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ABSTRACT

The document presents the final report of a study to measure and compare the satisfaction and satisfactoriness of office employees 18 months after graduation from model office, cooperative office education, and office procedures courses. Differences among the three programs on a number of job- and education-related variables were also investigated. The population for this study consisted of 713 individuals who had graduated from Minnesota public secondary schools in 1973, having completed the three types of programs listed. Information on the graduates included: in-school measures, personal questionnaires, Minnesota satisfaction questionnaire, and the Minnesota satisfactoriness scales for employers. Definitions of terms used in the report are given, and specific questions to be answered, a review of related research, the need for research, and limitations are discussed. Independent and dependent variable instruments, data collection, population and sample, and data analyses are described. Findings are presented in terms of the specific questions to be answered followed by results of appropriate data analyses. Conclusions and recommendations are enumerated. A bibliography is provided, and 31 tables supplement the discussion. Appended material includes a questionnaire and communication forms related to the study and 19 additional and detailed tables. (LH)

FINAL REPORT

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Effectiveness of Model Office, Cooperative Office Education, and Office Procedures Courses Based on Employee Satisfaction and Satisfactoriness Eighteen Months After Graduation

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Dr. Charles Hopkins, head of the Division of Business Education at the University of Minnesota, who co-directed the earlier study on which the current study is based;

and Bonnie Andrusick, who typed the final project report.

G.N.M.

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The major purpose of this study was to measure and compare the satisfaction and satisfactoriness of office employees eighteen months after graduation from office procedures (OP), model office (MO), and cooperative office education (COE) courses. An ancillary purpose was to determine differences, if any, among the three programs on a number of job and education-related variables.

The population of the study consisted of 1973 graduates from public secondary schools in the State of Minnesota who had been enrolled in office procedures, model office, or cooperative office education courses. Model office courses were limited to those using APEX model office materials. An earlier study using in-school measures on the 713 students in the sample provided the following information: student personal characteristics, socio-economic status, vocabulary, subscores and total on Business fundamentals and general information test (NBEA), and subscores and total on an office work perceptions (OWP) instrument.

All graduates were sent a personal questionnaire and Minnesota satisfaction questionnaire (MSQ) eighteen months after graduation. Permission was sought to contact employers for completion of the Minnesota satisfactoriness scales (MSS). Following numerous follow-ups, 548 graduates responded with usable data for an overall response rate of 79.5 percent. Twenty point five percent of the office employed graduates did not grant permission for the MSS to be sent to their supervisors. Of the 210 who did, 96.2% of the supervisors responded.

Data analyses included: analyses of variance, analyses of covariance, Pearson zero-order correlations, Chi-square analyses, and t-tests.

Major findings of the study include:

1. COE more satisfied overall and on extrinsic scale than OP. COE in full- and part-time office employment more satisfied on intrinsic scale than OP. MO does not differ from OP or COE. By covariance, MO most satisfied on extrinsic scale and COE most satisfied on intrinsic. No difference on general. SES had no effect on satisfaction.

2. No differences by course or SES on job satisfactoriness.

3. MO and COE have greater general and extrinsic satisfaction than two norm groups.

4. Norm groups have greater Personal Adjustment satisfactoriness than all three OE graduates. On all other satisfactoriness measures, OE performed as well as, or better than, the norm groups.

5. Course does not affect pay or number of people supervised.

6. COE most likely, OP least likely, to pursue office-related objective.

7. Few significant inter-relationships were found.

Chapter 1

INTRODUCTION

This chapter describes the purposes of the study as well as the specific questions to be answered through the research. Also included are the need for the study and a review of relevant literature completed and in process. The chapter also reviews the limitations of the study and defines terms.

Purpose of the Research

The major purpose of this study was to measure and compare the satisfaction and satisfactoriness of office employees eighteen months after graduation from model office, cooperative office education, and office procedures courses. An ancilliary purpose was to determine differences, if any, among the three programs on a number of job and education-related variables.

Specific Questions to be Answered

Specifically, the purposes of this study were to answer the following questions for full-time and full- and part-time office employees who graduated from a capstone office education course eighteen months earlier:

1. Is the intrinsic, extrinsic, and overall job satisfaction, as measured by the Minnesota satisfaction questionnaire (Weiss, et al, 1967), affected by the following factors?
   a. Office education course completed
   b. Socioeconomic status of the student
   c. Interaction of office education course completed and socioeconomic status of the student

2. Is the overall satisfactoriness, as well as the sub-scales of performance, conformance, dependability, and personal adjustment, as measured by the Minnesota satisfactoriness scales (Gibson, et al, 1970), affected by the following factors?
   a. Office education course completed
   b. Socioeconomic status of the student
   c. Interaction of office education course completed and socioeconomic status of the student

3. Is the intrinsic, extrinsic, and overall job satisfaction for the three groups of graduates, taken as separate groups and combined, different from norms obtained from a general group of workers and from office clerks?

4. Is the overall satisfactoriness, as well as the sub-scales of performance, conformance, dependability, and personal adjustment, for the three groups of graduates, taken as separate groups and combined, different from norms obtained from a group of male clerical and sales workers, female clerical and sales workers, and workers in general?

5. Do differences exist among the three groups, based on office education course completed, on the following variables?
   a. Current employment or educational status
   b. Salaries
   c. Wages
   d. Number of people supervised
   e. Office job title
   f. Additional office and non-office related education

6. Is there a relationship between the overall satisfaction and satisfactoriness, as well as the sub-scales, and the following variables for each group taken separately and the three groups combined?
   a. Number of hours of office related work experience prior to entering the capstone office education course
   b. Number of hours of non-office related work experience prior to entering the capstone office education course
   c. Vocabulary, used as a measure of ability
   d. Office work perceptions total scores and subscores
   e. Business fundamentals and general information test total scores and subscores
   f. Salaries
   g. Wages
   h. Number of people supervised

7. Is there a relationship between salaries, wages, and number of people supervised, and the following variables for each group taken separately and the three groups combined?
   a. Number of hours of office related work experience prior to entering the capstone office education course
   b. Number of hours of non-office related work experience prior to entering the capstone office education course
   c. Vocabulary, used as a measure of ability
   d. Office work perceptions total scores and subscores
   e. Business fundamentals and general information test total scores and subscores

8. Is there a relationship between socioeconomic status, father's educational attainment, mother's educational attainment and whether the student had worked for pay prior to entrance into the capstone office education course, and the following variables for each group separately and combined?
   a. Office job title
   b. Additional office related education
   c. Additional non-office related education
   d. Whether the student is in a full-time office related occupation
   e. Whether the student is in a full- or part-time related occupation
   f. Whether the student is in an office-related occupation or educational program.

9. Is there a difference between full-time office employees and all other graduates; full- and part-time office employees and all other graduates; and graduates in an office-related occupation or educational program and all other graduates on the following variables?
   a. Number of hours of office related work experience prior to entering the capstone office education course
   b. Number of hours of non-office related work experience prior to entering the capstone office education course
   c. Vocabulary, used as a measure of ability
   d. Office work perceptions total scores and subscores
   e. Business fundamentals and general information test total scores and subscores

Need for the Research

Business educators over the years have recognized the need for a course that would bridge the gap between the school and the office; that is, between theory and practice. There is agreement among executives, office workers, and teachers that successful office workers not only need to be adept in the basic skills such as typewriting, shorthand, filing, bookkeeping, etc., but they also need to have the related knowledges and attitudes necessary for successful employment.

Because many people felt that the individual skills subjects were not providing these broad experiences, office procedures courses were introduced in an attempt to integrate and reinforce skills, knowledges, and attitudes previously learned, as well as to introduce new abilities not easily developed in a single course.

Skepticism regarding the success of office procedures courses led to the introduction of cooperative office education programs, combining in-class instruction with on-the-job training. This type of program received increased impetus following the passage of the Vocational Education Act of 1963. While increasing the interaction between work, school, and community, many problems occurred, including poor on-the-job supervision, travel problems to and from the place of work, and shortage of training stations providing appropriate learning experiences.

During the past five years, considerable attention has been focused on the model office (simulation) as a capstone high school course for preparing students for the office world of work. Many (Funk, 1972; Krawitz, 1971; Wright, Santos, and Jennings, 1972) have claimed that the model office improves integration of skills and attitudes, knowledge of work flow, opportunity for career exploration in office occupations, and more realistic training based on employers' expectations.

Thus, there currently exist three major capstone experiences in office education--model office, traditional office procedures courses, and cooperative office education. Yet, in spite of the fact that model office and cooperative office education programs may be expensive to initiate and operate, little evaluation of their relative effectiveness in preparing

office employees has been undertaken. The limited evaluation that has occurred used classroom criteria or was limited in the scope of comparisons made. Findings of such evaluations are briefly summarized in the "Review of Related Research" section.

The present study provides measures of on-the-job performance derived from graduates of the three capstone experiences, criteria which reflect the major objective of a vocational capstone experience better than the artificiality of in-class measures. In addition, using the Hopkins-McLean (1974) data, considerable evidence on the effect of personal characteristics on job satisfaction and satisfactoriness are available for examination in this study.

The accomplishment of these objectives will be beneficial to students and to counsellors in the selection of appropriate capstone experiences in office education for individual students based on their backgrounds and unique needs. In addition, school systems, state educational departments, and federal agencies will be better able to determine priorities for finances, curriculum development, personnel, etc., based on the effectiveness of various capstone experiences.

While it is not anticipated that a single study such as this will provide all of the variables needed for such decision-making, the study will add to the body of information emerging on defining the relative effectiveness of the three types of capstone office education experiences. In addition, business education is not the only vocational field examining various options for providing capstone occupational experiences. The results of this study will permit the development of broad-based hypotheses for testing in other vocational fields and will add concrete evidence for optional educational programming considerations.

Review of Related Research

A number of studies evaluating the effectiveness of the three capstone office education experiences were reviewed in an earlier research study conducted by Hopkins and McLean (1974). These studies will be summarized briefly in this section, followed by a more detailed review of studies that have become available since the completion of that study.

In comparing graduates of cooperative office education programs with graduates of noncooperative office education programs, Kingston (1971) found no significant differences in quantity or quality of work performed, job attitudes, initiative, or employment history.

Clemons (1971) obtained the opinions of business people employing cooperative office education students, cooperative office education teacher-coordinators, and cooperative education students in Kentucky. All agreed that the students had good basic skills, except in shorthand, and that they displayed strong character traits. They were rated weak in their ability to organize their work; decision-making ability; communication skills; and interest, knowledge, and understanding of the business world.

In comparing the job satisfaction and job satisfactoriness of cooperative and non-cooperative office education students in Minneapolis, Delorey (1972) found no significant differences. Likewise, McFarland (1972) found no differences between cooperative and noncooperative vocational secretarial students at the end of their training in: straight-copy typewriting skill, production typewriting skill, transcription of mailable copy skill, and knowledge of business fundamentals. In addition, he found that cooperative training had no significant effect on the development of the skills and knowledges for which he tested.

Nelson (1972) compared model office students with traditional office procedures students in Utah and found higher performance for the simulation students in the skill areas of filing and checking, and in the personality areas of motivation to succeed, cooperativeness, make friends easily, self-centeredness, and ability to think logically; the office procedures students performed better on straight-copy typewriting and rough draft manuscript typewriting.

A Kentucky study, conducted by Omvig and Thomas (1972), compared the effectiveness of the model office approach, the cooperative arrangement, the one-hour office practice class, and the two-hour office practice class. Each group scored significantly higher than the other groups on at least one of the measures. No one method predominated in superior performance. The study, however, used small sample size and did not control for beginning attitudinal differences.

Wunsch (1975) compared model office simulation students with traditional office practice students using an instrument to measure interpersonal values. He found the model office students to be more receptive of support, more independent, and more inclined toward leadership; he found the traditional office practice students to be more prone to conform to what is socially correct, more inclined to achieve recognition, and more benevolent toward others. No mention is made in the article, however, as to whether the differences were statistically significant or whether pretests were given and prior differences between the two groups controlled for in the analysis.

In his comparison of high school students enrolled in office practice class with simulation, cooperative office education, and model office, Thomas (1973) found no significant differences in 20 of 22 attitude scales; five of the eight subscores and the total on a general office information questionnaire; on typing a letter, a manuscript, and a table; and on proofreading. The office practice class with simulation scored higher on office machines; office practice with simulation and cooperative office education scored higher on knowledge of purchasing and bookkeeping/payroll; model office and cooperative office education scored higher on confidence in ability; and model office and office practice with simulation scored higher on perceptions of competence to use the transcriber.

As part of an ongoing project by Delta Pi Epsilon chapters around the country (a graduate honorary fraternity in business education), Alpha Gamma Chapter at the University of Houston conducted a study (Brown, et al, 1975) comparing cooperative and noncooperative high school students on a constructed attitudinal test with four subscores. No differences were found between the

two groups on attitude toward others or attitude toward business in general. The noncooperative group scored higher on attitude toward work in general and attitude toward office work. However, differences existed in pretest scores, and no statistical means were used to control for the differences. In addition, neither group differed in their scores from pretest to posttest.

Lucas, Miles and Weber (1975) surveyed high school graduates in North Carolina in 1971 (77 office education students) and again in 1974 (27 office education students). In spite of the very small sample size, this study is of interest because of the similarity in type of instruments used with the current study. In addition to collecting personal data, the Minnesota satisfaction questionnaire (MSQ) and the Minnesota satisfactoriness scales (MSS) were used. No differences were found on the MSQ total or subscores, using comparisons in the following categories: office and distributive education students, year of survey, school setting (urban or rural), sex, post-secondary attendance, or salary. No differences were found on the MSS total or subscores based on size of business establishment or whether the company sponsors a cooperative training station. Significant differences were found on the MSQ for cooperative occupational experience, with office education students with cooperative training scoring lower than expected on the intrinsic scale. Students scored higher on the intrinsic scale if they were still in the job they held while on the cooperative program. On the MSS, students scored lower after three years of employment; students from urban schools scored higher; and graduates scored higher if they were still employed in their cooperative training station.

Along with other comparisons, Pitko (1975) also compared differences in attitudes between students in reimbursed cooperative office education programs and those in office practice classes. The total number of students involved in the study was 304. She found no significant differences on attitudes between the two groups, concluding that the content and work experience differences between the two groups had no impact on attitude development.

Finally, Hopkins and McLean (1974), obtained personal characteristics data on a sample of 713 Minnesota high school students, and used three in-class measures to compare the effectiveness of model office (APEX) (Wright, Santos, and Jennings, 1972), cooperative office education, and traditional one-hour office procedures classes. The data collected for that study serves as the base for the current study and will thus be reviewed in somewhat greater detail than the other studies.

Personal characteristics data collected include: sex, age, socio-economic status, performance on a vocabulary test used as an estimate of ability, whether the students had worked for pay prior to admittance into the capstone course, the number of office and nonoffice related hours of work experience prior to the course, and the number of business courses that they expected to complete by the end of the year. Pre- and Posttest data were collected on three instruments: Office Work Perceptions (OWP) developed by Rubald (1973) with four subtests: job knowledge, personal qualifications, interpersonal relations, and job qualifications; Business fundamentals and general information test (NBEA, 1972), with eight subtests: spelling, plurals, grammar, expression, general information, judgment,

arithmetic, and memory; and office decision-making cases (Hopkins-McLean, 1974), using four different methods of scoring, comparing student responses with office workers and office supervisors.

On the personal characteristics, no differences were found among the three groups on sex or age. Almost all of the participants were female, and there was very little variance in age from 17 years. Office procedures students were found to have a significantly higher average socioeconomic status than students in the other two groups. Again, no significant differences were found in vocabulary, whether students had worked for pay, and number of hours of office related work experience. The model office students had significantly more unrelated work experience than the office procedures students. Finally, while the office procedures students expected to complete significantly fewer quarters of business courses, the difference is explained by the fact that both model office and cooperative office education students receive two credits for the capstone experience. Thus, excluding the capstone experience itself, no differences among the three groups existed as to the number of business courses taken. It was determined that socioeconomic status was the only difference in personal characteristics among the three groups deemed sufficiently significant to control for in the analyses of the current study.

Controlling for pretest differences, no significant differences were found among the three groups on posttest office decision-making ability. In addition, socioeconomic status had no effect on office decision-making. Likewise, with the exception of the personal qualifications subtest, on which the model office students scored significantly higher on adjusted posttests, there were no differences among the three groups on total score or the other three subtests. Socioeconomic status had no effect on student performance in this area. On the Business fundamentals and general information test, no differences were found on the subtests: spelling, grammar, expression, and arithmetic. The model office students scored higher on the memory subtest, and the office procedures students scored higher on the plurals, general information, judgment, and memory subtests, as well as on the total test. Socioeconomic status had an effect on two subtests: the high SES group performed best on general information, and the low SES performed best on judgment.

The results obtained for the students in the 1974 study were used as covariates in the present study and were used to examine different factors that might lead to success in employment as measured by job satisfaction and job satisfactoriness.

Three studies in the area of evaluating the effectiveness of office education capstone experiences are in process at the University of Minnesota. In each case, the data have been collected, but analyzed data are not yet available. Larson (M.A.) completed a six-month follow-up of the students in the Hopkins-McLean (1974) study to determine job placement and correlation of school instruction with current job tasks. Synnes (PhD) is comparing typewriting skill development among model office students without second-year typewriting, model office students with second-year typewriting, and second-year typewriting students. Halvas (PhD) is comparing sociometric status change of students in traditional office procedures and model office courses.

Thus, while all of these studies contribute useful information to the total task of evaluating course effectiveness for capstone office education experiences, most of them deal with in-class measures, use small sample sizes, use poor statistical controls, or use limited comparisons. The current study provides comparisons among all three experiences (model office, cooperative office education, and traditional office procedures) using on-the-job measures of satisfaction and satisfactoriness for evaluative purposes. In addition, the large sample size and accumulation of data from the earlier study (Hopkins-McLean, 1974) permit detailed examination of the relationships between student characteristics and employment success, as measured by job characteristics, employee satisfaction, and employer measurement of employee satisfactoriness.

Limitations

This study was conducted with the following limitations:

1. Although there are a variety of commercially prepared model office curriculum materials available, the APEX materials are the most commonly used in Minnesota, and they provide the most comprehensive commercial model office experience with over five hundred hours of simulation. Also, there is a great deal of variation among the various teacher-prepared materials. For these reasons, the model office graduates in this study were those students graduating from schools using APEX model office materials.

2. Another limitation was that the office procedures courses used in the study were not randomly selected. Intact classes of model office and cooperative office education students were randomly selected on a stratified basis. The office procedures participants were limited to those who were enrolled in such a course at the schools selected for model office or cooperative office education participation. Such a procedure may limit the generalizability of the results since the question arises as to whether there is comparability among the twelfth grade students who enroll in office procedures in a school which has a model office and/or cooperative office education program and those who enroll in such a course at schools which do not offer these courses.

3. There were no reliability or validity data available on the Business fundamentals and general information test, although Synnes' (Phd In Process) study will provide reliability data.

4. To obtain a representative response from the graduates, many contacts were needed. While a good response rate was ultimately achieved, the time involved in collecting the data provided a lapse of about three months from the receipt of the first completed personal questionnaire and MSQ to the receipt of the last. Thus, such data do not represent the same point in time for all respondents. A similar problem did not exist for the MSS, as most of these forms were returned within a two-week period.

5. As in any questionnaire study, this study is limited to the extent that respondents were able to accurately record personal data and attitudes, especially for such items as salary and job title. For example, many respondents indicated that they had several job responsibilities. The most inclusive title was used for such respondents.

6. To comply with federal and university regulations recently designed to protect human subjects in research, each respondent was required to complete a release form before his or her employer could be contacted. Several respondents completed the personal questionnaire and the MSQ, but refused permission to contact the employer for completion of the MSS. While this affects the current study, it also raises the broader question of the impact of such regulations on the generally recognized need for representativeness in sampling for any research study. On the other hand, the signed release form secured a far better response from employers than would ordinarily have been expected.

7. Because of its complexity and difficulty in interpretation of scores, the office decision-making scores were omitted from the present study. This is not a serious limitation, however, as the 1974 study found no significant differences among the three groups on this variable.

8. Of the 877 students involved in the pretesting in 1972, 713 remained at the end of the school year. Only the 713 who graduated from the three programs were included in the present study.

9. Detailed personal information and completed MSS and MSQ information was requested from students employed in office related occupations only. In retrospect, such detailed information from all students would have proven useful in developing career mobility data, particularly when combined with future follow-up studies.

Definition of Terms

Conformance Satisfactoriness - The degree of job satisfactoriness associated with the worker's ability to get along with supervisors and co-workers, and with observation of regulations.

Cooperative Office Education - A full-year course for twelfth grade students who attend school part of the school day and are employed in an office capacity part of the day. The classroom segment includes improvement of skills such as typewriting, filing, recordkeeping, and office machines, plus study of such topics as office etiquette, interpersonal relations, personal grooming, and money management. The work experience segment is under the supervision of the teacher-coordinator and the employer, thereby giving the student actual work experience both in a learning situation and a wage-earning situation.

Dependability Satisfactoriness - The degree of job satisfactoriness associated with the frequency of the worker's disciplinary problems.

Extrinsic Satisfaction - The degree of satisfaction an employee derives from characteristics associated with a job, but other than characteristics of the job itself.

Interpersonal Relations - The interaction of office workers, both on and off the job, with their co-workers and supervisors.

Intrinsic Satisfaction - The degree of satisfaction an employee derives from characteristics of the job itself.

Job Knowledge - Awareness of what work in an office involves, of possibilities for advancement, and of opportunities that are available.

Job Qualifications - The requirements of job entry and job advancement pertaining primarily to skills for office workers.

Model Office - A two-hour per day, full-year course which replicates the organization, tasks, work qualifications, conditions, and standards, as found in a general office setting.

Office Procedures - A one-hour per day, full-year course offered to eleventh and twelfth grade students to prepare them for office work through development and improvement of such skills as filing, typewriting, use of office machines, and recordkeeping, as well as the study of business forms, work flow, office etiquette, personal grooming, and interpersonal relationships. This course may also consist of two one-semester courses: office machines and office procedures.

Office Work Perception - The awareness of objects and events in office work which comes about through the senses and leads to a mental image that combines with previous experiences to form a concept of office work and the role a person might play in the office.

Performance Satisfactoriness - The degree of job satisfactoriness associated with the worker's promotability, and quality and quantity of work.

Personal Adjustment - The degree of job satisfactoriness associated with the emotional health of the worker.

Personal Qualifications - Those requirements of an office worker in regard to dress, grooming, etiquette, and personal habits.

Chapter 2

PROCEDURES

This chapter describes the design and procedures of the study, and is organized as follows: (1) independent variable instruments, (2) dependent variable instruments, (3) data collection procedures, (4) population and sample, and (5) data analyses.

Independent Variable Instruments

The independent variables for this study were determined during the 1972-73 school year and are described in detail in the final report of the study conducted by Hopkins and McLean (1974). These variables are briefly reviewed below.

Student Personal Characteristics

A student information sheet was used to collect pertinent personal data. The students provided the following information that is used in the current study: course, whether or not the student had worked for pay and, if so, the type of work and the number of hours worked.

Index of Socioeconomic Status

Part of the data provided by the student on the student information sheet was to be used to determine socioeconomic status, one of the factors to be used in the data analyses. In order to use the Index of socioeconomic status (Institute for Developmental Studies, 1965), two items of information were required--the education and occupation of the main support of the family. Each of these factors is assigned a prestige value according to a predetermined scale. The values are then combined to provide a score which indicates low, middle, or upper socioeconomic status. Information was obtained for both parents, and the highest value was used. The father's and mother's educational attainment were also used separately as independent variables in the current study for some of the specific questions to be answered.

Vocabulary Test

A measure was originally needed to determine whether ability differences, such as determined by intelligence tests, existed among the students enrolled in the various courses. The availability of such information is useful for the purposes of the current study to determine whether differences in ability have any effect on the dependent variables. Because of the difficulty in obtaining intelligence test scores from students' records and because of the number of different tests used in schools which do not

generate directly comparable scores, the 20-word vocabulary test (Form 2)[1] from the CAVD scale of Thorndike and others (Buros, 1965) was administered to all students. For two of the five forms, Miner (1961) obtained correlations of .47 and .54 with the WAIS (Wechsler Adult Intelligence Scale) which, when corrected for attenuation, were inflated to .84 and .86. Taking into account the effects of the adjustment, Miner concluded that the correlation was at least .75. Thorndike (1942) reported a reliability coefficient of .83 between two of the five forms of the test.

Business Fundamentals and General Information Test

The Business fundamentals and general information test[1] is one of six tests in the National business entrance test general testing series (National Business Education Association, 1972). The test was originally prepared under the direction of the Joint Committee on Tests of the United Business Education Association and the National Business Education Association. It was copyrighted in 1955, and revised in 1964 and 1972. There are no available national norms, or reliability and validity coefficients. The test has, however, been used by office procedures teachers over the years as a measure of achievement.

Office Work Perceptions

The office work perceptions instrument (See Hopkins and McLean (1974) for copy) was developed by Rubald (1973) using four categories: job knowledge, personal qualifications, interpersonal relations, and job qualifications. These categories are defined in the Definition of Terms section of Chapter 1. Reliability of Rubald's instrument was determined through a test-retest procedure using office procedures and cooperative office education students. Correlating student scores on the original test with their retest scores produced a reliability of .88. Content validity was determined by Rubald through a series of test administrations to office management personnel until there was complete agreement on all statements.

Dependent Variable Instruments

Three instruments were used to collect information eighteen months after graduation from the students in the three office education programs in the 1974 study. These instruments are described below.

Personal Questionnaire for Graduates

A personal questionnaire (See Appendix A, pp. 57-58) was developed to collect current personal data. Code numbers were prerecorded on each

[1]Since this test is copyrighted by its publisher, it has not been reproduced in this study.

questionnaire. The respondents were to provide the following information: current address, current employment or educational status, present salary, employing firm and name of supervisor, number of people supervised, job title, and any additional training acquired beyond high school.

Minnesota Satisfaction Questionnaire

To determine how satisfied the respondents were with their employment, a Minnesota satisfaction questionnaire (Weiss, et al, 1967)[2] was sent to each of the graduates. In addition to providing an estimate of overall job satisfaction, the questionnaire also provides two subscores: intrinsic and extrinsic job satisfaction, as defined in the Definition of Terms section of Chapter 1. The short-form MSQ, used in this study, consists of 20 items, with five optional responses for each item, ranging from a score of 5 for "I am very satisfied with this aspect of my job" through a score of 1 for "I am very dissatisfied with this aspect of my job." Thus, the highest possible score for overall satisfaction would be 100, and the lowest possible score, 20. The intrinsic subscore consists of twelve items (for a maximum score of 60 and a minimum score of 12), and the extrinsic subscore has six items (for a maximum score of 30 and a minimum of 6).

Hoyt reliability coefficients have been determined for a number of norm groups. For intrinsic satisfaction, the coefficients ranged from a low of .84 to a high of .91, with a median of .86. For extrinsic satisfaction, the range was from .77 to .82, with a median of .80, while for general satisfaction the range was from .87 to .92, with a median of .90. In general, then, the reliability coefficients are high. While no stability data are provided in the test manual for the short form, test-retest correlations on general satisfaction using the long form provided coefficients of .89 over a one-week period and .70 over a one-year interval.

Validity of the instrument is supported in the test manual in two ways: studies of occupational group differences, and studies of the relationship between satisfaction and satisfactoriness. The discussion, supported by statistical data, indicates in a general way the validity of the MSQ in measuring job satisfaction.

Normative data for a number of occupational groups are provided in the test manual. Some of that data are used in the current study to compare the subjects of this study with appropriate normative groups in their satisfaction levels.

Minnesota Satisfactoriness Scales

To determine the degree of satisfactoriness of the respondents, as judged by their immediate supervisors, the Minnesota satisfactoriness scales (Gibson, et al, 1970)[2] were used. This instrument provides an estimate of

[2]Since this test is copyrighted by its publisher, it has not been reproduced in this study.

overall job satisfactoriness, along with estimates of four subscores, as defined in the Definition of Terms section of Chapter 1: performance, conformance, dependability, and personal adjustment. This instrument consists of 28 items, with the first 27 scored 1, 2, or 3, depending on the response chosen, such that a higher score indicates greater satisfactoriness. The last item adds an additional option, with 4 corresponding to the most favorable response. Thus a person rated most favorably by his supervisor on each item would get a general satisfactoriness score of 85, while the lowest would be a score of 28. The general format used in the instrument is a peer comparison as to whether the supervisor would rate the person as "better," "about the same," or "not as good" when "compared to others in his work group." For the subscores, performance consists of eight items plus the last item for a maximum possible score of 28, and a minimum of 9. The ranges for the other subscores are: conformance, 21 to 7; dependability, 12 to 4; and personal adjustment, 21 to 7.

Hoyt reliability coefficients for the four subscores and the overall scales are provided in the test manual for each normative group. The values range from .69 to .95, with a median of .87. For "Workers-in-General" the obtained coefficients were as follows: performance, .90; conformance, .85; dependability, .74; personal adjustment, .85; and general satisfactoriness, .94. Stability over a two-year test-retest provided coefficients ranging from .40 to .68, with a median of .50.

Little information is available on validity of the instrument, mainly because of the difficulty in locating workers who have been terminated and determining the exact reason for their termination. The test manual does provide evidence as to the construct validity of the MSS.

As is the case with the MSQ, the test manual provides normative data for a number of occupational groups. The scores of the most relevant of those groups are compared with the subjects of this study.

Data Collection Procedures

During October of 1974, a letter (See Appendix B, p. 59) was sent to each of the 712 graduates of the office procedures, model office, and cooperative office education classes involved in the Hopkins-McLean (1974) study. (The addresses for all students had been obtained during the 1974 study, but the address for one student was not available, reducing the number from 713 to 712.) Accompanying each letter was the personal questionnaire, Minnesota satisfaction questionnaire, and a release form (See Appendix C, p. 60). The release form was necessary to comply with federal and University of Minnesota regulations regarding the protection of human subjects in research. This form requested permission for the investigator to contact supervisors for the purpose of completing the Minnesota satisfactoriness questionnaire.

By the middle of November, only 38 percent of the graduates had responded. A number of questionnaires had been returned by the post office as undeliverable with no forwarding address. In these cases, the school

was contacted, and where addresses were available, the questionnaire was sent out once again. Other questionnaires were returned incomplete. If information was omitted, personal letters were sent to the respondents requesting the missing information. In many cases, the respondents had not returned the signed release form. In these cases, a personal letter was sent to each respondent reiterating the confidential nature of the information, and soliciting participation in that part of the study. This second letter did elicit substantial participation. Sixty-four percent of those receiving the questionnaire, however, had simply not responded. Three weeks after the original questionnaire was sent out, postcards (See Appendix D, p. 61) were sent to all nonrespondents.

The postcards contributed substantially to the returns, although by mid-December the response rate had not yet reached 70 percent, the target response rate. Thus, every nonrespondent was then contacted by telephone. When the nonrespondent could not be contacted by telephone, another questionnaire was sent with a new cover letter (See Appendix E, p. 62). This approach proved to be very successful, although time-consuming, and the target response rate was substantially exceeded, as described below in the "Population and Sample" section.

To insure that all supervisors' ratings were given approximately the same number of months after graduation for all subjects, the Minnesota satisfactoriness scales were sent to all supervisors, along with a cover letter (See Appendix F, p. 63), in January, 1975, accompanied by half of the release form. As indicated in the "Limitations" section of Chapter 1, this release form generated an overwhelming response rate from the supervisors. For those few supervisors who did not respond within three weeks, a postcard reminder (See Appendix G, p. 64) was sent. All nonrespondents two weeks later received telephone calls.

Population and Sample

The original sampling procedures are briefly reviewed below, along with details of response rates for the current study.

Original Sampling Procedures

The population consisted of twelfth grade students enrolled in model office (MO), cooperative office education (COE), and office procedures (OP) courses in the public secondary schools of the State of Minnesota during 1972-73. A list of schools offering approved cooperative office education and model office (APEX) courses was obtained from the Division of Vocational and Technical Education, State Department of Education.

Because of the difficulty of selecting students randomly, stratified proportional random samples of fifteen schools having model office and fifteen schools having cooperative office education were selected. Intact classes were used; that is, all students in the model office and the cooperative office education courses in the respective selected schools

participated in the study. In addition, all twelfth grade students enrolled in office procedures but not in model office or cooperative office education were included.

Since a large number of secondary vocational centers offer model office courses, they were included in the stratified proportional random sample. Because the vocational centers do not offer office procedures, twelfth grade students from the center's participating schools who were enrolled in office procedures at the home schools were included in the study. Table 1, below, shows, by school size, the number of schools selected.

Table 1

Number of Schools Included in the Sample by Size and Course*

School Size	COE	MO
1,000 and over	12	6
Under 1,000	3	2
Vocational Centers		7
Total	15	15

*Office procedures courses were not selected randomly; all students enrolled in office procedures courses in the COE and MO selected schools participated in the study; for the vocational centers, office procedures courses in the home schools were used.

The number of students in the study completing each course is shown in Table 2, p. 17.

Graduates' Response Rate

For each course, the number of students responding, along with the number of undeliverable questionnaires, is shown in Table 2, p. 17.

Table 2

Response Rates for Graduates by Course

Course	N In Original Study	Address Unknown	Response	% Response	N With Usable Data	% Usable Responses
OP	236	7	198	86.5	182	79:5
MO	236	9	192	84.6	182	80.2
COE	241	8	197	84.5	184	79.0
Total	713	24	587	85.2	548	79.5

Not all responses had enough information on them to be useful, and some respondents simply indicated that they would not participate in the study. Thus, the most important information of Table 2 is the percent of usable responses. As indicated earlier, the target response rate was 70 percent. Even discarding those responses that were not usable, the overall response rate of 79.5 percent was well over the target rate.

Supervisors' Response Rate

For each course, the number of supervisors of those graduates employed in an office related occupation who responded to the Minnesota satisfactoriness scales is shown in Table 3, below, along with the percent of graduates not granting permission to contact their supervisors.

Table 3

Response Rates for Supervisors of Office Employed Graduates by Course

Course	N of Office Employed Usable Responses	Permission Not Given	% Not Giving Permission	N Sent	N Returned	% Returned
OP	73	16	21.9	57	56	98.2
MO	78	19	24.4	59	55	93.2
COE	113	19	16.8	94	91	96.8
Total	264	54	20.5	210	202	96.2

Across courses, the average number of graduates not granting permission to contact their supervisors was 20.5 percent. On the other hand, the response rate when permission was given was an exceptionally high 96.2 percent across all courses.

Data Analyses

Analyses of the data were determined by the specific questions to be answered (as detailed earlier) and consisted primarily of: analyses of variance (one-way); analyses of covariance (both one-way and two-way, based on course and socioeconomic status, using independent variables described earlier as covariates); Pearson zero-order correlations among the independent and dependent variables; Chi-square analyses; and t-tests between obtained averages on the MSQ and MSS and averages for norm groups. Where significant F-values were determined in the analyses of variance, the Tukey t-test procedure was used to determine where differences existed within the groups. Means and standard deviations for each variable are also reported.

Summary

The independent variables used in this study were student personal characteristics determined from a student information sheet (Hopkins-McLean, 1974), socioeconomic status, vocabulary, and performance on the Business fundamentals and general information test and Office work perceptions instruments. The dependent variables included current personal information collected from a personal questionnaire, and scores on the Minnesota satisfaction questionnaire and the Minnesota satisfactoriness scales. Reliability and validity data were presented for each instrument, as available.

Each of the 712 graduates of the course who participated in the Hopkins-McLean (1974) study for whom addresses were available received a personal questionnaire, an MSQ, and a release form. Through the use of many follow-up techniques, the final response rate was 79.5 percent. Supervisors were sent an MSS to complete if the graduates provided a signed release form. While 20.5 percent of the office employed graduates did not grant permission to contact supervisors, 96.2% of the supervisors contacted returned the completed form.

Data analyses techniques employed included: one-way analyses of variance, one-way and two-way analyses of covariance, Pearson zero-order correlations, Chi-square analyses, t-tests, and Tukey t-tests. Means and standard deviations for each variable were also determined.

Chapter 3

FINDINGS

To answer the specific questions asked in this study, a number of statistical techniques were used, as presented in Chapter 2. The results of the data analyses are presented in this chapter. Detailed tables are included in the appendix. Appendix H, Tables 32-35, pp. 65-66, contains the means, standard deviations, and ranges for the dependent variables, by course, and with all courses combined for full-time office employees only and for full- and part-time office employees combined. Appendix I, Tables 36-40, pp. 67-70, displays the current status of the graduates from the capstone courses, by course and with all courses combined. The organization of the chapter shall be to restate the specific question to be answered, followed by the results of the data analyses appropriate for answering the question.

Satisfaction

Question 1: Is the intrinsic, extrinsic, and overall job satisfaction, as measured by the Minnesota satisfaction questionnaire, affected by the following factors?

a. Office education course completed
b. Socioeconomic status of the student
c. Interaction of office education course completed and socioeconomic status of the student

Tables 4-8, pp. 20-22, show the results of an analysis of variance on the MSQ subscores and general score for both the full-time only and the full- and part-time office employees where significant differences at the .05 level were found between at least two of the courses. Tukey t-test results are shown where significant differences are determined. Significance was found in every case except for the MSQ intrinsic using full-time only graduates, in which case the derived F-ratio was 2.27.

In each case, the differences found were between the Office Procedures and the Cooperative Office Education graduates, and in each case the Office Procedures group had the lower scores.

Since some differences were found among the three groups on the independent variables, analyses of covariance were also computed. Two-way analyses, by course and SES, using total scores on the office work perceptions and Business fundamentals and general information test as covariates, taken together and separately, were used. The results of these analyses are shown in Table 9, p. 22.

Table 4

Analysis of Variance and Tukey t-test on MSQ Intrinsic for Full- and Part-Time Office Employed Graduates

Source	DF	SS	MS	F
Course (OP, MO, COE)	2	255.12	127.56	3.08*
Error	254	10517.80	41.41	

Tukey t-test ($p < .05$ used to determine differences)
Same: OP ($\bar{X}$=45.83) and MO ($\bar{X}$=47.84); MO ($\bar{X}$=47.84) and COE ($\bar{X}$=48.17)
Different: OP ($\bar{X}$=45.83) and COE ($\bar{X}$=48.17)

*$p < .05$.

Table 5

Analysis of Variance and Tukey t-test on MSQ Extrinsic for Full- and Part-Time Office Employed Graduates

Source	DF	SS	MS	F
Course (OP, MO, COE)	2	177.78	88.89	4.22*
Error	254	5355.61	21.09	

Tukey t-test ($p < .05$ used to determine differences)
Same: OP ($\bar{X}$=20.44) and MO ($\bar{X}$=21.87); MO ($\bar{X}$=21.87) and COE ($\bar{X}$=22.45)
Different: OP ($\bar{X}$=20.44) and COE ($\bar{X}$=22.45)

*$p < .05$.

Table 6

Analysis of Variance and Tukey t-test on MSQ General for Full- and Part-Time Office Employed Graduates

Source	DF	SS	MS	F
Course (OP, MO, COE)	2	1003.34	501.67	4.10*
Error	254	31070.55	122.32	

Tukey t-test ($p. < 05$ used to determine differences)
Same: OP ($\bar{X}$=74.27) and MO ($\bar{X}$=77.87); MO ($\bar{X}$=77.87) and COE ($\bar{X}$=79.02)
Different: OP ($\bar{X}$=74.27) and COE ($\bar{X}$=79.02)

*p < .05.

Table 7

Analysis of Variance and Tukey t-test on MSQ Extrinsic for Full-Time Office Employed Only

Source	DF	SS	MS	F
Course (OP, MO, COE)	2	148.56	74.28	3.34*
Error	226	5018.21	22.20	

Tukey t-test ($p. < 05$ used to determine differences)
Same: OP ($\bar{X}$=20.36) and MO ($\bar{X}$=21.74); MO ($\bar{X}$=21.74) and COE ($\bar{X}$=22.37)
Different: OP ($\bar{X}$=20.36) and COE ($\bar{X}$=22.37)

*p <.05.

Table 8

Analysis of Variance and Tukey t-test on MSQ General for Full-Time Office Employed Only

Source	DF	SS	MS	F
Course (OP, MO, COE)	2	740.93	370.47	2.90*
Error	226	28874.38	127.76	

Tukey t-test ($p < .05$ used to determine differences)
Same: OP ($\bar{X}$=74.26) and MO ($\bar{X}$=77.66); MO ($\bar{X}$=77.66) and COE ($\bar{X}$=78.69)
Different: OP ($\bar{X}$=74.26) and COE ($\bar{X}$=78.69)

*$p < .05$.

Table 9

F-Ratios Derived from Analyses of Covariance for MSQ Subscores and Total for Full-Time Only and Full- and Part-Time Office Employees, Using OWP and NBEA Tests as Covariates, by Course and Socioeconomic Status

Variable	Full-Time Only			Full- and Part-Time		
	OWP and NBEA Taken Together	OWP Only	NBEA Only	OWP and NBEA Taken Together	OWP Only	NBEA Only
MSQ General						
Course	2.02	2.34	1.90	2.92	3.36*	2.82
SES	.23	.17	.26	.08	.24	.11
Course & SES	.70	.73	.74	.86	.83	.90
MSQ Intrinsic						
Course	3.37*	3.58*	3.18*	4.18*	4.52*	3.91*
SES	.28	.72	.32	.40	.98	.43
Course & SES	1.32	.89	1.41	1.42	.99	1.51
MSQ Extrinsic						
Course	3.15*	3.23*	3.98*	3.39*	3.49*	4.10*
SES	.46	.48	.84	.67	.69	1.18
Course & SES	1.01	1.01	1.09	1.03	1.02	.94

*$p < .05$.

The analyses of covariance did provide different results from the analyses of variance; that is, for both full-time only and full- and part-time office employees, differences existed on the intrinsic and extrinsic subscores, but no significant differences existed on the MSQ general score. Additionally from Table 10, below, it can be seen by examining the adjusted means for the areas in which significant F-ratios were found that the COE group did better than the other two groups on the intrinsic scale, but performed the worst on the extrinsic scale, with MO performing best.

Table 10

Adjusted Means on the MSQ Intrinsic and Extrinsic Subscores, Controlling for OWP and NBEA Tests

Scale	Full-Time Only			Full- and Part-Time		
	OP	MO	COE	OP	MO	COE
MSQ Intrinsic	20.51	21.57	22.44	20.52	21.69	22.52
MSQ Extrinsic	50.92	51.74	50.63	50.95	51.73	50.63

Also, the analyses of covariance show that SES and the interaction of SES with Course had no effect on the MSQ measures.

Analyses of variance for each of the items in the MSQ are shown in Appendix J, Table 41, p. 71.

Satisfactoriness

Question 2: Is the overall satisfactoriness, as well as the sub-scales of performance, conformance, dependability, and personal adjustment, as measured by the Minnesota satisfactoriness scales, affected by the following factors?

a. Office education course completed
b. Socioeconomic status of the student
c. Interaction of office education course completed and socioeconomic status of the student

As with the MSQ, analyses of variance were first computed on the MSS subscores and general score for both the full-time only and full- and part-time office employees. No significant F-ratios were found for any subscore or for the MSS general. F-ratios obtained are reported in Table 11, p. 24.

Table 11

Analyses of Variance on MSS Subscores and General Score for Full-Time Only and Full- and Part-Time Office Employed Graduates

Variable	Full-Time Only		Full- and Part-Time	
	df	F	df	F
Performance	2,175	1.23	2,198	.44
Conformance	2,176	1.88	2,199	.84
Dependability	2,176	1.45	2,199	1.18
Personal Adjustment	2,176	.79	2,199	.68
General	2,175	1.35	2,198	.46

Again, since some differences existed among the three groups on some of the independent variables, analyses of covariance were also computed. Two-way analyses, by course and SES, using the total scores of the OWP and NBEA tests as covariates, taken together and separately, were used. The results of these analyses are shown in Table 12, p. 25.

The results of the analyses of covariance are similar to those of the analyses of variance; that is, office education course completed made no difference on the satisfactoriness measures used in this study. In addition, SES and the interaction of SES with Course also had no effect.

Analyses of variance for each of the items in the MSS are shown in Appendix K, Table 42, pp. 72-73.

Normative Group Comparisons

Question 3: Is the intrinsic, extrinsic, and overall job satisfaction for the three groups of graduates, taken as separate groups and combined, different from norms obtained from a general group of workers and from office clerks?

Tables 13 and 14 show the results of t-tests comparing by course and combined, the graduates' scores on the intrinsic and extrinsic scales, as well as the general scale, on the MSQ, with the Office Clerks norm group (Weiss, et al, 1967). Tables 15 and 16 make the same comparisons, only with a normative group of Workers in General.

The results of these analyses show that, in all cases, there were no differences in performance between the graduates of the capstone office education courses and the two norm groups on the intrinsic subscores of the MSQ. Likewise, in no case was there a difference between the scores obtained by

Table 12

F-Ratios Derived from Analyses of Covariance for MSS Subscores and Total for Full-Time Only and Full- and Part-Time Office Employees, Using OWP and NBEA Tests as Covariates, by Course and Socioeconomic Status

Variable	Full-Time Only			Full- and Part-Time		
	OWP and NBEA Taken Together	OWP Only	NBEA Only	OWP and NBEA Taken Together	OWP Only	NBEA Only
MSS General						
Course	.70	1.36	.58	.96	1.64	.76
SES	.50	1.22	.23	.39	1.21	.12
Course & SES	.28	.21	.33	.42	.26	.47
MSS Performance						
Course	1.48	1.54	1.29	1.14	1.28	1.02
SES	.49	1.17	.29	.29	1.00	.16
Course & SES	1.55	1.50	1.59	1.16	.88	1.27
MSS Conformance						
Course	1.98	2.39	1.97	2.59	2.92	2.51
SES	1.35	1.44	1.29	1.33	1.43	1.19
Course & SES	.80	.79	.79	.61	.66	.61
MSS Dependability						
Course	2.34	2.34	2.16	1.91	1.93	1.78
SES	1.20	1.20	.90	1.88	1.90	1.54
Course & SES	1.40	1.44	1.44	.86	.87	.87
MSS Personal Adjustment						
Course	1.45	1.84	.21	1.18	1.65	.22
SES	.60	1.93	.64	.41	2.02	.97
Course & SES	.97	.93	.72	.83	.49	.89

the graduates of the OP courses and norm groups on the extrinsic subscores. However, in each case the graduates of the MO and COE courses, as well as all courses combined, scored at significantly higher levels on the extrinsic subscores and on the general scores than did the norm groups. In each case of significance, the COE group had greater significant difference from the norm group than did the MO group. In addition, the significance levels obtained were higher for the extrinsic subscores (almost all at the .001 level). Clearly, significant differences on the extrinsic subscores contributed greatly to the significant differences found on the general scores.

Table 13

t-Test Comparisons for Graduates Employed Full-Time Only
In an Office-Related Occupation
with Normed Office Clerks on MSQ

Course	N	Mean	sd	t-value
Intrinsic				
Office Clerks	227	47.3	7.7	
OP	58	45.8	6.6	1.85
MO	70	47.8	6.0	.25
COE	101	48.0	6.8	.62
All	229	47.4	6.6	.02
Extrinsic				
Office Clerks	227	19.4	5.0	
OP	58	20.4	5.1	1.83
MO	70	21.7	4.8	11.53***
COE	101	22.4	4.4	27.04***
All	229	21.7	4.8	25.11***
General				
Office Clerks	227	74.5	12.4	
OP	58	74.3	11.9	.01
MO	70	77.7	11.0	3.75
COE	101	78.7	11.2	8.50**
All	229	77.3	11.4	6.30*

*$p < .05$.
**$p < .01$.
***$p < .001$.

Question 4: Is the overall satisfactoriness, as well as the subscale of performance, conformance, dependability, and personal adjustment, for the three groups of graduates, taken as separate groups and combined, different from norms obtained from a group of male clerical and sales workers, female clerical and sales workers, and workers in general?

Tables 17-18, pp. 30-31, display the results of the t-tests comparing the graduates with the male clerical and sales workers from the normative data (Gibson, et al, 1970) on the MSS and its subscores.

As indicated earlier, almost all of the subjects in the current study were female. It must be remembered, therefore, that the comparisons

Table 14

t-Test Comparisons for Graduates Employed Full- and Part-Time In an Office-Related Occupation with Normed Office Clerks on MSQ

Course	N	Mean	sd	t-value
Intrinsic				
Office Clerks	227	47.3	7.7	
OP	71	45.8	6.5	2.20
MO	75	47.8	5.9	.26
COE	111	48.2	6.8	1.10
All	257	47.4	6.5	.02
Extrinsic				
Office Clerks	227	19.4	5.0	
OP	71	20.4	4.9	2.18
MO	75	21.9	4.7	14.51***
COE	111	22.4	4.3	29.34***
All	257	21.7	4.6	27.77***
General				
Office Clerks	227	74.5	12.4	
OP	71	74.3	11.5	.02
MO	75	77.9	10.7	4.52*
COE	111	79.0	11.0	10.55***
All	257	77.4	11.2	7.31**

*p < .05.
**p < .01.
***p < .001.

presented in these two tables also present differences in sex. No differences were found on the general score, or on the Conformance and Dependability subscores. Likewise, no differences were found on the Performance subscores for the OP or MO graduates. There was significant difference, however, in favor of the graduates of the COE course, when using both full- and part-time office related employees, and in favor of all of the graduates for both the full-time only and full- and part-time employees combined.

On the other hand, a difference significant at the .001 level was found between all courses and combined, for both employment considerations, in favor of the normed group on the subscore, Personal Adjustment.

A more valid comparison, with female clerical and sales workers, is found in Tables 19-20, pp. 32-33.

Table 15

t-Test Comparisons for Graduates Employed Full-Time Only
In an Office-Related Occupation
with Normed Workers in General on MSQ

Course	N	Mean	sd	t-value
Intrinsic				
Workers in General	1,723	47.1	7.4	
OP	58	45.8	6.6	1.74
MO	70	47.8	6.0	.61
COE	101	48.0	6.8	1.42
All	229	47.4	6.6	.34
Extrinsic				
Workers in General	1,723	20.0	4.8	
OP	58	20.4	5.1	.39
MO	70	21.7	4.8	8.44**
COE	101	22.4	4.4	24.06***
All	229	21.7	4.8	25.36***
General				
Workers in General	1,723	74.8	11.9	
OP	58	74.3	11.9	.10
MO	70	77.7	11.0	4.02*
COE	101	78.7	11.2	10.31***
All	229	77.3	11.4	9.01**

*$p < .05$.
**$p < .01$.
***$p < .001$.

When compared to the female employees, the office education graduates performed significantly better on all subscores and on the general score, with the following exceptions: Performance for OP graduates employed full-time only and full- and part-time combined; Conformance for OP graduates employed full-time only; Dependability for OP and COE graduates employed full-time only and full- and part-time combined; Personal Adjustment, in which all groups performed at a significantly lower level than the norm group; and General for OP graduates employed full-time only.

Tables 21-22, pp. 34-35, display the t-test comparisons with the norm group, Workers in General.

The general pattern found in the previous two comparisons prevailed in the comparison of the office education graduates employed in an office with

Table 16

t-Test Comparisons for Graduates Employed Full- and Part-Time In an Office-Related Occupation with Normed Workers in General on MSQ

Course	N	Mean	sd	t-value
Intrinsic				
Workers in General	1,723	47.1	7.4	
OP	71	45.8	6.5	2.12
MO	75	47.8	5.9	.65
COE	111	48.2	6.8	2.33
All	257	47.4	6.5	.38
Extrinsic				
Workers in General	1,723	20.0	4.8	
OP	71	20.4	4.9	.47
MO	75	21.9	4.7	11.28***
COE	111	22.4	4.3	26.38***
All	257	21.7	4.6	28.35***
General				
Workers in General	1,723	74.8	11.9	
OP	71	74.3	11.5	.12
MO	75	77.9	10.7	4.92*
COE	111	79.0	11.0	13.10***
All	257	77.4	11.2	10.84***

*$p < .05$.
**$p < .01$.
***$p < .001$.

Workers in General. That is, on a number of the subscores and on general satisfactoriness, the graduates performed at a significantly higher level. However, on the subscore, Personal Adjustment, the graduates performed at a level below that of the norm group, with the significance level obtained of .001. Greater significance was also found when the full- and part-time workers were combined, as compared with the full-time office employees only.

Table 17

t-Test Comparisons for Graduates Employed Full-Time Only
In an Office-Related Occupation
With Normed Male Clerical and Sales Workers on MSS

Course	N	Mean	sd	t-value
Performance				
Male Clerical Workers	511	21.3	5.1	
OP	46	21.4	4.4	.02
MO	50	22.6	4.0	3.06
COE	82	22.4	4.3	3.42
All	178	22.2	4.3	4.44*
Conformance				
Male Clerical Workers	511	16.6	3.0	
OP	47	16.1	2.9	1.20
MO	50	17.2	2.8	1.84
COE	82	16.5	2.8	.08
All	179	16.6	2.9	.00
Dependability				
Male Clerical Workers	511	10.2	1.7	
OP	47	9.9	1.7	1.34
MO	50	10.4	1.9	.62
COE	82	9.9	2.1	2.05
All	179	10.0	2.0	1.67
Personal Adjustment				
Male Clerical Workers	511	16.6	3.1	
OP	47	14.7	2.6	16.58***
MO	50	14.9	5.7	11.33***
COE	82	14.3	3.0	39.24***
All	179	14.6	2.8	57.94***
General				
Male Clerical Workers	511	67.1	11.0	
OP	46	66.7	9.6	.06
MO	50	70.0	9.6	3.23
COE	82	67.9	10.9	.38
All	178	68.2	10.2	1.37

*p < .05.
**p < .01.
***p < .001.

Table 18

t-Test Comparisons for Graduates Employed Full- and Part-Time
In an Office-Related Occupation
With Normed Male Clerical and Sales Workers on MSS

Course	N	Mean	sd	t-value
Performance				
Male Clerical Workers	511	21.3	5.1	
OP	55	21.9	4.5	.70
MO	55	22.5	4.0	2.85
COE	91	22.6	4.5	5.19*
All	201	22.4	4.3	7.31**
Conformance				
Male Clerical Workers	511	16.6	3.0	
OP	56	16.5	3.0	.06
MO	55	17.1	2.8	1.40
COE	91	16.6	2.9	.00
All	202	16.7	2.9	.16
Dependability				
Male Clerical Workers	511	10.2	1.7	
OP	56	10.1	1.7	.18
MO	55	10.4	1.9	.67
COE	91	9.9	2.1	2.23
All	202	10.1	2.0	.45
Personal Adjustment				
Male Clerical Workers	511	16.6	3.1	
OP	56	14.9	2.6	15.63***
MO	55	14.9	2.7	15.29***
COE	91	14.5	7.0	21.95***
All	202	14.7	2.8	57.37***
General				
Male Clerical Workers	511	67.1	11.0	
OP	55	68.1	10.0	.42
MO	55	69.9	9.8	3.28
COE	91	68.4	11.3	1.07
All	201	68.7	10.5	3.13

*p < .05.
**p < .01.
***p < .001.

Table 19

t-Test Comparisons for Graduates Employed Full-Time Only
In an Office-Related Occupation
With Normed Female Clerical and Sales Workers on MSS

Course	N	Mean	sd	t-value
Performance				
Female Clerical Workers	775	21.2	4.8	
OP	46	21.4	4.4	.08
MO	50	22.6	4.0	4.07*
COE	82	22.4	4.3	4.72*
All	178	22.2	4.3	6.52*
Conformance				
Female Clerical Workers	775	15.5	2.6	
OP	47	16.1	2.9	2.33
MO	50	17.2	2.8	19.89***
COE	82	16.5	2.8	10.81***
All	179	16.6	2.9	24.89***
Dependability				
Female Clerical Workers	775	9.6	1.9	
OP	47	9.9	1.7	1.12
MO	50	10.4	1.9	8.33**
COE	82	9.9	2.1	1.81
All	179	10.0	2.0	6.32*
Personal Adjustment				
Female Clerical Workers	775	15.9	3.2	
OP	47	14.7	2.6	6.35*
MO	50	14.9	5.7	4.06*
COE	82	14.3	3.0	18.75***
All	179	14.6	2.8	25.10***
General				
Female Clerical Workers	775	64.4	10.6	
OP	46	66.7	9.6	2.06
MO	50	70.0	9.6	13.25***
COE	82	67.9	10.9	8.04**
All	178	68.2	10.2	18.86***

*$p < .05$.
**$p < .01$.
***$p < .001$.

Table 20

t-Test Comparisons for Graduates Employed Full- and Part-Time In an Office-Related Occupation With Normed Female Clerical and Sales Workers on MSS

Course	N	Mean	sd	t-value
Performance				
Female Clerical Workers	775	21.2	4.8	
OP	55	21.9	4.5	1.10
MO	55	22.5	4.0	3.84*
COE	91	22.6	4.5	7.02**
All	201	22.4	4.3	10.40***
Conformance				
Female Clerical Workers	775	15.5	2.6	
OP	56	16.5	3.0	7.56**
MO	55	17.1	2.8	19.25***
COE	91	16.6	2.9	14.22***
All	202	16.7	2.9	32.50***
Dependability				
Female Clerical Workers	775	9.6	1.9	
CP	56	10.1	1.7	3.66
MO	55	10.4	1.9	9.10**
COE	91	9.9	2.1	1.98
All	202	10.1	2.0	10.86***
Personal Adjustment				
Female Clerical Workers	775	15.9	3.2	
OP	56	14.9	2.6	5.22*
MO	55	14.9	2.7	5.11*
COE	91	14.5	7.0	11.18***
All	202	14.7	2.8	23.68***
General				
Female Clerical Workers	775	64.4	10.6	
OP	55	68.1	10.0	6.30*
MO	55	69.9	9.8	13.96***
COE	91	68.4	11.3	11.43***
All	201	68.7	10.5	26.37***

*p < .05.
**p < .01.
***p < .001.

Table 21

t-Test Comparisons for Graduates Employed Full-Time Only
In an Office-Related Occupation
With Normed Workers in General on MSS

Course	N	Mean	sd	t-value
Performance				
Workers in General	1,000	21.1	5.0	
OP	46	21.4	4.4	.16
MO	50	22.6	4.0	4.36*
COE	82	22.4	4.3	5.22*
All	178	22.2	4.3	7.61**
Conformance				
Workers in General	1,000	16.1	2.8	
OP	47	16.1	2.9	.00
MO	50	17.2	2.8	7.35**
COE	82	16.5	2.8	1.55
All	179	16.6	2.9	4.79*
Dependability				
Workers in General	1,000	9.9	1.8	
OP	47	9.9	1.7	.00
MO	50	10.4	1.9	3.66
COE	82	9.9	2.1	.00
All	179	10.0	2.0	.45
Personal Adjustment				
Workers in General	1,000	16.4	3.2	
OP	47	14.7	2.6	12.86***
MO	50	14.9	5.7	9.50**
COE	82	14.3	3.0	32.94***
All	179	14.6	2.8	49.80***
General				
Workers in General	1,000	65.8	11.0	
OP	46	66.7	9.6	.30
MO	50	70.0	9.6	7.02**
COE	82	67.9	10.9	2.77
All	178	68.2	10.2	7.35**

*p < .05.
**p < .01.
***p < .001.

Table 22

t-Test Comparisons for Graduates Employed Full- and Part-Time
In an Office-Related Occupation
With Normed Workers in General on MSS

Course	N	Mean	sd	t-value
Performance				
Workers in General	1,000	21.1	5.0	
OP	55	21.9	4.5	1.35
MO	55	22.5	4.0	4.16*
COE	91	22.6	4.5	7.63**
All	201	22.4	4.3	11.83***
Conformance				
Workers in General	1,000	16.1	2.8	
OP	56	16.5	3.0	1.07
MO	55	17.1	2.8	6.65**
COE	91	16.6	2.9	2.64
All	202	16.7	2.9	7.62**
Dependability				
Workers in General	1,000	9.9	1.8	
OP	56	10.1	1.7	.66
MO	55	10.4	1.9	4.00*
COE	91	9.9	2.1	.00
All	202	10.1	2.0	2.00
Personal Adjustment				
Workers in General	1,000	16.4	3.2	
OP	56	14.9	2.6	11.86***
MO	55	14.9	2.7	11.63***
COE	91	14.5	7.0	22.40***
All	202	14.7	2.8	49.37***
General				
Workers in General	1,000	65.8	11.0	
OP	55	68.1	10.0	2.30
MO	55	69.9	9.8	7.32**
COE	91	68.4	11.3	4.64*
All	201	68.7	10.5	11.81***

*$p < .05$.
**$p < .01$.
***$p < .001$.

Current Status

Question 5: Do differences exist among the three groups, based on office education course completed, on the following variables?

a. Current employment or educational status
b. Salaries
c. Wages
d. Number of people supervised
e. Office job title
f. Additional office and non-office related education

Two different statistical techniques were necessary to answer the above question. Analyses of variance were carried out on salary, wage, and number of people supervised. The results of these analyses are shown in Table 23, below.

Table 23

F-Ratios for Analyses of Variance on Selected Dependent Variables for Full-Time Only and Full- and Part-Time Office Employees (by Course)

Variable	Full-Time Only		Full- and Part-Time	
	df	F	df	F
Salary	2,200	1.51	2,239	2.69
Wage			2,5	.15
Number of People Supervised	2,229	.50	2,257	.54

These results show that there are no significant differences, at the .05 level, on any one of these three variables.

The other variables required Chi-square analyses to determine if differences existed among the three groups. Current employment or educational status was determined in three ways. From information provided by the respondent on the personal questionnaire, status was determined by counting the number of respondents: (a) employed full-time in an office related occupation, (b) employed full-time or part-time in an office related occupation, and (c) either employed full- or part-time in an office related occupation or involved in post-secondary education in an office related program. Chi-square analyses on these three categories are shown in Table 24, p. 37.

In all three comparisons the COE group had more respondents in the office related categories than did the other two groups at a .001 level of significance.

Table 24

Chi-Square Analyses on the Employment or Educational Status of the Office Education Graduates

Comparison	df	Chi-Square
Full-Time Office Employed and All Others	2	20.2***
Full- or Part-Time Office Employed and All Others	2	18.1***
Full- or Part-Time Office Employed or in Office Education and All Others	2	16.8***

***p < .001.

Chi-square analyses were also undertaken to determine any differences among the three groups on office job title and additional office and non-office related education. The results of these analyses are shown in Table 25, below.

Table 25

Chi-Square Analyses on Job Title and Additional Education of the Office Education Graduates

Comparison	Full-Time Only		Full- and Part-Time	
	df	Chi-Square	df	Chi-Square
Job Title	18	28.9*	18	32.6*
Additional Office Education (OE) Training	2	20.1***	2	16.6***
Institution for Additional OE Training	10	27.6***	10	32.3***
Full- or Part-Time OE Training	2	13.3***	2	14.5***
Additional Training Other than OE	2	2.0	2	1.0
Institution for Additional Training Other than OE	8	9.8	8	9.5
Full- or Part-Time Non-OE Training	2	2.6	2	.6

*p < .05.
**p < .01.
***p < .001.

A number of differences significant at the .001 level were found on these comparisons. An examination of the cells determined the direction of those differences. Appendix L, Table 43, p. 74, displays the Job Title cells for the Chi-square analysis for full-time office employees only. The other Chi-square results will not be presented in detail, but the direction of the differences derived will be presented. There were no differences in the groups differing the most from expected distribution in the full-time only analysis and the full- and part-time analysis; the results will thus be presented without distinction.

On job title, OP respondents were classified as file clerks, stenographers, and bookkeepers more often than would be expected by chance. Likewise, the MO respondents were classified as secretaries, and COE as typists more often than would be expected by chance. No differences were found on additional training other than in office education, but MO graduates were much more likely to pursue additional office education training. For those students taking additional office education training, OP were most likely to attend private business schools and college, and MO and COE were most likely to attend vocational school. MO deviated most from expected distribution on full- or part-time training with many more pursuing full-time education than would be expected by chance.

Inter-relationships

Question 6: Is there a relationship between the overall satisfaction and satisfactoriness, as well as the sub-scales, and the following variables for each group taken separately and the three groups combined?

a. Number of hours of office related work experience prior to entering the capstone office education course
b. Number of hours of non-office related work experience prior to entering the capstone office education course
c. Vocabulary, used as a measure of ability
d. Office work perceptions total scores and subscores
e. Business fundamentals and general information test total scores and subscores
f. Salaries
g. Wages
h. Number of people supervised

Question 7: Is there a relationship between salaries, wages, and number of people supervised, and variables a through e above, for each group taken separately and the three groups combined?

The statistical data for the above two questions will be presented together. To determine the existing relationships, Pearson zero-order correlations were computed. Table 26, p. 39, presents all of the derived correlations for full-time only office employees across all courses.

Table 26

Pearson Zero-Order Correlations Between Selected Dependent and Independent Variables for All Courses Graduates Employed Full-Time Only in the Office (N's vary for each variable; periods omitted)

Variable	Salary	No. People Supervised	MSQ Intrinsic	MSQ Extrinsic	MSQ General	MSS Performance	MSS Conformance	MSS Dependability	MSS Personal Adjustment	MSS General
Hours of Office Related Work Exp.	-01	-01	05	04	06	17*	10	02	05	13*
Hours of Non-Office Related Work Exp.	09	01	-05	-02	-04	02	-06	01	17*	04
Vocabulary	10	-09	01	05	03	-00	-01	06	11	04
Job Knowledge-OWP	02	-08	-05	-02	-04	-06	04	03	07	02
Personal Qualifications-OWP	06	01	05	00	02	-01	-01	01	00	-01
Interpersonal Relations-OWP	07	04	07	03	06	-00	03	07	09	04
Job Qualifications-OWP	12*	-07	03	06	04	-04	04	05	-07	-02
Total-OWP	09	-04	04	03	03	-04	04	06	02	01
Spelling-NBEA	07	-04	02	01	02	11	09	15*	08	12
Plurals-NBEA	-01	00	-01	-00	00	09	12	08	19**	14*
Grammar-NBEA	-04	-12*	02	07	06	06	05	08	04	07
Expression-NBEA	09	01	02	12*	05	18**	18**	10	12	18**
General Info-NBEA	10	04	-02	-04	-01	-07	-09	-01	-02	-07
Judgment-NBEA	02	03	-04	-01	-04	08	07	14	06	09
Arithmetic-NBEA	-08	-03	04	-04	02	12	02	15*	06	10
Memory-NBEA	06	-01	01	03	02	08	01	06	10	08
Total-NBEA	02	-03	02	02	03	10	04	11	08	10
Salary-NBEA	-	15*	02	15*	06	-04	03	07	12	03
No. of People Supervised	15*	-	11	-01	06	13*	07	08	10	09

*p < .05.
**p < .01.

Tables 44-50, in Appendix M, pp. 75-81, contain the correlations for the full-time only employees in the OP, MO, and COE courses, and the correlations for the full- and part-time employees, by course and across courses.

In interpreting the correlations, it must be remembered that, in computing such a large number of correlations, and using a significance level of .05, one out of twenty correlations would show significance simply by chance. No consistent pattern of relationships seem to exist. For example, on OP and MO graduates, a significant relationship exists between salary and several of the MSS subscores as well as general satisfactoriness. However, when computed across courses, significance does not exist. Across courses, those items showing a significant relationship with general satisfactoriness include: Number of hours of office related work experience, Plurals, and Expression. The factors related to salary are the number of people supervised and MSQ extrinsic. Even in these reported significant correlations, however, it must be kept in mind that the absolute size of the correlations is very small. The highest correlation computed for full-time only graduates from all courses was .19, exceptionally small from a practical point of view. Some of the negative correlations are difficult to interpret. For example, the negative correlations derived for full-time only graduates from model office between judgment and three measures of satisfactoriness may be clues to the lack of validity of one of the test instruments. On the other hand, positive correlations generally exist between salary and various of the subscores and general score for satisfactoriness. However, for the MO students, negative correlations were found, implying that the less satisfactory the worker, the higher their salary.

In general, however, the correlations derived suggest that little relationship, if any, exists among the variables examined.

Question 8: Is there a relationship between socioeconomic status, father's educational attainment, mother's educational attainment, and whether the student had worked for pay prior to entrance into the capstone office education course, and the following variables for each group separately and combined?

a. Office job title
b. Additional office related education
c. Additional non-office related education
d. Whether the student is in a full-time office related occupation
e. Whether the student is in a full- or part-time related occupation
f. Whether the student is in an office-related occupation or educational program

Because the variables listed above are discrete rather than continuous, Chi-square analyses, rather than Pearson zero-order correlations, were undertaken. The results of the Chi-square analyses on variables a through c are shown in Table 27, p. 41.

Table 27

Chi-Square Analyses on Selected Dependent and Independent Variables for Full-Time Only and Full- and Part-Time Employees, by Course and All Courses Combined (Degrees of freedom shown in parentheses)

Dependent Variable	Independent Variable							
	Full-Time Only				Full- and Part-Time			
	SES	Father's Education	Mother's Education	Worked For Pay	SES	Father's Education	Mother's Education	Worked For Pay
OP								
Office Job Title	17.1(16)	51.8(40)	39.9(40)	8.0(8)	14.0(16)	48.3(40)	34.4(40)	10.4(8)
Additional Office Related Education	1.6(2)	4.9(5)	1.3(5)	.1(1)	3.3(2)	7.5(5)	1.7(5)	1.2(1)
Additional Non-Office Related Education	6.1*(2)	2.6(5)	7.2(5)	2.1(1)	4.9(2)	5.7(5)	6.2(5)	2.2(1)
MO								
Office Job Title	12.4(16)	53.9(40)	63.9(56)	7.4(8)	10.6(16)	50.2(40)	64.8(56)	8.5(8)
Additional Office Related Education	1.8(2)	8.6(5)	6.1(7)	.8(1)	1.1(2)	8.5(5)	7.4(7)	.0(1)
Additional Non-Office Related Education	6.3*(2)	15.3**(5)	20.6**(7)	.3(1)	3.2(2)	7.9(5)	14.3*(7)	.4(1)
COE								
Office Job Title	29.7*(16)	32.2(40)	16.9(24)	7.1(8)	30.4(16)	35.7(48)	20.1(24)	10.0(8)
Additional Office Related Education	.0(2)	2.7(5)	8.7*(3)	.0(1)	.1(2)	2.1(6)	4.5(3)	.0(1)
Additional Non-Office Related Education	.9(2)	6.6(5)	2.5(3)	.0(1)	.8(2)	8.9(6)	1.1(3)	.0(1)
All Courses								
Office Job Title	23.8(18)	63.1(54)	71.9(63)	7.6(9)	25.6(18)	64.0(54)	59.8(63)	10.5(9)
Additional Office Related Education	1.7(2)	4.7(6)	12.2(7)	.6(1)	2.1(2)	3.6(6)	12.5(7)	1.0(1)
Additional Non-Office Related Education	3.0(2)	14.1*(6)	12.9(7)	.5(1)	3.2(2)	13.0*(6)	10.7(7)	2.0(1)

*$p < .05$.
**$p < .01$.

Six significant Chi-square values were found for the full-time only office employees, while only two were found for the full- and part-time office employees. The direction of the relationship, where significant, was the same for both full-time only and full- and part-time office employees. In no case was there a significant relationship between working for pay prior to admittance into the capstone office education and the three dependent variables. Office Job Title showed a significant relationship with SES for COE graduates, with the following results: low SES were more likely to be mail or payroll clerks and less likely to be receptionists or "other" than would be expected by chance; middle SES were more likely to be key punch operators; and high SES were more likely to be secretaries.

Whether or not a graduate had taken additional office related education was affected by mother's educational attainment for the COE graduates. Analysis of the cells showed that fewer than would be expected had additional office related education if their mother's educational attainment was "some high school" and greater than would be expected for some post-high school education, the highest educational level recorded for mothers of COE students.

Whether or not a graduate had additional non-office related training was the category with the greatest number of significant relationships. For the OP group, middle SES respondents were less likely to have such additional training. MO respondents with low and middle SES, along with father's and mother's education up to some high school, had lower than expected additional non-office related training. As mother's and father's educational attainment increased, the likelihood of additional training also increased. Finally, for all groups combined, there was greater likelihood than would be expected by chance of non-office related additional training if the father's educational attainment was as a graduate from a four-year college or post-graduate education.

The "relatedness" of the respondents' current status was also examined by Chi-square analysis, as displayed in Table 28, p. 43.

The only variable that was identified as making a significant difference on whether or not the graduate is currently associated with some phase of office education is mother's educational attainment, and that occurred for COE and All Courses combined for Full- or Part-Time Office Employed. If the mother's educational attainment was some high school, the graduate was more likely to be in a full- or a part-time office occupation than would be expected by chance. On the other hand, if the mother was a graduate of a four-year college or had some post-graduate education, the graduate was more likely to be in some activity other than full- or part-time office employment. In addition, for All Courses combined, graduates with mothers having 7-8 years of schooling were more likely to be in the "other" classification than would be expected by chance.

Table 28

Chi-Square Analysis on Selected Independent Variables and Relatedness of Current Status, by Course and All Courses Combined (Degrees of freedom shown in parentheses)

Independent Variable	Full-Time Office Occupation	Full- or Part-Time Office Occupation	Office Related Full- or Part-Time Occupation or Education
OP			
SES	5.8(2)	3.4(2)	3.9(2)
Father's Education	3.9(5)	.6(5)	1.0(5)
Mother's Education	6.6(5)	7.7(5)	5.3(5)
Worked for Pay	.1(1)	.0(1)	.1(1)
MO			
SES	4.8(2)	3.1(2)	3.8(2)
Father's Education	5.4(7)	7.7(7)	10.2(7)
Mother's Education	8.0(7)	12.6(7)	13.7(7)
Worked for Pay	.1(1)	.7(1)	.0(1)
COE			
SES	4.7(2)	4.6(2)	1.3(2)
Father's Education	6.6(6)	5.0(6)	3.3(6)
Mother's Education	7.8(5)	11.3*(5)	4.9(5)
Worked for Pay	.2(1)	.0(1)	.0(1)
All Courses			
SES	3.3(2)	2.4(2)	1.5(2)
Father's Education	6.3(7)	4.5(7)	6.4(7)
Mother's Education	12.1(7)	18.6**(7)	13.6(7)
Worked for Pay	.4(1)	.0(1)	.2(1)

*$p < .05$.
**$p < .01$.

Differences Among Graduates Based on Current Status

Question 9: Is there a difference between full-time office employees and all other graduates; full- and part-time office employees and all other graduates; and graduates in an office-related occupation or educational program and all other graduates on the following variables?

a. Number of hours of office related work experience prior to entering the capstone office education course
b. Number of hours of non-office related work experience prior to entering the capstone office education course

c. Vocabulary, used as a measure of ability
d. Office work perceptions total scores and subscores
e. Business fundamentals and general information test total scores and subscores.

To determine whether there were differences on selected independent variables between those in certain office-related classifications and those no longer associated with the office, t-tests were computed. The results of the t-tests are shown in Tables 29-30, pp. 44-47, along with means and standard deviations.

Table 29

t-Tests, means, and standard deviations on Selected Independent Variables between Graduates Employed Full-Time in an Office Occupation and All Others

Independent Variable	Full-Time Office Em.			All Others			t-value
	N	Mean	sd	N	Mean	sd	
OP							
Hours of Related Work Experience	72	98.5	326.6	121	56.9	242.2	.94
Hours of Unrelated Work Exp.	72	498.0	634.5	121	467.3	590.6	.34
Vocabulary	72	10.9	1.7	118	10.4	2.3	1.60
Job Knowledge-OWP	72	11.2	.8	122	11.1	.9	.61
Personal Qualifications-OWP	72	13.7	.8	122	13.6	.7	.61
Interpersonal Relations-OWP	72	11.7	1.0	122	11.8	1.3	-.35
Job Qualifications-OWP	72	15.1	1.5	122	15.2	1.0	-.12
Total-OWP	72	51.8	3.1	122	51.7	2.7	.20
Spelling-NBEA	72	12.2	1.9	122	11.6	2.3	1.92
Plurals-NBEA	72	8.1	1.3	122	8.0	1.3	.50
Grammar-NBEA	72	10.8	2.3	122	10.5	2.8	.77
Expression-NBEA	72	2.5	1.4	122	2.3	1.4	1.10
General Information-NBEA	72	12.0	2.5	122	11.9	3.0	.39
Judgment-NBEA	72	3.4	1.1	122	3.4	.9	.01
Arithmetic-NBEA	72	7.2	2.9	122	6.7	2.8	1.31
Memory-NBEA	72	8.0	1.7	122	7.5	2.2	1.59
Total-NBEA	72	63.9	8.9	122	61.3	10.6	1.75
MO							
Hours of Related Work Experience	86	88.3	261.8	110	68.7	389.7	.42
Hours of Unrelated Work Exp.	86	574.6	620.9	110	858.0	1371.2	-1.93
Vocabulary	86	10.3	2.4	110	10.1	2.4	.54
Job Knowledge-OWP	87	11.3	.9	110	11.1	.9	2.05*
Personal Qualifications-OWP	87	13.9	.3	110	13.7	.7	2.54*
Interpersonal Relations-OWP	87	12.0	1.0	110	11.8	1.2	1.53
Job Qualifications-OWP	87	15.2	.9	110	15.2	1.1	.26
Total-OWP	87	52.4	1.9	110	51.7	2.6	2.26*

Table 29, Continued

Independent Variable	Full-Time Office Em.			All Others			t-value
	N	Mean	sd	N	Mean	sd	
MO, Cont.							
Spelling-NBEA	87	11.9	1.8	110	11.4	2.4	1.70
Plurals-NBEA	87	7.5	1.5	110	7.6	1.6	-.43
Grammar-NBEA	87	10.5	2.5	110	10.4	2.6	.04
Expression-NBEA	87	2.3	1.5	110	2.3	1.6	-.24
General Information-NBEA	87	10.9	2.8	110	10.8	3.2	.22
Judgment-NBEA	87	3.4	.8	110	3.5	.8	-.72
Arithmetic-NBEA	87	7.4	2.7	110	7.0	3.1	.81
Memory-NBEA	87	7.8	2.1	110	7.6	2.0	.57
Total-NBEA	87	61.3	10.6	110	60.3	11.6	.62
COE							
Hours of Related Work Experience	111	91.1	427.9	83	56.3	236.0	.72
Hours of Unrelated Work Exp.	111	627.3	1037.3	83	656.6	986.2	-.20
Vocabulary	111	10.1	2.4	83	10.4	2.6	-.77
Job Knowledge-OWP	111	11.1	1.0	83	11.1	1.4	.02
Personal Qualifications-OWP	111	13.5	1.1	83	13.4	1.2	.82
Interpersonal Relations-OWP	111	11.6	1.3	83	11.3	1.2	1.40
Job Qualifications-OWP	111	14.9	1.4	83	14.8	1.8	.68
Total-OWP	111	51.1	3.7	83	50.6	4.3	.99
Spelling-NBEA	111	11.6	2.6	83	11.7	2.5	-.32
Plurals-NBEA	111	7.3	1.9	83	7.5	1.7	-.72
Grammar-NBEA	111	10.5	2.2	83	10.2	2.7	.77
Expression-NBEA	111	2.4	1.4	83	2.5	1.4	-.39
General Information-NBEA	111	10.5	3.2	83	10.8	3.8	-.51
Judgment-NBEA	111	3.1	1.1	83	3.3	1.1	-.73
Arithmetic-NBEA	111	6.3	2.8	83	6.0	3.0	.68
Memory-NBEA	111	7.0	2.6	83	7.2	2.6	-.54
Total-NBEA	111	58.7	11.3	83	59.0	11.4	-.17
All Courses							
Hours of Related Work Experience	269	92.2	353.8	314	60.9	300.0	1.14
Hours of Unrelated Work Exp.	269	575.8	820.5	314	654.2	1035.1	-1.02
Vocabulary	269	10.3	2.3	311	10.3	2.4	.39
Job Knowledge-OWP	270	11.2	.9	315	11.1	1.0	1.23
Personal Qualifications-OWP	270	13.7	.9	315	13.6	.9	1.40
Interpersonal Relations-OWP	270	11.8	1.2	315	11.7	1.2	1.01
Job Qualifications-OWP	270	15.1	1.3	315	15.1	1.3	.14
Total-OWP	270	51.7	3.1	315	51.4	3.2	1.25
Spelling-NBEA	270	11.9	2.2	315	11.6	2.4	1.64
Plurals-NBEA	270	7.5	1.6	315	7.7	1.5	-1.14
Grammar-NBEA	270	10.5	2.3	315	10.4	2.7	.75
Expression-NBEA	270	2.4	1.4	315	2.3	1.5	.36
General Information-NBEA	270	11.1	3.0	315	11.2	3.3	-.62
Judgment-NBEA	270	3.3	1.1	315	3.4	.9	-1.22
Arithmetic-NBEA	270	6.9	2.9	315	6.6	3.0	1.10
Memory-NBEA	270	7.5	2.3	315	7.5	2.2	.23
Total-NBEA	270	60.9	10.6	315	60.3	11.2	.65

*p < .05.

Of all of the t-values computed, only three were statistically significant at the .05 level. Those in full-time office related occupations who graduated with an MO course scored higher on the job knowledge and personal qualifications subscores of the office work perceptions instrument, as well as on the total score, than did the MO graduates not employed full-time in an office.

Table 30

t-Tests, means, and standard deviations on Selected Independent Variables between Graduates Employed Full- or Part-Time in an Office Occupation and All Others

Independent Variable	Full-Time Office Em.			All Others			t-value
	N	Mean	sd	N	Mean	sd	
OP							
Hours of Related Work Experience	85	118.1	374.7	108	36.4	155.1	1.89
Hours of Unrelated Work Exp.	85	493.5	634.7	108	467.1	585.0	.30
Vocabulary	85	10.9	1.6	105	10.3	2.4	2.07*
Job Knowledge-OWP	85	11.2	.8	109	11.1	.9	.28
Personal Qualifications-OWP	85	13.7	.7	109	13.6	.7	1.13
Interpersonal Relations-OWP	85	11.8	1.0	109	11.8	1.3	.28
Job Qualifications-OWP	85	15.1	1.5	109	15.2	1.0	-.13
Total-OWP	85	51.8	3.0	109	51.6	2.8	.48
Spelling-NBEA	85	12.2	1.9	109	11.5	2.3	2.59*
Plurals-NBEA	85	8.1	1.3	109	8.0	1.3	.59
Grammar-NBEA	85	10.9	2.6	109	10.3	2.6	1.75
Expression-NBEA	85	2.5	1.4	109	2.3	1.4	1.19
General Information-NBEA	85	12.2	2.5	109	11.7	3.1	1.18
Judgment-NBEA	85	3.4	1.1	109	3.4	.9	.40
Arithmetic-NBEA	85	7.2	2.8	109	6.6	2.9	1.50
Memory-NBEA	85	7.9	1.9	109	7.5	2.2	1.12
Total-NBEA	85	64.2	8.8	109	60.7	10.7	2.40*
MO							
Hours of Related Work Experience	93	81.7	252.8	103	73.4	402.4	.17
Hours of Unrelated Work Exp.	93	614.5	720.4	103	841.3	1369.5	-1.47
Vocabulary	93	10.3	2.4	103	10.0	2.4	.76
Job Knowledge-OWP	94	11.3	.9	103	11.0	.9	2.34*
Personal Qualifications-OWP	94	13.8	.4	103	13.7	.6	2.05*
Interpersonal Relations-OWP	94	12.0	1.1	103	11.8	1.1	1.50
Job Qualifications-OWP	94	15.3	.9	103	15.1	1.1	.93
Total-OWP	94	52.4	1.9	103	51.6	2.7	2.51*
Spelling-NBEA	94	11.9	1.8	103	11.5	2.5	1.35
Plurals-NBEA	94	7.5	1.5	103	7.5	1.6	-.20
Grammar-NBEA	94	10.5	2.4	103	10.4	2.6	.09
Expression-NBEA	94	2.3	1.5	103	2.3	1.6	-.25

Table 30, Continued

Independent Variable	Full-Time Office Em.			All Others			t-value
	N	Mean	sd	N	Mean	sd	
MO, Cont.							
General Information-NBEA	94	11.0	2.8	103	10.8	3.2	.35
Judgment-NBEA	94	3.4	.9	103	3.5	.8	-.92
Arithmetic-NBEA	94	7.5	2.7	103	6.9	3.1	1.37
Memory-NBEA	94	7.8	2.0	103	7.6	2.0	.93
Total-NBEA	94	61.5	10.4	103	60.1	11.7	.87
COE							
Hours of Related Work Experience	123	90.6	411.1	71	51.2	241.2	.84
Hours of Unrelated Work Exp.	123	632.6	1009.8	71	652.3	1026.3	-.13
Vocabulary	123	10.2	2.4	71	10.2	2.7	-.16
Job Knowledge-OWP	123	11.0	1.1	71	11.1	1.3	-.33
Personal Qualifications-OWP	123	13.6	1.1	71	13.3	1.3	1.55
Interpersonal Relations-OWP	123	11.6	1.3	71	11.3	1.2	1.93
Job Qualifications-OWP	123	15.0	1.4	71	14.7	1.9	.79
Total-OWP	123	51.2	3.6	71	50.4	4.6	1.25
Spelling-NBEA	123	11.7	2.5	71	11.7	2.6	-.04
Plurals-NBEA	123	7.3	1.8	71	7.4	1.8	-.26
Grammar-NBEA	123	10.5	2.2	71	10.0	2.7	1.53
Expression-NBEA	123	2.5	1.4	71	2.4	1.4	.34
General Information-NBEA	123	10.8	3.4	71	10.3	3.5	.87
Judgment-NBEA	123	3.1	1.1	71	3.3	1.1	-.92
Arithmetic-NBEA	123	6.5	2.9	71	5.6	2.9	1.99*
Memory-NBEA	123	7.1	2.6	71	7.1	2.6	.03
Total-NBEA	123	59.4	11.6	71	57.8	10.9	.94
All Courses							
Hours of Related Work Experience	301	95.6	357.6	282	53.6	287.6	1.57
Hours of Unrelated Work Exp.	301	587.7	830.8	282	650.4	1048.7	-.80
Vocabulary	301	10.4	2.2	279	10.2	2.5	1.21
Job Knowledge-OWP	302	11.2	1.0	283	11.1	1.0	.97
Personal Qualifications-OWP	302	13.7	.8	283	13.5	.9	1.99*
Interpersonal Relations-OWP	302	11.8	1.2	283	11.6	1.2	1.57
Job Qualifications-OWP	302	15.1	1.3	283	15.0	1.3	.49
Total-OWP	302	51.8	3.0	283	51.3	3.3	1.69
Spelling-NBEA	302	11.9	2.1	283	11.5	2.4	2.00*
Plurals-NBEA	302	7.6	1.6	283	7.7	1.5	-.60
Grammar-NBEA	302	10.6	2.4	283	10.3	2.6	1.75
Expression-NBEA	302	2.4	1.4	283	2.3	1.5	.83
General Information-NBEA	302	11.2	3.0	283	11.0	3.3	.75
Judgment-NBEA	302	3.3	1.0	283	3.4	.9	-1.24
Arithmetic-NBEA	302	7.0	2.9	283	6.5	3.0	2.20*
Memory-NBEA	302	7.5	2.3	283	7.4	2.2	.59
Total-NBEA	302	61.4	10.6	283	59.7	11.2	1.84

*$p < .05$.

In all of the comparisons between graduates in full- or part-time office occupations and all other graduates, any significant differences found were in favor of those in office occupations. Differences were found for the following variables for OP graduates: vocabulary, spelling-NBEA, and total on NBEA. For MO graduates, the differences were in: job knowledge-OWP, personal qualifications-OWP, and total on OWP. For COE, the differences were in arithmetic-NBEA; and for All Courses: personal qualifications-OWP, spelling-NBEA, and arithmetic-NBEA.

Finally, t-tests were computed between all graduates in some activity related to the office--either in employment or education--and all other graduates. Results are shown in Table 31, pp. 48-49.

Table 31

t-Tests, Means, and standard deviations on Selected Independent Variables between Graduates Employed Full- or Part-Time in an Office Occupation or in an Office Education Program and All Others

Independent Variable	Full- or Part-Time Office Empl./Educ.			All Others			t-value
	N	Mean	sd	N	Mean	sd	
OP							
Hours of Related Work Experience	94	106.8	357.9	99	39.7	161.7	1.66
Hours of Unrelated Work Exp.	94	485.8	637.5	99	472.0	577.5	.16
Vocabulary	94	10.9	1.7	96	10.3	2.5	1.83
Job Knowledge-OWP	94	11.2	.8	100	11.1	.9	.56
Personal Qualifications-OWP	94	13.7	.7	100	13.6	.7	1.37
Interpersonal Relations-OWP	94	11.8	1.0	100	11.7	1.3	.40
Job Qualifications-OWP	94	15.2	1.4	100	15.2	1.0	.05
Total-OWP	94	51.9	2.9	100	51.6	2.9	.76
Spelling-NBEA	94	12.2	1.9	100	11.5	2.4	2.23*
Plurals-NBEA	94	8.1	1.2	100	8.0	1.3	.46
Grammar-NBEA	94	10.7	2.6	100	10.4	2.6	.62
Expression-NBEA	94	2.5	1.4	100	2.3	1.5	.85
General Information-NBEA	94	11.9	2.7	100	11.9	3.0	-.04
Judgment-NBEA	94	3.5	1.1	100	3.4	.9	.74
Arithmetic-NBEA	94	7.2	2.8	100	6.6	2.9	1.65
Memory-NBEA	94	7.8	1.9	100	7.5	2.2	.97
Total-NBEA	94	63.6	8.8	100	61.0	10.9	1.81
MO							
Hours of Related Work Experience	101	76.0	243.3	95	78.8	418.7	-.06
Hours of Unrelated Work Exp.	101	666.1	1006.2	95	805.5	1217.7	-.88
Vocabulary	101	10.4	2.5	95	9.9	2.3	1.59
Job Knowledge-OWP	102	11.4	.9	95	11.0	.9	2.92**
Personal Qualifications-OWP	102	13.9	.4	95	13.7	.7	2.49*
Interpersonal Relations-OWP	102	12.0	1.0	95	11.7	1.1	2.03*
Job Qualifications-OWP	102	15.3	.9	95	15.1	1.1	1.12
Total-OWP	102	52.5	1.9	95	51.5	2.7	3.14**

Table 31, Continued

Independent Variable	Full- or Part-Time Office Empl./Educ.			All Others			t-value
	N	Mean	sd	N	Mean	sd	
MO, Cont.							
Spelling-NBEA	102	12.0	1.9	95	11.3	2.4	2.10*
Plurals-NBEA	102	7.6	1.5	95	7.4	1.6	.90
Grammar-NBEA	102	10.5	2.4	95	10.3	2.7	.56
Expression-NBEA	102	2.4	1.5	95	2.2	1.6	.82
General Information-NBEA	102	11.1	2.9	95	10.6	3.1	1.11
Judgment-NBEA	102	3.4	.9	95	3.5	.8	-.36
Arithmetic-NBEA	102	7.7	2.8	95	6.7	3.0	2.33*
Memory-NBEA	102	7.9	2.0	95	7.5	2.0	1.46
Total-NBEA	102	62.3	10.6	95	59.1	11.4	2.08*
COE							
Hours of Related Work Experience	130	85.8	400.4	64	56.8	253.6	.61
Hours of Unrelated Work Exp.	130	646.2	1002.4	64	626.8	1042.8	.13
Vocabulary	130	10.2	2.4	64	10.1	2.7	.36
Job Knowledge-OWP	130	11.0	1.3	64	11.2	1.0	-1.42
Personal Qualifications-OWP	130	13.5	1.1	64	13.3	1.2	1.15
Interpersonal Relations-OWP	130	11.6	1.3	64	11.2	1.2	2.18*
Job Qualifications-OWP	130	14.9	1.5	64	14.8	1.8	.72
Total-OWP	130	51.1	3.8	64	50.5	4.3	.93
Spelling-NBEA	130	11.7	2.5	64	11.7	2.6	-.21
Plurals-NBEA	130	7.4	1.8	64	7.3	1.8	.21
Grammar-NBEA	130	10.4	2.2	64	10.1	2.7	.91
Expression-NBEA	130	2.4	1.3	64	2.5	1.4	-.11
General Information-NBEA	130	10.9	3.5	64	10.1	3.4	1.50
Judgment-NBEA	130	3.1	1.2	64	3.3	1.0	-1.40
Arithmetic-NBEA	130	6.5	2.9	64	5.5	2.9	2.41*
Memory-NBEA	130	7.0	2.6	64	7.2	2.5	-.60
Total-NBEA	130	59.2	11.6	64	57.9	10.9	.76
All Courses							
Hours of Related Work Experience	325	88.8	345.0	258	58.3	300.2	1.14
Hours of Unrelated Work Exp.	325	606.0	913.9	258	633.2	978.3	-.35
Vocabulary	325	10.5	2.2	255	10.1	2.5	1.95
Job Knowledge-OWP	326	11.2	1.0	259	11.1	1.0	.73
Personal Qualifications-OWP	326	13.7	.8	259	13.5	.9	2.02*
Interpersonal Relations-OWP	326	11.8	1.1	259	11.6	1.3	2.06*
Job Qualifications-OWP	326	15.1	1.3	259	15.0	1.3	.63
Total-OWP	326	51.8	3.1	259	51.3	3.2	1.86
Spelling-NBEA	326	11.9	2.2	259	11.5	2.4	2.17*
Plurals-NBEA	326	7.6	1.6	259	7.6	1.6	.30
Grammar-NBEA	326	10.5	2.4	259	10.3	2.6	1.04
Expression-NBEA	326	2.4	1.4	259	2.3	1.5	1.07
General Information-NBEA	326	11.3	3.1	259	11.0	3.2	.96
Judgment-NBEA	326	3.3	1.1	259	3.4	.9	-1.04
Arithmetic-NBEA	326	7.1	2.9	259	6.3	3.0	3.07**
Memory-NBEA	326	7.5	2.3	259	7.4	2.2	.42
Total-NBEA	326	61.5	10.7	259	59.5	11.1	2.13*

*p < .05.
**p < .01.

As in the previous t-test analyses, where significant differences were found, graduates currently associated with office employment or office education scored higher on the independent variables than did other graduates. Also, many more significant differences were found in this set of analyses than in the previous two. For OP graduates, significant differences were found only on spelling-NBEA. Many differences were found for MO graduates, as follows: job knowledge, personal qualifications, interpersonal relations, and total of the OWP; and spelling, arithmetic, and total of the NBEA. Interpersonal relations-OWP and arithmetic-NBEA were the two variables on which differences existed for the COE graduates. Finally, for all courses combined, differences existed on: personal qualifications and interpersonal relations of the OWP; and spelling, arithmetic, and total of the NBEA.

Chapter 4

CONCLUSIONS AND RECOMMENDATIONS

This chapter includes the conclusions drawn by the investigator based on the findings of this study and recommendations for future study.

Conclusions

Based on the findings of this study, the following conclusions may be drawn:

1. Based on one-way analyses of variance, the Cooperative Office Education graduates employed in office-related occupations are more satisfied overall with their jobs and obtain greater extrinsic satisfaction from them than do the Office Procedures students. In addition, the COE graduates employed full- and part-time also obtain greater intrinsic satisfaction from their jobs than do the OP students. The Model Office graduates' satisfaction is not different from either of the other two groups.

2. Based on two-way analyses of variance, the COE graduates are the most satisfied on the intrinsic scale and least satisfied on the extrinsic scale. The MO graduates are the most satisfied on the extrinsic scale. In addition, socioeconomic status has no effect on satisfaction, nor was a significant interaction between SES and course found.

3. Based on both one-way analyses of variance and two-way analyses of covariance, no differences in overall satisfactoriness or any of the subscales exist based on course completed, SES, or interaction of SES and course.

4. Based on t-test comparisons, the graduates of the three capstone office education courses have the same degree of intrinsic satisfaction as an office clerk and a workers in general norm group. The OP group has the same extrinsic satisfaction as the two norm groups. However, both the MO and COE groups have greater general and extrinsic satisfaction than both norm groups.

5. In all of the normative comparisons on satisfactoriness, the norm groups scored significantly better than the graduates of the three courses on personal adjustment. On the other comparisons, the graduates of the three courses scored as well as or better than the norm groups. A number of significant differences in favor of the graduates of the three programs particularly existed in the comparison with the female clerical and sales norm group. These data suggest that the graduates from all three programs make satisfactory employees in every area except personal adjustment.

6. Course completed will not affect salary, wage, or number of people supervised, based on the analyses of variance of this study.

7. COE students are much more likely to enter an office-related occupation or educational program than are graduates from the other two programs. OP students are least likely to pursue an office-related objective.

8. Relatively, there is a significant difference in the office jobs in which graduates are employed. OP graduates are more likely to be file clerks, stenographers, and bookkeepers; MO graduates are more likely secretaries, and COE graduates, typists. In absolute terms, graduates are most likely to classify themselves as secretaries, followed by typists.

9. MO graduates are more likely to pursue additional office education training than are the graduates of the other two programs.

10. The lack of both statistically and practically significant correlations precludes the opportunity to conclude what variables affect satisfaction, satisfactoriness, pay, and number of people supervised.

11. The only factor, by Chi-square analysis, appearing to affect whether or not a graduate was in a full- or part-time office occupation was the educational attainment of the mother in COE and All Courses.

12. Almost none of the independent variables revealed differences between those currently associated with the office and those not currently associated with the office. Many of the variables did show differences, however, for MO graduates, particularly on the total and subscores of the office work perceptions instrument.

Recommendations

As a result of the findings of this study, the following recommendations are made:

1. Additional follow-up studies, such as the current one, should be undertaken three years and five years after graduation. Subsequent follow-ups, or researchers conducting a study similar to the current one, should collect complete data from all graduates, not just those associated with office employment. By the end of five years, students who entered higher education immediately on graduation would then be in the labor market.

2. Many of the variables typically used in the selection of students for capstone programs showed no relationship to the criterion measures. The data of this study suggest a need for re-examining student selection criteria, and permitting open enrollment in the courses. This recommendation does not apply to specific skills as they were not evaluated in the current study. Another option, of course, would be further research directed toward identifying variables that do make a difference and using them in student selection situations.

3. Personal adjustment was identified as the area in which graduates from all three programs fell short. Concerted effort needs to be given in capstone programs to improve this performance.

4. The lack of differences in satisfactoriness among the three programs suggests that each program is accomplishing the same goal and that the programs may thus be interchangeable. The comparisons with the norm groups showing comparable or better performance for the three OE groups suggesting that satisfactory employees are being graduated. It would appear, therefore, that any one of the capstone programs is a necessary part of a vocational business education program, but that the courses should also be considered interchangeable.

5. On the other hand, the results of this study suggest that students enter the three courses with different objectives, and graduates from the three courses do, in fact, pursue different objectives. Thus, where sufficient student demand exists, at least two of the capstone courses should be made available to permit career exploration, to attract more students, and to prepare more employees for the office.

6. The results of this study should encourage specific research on optional capstone experiences in other vocational fields. If similar results are obtained, considerable financial resources might be reallocated to other components of the program.

7. As with any educational research, replication is encouraged. The nature of the replication might include office procedures courses from schools where cooperative or model office courses do not exist; or, the replication might include other types of model office courses; or, students from a broader geographic area might be used.

8. The results using the Business fundamentals and general information test call into question the validity of the test instrument. Major revisions may be needed on this test instrument and should be followed up with formal validity and reliability studies.

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Appendices

Appendix A

PERSONAL QUESTIONNAIRE

CODE NUMBER _____

Current Address _____

_____

I. Employment Data

A. What is your current status? (Check all that apply.)

_____ In a full-time occupation related to office education

_____ In a part-time occupation related to office education

_____ In a full-time occupation not related to office education

_____ In a part-time occupation not related to office education

_____ Attending a post-secondary institution in an office-related field

_____ Attending a post-secondary institution in a non-related field

_____ Enrolled in an adult education course in an office-related field

_____ Not employed, but available for work

_____ Not employed, and not available for work because: (check one)

____ Pregnancy
____ Homemaker
____ Illness
____ No jobs available to match my skills
____ Military
____ Further education

Other (Explain): _____

_____

IF NOT EMPLOYED, GO TO SECTION II.

B. What is your present salary before deductions?

_____ per week/month/year (circle one)

C. Firm where you are now working:

Name of Firm _____

Street Address _____

City, State, ZIP _____

Name of Immediate Supervisor _____

D. How many people do you supervise? _____

(See Over)

E. Please check the job category in which you are now employed:

____ Typist	____ Secretary	____ Receptionist
____ File Clerk	____ Key Punch Operator	____ Payroll Clerk
____ Stenographer	____ Bookkeeper	____ Mail Clerk

Other (Explain): _____

II. Additional Training

A. Have you had any additional office education training since graduating from high school? ____ Yes ____ No

IF "NO" IS CHECKED, GO TO SECTION IIB. IF "YES" IS CHECKED, PLEASE CONTINUE.

Check where such training was taken:

____ Night School (High School)	____ Classes held by your employer
____ Private Business School	____ Vo-Tech School
____ College or University	____ Other _____

_____

Please list office education courses you have taken since graduating from high school:

_____

_____

The office education training received was on a:

____ full-time basis ____ part-time basis

I received office education training beyond high school for a period

of _____ hours/weeks/months. (circle one)

B. Have you had any educational training not related to office education since graduating from high school? ____ Yes ____ No

Check where such training was taken:

____ Night School (High School)	____ Classes held by your employer
____ Private Business School	____ Vo-Tech School
____ College or University	____ Other _____

_____

The training received was on a:

____ full-time basis ____ part-time basis

I received educational training beyond high school for a period

of _____ hours/weeks/months. (circle one)

Appendix B

UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Business Education
Division of Vocational and Technical Education
Peik Hall
Minneapolis, Minnesota 55455

October 18, 1974

To: Participants in Office Education Study

From: Gary N. McLean, Associate Professor of Business Education

Subject: Enclosed Questionnaire

During 1972-1973 you participated in a state-sponsored study in your Model Office, Cooperative Office Education, or Office Procedures class. Since that time, you have been contacted on a six-months' follow-up for a master's study. The federal government, through the National Institute of Education, is now sponsoring a 15-month follow-up in accordance with the description of the project given to you in class.

This project has already proven to be very valuable in the revision of course content and in providing direction for curriculum change. Your continued response and participation will be greatly appreciated, and you will not be contacted for more information in relation to this project for at least two more years.

The enclosed questionnaire will take no more than 15 minutes of your time. Please return it with the signed permission form. The information we receive from you and your employer will remain completely confidential. A code number has been used on the questionnaire to insure such confidentiality, and a committee at the University has reviewed the project to guarantee that confidentiality exists.

As it is important that all forms be completed at approximately the same time, your return of the questionnaire and permission slip by November 4 will be appreciated.

kva
Enclosures: Personal Questionnaire
Minnesota Satisfaction Questionnaire
Permission Slip
Return Envelope

Original Cover Letter to Graduates

Appendix C

I give permission to Dr. Gary McLean to contact my employer regarding my current employment status and for completion of the Minnesota Satisfactoriness Questionnaire.

Signature _____

(copy for file)

I give permission to Dr. Gary McLean to contact my employer regarding my current employment status and for completion of the Minnesota Satisfactoriness Questionnaire.

Signature _____

(copy for employer)

Release Form

Appendix D

Follow-up Post Card to Graduates

About three weeks ago you received a questionnaire as a follow-up to the office education study in which you participated while in your senior year of high school.

It is very important for the success of this project that we receive responses from all of the participants. Even if you are not employed in an office-related occupation, or if you are a full-time student, your response is still important.

If you no longer have your forms or if you have a question about the study, please feel free to contact me directly, and I will provide the assistance you need.

(Phone: 612-373-9723)

Gary N. McLean

UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Business Education
Division of Vocational and Technical Education
Peik Hall
Minneapolis, Minnesota 55455

January 25, 1975

To: Participants in Office Education Study

From: Gary N. McLean, Associate Professor of Business Education

Subject: Enclosed Questionnaire

Last November you were sent a questionnaire in an office education follow-up study sponsored by the National Institute of Education. The study involved over 700 Minnesota students who were enrolled in Model Office, Cooperative Office Education, or Office Procedures classes during the 1972-1973 school year.

One of the most important aspects of the study is to determine what students do following graduation from office education programs. Your participation, whether or not you are now employed in an office, is essential to the success of this project.

We have attempted unsuccessfully to contact you by telephone during the past few weeks and are, therefore, enclosing another copy of the questionnaire with this letter.

The questionnaire will take no more than 15 minutes of your time. Please return it with the signed permission form. The information we receive from you and your employer will remain completely confidential. A code number has been used on the questionnaire to insure confidentiality.

Your return of the questionnaire and permission slip by February 1 will be appreciated.

kva
Enclosures: Personal Questionnaire
Minnesota Satisfaction Questionnaire
Permission Slip
Return Envelope

Follow-up Letter to Graduates

Appendix F

UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Business Education
Division of Vocational and Technical Education
Peik Hall
Minneapolis, Minnesota 55455

To: Supervisors of Employees in N. I. E. Study

From: Gary N. McLean, Associate Professor

Date: January 13, 1975

Subject: Participation in Follow-Up Study

A year and a half ago, while in high school, one of the employees you now supervise was involved in a research study funded by the Minnesota State Department of Education. The National Institute of Education has now funded a follow-up study to determine whether various high school programs in office education are more effective than others in preparing office workers.

Your employee has been contacted and has signed a slip granting permission for me to contact you for additional information. A copy of that permission slip is enclosed. In addition, a copy of the Minnesota Satisfactoriness Scales is enclosed, and I am asking you to complete this form, based on your evaluation of the employee. I would underscore the fact that all information gathered is to be kept in strict confidence and will be available to no one in a format that will be identifiable to a given individual. Thus, I ask that your responses be totally candid and a fair representation of your evaluation of the employee.

Completion of the form will take no longer than five minutes. Please complete this form and return it in the enclosed return envelope no later than January 25.

If this employee is no longer working under your supervision, please complete the scale based on the employee's most recent performance under your direct supervision.

Your assistance in this project will contribute considerably to our knowledge of the kinds of curricula that best prepare students for office work.

kva
Enclosures: Permission Slip
Satisfactoriness Scale
Return Envelope

Cover Letter to Supervisors

Appendix G

Follow-up Postcard to Supervisors

About three weeks ago you received a questionnaire as a follow-up to the office education study in which one of your employees participated while in high school.

It is very important for the success of this project that we receive responses from all supervisors of participants. If you have not yet completed the questionnaire, please do so today.

If you no longer have the Minnesota Satisfactoriness Scales sent you regarding your employee, please contact me directly and I will provide another. Refer to Code #

Your prompt cooperation is sincerely appreciated.

(Phone: 612-373-9723) Gary N. McLean

Appendix H

Table 32

Means, sd's, and Ranges for Dependent Variables for Full-Time Office Employees Only, All Groups

Variable	N	Mean	sd	Range
Salary	223	5,619	962	3,197-9,792
No. of People Supervised	232	.2	1.1	0-15
MSQ Intrinsic	229	47.4	6.6	20-60
MSQ Extrinsic	229	21.7	4.8	6-30
MSQ General	229	77.3	11.4	37-100
MSS Performance	178	22.2	4.3	10-28
MSS Conformance	179	16.6	2.9	8-21
MSS Dependability	179	10.0	2.0	4-12
MSS Personal Adjustment	179	14.6	2.8	6-18
MSS General	178	68.2	10.2	31-85

Table 33

Means, sd's, and Ranges for Dependent Variables for Full-Time Office Employees Only, by Course

Variable	Office Procedures				Model Office				Coop			
	N	Mean	sd	Range	N	Mean	sd	Range	N	Mean	sd	Range
Salary	58	5536	941	3,197-8,892	68	5510	1063	3,840-9,792	97	5746	893	3,640-9,100
No. of People Supervised	59	.3	2.0	0-15	73	.2	.8	0-6	100	.1	.5	0-3
MSQ Intrinsic	58	45.8	6.6	30-60	70	47.8	6.0	30-59	101	48.0	6.8	20-60
MSQ Extrinsic	58	20.4	5.1	8-30	70	21.7	4.8	10-30	101	22.4	4.4	6-30
MSQ General	58	74.3	11.9	51-100	70	77.7	11.0	51-99	101	78.7	11.2	37-98
MSS Performance	46	21.4	4.4	11-28	50	22.6	4.0	10-28	82	22.4	4.3	10-28
MSS Conformance	47	16.1	2.9	8-21	50	17.2	2.8	11-21	82	16.5	2.8	9-21
MSS Dependability	47	9.9	1.7	5-12	50	10.4	1.9	4-12	82	9.9	2.1	4-12
MSS Personal Adjustment	47	14.7	2.6	8-18	50	14.9	5.7	7-18	82	14.3	3.0	6-18
MSS General	46	66.7	9.6	40-85	50	70.0	9.6	44-85	82	67.9	10.9	31-85

Table 34

Means, sd's, and Ranges for Dependent Variables for Full- and Part-Time Office Employees Combined, All Courses

Variable	N	Mean	sd	Range
Salary	242	5,372	1,331	450-9,792
Wage	8	2.58	.58	1.90-3.50
No. of People Supervised	260	.2	1.1	0-15
MSQ Intrinsic	257	47.4	6.5	20-60
MSQ Extrinsic	257	21.7	4.6	6-30
MSQ General	257	77.4	11.2	37-100
MSS Performance	201	22.4	4.3	9-28
MSS Conformance	202	16.7	2.9	8-21
MSS Dependability	202	10.1	2.0	4-12
MSS Personal Adjustment	202	14.7	2.8	6-18
MSS General	201	68.7	10.5	31-85

Table 35

Means, sd's, and Ranges for Dependent Variables for Full- and Part-Time Office Employees Combined, By Course

Variable	Office Procedures				Model Office				Coop			
	N	Mean	sd	Range	N	Mean	sd	Range	N	Mean	sd	Range
Salary	68	5098	1506	450-8,892	71	5340	1325	749-9,792	103	5574	1182	1,186-9,100
Wage	1	2.50			2	2.38	.54	2.0-2.7	75	2.68	.70	1.90-3.50
No. of People Supervised	71	.3	1.8	0-15	78	.2	.8	.0-6	111	.1	.5	0-3
MSQ Intrinsic	71	45.8	6.5	30-60	75	47.8	5.9	30-59	111	48.2	6.8	20-60
MSQ Extrinsic	71	20.4	4.9	8-30	75	21.9	4.7	10-30	111	22.4	4.3	6-30
MSQ General	71	74.3	11.5	51-100	75	77.9	10.7	51-99	111	79.0	11.0	37-99
MSS Performance	55	21.9	4.5	11-28	55	22.5	4.0	10-28	91	22.6	4.5	9-28
MSS Conformance	56	16.5	3.0	8-21	55	17.1	2.8	11-21	91	16.6	2.9	9-21
MSS Dependability	56	10.1	1.7	5-12	55	10.4	1.9	4-12	91	9.9	2.1	4-12
MSS Personal Adjustment	56	14.9	2.6	8-18	55	14.9	2.7	7-18	91	14.5	7.0	6-18
MSS General	55	68.1	10.0	40-85	55	69.9	9.8	44-85	91	68.4	11.3	31-85

Appendix I

Table 36

Status of Graduates from All Capstone Office Education Courses

Current Status	N	Percent
Full-Time Office Employed	268	45.7
Part-Time Office Employed	9	1.5
Full-Time Non-Office Employed	93	15.8
Part-Time Non-Office Employed	21	3.6
Post-Secondary Office Education	17	2.9
Post-Secondary Non-Office Education	52	8.9
Adult Office Education	1	.2
Unemployed, But Available for Work	31	5.3
Unemployed, Pregnant	6	1.0
Unemployed, Homemaker	37	6.3
Unemployed, Ill	1	.2
Unemployed, Other	3	.5
Part-Time Office Employed, Post Secondary Office Education	13	2.2
Part-Time Office Employed, Post Secondary Non-Office Education	8	1.4
Part-Time Non-Office Employed, Post Secondary Office Education	6	1.0
Part-Time Non-Office Employed, Post Secondary Non-Office Education	16	2.7
Part-Time Office Employed, Part-Time Non-Office Employed	1	.2
Full-Time Office Employed, Part-Time Non-Office Employed	3	.5
Part-Time Office Employed, Full-Time Non-Office Employed	1	.2
Total	587	100.0

Table 37

Status of Graduates of Model Office (APEX) Courses

Current Status	N	Percent
Full-Time Office Employed	81	42.2
Part-Time Office Employed	3	1.6
Full-Time Non-Office Employed	41	21.4
Part-Time Non-Office Employed	6	3.1
Post-Secondary Office Education	7	3.6
Post-Secondary Non-Office Education	12	6.3
Unemployed, But Available for Work	12	6.3
Unemployed, Pregnant	3	1.6
Unemployed, Homemaker	17	8.9
Unemployed, Other	3	1.6
Part-Time Office Employed, Post Secondary Office Education	2	1.0
Part-Time Office Employed, Post Secondary Non-Office Education	2	1.0
Part-Time Non-Office Employed, Post Secondary Office Education	1	.5
Part-Time Non-Office Employed, Post Secondary Non-Office Education	2	1.0
Total	192	100.0

Table 38

Status of Graduates of Cooperative Office Education Courses

Current Status	N	Percent
Full-Time Office Employed	113	57.4
Part-Time Office Employed	1	.5
Full-Time Non-Office Employed	22	11.2
Part-Time Non-Office Employed	10	5.1
Post-Secondary Office Education	5	2.5
Post-Secondary Non-Office Education	6	3.0
Adult Office Education	1	.5
Unemployed, But Available for Work	8	4.1
Unemployed, Pregnant	1	.5
Unemployed, Homemaker	10	5.1
Unemployed, Ill	1	.5
Part-Time Office Employed, Post Secondary Office Education	6	3.0
Part-Time Office Employed, Post Secondary Non-Office Education	3	1.5
Part-Time Non-Office Employed, Post Secondary Office Education	1	.5
Part-time Non-Office Employed, Post Secondary Non-Office Education	6	3.0
Full-Time Office Employed, Part-Time Non-Office Employed	3	1.5
Total	197	100.0

Table 39

Status of Graduates of Office Procedures Courses

Current Status	N	Percent
Full-Time Office Employed	74	37.4
Part-Time Office Employed	5	2.5
Full-Time Non-Office Employed	30	15.2
Part-Time Non-Office Employed	5	2.5
Post-Secondary Office Education	5	2.5
Post-Secondary Non-Office Education	34	17.2
Unemployed, But Available for Work	11	5.6
Unemployed, Pregnant	2	1.0
Unemployed, Homemaker	10	5.1
Part-Time Office Employed, Post Secondary Office Education	5	2.5
Part-Time Office Employed, Post Secondary Non-Office Education	3	1.5
Part-Time Non-Office Employed, Post Secondary Office Education	4	2.0
Part-Time Non-Office Employed, Post Secondary Non-Office Education	8	4.0
Part-Time Office Employed, Part-Time Non-Office Employed	1	.5
Part-Time Office Employed, Full-Time Non-Office Employed	1	.5
Total	198	100.0

Table 40

Status Summary of Respondents with Usable Data
(Percents by Row)

Course	Full-Time Office Employed		Part-Time Office Employed		Not Employed In an Office		Total Usable Responses
	N	%	N	%	N	%	N
OP	60	33.0	13	7.1	109	59.9	182
MO	73	40.1	5	2.7	104	57.1	182
COE	102	55.4	11	6.0	71	38.6	184
Total	235	42.9	29	5.3	284	51.8	548

Appendix J

Table 41

F-Ratios for Analyses of Variance on the Individual Items of the MSQ for Full-Time Only and Full- and Part-Time Office Employees[a]

Item	Full-Time Only				Full- and Part-Time			
	F	OP Mean	MO Mean	COE Mean	F	OP Mean	MO Mean	COE Mean
On my present job, this is how I feel about:								
1. Being able to keep busy all the time	.26	4.0	4.1	4.1	.14	4.1	4.1	4.1
2. The chance to work alone on the job	2.20	4.1	4.1	4.3	2.00	4.2	4.1	4.3
3. The chance to do different things from time to time	.73	4.1	4.2	4.2	.67	4.1	4.2	4.2
4. The chance to be "somebody" in the community	2.42	3.2	3.4	3.5	2.96	3.2	3.5	3.5
5. The way my boss handles his men[b]	2.26	3.6	3.6	3.9	2.15	3.6	3.7	3.9
6. The competence of my supervisor in making decisions	5.43**	3.8	3.8	4.2	4.65**	3.9	3.8	4.2
7. Being able to do things that don't go against my conscience	1.78	4.0	4.2	4.2	2.01	4.0	4.2	4.2
8. The way my job provides for steady employment	.32	4.4	4.5	4.5	.70	4.3	4.4	4.5
9. The chance to do things for other people	.81	4.0	4.1	4.2	.77	4.0	4.1	4.2
10. The chance to tell people what to do	1.01	3.2	3.3	3.4	1.46	3.2	3.3	3.4
11. The chance to do something that makes use of my abilities	.72	3.9	3.9	4.1	1.12	3.9	3.9	4.1
12. The way company policies are put into practice	.51	3.4	3.6	3.6	.69	3.5	3.6	3.6
13. My pay and the amount of work I do	2.06	3.1	3.3	3.5	3.50*	3.1	3.6	3.3
14. The chances for advancement on this job	2.78	3.0	3.3	3.5	3.48*	3.0	3.3	3.5
15. The freedom to use my own judgment	3.64*	3.6	3.9	4.0	3.20*	3.7	3.9	4.0
16. The chance to try my own methods of doing the job	3.34*	3.6	3.7	4.0	3.86*	3.6	3.7	4.0
17. The working conditions	.06	4.2	4.1	4.1	.05	4.1	4.1	4.2
18. The way my co-workers get along with each other	1.17	3.9	4.0	4.1	2.54	3.9	4.0	4.2
19. The praise I get for doing a good job	4.12*	3.4	3.9	3.9	4.56*	3.5	3.9	3.9
20. The feeling of accomplishment I get from the job	2.09	3.7	4.0	4.0	3.80*	3.6	4.0	4.0

*p < .05.
**p < .01.

[a]The item responses were weighted as follows: Very dissatisfied, 1; Dissatisfied, 2; Undecided, 3; Satisfied, 4; and Very satisfied, 5. Tukey t-tests with p .05 were used to determine differences where significant F-ratios existed. Groups significantly different from each other are underscored.

[b]A number of respondents commented on the "sexist" nature of both the MSQ and the MSS.

Appendix K

Table 42

F-Ratios for Analyses of Variance on the Individual Items of the MSS for Full-Time Only and Full- and Part-Time Office Employees[a]

Item	Full-Time Only				Full- and Part-Time			
	F	OP Mean	MO Mean	COE Mean	F	OP Mean	MO Mean	COE Mean
Compared to others in his work group, how well does he:								
1. Follow company policies and practices?	1.38	2.2	2.4	2.3	.39	2.3	2.3	2.4
2. Accept the direction of his supervisor?	1.60	2.3	2.5	2.4	.68	2.4	2.4	2.5
3. Follow standard work rules and procedures?	.51	2.3	2.4	2.3	.10	2.3	2.3	2.4
4. Accept the responsibility of his job?	.16	2.5	2.5	2.5	.15	2.5	2.5	2.5
5. Adapt to changes in procedures or methods?	.66	2.3	2.4	2.3	.47	2.3	2.3	2.4
6. Respect the authority of his supervisor?	.73	2.4	2.5	2.4	.40	2.4	2.5	2.4
7. Work as a member of a team	1.02	2.3	2.4	2.4	.42	2.3	2.4	2.4
8. Get along with his supervisors?	2.03	2.4	2.6	2.4	1.47	2.4	2.5	2.4
9. Perform repetitive tasks?	1.02	2.3	2.4	2.3	.30	2.3	2.4	2.3
10. Get along with his co-workers?	1.37	2.2	2.4	2.4	1.05	2.3	2.4	2.4
11. Perform tasks requiring variety and change in methods?	.76	2.3	2.4	2.4	.35	2.3	2.4	2.4
Compared to others in his work group:								
12. How good is the quality of his work?	1.71	2.2	2.4	2.4	.80	2.3	2.3	2.4
13. How good is the quantity of his work?	1.68	2.3	2.2	2.4	1.98	2.4	2.2	2.4
If you could make the decision would you:								
14. Give him a pay raise:	.67	2.6	2.8	2.7	.16	2.6	2.7	2.7
15. Transfer him to a job at a higher level?	.55	2.0	2.1	2.1	.31	2.1	2.1	2.2
16. Promote him to a position of more responsibility?	1.28	2.0	2.3	2.2	.54	2.1	2.2	2.2
Compared to others in his work group, how often does he:								
17. Come late for work?	1.08	2.5	2.6	2.5	.89	2.5	2.5	2.6
18. Become overexcited?	1.90	2.5	2.4	2.3	1.87	2.3	2.4	2.5
19. Become upset and unhappy?	.42	2.3	2.4	2.3	.54	2.3	2.3	2.4
20. Need disciplinary action?	1.34	2.5	2.7	2.5	1.30	2.5	2.6	2.7
21. Stay absent from work?	1.43	2.4	2.6	2.4	1.26	2.5	2.6	2.4
22. Seem bothered by something?	.54	2.4	2.4	2.3	.46	2.3	2.4	2.4
23. Complain about physical ailments?	.75	2.6	2.6	2.5	.56	2.6	2.6	2.5
24. Say "odd" things?	.14	2.6	2.5	2.5	.61	2.6	2.5	2.5

Table 42,Continued

Item	Full-Time Only				Full- and Part-Time			
	F	OP Mean	MO Mean	COE Mean	F	OP Mean	MO Mean	COE Mean
5. Seem to tire easily?	.69	2.5	2.5	2.4	.42	2.4	2.5	2.5
6. Act as if he is not listening when spoken to?	.28	2.4	2.5	2.5	.08	2.5	2.5	2.5
7. Wander from subject to subject when talking?	.46	2.4	2.5	2.5	.21	2.5	2.5	2.5
8. Overall Competence	1.33	3.3	3.5	3.4	1.12	3.4	3.6	3.4

While the item responses vary, each item, except 28, has three response options, with a 1 being the least favorable and a 3 being the most favorable. Item 28 has four options, with a 4 being the most favorable.

Appendix L

Table 43

Distribution of Frequencies Used for Determining Chi-Square Values for Full-Time Office Employees Only on Job Title

Job Title	Number of Respondents			
	OP	MO	COE	Total
Typist	11	11	22	44
File Clerk	5	3	0	8
Stenographer	5	0	2	7
Secretary	12	32	35	79
Key Punch Operator	3	3	5	11
Bookkeeper	7	3	7	17
Receptionist	1	1	5	7
Payroll Clerk	0	1	1	2
Mail Clerk	1	2	3	6
Other	15	17	22	54
Total	60	73	102	235

Appendix M

Table 44

Pearson Zero-Order Correlations Between Selected Dependent and Independent Variables for Office Procedures Graduates Employed Full-Time Only in the Office (N's vary for each variable; periods omitted)

Variable	Salary	No. People Supervised	MSQ Intrinsic	MSQ Extrinsic	MSQ General	MSS Performance	MSS Conformance	MSS Dependability	MSS Personal Adjustment	MSS General
Hours of Office Related Work Exp.	04	-01	15	16	17	31*	04	-14	-13	09
Hours of Non-Office Related Work Exp.	13	-00	06	-09	-02	12	13	05	20	14
Vocabulary	-04	-27*	-04	04	-03	12	-05	-10	04	06
Job Knowledge-OWP	-18	-19	-12	02	-05	-01	01	12	-07	-00
Personal Qualifications-OWP	14	05	-08	-02	-07	00	-10	-07	18	-10
Interpersonal Relations-OWP	23*	06	01	00	-01	-25*	-16	-02	-11	-23
Job Qualifications-OWP	18	-07	-03	-01	-04	-11	-03	-00	-25*	-12
Total-OWP	15	-05	-06	-00	-05	-13	-08	-01	-21	-15
Spelling-NBEA	15	-06	-16	-03	-13	13	17	20	16	21
Plurals-NBEA	-13	-14	-06	-00	-02	21	20	-05	10	20
Grammar-NBEA	05	-20	-09	11	-01	19	00	01	02	11
Expression-NBEA	14	03	15	29*	21	17	23	03	-00	15
General Info-NBEA	05	16	08	-02	04	12	03	-17	-18	06
Judgment-NBEA	06	04	-01	-07	-04	03	11	31*	24	16
Arithmetic-NBEA	-18	-11	-15	-22	-19	07	-08	04	03	02
Memory-NBEA	13	-00	01	05	01	20	28*	29*	25*	28*
Total-NBEA	-02	-06	-07	02	-03	24	13	06	06	16
Salary	-	34**	06	-07	-06	11	35**	27*	31*	27*
No. of People Supervised	34**	-	28*	05	18	01	10	16	17	-03

*p <.05.
**p <.01.
***p <.001.

Table 45

Pearson Zero-Order Correlations Between Selected Dependent and Independent Variables for Model Office Graduates Employed Full-Time Only in the Office (N's vary for each variable; periods omitted)

Variable	Salary	No. People Supervised	MSQ Intrinsic	MSQ Extrinsic	MSQ General	MSS Performance	MSS Conformance	MSS Dependability	MSS Personal Adjustment	MSS General
Hours of Office Related Work Exp.	-00	-04	09	09	10	10	15	03	-07	08
Hours of Non-Office Related Work Exp.	19	03	-19	-29**	-26*	-03	-07	08	14	02
Vocabulary	11	-04	03	04	02	02	-04	15	14	07
Job Knowledge-OWP	18	05	-05	-01	-04	-17	-05	06	07	-06
Personal Qualifications-OWP	-08	09	-05	-20	-13	-04	21	12	-02	06
Interpersonal Relations-OWP	14	19	01	-01	01	07	18	10	-11	08
Job Qualifications-OWP	-02	03	14	18	18	-10	04	14	-17	-05
Total-OWP	13	15	05	04	05	-10	16	19	-14	01
Spelling-NBEA	-11	-13	17	-06	10	06	01	24*	09	10
Plurals-NBEA	-02	11	13	06	12	-08	06	-01	-11	-05
Grammar-NBEA	-22*	-09	04	-12	-01	05	20	24*	06	15
Expression-NBEA	05	07	04	06	04	18	04	04	10	12
General Info-NBEA	17	-08	07	-01	06	-28	-05	01	01	-13
Judgment-NBEA	08	08	09	16	12	08	-27*	-10	-31*	-24*
Arithmetic-NBEA	-12	08	28**	16	24*	-05	06	18	-05	02
Memory-NBEA	09	-03	18	16	21*	-09	-21	-02	-02	-12
Total-NBEA	-02	00	21*	07	18	-10	-00	06	-07	-05
Salary	-	-10	-03	24*	10	-48***	-37**	-18	-09	-39**
No. of People Supervised	-10	-	-12	-12	-13	-00	-05	-12	-19	-10

*p < .05.
**p < .01.
***p < .001.

Table 46

Pearson Zero-Order Correlations Between Selected Dependent and Independent Variables for Cooperative Office Education Graduates Employed Full-Time Only in the Office (N's vary for each variable; periods omitted)

Variable	Salary	No. People Supervised	MSQ Intrinsic	MSQ Extrinsic	MSQ General	MSS Performance	MSS Conformance	MSS Dependability	MSS Personal Adjustment	MSS General
Hours of Office Related Work Exp.	-05	-01	00	-03	01	16	17	11	15	19
Hours of Non-Office Related Work Exp.	03	06	-06	08	-00	-02	-14	-01	19*	02
Vocabulary	20*	01	05	12	09	-05	04	08	12	03
Job Knowledge-OWP	05	-09	-03	-05	-05	-07	03	-05	11	01
Personal Qualifications-OWP	09	-07	13	08	11	-03	-04	00	07	-01
Interpersonal Relations-OWP	-02	-10	12	07	11	06	-00	06	23*	09
Job Qualifications-OWP	17*	-18*	03	06	05	00	07	04	03	03
Total-OWP	10	-15	08	05	07	-01	02	01	14	04
Spelling-NBEA	16	02	04	10	07	12	06	07	02	08
Plurals-NBEA	08	05	-00	05	02	18*	15	18*	35***	25*
Grammar-NBEA	06	-04	09	21*	16	-01	-00	03	05	02
Expression-NBEA	09	-10	-05	07	-01	20*	26**	19*	19*	25*
General Info-NBEA	12	-10	-05	02	-00	-03	-16	05	01	-04
Judgment-NBEA	-04	-02	-10	-03	-09	19*	19*	16	10	19*
Arithmetic-NBEA	07	-02	03	-01	03	23*	03	15	09	16
Memory-NBEA	07	-04	-02	-00	-02	11	-02	-02	07	06
Total-NBEA	11	-09	-00	07	04	17	03	14	14	15
Salary	-	19*	02	21*	08	17	13	15	18	19*
No. of People Supervised	19*	-	10	02	06	21*	16	13	17	20*

*p < .05.
**p < .01.
***p < .001.

Table 47

Pearson Zero-Order Correlations Between Selected Dependent and Independent Variables for Office Procedures Graduates Employed Full- and Part-Time in the Office (N's vary for each variable; periods omitted)

Variable	Salary	No. People Supervised	MSQ Intrinsic	MSQ Extrinsic	MSQ General	MSS Performance	MSS Conformance	MSS Dependability	MSS Personal Adjustment	MSS General
Hours of Office Related Work Exp.	-06	-02	19	04	14	30*	04	-07	-13	09
Hours of Non-Office Related Work Exp.	05	-02	10	-05	03	09	13	14	26*	17
Vocabulary	-15	-26*	-03	05	-01	15	02	00	12	14
Job Knowledge-OWP	-17	-13	-17	-01	-10	04	05	16	-01	06
Personal Qualifications-OWP	01	05	-05	01	-04	02	-05	-00	-11	-04
Interpersonal Relations-OWP	-05	08	05	04	03	-10	-01	05	05	-07
Job Qualifications-OWP	11	-06	-08	-04	-08	-07	00	01	-23	-09
Total-OWP	-01	-03	-08	-01	-07	-05	00	06	-16	-06
Spelling-NBEA	03	-07	-09	-05	-09	17	20	24*	17	24*
Plurals-NBEA	-12	-12	02	06	05	21	27*	06	19	26*
Grammar-NBEA	-24*	-16	03	16	08	24*	17	20	17	26*
Expression-NBEA	01	01	07	13	10	18	16	05	00	13
General Info-NBEA	-12	13	02	-04	01	16	06	-09	-11	02
Judgment-NBEA	-06	04	07	-02	02	09	21	33	25	22
Arithmetic-NBEA	-10	-10	-16	-17	-17	06	-05	02	02	01
Memory-NBEA	16	-00	-03	-04	-04	09	06	20	17	14
Total-NBEA	-15	-06	-04	01	-01	26*	17	15	13	23
Salary	-	17	05	-04	-00	-23	-13	-16	-06	-22
No. of People Supervised	17	-	25*	05	16	16	11	15	16	17

*p < .05.
**p < .01.
***p < .001.

Table 48

Pearson Zero-Order Correlations Between Selected Dependent and Independent Variables for Model Office Graduates Employed Full- and Part-Time in the Office (N's vary for each variable; periods omitted)

Variable	Salary	No. People Supervised	MSQ Intrinsic	MSQ Extrinsic	MSQ General	MSS Performance	MSS Conformance	MSS Dependability	MSS Personal Adjustment	MSS General
Hours of Office Related Work Exp.	03	-04	09	08	09	10	15	03	-07	08
Hours of Non-Office Related Work Exp.	14	01	-12	-18	-16	-18	-14	-10	-02	-15
Vocabulary	09	-04	05	05	04	01	-06	13	12	04
Job Knowledge-OWP	09	04	-06	-02	-05	-13	-10	08	09	-01
Personal Qualifications-OWP	-11	08	-04	-18	-12	-05	20	12	-02	05
Interpersonal Relations-OWP	13	17	-01	-05	-03	18	22	18	-02	18
Job Qualifications-OWP	-13	02	13	19*	19	-13	-00	11	-16	-09
Total-OWP	03	14	02	02	03	-01	18	24*	-06	08
Spelling-NBEA	-08	-13	15	-07	08	09	03	25*	11	13
Plurals-NBEA	-09	10	15	08	14	-06	06	02	-07	-03
Grammar-NBEA	-24*	-10	02	-12	-02	04	17	24*	07	14
Expression-NBEA	04	06	06	06	05	15	07	03	10	12
General Info-NBEA	13	-08	06	-00	05	-34**	-09	-09	-08	-20
Judgment-NBEA	-06	07	04	17	10	-12	-31*	-10	-28*	-26*
Arithmetic-NBEA	-10	07	28**	18	25*	-14	-02	07	-13	-09
Memory-NBEA	05	-04	17	16	21*	-13	-23*	-07	-06	-16
Total-NBEA	-06	-00	20*	08	18	-15	-04	01	-10	-11
Salary	-	-05	02	14	07	-33**	-23	-18	-14	-28*
No. of People Supervised	-05	-	-11	-12	-13	00	-05	-11	-18	-09

*p < .05.
**p < .01.
***p < .001.

Table 49

Pearson Zero-Order Correlations Between Selected Dependent and Independent Variables for Cooperative Office Education Graduates Employed Full- and Part-Time in the Office (N's vary for each variable; periods omitted)

Variable	Salary	No. People Supervised	MSQ Intrinsic	MSQ Extrinsic	MSQ General	MSS Performance	MSS Conformance	MSS Dependability	MSS Personal Adjustment	MSS General
Hours of Office Related Work Exp.	-01	-01	-00	-03	-00	15	16	10	15	18
Hours of Non-Office Related Work Exp.	-06	06	-05	08	01	01	-11	00	19*	04
Vocabulary	01	-10	05	12	09	07	13	13	16	13
Job Knowledge-OWP	13	-06	-01	-04	-04	00	10	-00	13	07
Personal Qualifications-OWP	01	-07	13	08	12	-02	-03	01	08	01
Interpersonal Relations-OWP	-01	-08	11	06	11	05	-01	05	23*	08
Job Qualifications-OWP	16*	-16	02	05	03	03	08	04	04	05
Total-OWP	11	-13	08	05	07	02	05	03	16	07
Spelling-NBEA	10	05	03	10	07	10	05	06	02	06
Plurals-NBEA	-00	04	01	06	04	16	15	18*	36***	24*
Grammar-NBEA	-09	-04	09	22**	17*	-03	-02	01	07	01
Expression-NBEA	-04	-11	-06	07	-02	25**	28**	19*	22*	28**
General Info-NBEA	-09	-14	-06	03	-00	03	-06	06	10	03
Judgment-NBEA	-02	-09	-11	-03	-09	17	19*	14	10	17*
Arithmetic-NBEA	-05	02	04	00	05	26**	09	18*	15	22*
Memory-NBEA	-07	-00	-05	-01	-03	12	-01	-00	10	08
Total-NBEA	-05	-07	00	09	05	18*	09	16	20*	19*
Salary	-	18*	06	13	03	01	03	07	05	04
No. of People Supervised	78*	-	11	00	06	22*	15	16	16	21*

*p < .05.
**p < .01.
***p < .001.

Table 50

Pearson Zero-Order Correlations Between Selected Dependent and Independent Variables for All Courses Graduates Employed Full- and Part-Time in the Office (N's vary for each variable; periods omitted)

Variable	Salary	a Wage	No. People Supervised	MSQ Intrinsic	MSQ Extrinsic	MSQ General	MSS Performance	MSS Conformance	MSS Dependability	MSS Personal Adjustment	MSS General
Hours of Office Related Work Exp.	-03	-20	-02	06	00	05	18**	10	03	05	12
Hours of Non-Office Related Work Exp.	03	-40	00	-02	01	-01	-01	-06	-00	14	02
Vocabulary	-02	-14	-09	01	06	03	06	04	10	14*	10
Job Knowledge-OWP	03	23	-06	-06	-03	-06	-01	08	07	09	07
Personal Qualifications-OWP	-02	-	01	05	01	03	-01	00	03	02	01
Interpersonal Relations-OWP	01	47	05	07	02	05	04	06	10	10	08
Job Qualifications-OWP	07	-66*	-06	01	04	02	-03	05	05	-07	-01
Total-OWP	04	28	-02	02	02	01	-00	07	08	04	05
Spelling-NBEA	02	09	-03	01	-00	01	11	09	15*	08	13*
Plurals-NBEA	-08	08	00	01	02	03	10	14*	11	22***	17**
Grammar-NBEA	-19***	-14	-11*	04	09	08	07	09	12*	09	11
Expression-NBEA	-00	-49	00	00	08	03	20*	18**	10	13*	20**
General Info-NBEA	-06	-15	-02	-05	-03	-02	-03	-04	-01	02	-03
Judgment-NBEA	-06	-04	02	-03	00	-03	08	09	14*	07	10
Arithmetic-NBEA	-09	02	-03	04	-01	03	11	04	13*	06	10
Memory-NBEA	01	18	-00	-01	00	00	05	-03	04	09	05
Total-NBEA	-11	-06	-03	01	03	04	11	08	13	12	13
Salary	-	-	10	05	10	05	-15*	-10	-08	-05	-13*
Wage	-	-	64*	37	-33	13	76*	71*	83**	57	78*
No. of People Supervised	10	64*	-	10	-01	05	16*	08	09	09	13*

*p < .05.
**p < .01.
***p < .001.

[a]Wage is not used in tables prior to this because of the small number of respondents receiving wages.