you influence equal to his (her) own in decisions which affect your job?
    (1) ___ To a very great extent
    (2) ___ Very much
    (3) ___ Moderately
    (4) ___ To a very small extent
    (5) ___ To almost no extent

24. How much does your boss see to it that you have the material you need to work with?
    (1) ___ Very much
    (2) ___ Quite a bit
    (3) ___ Moderately
    (4) ___ Not too much
    (5) ___ Very little

25. How much does your boss schedule the work you have to do?
    (5) ___ A great deal
    (4) ___ Quite a bit
    (3) ___ A moderate amount
    (2) ___ Not too much
    (1) ___ Almost none

26. To what extent does your boss assign you a task, then let you handle it?
    (5) ___ Almost none
    (4) ___ Very little
    (3) ___ Moderately
    (2) ___ Very much
    (1) ___ Greatly

You have now completed this questionnaire. Now just slip it in the stamped, addressed envelope provided and mail. We again thank you for your valuable assistance with this project.

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25. How much do you schedule the work your secretary has to do?
    (5) ___ A great deal
    (4) ___ Quite a bit
    (3) ___ A moderate amount
    (2) ___ Not too much
    (1) ___ Almost none

26. To what extent do you assign your secretary a task, then let her handle it?
    (5) ___ Almost none
    (4) ___ Very little
    (3) ___ Moderately
    (2) ___ Very much
    (1) ___ Greatly

27. Lastly (whew!) a few brief questions regarding yourself:

    Sex: Male __ Female __

    Age: Under 20 __ 20-29 __ 30-39 __ 40-49 __ 50-59 __
    60-65 __ Over 65 __

    Length of time on present job:
    Less than 6 months __ 6 months to 1 year __ 1 to 2 years __
    Over 2 years __

    Marital status:
    Never married __ Married __ Divorced, Separated __

    Number of children: (Only those living with you)
    0 __ 1 __ 2 __ 3 __ Over 3 __

28. How long have you worked with your present secretary?
    (1) ___ Less than six months
    (2) ___ Six months to one year
    (3) ___ One year to two years
    (4) ___ Over two years

You have now completed this questionnaire. Now just slip it in the stamped, addressed envelope provided and mail. We again thank you for your valuable assistance with this project.

APPENDIX E

INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY
MICHIGAN STATE UNIVERSITY
East Lansing, Michigan 48824
January 7, 1974

As you are aware, the Scanlon Plan Associates is sponsoring a Management Staff Support Training Seminar on January 17, 1974, which you will be attending.

The Scanlon Plan Associates needs to determine if this Seminar is effective enough to extend its benefits to other personnel in the member companies. The Board of Directors of the Associates has requested us to carry out this evaluation study for them. Therefore, we need you as one of the Seminar participants to assist us in making this evaluation for the Associates and your company.

We need certain information before the Seminar, and we are asking you to answer the questions in the enclosed form. Answering the questions should take no more than about a half an hour. When you have answered all the questions, please send the completed form to us at Michigan State University in the stamped, addressed envelop provided. For the purpose of this project, we need your form before January 15, 1974, so we will appreciate your cooperation in filling out the form and returning it to us. (We realize that you have given information earlier to Mrs. Ann Montgomery, who is leader of the Seminar. Our request is an additional need for the Associates' Study.)

You do not need to sign the form. The report of this project will combine answers from all the other participants so that your anonymity is assured. Several weeks from this time we will be sending you a similar form and ask you to kindly complete it. The second form should require no more than about a half an hour to complete. Even though completing the two forms is all you are requested to do for this project, your cooperation is very important in carrying out the evaluation of the seminar.

When the data are analyzed and the project is completed, a report of the total findings will be made available to companies in the Scanlon Plan Associates. Every effort will be made to see that each individual who participated in the research study receives a copy.

We at Michigan State University are pleased to assist the Scanlon Plan Associates in such an evaluation project. We will certainly appreciate your assistance in making it possible for us to make the report helpful in deciding on future training programs for your Management Staff Support Group.

Sincerely,

Rod Lowman, Research Associate
Industrial/Organizational Psychology

E. F. Frost, Professor
Industrial/Organizational Psychology

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MICHIGAN STATE UNIVERSITY · East Lansing Michigan · 48824
Department of Psychology · Olds Hall

February 18, 1974

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MICHIGAN STATE UNIVERSITY

DEPARTMENT OF PSYCHOLOGY
OLDS HALL

EAST LANSING · MICHIGAN · 48824

March 27, 1974

Last month we sent you a form to complete in connection with a Scanlon Associates sponsored secretarial training program. To date, however, we have not received your completed form, which is very important for this study.

Even though the initial date we mentioned for returning the form has passed, we still need this questionnaire. We would therefore greatly appreciate your returning the form as soon as possible in the stamped addressed envelope we previously sent you. (If you have misplaced the form, please let us know: we will be happy to send you another one.)

We certainly appreciate your cooperation and valuable assistance with this Scanlon Associates project.

Cordially,

Rodney L. Lowman
Research Associate

RLL/sdw

REFERENCES

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