

A STUDY OF THE SOURCES OF TRAINING  
OF  
OFFICE AND CLERICAL WORKERS

OKLAHOMA  
AGRICULTURAL & MECHANICAL COLLEGE  
LIBRARY  
SEP 22 1939

A STUDY OF THE SOURCES OF TRAINING  
OF  
OFFICE AND CLERICAL WORKERS

By  
CAROL MARIE STEWARD  
Bachelor of Science  
The University of Oklahoma  
Norman, Oklahoma  
1935

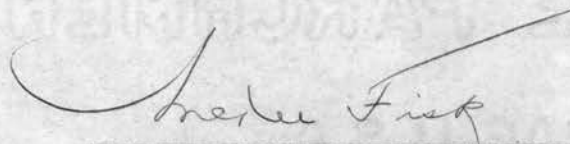
Submitted to the Department of Commercial Education  
Oklahoma Agricultural and Mechanical College  
In Partial Fulfillment of the Requirements  
For the degree of


MASTER OF SCIENCE

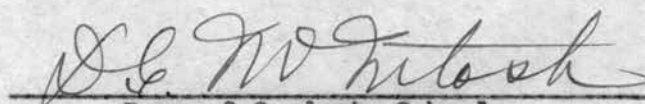
1939

OKLAHOMA  
AGRICULTURAL & MECHANICAL COLLEGE  
LIBRARY  
SEP 22 1939

APPROVED:

  
Major Adviser

  
Head of Department

  
Dean of Graduate School

118359

## ACKNOWLEDGMENTS

The writer wishes to express her sincere appreciation to Doctor McKee Fisk, Oklahoma Agricultural and Mechanical College, for his supervision in this study and to all others who helped make the study possible.

C.M.S.



## CONTENTS

CHAPTER	PAGE
LIST OF TABLES	
I. STATEMENT OF PROBLEM	1
II. SCHOOLS ATTENDED BY WORKERS	11
III. COMMERCIAL SUBJECTS AND MACHINES STUDIED BY WORKERS	31
IV. EMPLOYMENT AND EXPERIENCE OF WORKERS	55
V. SUMMARY AND CONCLUSIONS	68

## LIST OF TABLES

TABLE	PAGE
I CLASSIFICATION OF WORKERS	8
II HIGH SCHOOL EDUCATION OF ALL WORKERS	12 ✓
III HIGH SCHOOL EDUCATION OF BOOKKEEPERS	14
IV HIGH SCHOOL EDUCATION OF SECRETARIES AND STENOGRAPHERS	15
V HIGH SCHOOL EDUCATION OF GENERAL CLERKS	16
VI COLLEGE EDUCATION OF ALL WORKERS	18 ✓
VII COLLEGE EDUCATION OF BOOKKEEPERS	20
VIII COLLEGE EDUCATION OF SECRETARIES AND STENOGRAPHERS	21
IX COLLEGE EDUCATION OF GENERAL CLERKS	22
X BUSINESS COLLEGE EDUCATION OF ALL WORKERS	24 ✓
XI BUSINESS COLLEGE EDUCATION OF BOOKKEEPERS	25
XII BUSINESS COLLEGE EDUCATION OF SECRETARIES AND STENOGRAPHERS	27
XIII BUSINESS COLLEGE EDUCATION OF GENERAL CLERKS	28
XIV NUMBER OF WORKERS ATTENDING EVENING PUBLIC SCHOOL AND MACHINE SCHOOL	29
XIV (a) NUMBER OF WORKERS ATTENDING OTHER SCHOOLS	29 ✓
XV SCHOOLS ATTENDED BY ALL WORKERS	30 ✓
XVI WHERE SUBJECTS WERE STUDIED MOST FREQUENTLY	32 ✓
XVII WHEN SUBJECTS WERE STUDIED MOST FREQUENTLY	33 ✓
XVIII WHERE SUBJECTS WERE STUDIED MOST FREQUENTLY BY EXECUTIVES, MANAGERS, AND SUPERVISORS	35

XXIX	WHEN SUBJECTS WERE STUDIED MOST FREQUENTLY BY EXECUTIVES, MANAGERS, AND SUPERVISORS	36
XX	WHERE SUBJECTS WERE STUDIED MOST FREQUENTLY BY BOOKKEEPERS	38
XXI	WHEN SUBJECTS WERE STUDIED MOST FREQUENTLY BY BOOKKEEPERS	39
XXII	WHERE SUBJECTS WERE STUDIED MOST FREQUENTLY BY SECRETARIES AND STENOGRAPHERS	40
XXIII	WHEN SUBJECTS WERE STUDIED MOST FREQUENTLY BY SECRETARIES AND STENOGRAPHERS	41
XXIV	WHERE SUBJECTS WERE STUDIED MOST FREQUENTLY BY GENERAL CLERKS	43
XXV	WHEN SUBJECTS WERE STUDIED MOST FREQUENTLY BY GENERAL CLERKS	44
XXVI	WHERE MACHINES WERE STUDIED BY ALL WORKERS	47
XXVII	WHEN MACHINES WERE STUDIED BY ALL WORKERS	48
XXVIII	MACHINES STUDIED BY EXECUTIVES, MANAGERS, AND SUPERVISORS	49
XXIX	MACHINES USED BY BOOKKEEPERS	50
XXX	MACHINES STUDIED BY SECRETARIES AND STENOGRAPHERS	51
XXXI	MACHINES STUDIED BY GENERAL CLERKS	52
XXXII	EMPLOYMENT OF ALL WORKERS	56
XXXII	(a) METHODS AND AGENCIES USED BY EXECUTIVES, MANAGERS, AND SUPERVISORS	56a
XXXIII	METHODS AND AGENCIES USED BY BOOKKEEPERS IN SECURING EMPLOYMENT	57
XXXIV	METHODS AND AGENCIES USED BY SECRETARIES AND STENOGRAPHERS IN SECURING EMPLOYMENT	58
XXXV	METHODS AND AGENCIES USED BY GENERAL CLERKS IN SECURING EMPLOYMENT	59



XXXVI	TIME ELAPSED BEFORE SECURING POSITIONS	60 ✓
XXXVII	EXPERIENCE OF WORKERS IN PRESENT POSITIONS	62 ✓
XXXVIII	EXPERIENCE OF WORKERS WITH PRESENT FIRMS	63 ✓
XXXIX	FIRST POSITIONS OF WORKERS	65 ✓
XL	OFFICE EXPERIENCE OF ALL WORKERS	66 ✓

## CHAPTER I

### STATEMENT OF THE PROBLEM

Numerous studies have been and are being made to locate graduates and former students of individual schools. In such studies an attempt is made to find whether individuals are employed, and if so, whether employment is in the kind of work for which preparation was made in school. Only persons having taken training in that particular school are considered.

Few studies have been made which show the other side of the office employment situation: in what types of schools the training of the employees was received; whether employees received training before or after accepting a position; how employees secured positions. The answers to these problems based on information received from present employees should point out the kind of training required for employees, should help to evaluate the training now given in the schools, and should indicate the most effective agencies or methods of securing employment.

### The Purpose And Scope

The purpose of this study is to determine the sources and extent of training of office and clerical workers and the methods used in securing employment.

From office and clerical workers representing a variety of kinds and sizes of businesses in six cities and towns of Oklahoma, 719 useable questionnaires were secured. The kinds of businesses represented



were: education, financial, government, insurance, real estate and real estate loans, manufacturing, mercantile, oil, personnel, professional, publications, utilities, transportation, and mechanical service. Though no definite per cent of workers from each office visited checked questionnaires, an attempt was made to have questionnaires checked by workers of each type in each office. The number of employees employed in the offices ranged from 1 to 837. The assumption is made that the workers were representative of any group as no effort was made to select particular persons or businesses. All of the data for the study were gathered within a period of three months.

#### Procedure

Many questionnaires were studied to determine the information most useful in the study and how to most successfully secure the information. A questionnaire was then made and revised after criticisms were given by several competent people. A test check was made by having fifty questionnaires checked by office workers. The weaknesses of the questionnaire were then determined, and in the light of these weaknesses the questionnaire was again revised. A copy of the questionnaire used is shown in the Appendix.

During personal interviews with executives, managers, supervisors, and other office workers arrangements were made to have the questionnaires checked. If possible the interviewer checked or waited for the workers to check the questionnaires; if not possible, the interviewer called later to collect the questionnaires or left a self-

addressed envelope for mailing the questionnaires.

When the questionnaires were secured a tabulation of the data was made. To simplify the compilation of data the workers were divided into four main groups according to job names and duties performed, namely: (1) executive, manager, and supervisor; (2) bookkeeper; (3) secretary and stenographer; (4) general clerk.

Workers grouped in the executive, managerial, and supervisory group include all having executive, managerial, or supervisory duties of any kind regardless of what other duties performed. Cognizance must be taken of the differences in kinds and sizes of businesses when considering this group because of the variation in training and ability required.

Workers included in the bookkeeping group are all having any bookkeeping duties except executives, managers, and supervisors. Because of the variation in bookkeepers' duties the group is subdivided according to duties into: (a) bookkeeper, accountant, and auditor; (b) bookkeeper and cashier; (c) bookkeeper and stenographer; (d) bookkeeper and other duties than those named above. Workers whose bookkeeping duties seemed to be principally machine operation are grouped with machine operators.

The group headed secretary and stenographer includes all workers performing only secretarial or stenographic duties. Since the terms are used synonymously so often the workers are grouped in the division checked on the questionnaire.

The general clerical group includes all other office workers. Sub-divisions of the general clerical group are: cashier, file

clerk, machine operator, reporter, teller, typist, special clerk, P. B. X. operator, office boy, and those checked as general clerk or as performing a combination of two or more duties unless otherwise classified. With the exception of the last, the workers in each of the sub-divisions specialize in the one kind of work indicated by the name of the sub-division.

The machine operator sub-division includes workers operating the different kinds of office machines which will be discussed in a later chapter. Though the transcribing machines will be listed as office machines to show their use in the offices, the operators are classified as typists.

Reporters are those workers who report credit ratings or perform similar duties.

The term "special clerk" is used to mean a clerk specializing in one type of work only, as a payroll or invoice clerk.

"Training" as used in the study means knowledge gained or skills acquired either prior to or during employment in order to become more proficient on the job.

"Time elapsed before taking a position" means the time which elapsed between the last school training and securing one's first position.

After the workers were grouped according to the classifications named, the data were tabulated, compiled, and some conclusions drawn. Some generalizations are made concerning each occupational group with respect to the source and extent of their training and methods of securing employment.



### Similar Studies

In the school year 1923-24 by a cooperative arrangement between the Graduate School of Education of Harvard University and the National Association of Office Managers, a study of clerical-training needs was begun. The results were published in 1927 under the title A New Conception of Office Practice.<sup>1</sup>

The study was national in scope. The purpose was to learn more about the business training needed by clerical workers and little attention was given to stenographers and bookkeepers. Thirty-seven firms reported 34,513 office employees: 3,451, or 10 per cent of which were stenographers; 656, or 1.9 per cent of which were bookkeepers; the remainder did other types of office work.

Some of the conclusions Nichols made from the study were: job names were used largely as a matter of payroll convenience rather than as a guide to what the employees' duties may have been; there were many standardized duties for which clerical training could be given, some of which were, calculating machine operation, recording, merchandise clerical work, general clerical work, filing and indexing, cashiering, typewriting, correspondence duties, mail handling duties, duplicating machine operation, and billing and dictating machine operation; few clerks doing special types of work for which some skill was needed went directly from school to the position they were holding; since only 10 per cent of the workers were doing

---

1. Frederick G. Nichols, A New Conception of Office Practice. Harvard Bulletins in Education, No. 12, 1927.

stenographic work and only 1.9 per cent were doing bookkeeping fewer high school students should be encouraged to take this training; female clerical workers outnumbered male clerical workers; secondary-school vocational education was desirable for clerical workers; there was a need for workers trained in the use of various calculating devices.

A Study of Office Employees in the Major Insurance Offices of Denver, Colorado,<sup>2</sup> an unpublished thesis by Joseph P. Arnold, is a study of only insurance office employees. The purpose was to determine the types of workers, the duties, the use of office appliances and machines, the extent of education, the commercial subjects studied, the types of schools attended, previous experience, and possible needs for other types of training than those offered. Some of the findings pertinent to the study now under discussion were: more men than women held supervisory positions; office appliances were mainly operated by women; numerically, general office workers were most important in the field of insurance; the adding machine and the typewriter were the most used office machines; the comptometer and the typewriter were the only two machines on which training had been received more often in school than from other sources; high school graduation was apparently a prerequisite for employment; the specialized clerical workers had the highest percentage of high school graduates, the appliance operators had the lowest; the per cent of workers who had graduated from college was 6.3 and

---

2. Joseph P. Arnold, A Study of Office Employees in the Major Insurance Offices of Denver, Colorado. Unpublished thesis, University of Denver, Denver, Colorado, 1932.



34.9 per cent had attended; most of the supervisory workers were not listed in college work; clerical workers made up 49.4 per cent of the number of workers attending business college; women outnumbered men in business school training; typewriting, shorthand, bookkeeping, and spelling were apparently the four basic subjects.

A Study of Office Employees in Kansas City, Kansas,<sup>3</sup> an unpublished thesis by Elizabeth B. Patton, is similar to Nichols' study though on a much smaller scale. Only 300 employees from 16 business firms checked questionnaires for the study.

Some of the findings and conclusions drawn from the study were: elementary and high school training were prerequisites for any type of office work; high school graduates were holding better positions than those who did not graduate; private business schools were used as an extension of training beyond the high school; 17 per cent of the total group had enrolled for college training, but only 9 had graduated; other schools had no particular significance in the training of any particular group of workers; typewriting was studied by 63 per cent of the group; bookkeeping by 42 per cent; shorthand by 34 per cent. The number of workers taking other subjects was given by the writer in numbers rather than in per cents and was given as follows: business arithmetic, 127; commercial geography, 67; commercial law, 52; economics, 40; and selling, 21. All of the above named subjects had been studied in high school more frequently than in any other type of school.

---

3. Elizabeth B. Patton, A Study of Office Employees in Kansas City, Kansas. Unpublished thesis, University of Denver, Denver, Colorado, 1935.

### The Workers

When grouped according to the occupational classification previously explained the 719 workers were divided as shown in Table I: executives, managers, and supervisors, 81, or 11.3 per cent; bookkeepers, 168, or 23.4 per cent; secretaries and stenographers, 135, or 18.8 per cent; general clerks, 335, or 46.6 per cent.

TABLE I  
CLASSIFICATION OF WORKERS

Group	Total	Male		Female		Not Stated		% of All Workers
		No.	%	No.	%	No.	%	
Executive, Manager, and Supervisor	81	48	59.3	31	38.3	2	2.5	11.3
Bookkeeper	168	50	29.8	115	68.5	3	1.8	23.4
Secretary and Stenographer	135	6	4.4	125	92.6	4	3.0	18.8
General Clerk	335	77	23.0	245	73.1	13	3.9	46.6
TOTAL	719	181	25.2	516	71.8	22	3.1	100.0

NOTE. This table should be read as follows: Of the 81 workers in the executive group which includes 11.3 per cent of all the workers, 48, or 59.3 per cent are male; 31, or 38.3 per cent are female; 2, or 2.5 per cent did not state sex.

Though the occupational group executive, manager, and supervisor includes all workers performing duties of an executive, managerial, or supervisory nature regardless of what other duties performed, only approximately one-tenth of the workers fall in this group. Since

individuals so classed range in positions which call for supervision over only one or two workers to supervision over large businesses, it is evident that few positions of the type are available.

Slightly less than one-fourth of the workers had bookkeeping duties. Of the 168 performing bookkeeping duties less than one-third had no other duties than bookkeeping. Over one-half performed duties other than only bookkeeping, cashiering, or stenographic duties. Questionnaires from workers in small firms where only a few workers were employed to do all office work were influential in increasing this figure. Less than 17 workers were employed in 57.9 per cent of the offices and less than 33 workers were employed in 79.1 per cent of the offices.

Almost one-fifth of the workers performed secretarial or stenographic duties.

As has been found in practically all studies in which workers have been classified the general clerical group was much larger than any other group. In this study approximately one-half were clerical workers. Though about one-half of the general clerical group specialized in only one kind of work, the other half performed a combination of duties. It is apparent that there is still a demand for workers who can successfully perform a number of duties of a clerical nature.

In only one occupational group, executive, manager, and supervisor, does the number of men exceed the number of women.

This chapter has explained in detail the purpose and scope, the procedure, and the occupational classification of the 719 workers, as well as has given a brief summary of similar studies which have been

made.

The following chapter will be devoted to analyzing the types of schools that have contributed to the training of each of the four occupational groups into which the 719 workers have been divided.

## CHAPTER II

## SCHOOLS ATTENDED BY WORKERS

The large number of schools maintained by federal, state, and municipal governments, and by private groups and individuals have made an education accessible to practically every one, both on the secondary and the college level. The data emphasize the effect that the many educational opportunities have had on the standards of office and clerical workers.

Evidence that a high school education is a prerequisite for any kind of office work is shown by the data. Approximately nine-tenths of the workers had graduated from high school. As may be seen in Table II only 2.8 per cent of the workers did not attend or did not state whether they had attended high school. In all later discussion those who did not state whether they attended the school in question will be grouped with those not attending. Months of attendance by the 9.5 per cent dropping out of high school before finishing are given in Table VI, Appendix.

The per cent of high school graduates among the executives, managers, and supervisors is noticeably lower than that of any of the other occupational groups: moreover, individuals in this group are older as is shown by years of working experience.

It is interesting to note that each of the women doing executive work had attended high school. However, the per cent not graduating from high school, 19.4, was higher than the per cent of the



TABLE II  
HIGH SCHOOL EDUCATION OF ALL WORKERS

GROUP and SEX	Graduated from high school		Attended high school but did not graduate		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
Male:								
Executive, Manager, and Supervisor	40	83.3	3	6.3	5	10.4	48	100.00
Bookkeeper	42	84.0	4	8.0	4	8.0	50	100.00
Secretary and Stenographer	6	100.0	0		0		6	100.00
General Clerk	67	87.0	10	13.0	0		77	100.00
Total	155	85.6	17	9.4	9	5.0	181	100.00
Female:								
Executive, Manager, and Supervisor	25	80.6	6	19.4	0		31	100.00
Bookkeeper	101	87.8	12	10.4	2	1.7	115	100.00
Secretary and Stenographer	120	96.0	2	1.6	3	2.4	125	100.00
General Clerk	211	86.1	29	11.8	5	2.0	245	100.00
Total	457	86.6	49	9.5	10	1.9	516	100.00
Sex not Stated:								
Executive, Manager, and Supervisor	2	100.0	0		0		2	100.00
Bookkeeper	3	100.0	0		0		3	100.00
Secretary and Stenographer	3	75.0	1	25.0	0		4	100.00
General Clerk	11	84.6	1	7.7	1	7.7	13	100.00
Total	19	86.4	2	9.1	1	4.5	22	100.00
Total of All Workers	631	87.8	68	9.5	20	2.8	719	100.00

NOTE: This table should be read as follows: Of the 48 men who were executives, managers, and supervisors, 40, or 83.3 per cent had graduated from high school; 3, or 6.3 per cent had attended but had not graduated; 5, or 10.4 per cent did not state whether they had attended or had not attended.

men not attending and not graduating, 16.7.

The six women drop-outs had evidently dropped out of high school to take positions as no time had elapsed between school and the first position. However, one of the six had attended business college, and so, it is possible that she did not go directly from high school to work.

One of the three men drop-outs stated that no time elapsed between dropping out of school and taking his first position, and the other two men did not state the length of time elapsing.

The bookkeeper group was second of the groups in per cent of high school graduates with only .6 per cent lead over general clerks. Table III shows that within the bookkeeper group, the ones specializing in bookkeeping duties had almost 10 per cent fewer graduates than any other sub-division; also, about 10 per cent more had not attended high school. The sub-division which had the highest per cent of high school graduates was that of bookkeepers and others. The women employed in bookkeeping positions had a little higher per cent of high school graduates and attendants than the men. The answers on the questionnaires did not reveal any pertinent information on reasons for dropping out of high school.

The per cent of high school graduates among the secretaries and stenographers was higher than that of any other group. Only 6, or 4.4 per cent of this group did not graduate and one-half of that number had attended. (Table IV). Though only 4.4 per cent of the secretaries and stenographers were men, all of them were high school graduates.

TABLE III  
HIGH SCHOOL EDUCATION OF BOOKKEEPERS

Position and Sex	Graduated from high school		Attended high school but did not graduate		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
<b>Male:</b>								
Bookkeeper, Accountant, and Auditor	25	80.7	3	9.7	3	9.7	31	100.00
Bookkeeper and Cashier	1	100.0	0		0		1	100.00
Bookkeeper and Steno- grapher	0		0		0		0	
Bookkeeper and Others	16	88.9	1	5.6	1	5.6	18	100.00
Total	42	84.0	4	8.0	4	8.0	50	100.00
<b>Female:</b>								
Bookkeeper, Accountant, and Auditor	19	76.0	4	16.0	2	8.0	25	100.00
Bookkeeper and Cashier	7	87.5	1	12.5	0		8	100.00
Bookkeeper and Steno- grapher	11	91.7	1	8.3	0		12	100.00
Bookkeeper and Others	64	91.4	6	8.6	0		70	100.00
Total	101	87.8	12	10.4	2	1.7	115	100.00
<b>Sex Not Stated:</b>								
Bookkeeper, Accountant, and Auditor	1	100.0	0		0		1	100.00
Bookkeeper and Cashier	0		0		0		0	
Bookkeeper and Steno- grapher	0		0		0		0	
Bookkeeper and Others	2	100.0	0		0		2	100.00
Total	3	100.0	0		0		3	100.00
Total of All Bookkeepers	146	86.9	16	9.5	6	3.6	168	100.00

NOTE: This table should be read as follows: Of the 31 men who were bookkeepers, accountants, and auditors, 25, or 80.7 per cent had graduated from high school; 3, or 9.7 per cent had not graduated; 3, or 9.7 per cent had not attended or had not stated.



TABLE IV  
HIGH SCHOOL EDUCATION OF SECRETARIES AND STENOGRAPHERS

Position and Sex	Graduated from high school		Attended high school but did not graduate		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
<b>Male:</b>								
Secretary	5	100.0	0		0		5	100.0
Stenographer	1	100.0	0		0		1	100.0
Total	6	100.0	0		0		6	100.0
<b>Female:</b>								
Secretary	42	97.7	0		1	2.3	43	100.0
Stenographer	78	95.1	2	2.4	2	2.4	82	100.0
Total	120	96.0	2	1.6	3	2.4	125	100.0
<b>Sex Not Stated:</b>								
Secretary	0		1	100.0	0		1	100.0
Stenographer	3	100.0	0		0		3	100.0
Total	3	75.0	1	25.0	0		4	100.0
<b>Total of All Secretaries and Stenographers</b>								
	129	95.6	3	2.2	3	2.2	135	100.0

NOTE: This table should be read as follows: Of the 5 men who were secretaries all had graduated from high school; of the 135 secretaries and stenographers, 129, or 95.6 per cent had graduated.

The general clerks ranked third in number of high school graduates with 289, or 86.3 per cent, graduating. It is significant that only 6, or 1.8 per cent of the general clerks did not attend high school. Table V shows the graduation and attendance of the workers in the sub-divisions. Within the group the typists ranked highest in per cent of graduates: all had graduated. Interesting is the fact that file clerks ranked second in the group with 92.3 per cent graduating.



TABLE V  
HIGH SCHOOL EDUCATION OF GENERAL CLERKS

Position and Sex	Graduated from high school		Attended high school but did not graduate		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
<b>Male:</b>								
Cashier	3	60.0	2	40.0	0		5	100.0
File Clerk	2	100.0	0		0		2	100.0
Machine								
Operator	7	87.5	1	12.5	0		8	100.0
Office Boy	2	66.7	1	33.3	0		3	100.0
P. B. X.								
Operator	0		0		0		0	
Reporter	0		0		0		0	
Special								
Clerk	6	85.7	1	14.3	0		7	100.0
Teller	11	100.0	0		0		11	100.0
Typist	1	100.0	0		0		1	100.0
Others	35	87.5	5	12.5	0		40	100.0
Total	67	87.0	10	13.0	0		77	100.0
<b>Female:</b>								
Cashier	21	77.8	4	14.8	2	7.4	27	100.0
File Clerk	10	90.9	1	9.1	0		11	100.0
Machine								
Operator	26	83.9	5	16.1	0		31	100.0
Office Boy	0		0		0		0	
P. B. X.								
Operator	4	80.0	1	20.0	0		5	100.0
Reporter	18	81.8	3	13.6	1	4.6	22	100.0
Special								
Clerk	6	85.7	1	14.3	0		7	100.0
Teller	0		1	100.0	0		1	100.0
Typist	18	100.0	0		0		18	100.0
Others	108	87.8	13	10.6	2	1.6	123	100.0
Total	211	86.1	29	11.8	5	2.1	245	100.0

(Continued on the following page)

TABLE V  
(Continued)

Position and Sex	Graduated from high school		Attended high school but did not graduate		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
Sex Not Stated:								
File Clerk	1	100.0	0		0		1	100.0
Reporter	0		1	50.0	1	50.0	2	100.0
Special Clerk	1	100.0	0		0		1	100.0
Others	9	100.0	0		0		9	100.0
Total	11	84.6	1	7.7	1	7.7	13	100.0
Total of All								
General Clerks	289	86.3	40	11.9	6	1.8	335	100.0

NOTE: This table should be read as follows: Of the 335 general clerks, 77 were men. Of the men 67, or 87.0 per cent had graduated from high school; 10, or 13.0 per cent had attended but had not graduated; none of the men had not attended high school.

The data show definitely that the workers do not feel that a high school education provides sufficient school training. Table VI shows that 255, or 35.5 per cent of the workers attended college and 91, or 12.7 per cent graduated from college. Of those attending but not graduating 79, or 31 per cent attended one year or less and 173, or 67.9 per cent attended two years or less. Figures on the number of months attended by those who did not graduate from college are shown in Table VII, Appendix.

Though a higher per cent of the workers had taken degrees in the School of Arts and Science than in any other school, a higher per cent of workers had taken work in the School of Commerce. The difference in the number taking work in these two schools is so small

TABLE VI  
COLLEGE EDUCATION OF ALL WORKERS

GROUP and SEX	Graduated from col- lege		Attended col- lege but did not graduate		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
<b>Male:</b>								
Executive, Manager, and Supervisor	12	25.0	19	39.6	17	35.4	48	100.0
Bookkeeper	10	20.0	15	30.0	25	50.0	50	100.0
Secretary and Stenographer	1	16.7	4	66.7	1	16.7	6	100.0
General Clerk	10	13.0	34	44.2	33	42.9	77	100.0
Total	33	18.2	72	39.8	76	42.0	181	100.0
<b>Female:</b>								
Executive, Manager, and Supervisor	7	22.6	11	35.5	13	41.9	31	100.0
Bookkeeper	9	7.8	40	34.8	66	57.4	115	100.0
Secretary and Stenographer	21	16.8	47	37.6	57	45.6	125	100.0
General Clerk	19	7.8	78	31.3	148	60.4	245	100.0
Total	56	10.9	176	34.1	284	54.8	516	100.0
<b>Sex Not Stated:</b>								
Executive, Manager, and Supervisor	0		2	100.0	0		2	100.0
Bookkeeper	0		2	66.7	1	33.3	3	100.0
Secretary and Stenographer	0		0		4	100.0	4	100.0
General Clerk	2	15.4	3	23.1	8	61.5	13	100.0
Total	2	9.1	7	31.8	13	59.1	22	100.0
<b>Total of All Workers</b>								
	91	12.7	255	35.5	373	51.7	719	100.0

NOTE: This table should be read as follows: Of the 48 men who were executives, managers, and supervisors, 12, or 25 per cent had graduated from college; 19, or 39.6 per cent had attended college but had not graduated; 17, or 35.4 per cent either did not attend or did not state whether they had attended.



as to be negligible. Over two-thirds of the degrees were held in the two schools. Other schools in which work had been done, in order of frequency mentioned were: education, home economics, agriculture, and engineering. More detailed information concerning college attendance by schools is given in Table VIII, Appendix.

Decidedly higher is the per cent of college graduates in the executive group than in any other group in spite of the per cent of high school graduates being lowest in that group. Too, the per cent of those attending but not graduating was highest in this group. There is practically no difference in the college graduation and attendance of the men and women of the executive, managerial, and supervisory group.

Bookkeepers ranked third in college graduates as well as third in per cent attending. The men in the bookkeeping group had a much higher per cent of college graduates than the women. Of the men, 20 per cent were graduates, while only 7.8 per cent of the women graduated. The difference in the per cent attending college but not graduating varied little. (Table VII).

Secretaries and stenographers ranked second in per cent of college graduates and attendants. The individuals holding secretarial positions evidently had much more college training than the stenographers as may be seen in Table VIII. This indicates that secretaries are required to make more preparation for their positions. Though the number of men in the group is very small, only 6, or 4.4 per cent, all except one of them had attended college. Almost



TABLE VII  
COLLEGE EDUCATION OF BOOKKEEPERS

Position and Sex	Graduated from col- lege		Attended col- lege but did not graduate		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
<b>Male:</b>								
Bookkeeper, Accountant, and Auditor	6	19.4	9	29.0	16	51.6	31	100.0
Bookkeeper and Cashier	1	100.0	0		0		1	100.0
Bookkeeper and Steno- grapher	0		0		0		0	
Bookkeeper and Others	3	16.7	6	33.3	9	50.0	18	100.0
Total	10	20.0	15	30.0	25	50.0	50	100.0
<b>Female:</b>								
Bookkeeper, Accountant, and Auditor	2	8.0	6	24.0	17	68.0	25	100.0
Bookkeeper and Cashier	0		3	37.5	5	62.5	8	100.0
Bookkeeper and Steno- grapher	0		5	41.7	7	58.3	12	100.0
Bookkeeper and Others	7	10.0	26	37.1	37	52.9	70	100.0
Total	9	7.8	40	34.8	66	57.4	115	100.0
<b>Sex Not Stated:</b>								
Bookkeeper, Accountant, and Auditor	0		0		1	100.0	1	100.0
Bookkeeper and Cashier	0		0		0		0	
Bookkeeper and Steno- grapher	0		0		0		0	
Bookkeeper and Others	0		2		0		2	100.0
Total	0		2	66.7	1	33.3	3	100.0
Total of All Bookkeepers	19	11.3	57	33.9	92	54.8	168	100.0

NOTE: This table should be read as follows: Of the 31 bookkeepers who were men, 6, or 19.4 per cent had graduated from college; 9, or 29 per cent had attended but had not graduated; 16, or 51.6 per cent had not attended or did not state whether they had attended.

TABLE VIII  
COLLEGE EDUCATION OF SECRETARIES AND STENOGRAPHERS

Position	Graduated from college		Attended college but did not graduate		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
<b>Male:</b>								
Secretary	1	20.0	4	80.0	0		5	100.0
Stenographer	0		0		1	100.0	1	100.0
Total	1	16.7	4	66.7	1	16.7	6	100.0
<b>Female:</b>								
Secretary	12	27.9	14	32.6	17	39.5	43	100.0
Stenographer	9	11.0	33	40.2	40	48.8	82	100.0
Total	21	16.8	47	37.6	57	47.3	125	100.0
<b>Sex Not Stated:</b>								
Secretary	0		0		1	100.0	1	100.0
Stenographer	0		0		3	100.0	3	100.0
Total	0		0		4	100.0	4	100.0
<b>Total of All Secretaries and Stenographers</b>								
	22	16.3	51	37.8	62	45.9	135	100.0

NOTE: This table should be read as follows: Of the 5 men who were secretaries 1, or 20.0 per cent had graduated from college; 4, or 80.0 per cent had attended but did not graduate.

one-half of the women in the group had not attended or had not stated college attendance.

As is generally expected the general clerical group had a lower per cent of college attendance than any other, only 45.6 per cent attended and only 9.3 per cent graduated. Within the group the file clerks had the largest per cent attending and graduating. (Table IX). The general clerical group was the only group in which the per cent of college graduates among the women exceeded that of the per cent of men graduating. However, even in the general clerical group more

TABLE IX  
COLLEGE EDUCATION OF GENERAL CLERKS

Position and Sex	Graduated from col- lege		Attended col- lege but did not graduate		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
Male:								
Cashier	1	20.0	1	20.0	3	60.0	5	100.0
File Clerk	0		1	50.0	1	50.0	2	100.0
Machine								
Operator	1	12.5	3	37.50	4	50.0	8	100.0
Office Boy	0		2	66.7	1	33.3	3	100.0
P. B. X.								
Operator	0		0		0		0	
Reporter	0		0		0		0	
Special								
Clerk	0		3	42.9	4	57.1	7	100.0
Teller	1	9.1	8	72.7	2	18.2	11	100.0
Typist	1	100.0	0		0		1	100.0
Others	6	15.0	16	40.0	18	45.0	40	100.0
Total	10	13.0	34	44.2	33	42.9	77	100.0
Female:								
Cashier	1	3.7	8	29.6	18	66.7	27	100.0
File Clerk	1	9.1	6	54.5	4	36.4	11	100.0
Machine								
Operator	2	6.5	8	25.8	21	67.7	31	100.0
Office Boy	0		0		0		0	
P. B. X.								
Operator	0		2	40.0	3	60.0	5	100.0
Reporter	4	18.2	5	22.7	13	59.1	22	100.0
Special Clerk	0		5	71.4	2	28.6	7	100.0
Teller	0		0		1	100.0	1	100.0
Typist	1	5.6	6	33.3	11	61.1	18	100.0
Others	10	8.1	38	30.9	75	61.0	123	100.0
Total	19	7.8	78	31.8	148	60.4	245	100.0
Sex Not Stated:								
File Clerk	1	100.0	0		0		1	100.0
Reporter	0		0		2	100.0	2	100.0
Special Clerk	0		1	100.0	0		1	100.0
Others	1	11.1	2	22.2	6	66.7	9	100.0
Total	2	15.4	3	23.1	8	61.5	13	100.0
Total of All General Clerks	31	9.3	115	34.3	189	56.4	335	100.0

NOTE: This table should be read as follows: Of the 5 men who were cashiers 1, or 20 per cent had graduated from college; 1, or 20 per cent had attended but had not graduated; 3, or 60 per cent either did not attend or did not state whether they had attended.

men attended than women.

Another type of school which has been prominent in providing training for the workers is the business college. Tabulation of the data showed that workers took shorthand, typewriting, business English, and secretarial training more often than any other subjects in business college; therefore, the data were tabulated to show the number taking only four subjects or less and the number taking five or more subjects. (Table X). However, this does not imply that all who took only four subjects took the four subjects named. Of the number of workers attending private business college more had studied five or more subjects than had studied less than five.

It is interesting to note the per cent of persons attending business college, 48.1 per cent, and the per cent of workers attending college or university, 48.2 per cent. Some of these workers studied in both types of institutions as will be shown later in dealing with specific subjects. Only 71, or 39.2 per cent, of the men had attended business college, but 264, or 51.1 per cent, of the women had attended.

The per cent of executives, managers, and supervisors attending business college was lower than that of any other group. In contrast, it is interesting to recall that the per cent of executives, managers, and supervisors attending and graduating from college was higher than that of any other group.

Though the per cent of bookkeepers attending business college was some higher than executives, managers, and supervisors, it ranked next to the lowest. The per cent of women in the bookkeeping



TABLE X  
BUSINESS COLLEGE EDUCATION OF ALL WORKERS

GROUP and SEX	Studied 4 or less subjects		Studied 5 or more subjects		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
Male:								
Executive, Manager, and Supervisor	5	10.4	4	8.3	39	81.3	48	100.00
Bookkeeper	4	8.0	14	28.0	32	64.0	50	100.00
Secretary and Stenographer	2	33.3	3	50.0	1	16.7	6	100.00
General Clerk	26	33.8	13	16.9	38	49.4	77	100.00
Total	37	20.4	34	18.8	110	60.8	181	100.00
Female:								
Executive, Manager, and Supervisor	6	19.4	9	29.0	16	51.6	31	100.00
Bookkeeper	18	15.7	36	31.3	61	53.0	115	100.00
Secretary and Stenographer	28	22.4	53	42.4	44	35.2	125	100.00
General Clerk	54	22.0	60	24.5	131	53.5	245	100.00
Total	106	20.5	158	30.6	252	48.8	516	100.00
Sex Not Stated:								
Executive, Manager, and Supervisor	0		0		2	100.0	2	100.00
Bookkeeper	1	33.3	1	33.3	1	33.3	3	100.00
Secretary and Stenographer	0		2	50.0	2	50.0	4	100.00
General Clerk	3	23.1	4	30.8	6	46.2	13	100.00
Total	4	18.2	7	31.8	11	50.0	22	100.00
Total of All Workers	147	20.4	199	27.7	373	51.9	719	100.00

NOTE: This table should be read as follows: Of the 48 men in executive, managerial, and supervisory positions, 5, or 10.4 per cent had studied 4 or less subjects in business college; 4, or 8.3 per cent had studied 5 or more subjects; 39, or 81.3 per cent had not attended.

TABLE XI  
BUSINESS COLLEGE EDUCATION OF BOOKKEEPERS

Position and Sex	Studied 4 or less Subjects		Studied 5 or more Subjects		Did not Attend or Did Not State		Total	
	No.	%	No.	%	No.	%	No.	%
<b>Male:</b>								
Bookkeeper, Accountant, and Auditor	3	9.7	8	25.8	20	64.5	31	100.00
Bookkeeper and Cashier	0		0		1	100.00	1	100.00
Bookkeeper and Steno- grapher	0		0		0		0	
Bookkeeper and Others	1	0.56	6	33.3	11	61.1	18	100.00
Total	4	8.0	14	28.0	32	64.0	50	100.00
<b>Female:</b>								
Bookkeeper, Accountant, and Auditor	3	12.0	7	28.0	15	60.0	25	100.00
Bookkeeper and Cashier	1	12.5	0		7	87.5	8	100.00
Bookkeeper and Steno- grapher	4	33.3	6	50.0	2	16.7	12	100.00
Bookkeeper and Others	10	14.3	23	32.9	37	52.9	70	100.00
Total	18	15.7	36	31.3	61	53.0	115	100.00
<b>Sex Not Stated:</b>								
Bookkeeper, Accountant, and Auditor	1	100.00	0		0		1	100.00
Bookkeeper and Cashier	0		0		0		0	
Bookkeeper and Steno- grapher	0		0		0		0	
Bookkeeper and Others	0		1	50.0	1	50.0	2	100.00
Total	1	33.3	1	33.3	1	33.3	3	100.00
Total of All Bookkeepers	23	13.7	51	30.4	94	56.0	168	100.00

NOTE: This table should be read as follows: Of the 31 men who were bookkeepers, accountants, and auditors, 3, or 9.7 per cent had studied 4 or less subjects; 8, or 25.8 per cent had studied 5 or more subjects; 20, or 64.5 per cent had not attended.

group attending business college was much higher than the per cent of men attending.

Evidently secretaries and stenographers had found the business college more helpful in their training than any other group for over one-half, 65.2 per cent of them had attended. (Table XII). Since the three subjects studied most often were shorthand, typewriting, and business English it seems logical that the per cent attending would be high in this group.

Of the general clerical group 39, or 50.7 per cent of the men had attended business college, and 114, or 46.5 per cent of the women had attended. (Table XIII).

Other types of schools than the high school, college, and business college apparently have done little toward providing vocational training for the workers. Though recommendations are frequently made that more evening public schools be established this study shows that the evening public school attracted comparatively few workers, only 67, or 9.3 per cent. The number of subjects studied by persons in the evening public schools varied from one to six. (Table XIV).

The machine schools, too, had a low per cent of attendance by the workers, 5.3. The largest number of machine school attendants was found in the machine operator sub-division of the clerical group. The number of workers in each position attending evening public schools and machine schools are shown in Tables IX, X, XI, Appendix.

Other schools giving training were so small in number as to be negligible. The number of persons receiving training from other sources are shown in Table XIV A.

TABLE XII

## BUSINESS COLLEGE EDUCATION OF SECRETARIES AND STENOGRAPHERS

Position	Studied 4 or less subjects		Studied 5 or more subjects		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
<b>Male:</b>								
Secretary	1	20.0	3	60.0	1	20.0	5	100.00
Stenographer	1	100.00	0		0		1	100.00
Total	2	33.3	3	50.0	1	16.7	6	100.00
<b>Female:</b>								
Secretary	6	14.0	18	41.9	19	44.1	43	100.00
Stenographer	22	26.8	35	42.7	25	30.5	82	100.00
Total	28	22.4	53	42.4	44	35.2	125	100.00
<b>Sex Not Stated:</b>								
Secretary	0		1	100.00	0		1	100.00
Stenographer	0		1	33.3	2	66.7	3	100.00
Total	0		2	50.0	2	50.0	4	100.00
<b>Total of All Secretaries and Stenographers</b>								
	30	22.2	58	43.0	47	34.8	135	100.00

NOTE: This table should be read as follows: Of the 5 men in secretarial positions, 1 had studied 4 or less subjects in business college; 3, or 60 per cent, had studied 5 or more subjects; 1, or 20 per cent had not attended.



TABLE XIII  
BUSINESS COLLEGE EDUCATION OF GENERAL CLERKS

Position	Studied 4 or less subjects		Studied 5 or more subjects		Did not attend or did not state		Total	
	No.	%	No.	%	No.	%	No.	%
<b>Male:</b>								
Cashier	0		0		5	100.0	5	100.0
File Clerk	1	50.0	1	50.0	0	0.0	2	100.0
Machine								
Operator	2	25.0	2	25.0	4	50.0	8	100.0
Office Boy	0		0		3	100.0	3	100.0
P. B. X.								
Operator	0		0		0		0	
Reporter	0		0		0		0	
Special Clerk	2	28.6	2	28.6	3	42.9	7	100.0
Teller	1	9.1	2	18.2	8	72.7	11	100.0
Typist	0		0		1	100.0	1	100.0
Others	10	25.0	8	20.0	22	55.0	40	100.0
Total	26	33.8	13	16.9	38	49.4	77	100.0
<b>Female:</b>								
Cashier	6	22.2	6	22.2	15	55.5	27	100.0
File Clerk	2	18.2	1	9.1	8	72.7	11	100.0
Machine								
Operator	7	22.6	7	22.6	17	54.8	31	100.0
Office Boy	0		0		0		0	
P. B. X.								
Operator	2	40.0	0		3	60.0	5	100.0
Reporter	4	18.2	4	18.2	14	63.6	22	100.0
Special Clerk	2	28.6	0		5	71.4	7	100.0
Teller	0		0		1	100.0	1	100.0
Typist	4	22.2	7	38.9	7	38.9	18	100.0
Others	27	22.0	33	26.8	63	51.2	123	100.0
Total	54	22.0	60	24.5	131	53.5	245	100.0
<b>Sex Not Stated:</b>								
File Clerk	0		0		1	100.0	1	100.0
Reporter	0		0		2	100.0	2	100.0
Special Clerk	0		0		1	100.0	1	100.0
Others	3	33.3	4	44.4	2	22.2	9	100.0
Total	3	23.1	4	30.8	6	46.2	13	100.0
Total of All General Clerks	83	24.8	77	23.0	175	52.2	335	100.0

NOTE: This table should be read as follows: The 5 men holding positions as cashiers had not attended business college. The total number of men in the general clerical group studying 4 or less subjects in business college was 26, or 33.8 per cent.

TABLE XIV

## NUMBER OF WORKERS ATTENDING EVENING PUBLIC SCHOOL AND MACHINE SCHOOL

GROUP	Total	Attended Evening Public School				Attended Machine School			
		M.	F.	N.S.	Total	M.	F.	N.S.	Total
Executive, Manager, and Supervisor	81	3	5	0	8	3	1	0	4
Bookkeeper	168	3	4	0	7	1	2	0	3
Secretary and Stenographer	135	0	10	0	10	0	1	0	1
General Clerk	335	12	29	1	42	1	27	2	30
Total	719	18	48	1	67	5	31	2	38
Per Cent	100	9.9	9.3	4.5	9.3	2.8	6.0	9.1	5.3

NOTE: This table should be read as follows: Of the executive, managerial, supervisory group 3 of the men had attended evening public school; of all the men used in the study only 9.9 per cent attended evening public school.

TABLE XIV A

## NUMBER OF WORKERS ATTENDING OTHER SCHOOLS

Position	American Institute of Banking					Correspondence	Company School	Private Lessons
	Academy							
Executive, Manager, and Supervisor	0	1				3	4	1
Bookkeeper	1	1				7	2	1
Secretary and Stenographer	0	0				0	2	1
General Clerk	0	5				3	2	1
Total	1	7				13	10	4

NOTE: This table should be read as follows: One executive took work in the American Institute of Banking, 1 took private lessons, 3 took correspondence, and 4 had work in the company school.

TABLE XV  
SCHOOLS ATTENDED BY ALL WORKERS

GROUP	Total	High School		College or University		Business College		Others	
		No.	%	No.	%	No.	%	No.	%
Executive, Manager, and Supervisor	81	76	93.8	51	63.0	24	29.6	21	25.9
Bookkeeper	168	162	96.4	76	45.2	74	44.0	22	13.1
Secretary and Stenographer	135	132	97.8	73	54.1	88	65.2	14	10.4
General Clerk	335	329	98.2	146	43.6	160	47.8	83	24.8
TOTAL	719	699	97.2	346	48.1	346	48.1	140	19.5

NOTE: This table should be read as follows: Of the 81 executives, managers, and supervisors 76, or 93.8 per cent, attended high school; 51, or 63 per cent, attended college or university; 24, or 29.6 per cent attended business college; 21, or 25.9 per cent, attended other schools than those named. The Totals show similar information for all workers.

Table XV shows the number and per cent of workers taking work in each type of school. As may be seen all except 2.8 per cent of the workers attended high school. The executives, managers, and supervisors had the lowest per cent of high school graduates and attendants of any of the groups. Bookkeepers ranked second in per cent of high school graduates though not in per cent of attendants. Though the secretaries and stenographers had the highest per cent of high school graduates, the general clerks had a higher per cent attending. The general clerks ranked third in per cent of high school graduates. The per cent of men who graduated from high school was less than the per cent of women who graduated.

Almost one-half of the workers attended college and one-eighth of them graduated. The per cent of executives, managers, and supervisors graduating was noticeably higher than the per cent of workers



in any other group. Bookkeepers ranked third in college attendance, secretaries and stenographers second, and general clerks third. In only one group, the general clerical group, did the per cent of women graduating from college exceed the per cent of men graduating.

Business college was attended by about one-half of the workers. The per cent of women who attended, 51.1, was higher than the per cent of men who attended, 39.2. The per cent of attendance of the executive, managerial, and supervisory group was much lower than the per cent of attendance in any other group. Bookkeepers ranked third in per cent who attended. The per cent of secretaries and stenographers was much higher than that of any other group, 65.2. Clerical workers ranked third in per cent who had attended.

Only 9.3 per cent of the workers had attended evening public school, and 5.3 per cent had attended machine schools. Very few attended any other types of schools.

Since it has been pointed out that a high school education is almost a minimum requirement for workers and that about one-half of the workers attended college and business college the question arises as to what kind of vocational training is taken in the different schools. Chapter III will answer the question by showing the subjects and machines most frequently studied, and also, where and when studied.



## CHAPTER III

## COMMERCIAL SUBJECTS AND MACHINES STUDIED BY WORKERS

School curriculums and the expectation of securing employment in particular types of work have been influential in motivating workers to study a few specific commercial subjects much more frequently than others. The four subjects which had been studied most frequently by all of the workers in this study were in order of frequency studied, typewriting, business English, shorthand, and bookkeeping. (Tables XVI and XVII). Of the 719 workers 620, or 86.2 per cent had studied typewriting. Approximately 66 per cent of the workers had studied each of the other three subjects named. Subjects not shown on the table because they were mentioned only a very few times were: banking, statistics, business correspondence, marketing, finance, penmanship, spelling, insurance, business psychology, buymanship, and advertising.

More commercial subjects had been studied by workers in business college than in any other school or combination of schools. It should be remembered, however, that there is no indication of the time spent on the subjects. Numerically, the high school ranked second in importance in offering training in commercial subjects and the college or university third. The largest number who had taken work in two or more schools had taken it in high school and business college.

Certain subjects were found to be studied more frequently in one or two types of schools than in others. Typewriting, shorthand, bookkeeping, and business mathematics had been principally high

TABLE XVI

## WHERE SUBJECTS WERE STUDIED MOST FREQUENTLY

Subject	Number	High School		Business College		University or College		High School and Business College		High School and College		Self Taught		Others	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Typewriting	620	191	30.8	170	27.4	33	5.3	106	17.1	37	6.0	28	4.5	55	8.9
Filing	336	52	15.3	112	33.3	19	5.7	15	4.5	3	0.9	99	29.5	36	10.7
Shorthand	478	117	24.5	187	39.1	30	6.3	57	11.9	26	5.4	0		61	12.8
Business English	495	142	28.7	164	33.1	66	13.3	47	9.5	24	4.8	6	1.2	46	9.3
Bookkeeping	475	120	25.3	134	28.2	53	11.2	28	5.9	32	6.7	44	9.3	64	13.5
Secretarial Training	258	32	12.4	146	56.6	38	14.7	19	7.4	6	2.3	6	2.3	11	4.3
Office Practice	262	41	15.6	104	39.7	29	11.1	7	2.7	3	1.1	38	14.5	40	15.3
Commercial Geography	130	70	53.8	11	8.5	33	25.4	2	1.5	10	7.7	1	0.8	3	2.3
Commercial Law	273	74	27.1	79	28.9	56	20.5	15	5.5	14	5.1	7	2.6	28	10.3
Salesmanship	225	40	17.8	109	48.4	22	9.8	7	3.1	4	1.8	22	9.8	21	9.3
Economics	229	66	28.8	15	6.6	99	43.2	7	3.1	25	10.9	4	1.7	13	5.7
Business Mathematics	364	127	34.9	104	28.6	57	15.7	33	9.1	27	7.4	4	1.1	112	3.3
Total	4146	1072	25.9	1335	32.2	535	12.9	343	8.3	211	5.1	259	6.2	390	9.4

NOTE: This table should be read as follows: Of the 620 workers studying typewriting, 191, or 30.8 per cent studied the subject in high school; 170, or 27.4 per cent studied the subject in business college; 33, or 5.3 per cent studied the subject in college; 106, or 17.1 per cent studied the subject in both high school and business college; 37, or 6.0 per cent studied the subject in high school and college; 28, or 4.5 per cent indicated the subject was self-taught; 55, or 8.9 per cent had studied the subject in other schools or combinations of schools than those named. The totals show similar information for all the subjects studied by all the workers.

TABLE XVII

## WHEN SUBJECTS WERE STUDIED MOST FREQUENTLY

	M.	F.	N.S.	Total	Per Cent of All Workers	Before No. %	After No. %	Both No. %	N. S. No. %
Typewriting <sup>8</sup>	138	466	16	620	86.2	401 64.7	46 7.4	25 4.0	148 23.9
Filing	60	267	9	336	46.7	130 38.7	120 35.7	7 2.1	79 23.5
Shorthand	61	402	15	478	66.5	285 59.6	38 7.9	24 5.0	131 27.4
Business English	115	369	11	495	66.8	287 58.0	34 6.9	18 3.6	156 31.5
Bookkeeping	151	311	13	475	66.1	237 50.0	84 17.7	24 5.1	130 27.4
Secretarial Training	24	227	7	258	35.9	154 59.7	24 9.3	9 3.5	71 27.5
Office Practice	51	203	8	262	36.4	112 42.7	63 24.0	7 2.7	80 30.5
Commercial Geography	47	79	4	130	18.1	77 59.0	7 5.4	0 0	46 35.4
Commercial Law	100	166	7	273	38.0	138 50.5	34 12.5	14 5.1	87 31.9
Salesmanship	65	154	6	225	31.3	121 53.8	35 15.6	5 2.2	64 28.4
Economics	83	141	5	229	31.8	117 51.1	26 11.4	7 3.1	79 34.5
Business Mathematics	107	248	9	364	50.6	203 55.8	19 5.2	8 2.2	134 36.8
Total	1002	3033	110	4145		2262 54.6	530 12.8	148 3.6	1205 29.1

NOTE: This table should be read as follows: of the 620, or 86.2 per cent, who studied typewriting, 138 were men and 466 were women; 401, or 64.7 per cent studied the subject before working in an office; 46, or 7.4 per cent studied the subject after working; 25, or 4.0 per cent studied it both before and after working; 148, or 23.9 per cent, did not state when subjects were studied. The totals show similar information concerning all the subjects studied by all the workers.

SEP 22 1939

 RECORDED  
 INDEXED  
 33

school and business college subjects; commercial geography and economics principally high school and college subjects; salesmanship, office practice, and secretarial training principally business college subjects. Over one-fourth of the filing had been self-taught, and the business college had been responsible for training 33.3 per cent of the workers in the subject.

A larger number of workers had taken training in subjects before taking their first positions than had taken training at any other time. However, only one of the subjects, typewriting, had been studied by more than 60 per cent of the workers before accepting the first position. Comparatively few had studied the same subjects both before and after working. The subject most frequently studied prior to employment was typewriting. The subject most frequently studied after some office work had been done was filing. Almost as many had studied filing after taking a position as had studied it before. As was mentioned before, 29.5 per cent of those studying filing indicated that it was self-taught.

In the executive, managerial, and supervisory group the total number who had enrolled in commercial subjects was about the same in high school, business college, and college or university. (Tables XVIII and XIX). However, in Chapter II attention was called to the fact that the executive, managerial, and supervisory group had a larger per cent attending college than did any other group and a smaller per cent attending high school and business college.

The subject most frequently studied by the group headed executive, manager, and supervisor was bookkeeping. It had been studied



TABLE XVIII

WHERE SUBJECTS WERE STUDIED MOST FREQUENTLY BY EXECUTIVES, MANAGERS AND SUPERVISORS

Subject	Number	High School		Business College		University or College		High School and Business College		High School and College		Self-Taught		Others	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Typewriting	59	20	33.9	14	23.7	7	11.9	2	3.4	3	5.1	6	10.2	7	11.9
Filing	39	5	12.8	7	17.9	3	7.7					20	51.2	4	10.3
Shorthand	31	8	25.8	12	38.7	2	6.5	1	3.2	1	3.2	0		7	22.6
Business English	50	17	34.0	11	22.0	10	20.0	2	4.0	3	6.0	1	2.0	6	12.0
Bookkeeping	61	9	14.8	13	21.3	14	23.0	1	1.6	4	6.6	12	19.7	8	13.1
Secretarial Training	15	2	13.3	7	46.7	2	13.3	1	6.7	0		2	13.3	1	6.7
Office Practice	28	3	10.7	7	25.0	2	7.1	0		0		7	25.0	9	32.1
Commercial Geography	22	7	31.8	1	4.5	9	40.9	0		3	14.6	1	4.5	2	9.1
Commercial Law	41	8	19.5	6	14.6	12	29.3	1	2.4	5	12.2	4	9.8	5	12.2
Salesmanship	30	3	10.0	9	30.0	5	16.7	0		0		8	26.7	5	16.7
Economics	41	5	12.2	4	9.8	23	56.1	0		6	14.6	2	4.9	1	2.4
Business Mathematics	47	14	29.8	10	21.3	13	27.7	1	2.1	7	14.9	2	4.3	0	
Total	464	101	21.8	101	21.8	102	21.8	9	1.9	32	6.9	65	14.0	54	11.6

NOTE: This table should be read as follows: Of the 59 executives who had studied typewriting 20, or 33.9 per cent studied the subject in high school; 14, or 23.7 per cent studied the subject in business college; 7, or 11.9 per cent, studied the subject in college; 2, or 3.4 per cent studied the subject in both high school and business college; 3, or 5.1 per cent, studied the subject in high school and college; 6, or 10.2 per cent, indicated the subject was self-taught; 7, or 11.9 per cent, had studied the subject in other schools or other combinations of schools than those named. The totals show similar information concerning all the subjects studied by all the executives, managers, and supervisors.

TABLE XIX

WHEN SUBJECTS WERE STUDIED MOST FREQUENTLY  
BY EXECUTIVES, MANAGERS, AND SUPERVISORS

Subject	Sex		M. S.	Total	Per Cent of All Workers	Before		After		Both		N. S.	
	M.	F.				No.	%	No.	%	No.	%	No.	%
Typewriting	33	26	0	59	72.3	34	57.6	7	11.9	2	3.4	16	27.1
Filing	22	16	1	39	48.1	11	28.2	19	48.7	0	0	9	23.1
Shorthand	11	20	0	31	39.3	16	51.6	3	9.7	2	6.5	10	32.3
Business English	28	22	0	50	61.7	30	60.0	4	8.0	2	4.0	14	28.0
Bookkeeping	42	19	0	61	75.3	28	45.9	12	19.7	3	4.9	13	29.6
Secretarial Training	6	9	0	15	18.5	6	40.0	2	13.3	0	0	7	46.7
Office Practice	14	13	1	28	34.6	7	25.0	6	21.4	1	3.6	14	50.0
Commercial Geography	15	7	0	22	27.2	16	72.7	1	4.5	0	0	5	22.7
Commercial Law	27	13	1	41	50.6	19	46.3	6	14.6	2	4.9	14	34.1
Salesmanship	20	10	0	30	37.0	12	40.0	10	33.3	0	0	8	26.7
Economics	29	12	0	41	50.6	22	53.7	4	9.8	0	0	15	36.6
Business Mathematics	30	17	0	47	58.0	26	55.3	4	8.5	0	0	17	36.2
Total	277	184	3	464		227	48.9	78	16.6	12	2.6	147	31.7

NOTE: This table should be read as follows: Of the total number of bookkeepers 59, or 72.3 per cent, had studied typewriting; 34, or 57.6 per cent, had studied the subject before working; 7, or 11.9 per cent, had studied the subject after working; 2, or 3.4 per cent, had studied the subject both before and after working; 16, or 27.1 per cent did not state when they had studied the subject. The totals show similar information for all the subjects studied by all the executives, managers, and supervisors.

by three-fourths of the group. The subjects which ranked next in number of workers who had studied them were typewriting, business English, and business mathematics.

The data show that about one-sixth of the executives, managers, and supervisors had taken work after becoming employed. The per cent who had taken subjects after employment was a little higher than the per cent of all workers. Too, the per cent of subjects which were self-taught was highest in this group.

Almost 60 per cent of the subjects studied by the bookkeepers had been studied in high school and business college. (Table XX). Since only 143 indicated that they had studied bookkeeping and the total number of workers reporting bookkeeping duties was 168 a larger number than signified must have been self-taught. Bookkeeping and typewriting were studied much more frequently than any other subjects by workers in the group. Approximately 60 per cent of the subjects had been studied by workers in the group before securing employment.

Over 40 per cent of the commercial subjects studied by secretaries and stenographers had been studied in business college. (Table XXII). This is not surprising as the data in Chapter II showed that 65.2 per cent of this group had attended business college. Noticeable is the high frequency with which typewriting, shorthand, and business English were studied in comparison with the other subjects. The secretaries and stenographers ranked almost as high as the bookkeepers in the per cent of workers studying subjects before being employed.

The general clerical group was the only one in which subjects

TABLE XX  
WHERE SUBJECTS WERE STUDIED MOST FREQUENTLY  
BY BOOKKEEPERS

Subject	No. who Studied		High School		Business College		University or College		High School and Business College		High School and College		Self Taught		Others	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Typewriting	141		40	28.4	45	31.9	6	4.3	19	13.5	10	7.1	11	7.8	10	7.1
Filing	80		13	16.3	25	31.3	1	1.3	2	2.5	1	1.3	30	37.5	8	10.0
Shorthand	109		28	25.7	42	38.5	7	6.4	13	11.9	7	6.4	0		12	11.0
Business English	117		33	28.2	45	38.5	17	14.5	4	3.4	5	4.3	2	1.7	11	9.4
Bookkeeping	143		29	20.3	41	28.7	12	8.4	6	4.2	12	8.4	22	15.4	21	14.7
Secretarial Training	56		11	19.6	29	51.8	5	8.9	2	3.6	2	3.6	3	5.4	4	7.1
Office Practice	56		9	16.1	23	41.1	4	7.1	0		1	1.8	9	16.1	10	17.9
Commercial Geography	28		14	50.0	4	14.3	7	25.0	1	3.6	2	7.1	0		0	
Commercial Law	75		16	21.3	26	34.7	13	17.3	5	6.7	4	5.3	2	2.7	9	12.0
Salesmanship	51		8	15.7	26	51.0	2	3.9	1	2.0	2	3.9	5	9.8	7	13.7
Economics	52		17	32.7	5	9.6	20	38.5	1	1.9	6	11.5	0		3	5.8
Business Mathematics	92		28	30.4	29	31.5	12	13.0	10	10.9	8	8.7	2	2.2	3	3.3
Total	1000		246	24.6	340	34.0	106	10.6	64	6.4	60	6.0	86	8.6	98	9.8

NOTE: This table should be read as follows: Of the 141 Bookkeepers who had studied typewriting, 40, or 28.4 per cent studied the subject in high school; 45, or 31.9 per cent, studied the subject in business college; 6, or 4.3 per cent, studied the subject in college; 19, or 13.5 studied the subject both in high school and college; 11, or 7.8 per cent, indicated the subject was self-taught; 10, or 7.1 per cent, had taken the subject in other schools or other combinations of school than those named. The Totals show similar information concerning all of the subjects studied by all of the bookkeepers.



TABLE XXI

WHEN SUBJECTS WERE STUDIED MOST FREQUENTLY  
BY BOOKKEEPERS

Subject	Sex		N. S.	Total	Per cent of All Workers	Before		After		Both		N. S.	
	M.	F.				No.	%	No.	%	No.	%	No.	%
Typewriting	37	101	3	141	83.9	96	68.1	14	9.9	5	3.5	26	18.4
Filing	17	62	1	80	47.6	30	37.5	38	47.5	0		12	15.0
Shorthand	18	88	3	109	64.9	73	66.8	9	8.2	5	4.6	22	20.2
Business English	34	81	2	117	69.6	79	67.5	9	7.7	3	2.6	26	22.2
Bookkeeping	46	94	3	143	85.1	70	49.0	31	21.7	12	8.4	30	21.0
Secretarial Training	5	49	2	56	33.3	42	75.0	1	1.8	0		13	23.2
Office Practice	13	42	1	56	33.3	23	41.1	23	41.1	1	1.8	9	16.1
Commercial Geography	7	20	1	28	16.7	20	71.4	0		0		8	28.6
Commercial Law	29	45	1	75	44.6	37	49.3	12	16.0	3	4.0	23	30.7
Salesmanship	15	35	1	51	30.4	28	54.9	11	21.6	2	3.9	10	19.6
Economics	21	30	1	52	31.0	29	55.6	6	11.5	2	3.8	15	28.8
Business Mathematics	30	60	2	92	54.8	56	60.9	8	8.7	2	2.2	26	28.3
Total	272	707	21	1000		583	58.3	162	16.2	35	3.5	220	22.0

NOTE: This table should be read as follows: Of the workers in the bookkeeping group 141, or 83.9 per cent had studied typewriting; 96, or 68.1 per cent studied the subject before working; 14, or 9.9 per cent studied the subject after working; 5, or 3.5 per cent studied the subject both before and after working; 26, or 18.4 per cent did not state when they studied the subject. The Totals show similar data concerning all of the subjects studied by all of the bookkeepers.

TABLE XXII

WHERE SUBJECTS WERE STUDIED MOST FREQUENTLY  
BY SECRETARIES AND STENOGRAPHERS

Subject	No. who studied	High School		Business College		College or University		High School and Business College		High School and College		Self Taught		Others	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Typewriting	131	24	18.3	46	35.1	11	8.4	29	22.1	10	7.6	1	0.8	10	7.6
Filing	77	6	7.8	39	50.6	7	9.1	3	3.9			13	16.9	9	11.7
Shorthand	126	20	15.9	55	43.7	15	11.9	14	11.1	8	6.3			14	11.1
Business English	111	20	18.0	40	36.0	21	18.9	12	10.8	2	1.8	2	1.8	14	12.6
Bookkeeping	72	16	22.2	28	38.9	12	16.7	7	9.7	5	6.9	2	2.8	2	2.8
Secretarial Training	84	5	6.0	54	64.3	19	22.6	3	3.6	1	1.2			2	2.4
Office Training	63	9	14.3	35	55.6	13	20.6	1	1.6			3	4.8	2	3.2
Commercial Geography	29	13	44.8	3	10.3	8	27.6	1	3.4	3	10.3			1	3.4
Commercial Law	47	10	21.3	16	34.0	16	34.0	2	4.3	1	2.1	1	2.1	1	2.1
Salesmanship	43	3	7.0	32	74.4	6	14.0	1	2.3					1	2.3
Economics	44	9	20.5	2	4.5	26	59.1	1	2.3	4	9.1			2	4.5
Business Mathematics	69	21	30.4	25	36.2	17	24.6	4	5.8	1	1.4			1	1.4
Total	896	156	17.4	375	41.9	171	19.1	78	8.7	35	3.9	22	2.5	59	6.6

NOTE: This table should read as follows: Of the 131 secretaries and stenographers who studied typewriting, 24, or 18.3 per cent, studied the subject in high school; 46, or 35.1 per cent, studied the subject in business college; 11, or 8.4 per cent, studied the subject in college; 29, or 22.1 per cent studied the subject in both high school and business college; 10, or 7.6 per cent, studied the subject in high school and college; 1, or 0.8 per cent indicated the subject was self-taught; 10, or 7.6 per cent had studied the subject in other schools or combinations of schools than those named. The Totals give similar information concerning all the subjects studied by all the secretaries and stenographers.

TABLE XXIII

WHEN SUBJECTS WERE STUDIED MOST FREQUENTLY  
BY SECRETARIES AND STENOGRAPHERS

Subject	Sex		N. S.	Total	Per cent of group	Before		After		Both		N. S.	
	M.	F.				No.	%	No.	%	No.	%	No.	%
Typewriting	4	123	4	131	97.0	88	67.2	4	3.1	6	4.6	33	25.2
Filing	2	73	2	77	57.0	35	45.5	21	27.3	2	2.6	19	24.7
Shorthand	4	118	4	126	93.3	73	57.9	9	7.1	6	4.8	38	30.2
Business English	4	104	3	111	82.2	61	55.0	7	6.3	5	3.6	38	34.2
Bookkeeping	2	66	4	72	53.3	44	61.1	7	9.7	2	2.8	19	26.4
Secretarial Training	3	80	1	84	62.2	50	59.5	10	11.9	1	1.2	23	27.4
Office Practice	3	59	1	63	46.7	36	57.1	8	12.7	0		19	30.2
Commercial Geography	2	26	1	29	21.5	16	55.2	4	13.8	0		9	31.0
Commercial Law	3	43	1	47	34.8	23	6.0	5	10.6	0		14	29.8
Salesmanship	3	40	0	43	31.9	30	70.0	4	9.3	0		9	20.9
Economics	0	42	2	44	32.6	25	56.8	4	9.1	1	2.3	14	31.8
Business Mathematics	2	64	3	69	51.1	43	62.3	4	5.8	0		22	31.9
Total	32	838	26	896		529	59.0	87	9.7	23	2.6	257	28.7

NOTE: This table should be read as follows: Of all the workers in the secretarial and stenographic group 131, or 97.0 per cent, had studied typewriting; 88, or 67.2 per cent, had studied the subject before working; 4, or 3.1 per cent, had studied the subject both before and after working; 33, or 25.2 per cent, did not state when they had studied the subject. The Totals show similar information concerning all the subjects studied by all the secretaries and stenographers.

had been studied more frequently in high school than in business college. (Tables XXIV and XXV). Subjects most frequently studied in the group were typewriting, business English, shorthand, and bookkeeping. The per cent of workers taking work before and after employment was about the same as for all the workers.

The typewriter has become a necessity in the office and is used far more than any other office machine as is indicated by the data. For this reason in discussing office machines the typewriter will not be included. Knowledge of and skill in the use of office machines is important for the worker according to the data. About one-half of the workers had training in machine operation as may be seen in the frequency tables. (Tables XXVI and XXVII). Seldom did one person operate more than one kind of machine. One-third of those operating machines indicated that machine operation had been self-taught; the machine school and the business college were each indicated by one-fifth of the workers as sources of training.

The two machines listed most frequently were the adding machine which was used by 57, or 7.9 per cent, of the workers, and the comptometer which was used by 50, or 7.0 per cent, of the workers. A number of the workers did not specify what kind of machine they used.

More workers had learned to operate machines after being employed than before. Since 34.6 per cent indicated the machines were self-taught this is not surprising.

In the executive, managerial, and supervisory group the use of 34 machines was reported. (Table XXVIII). The number of adding machines used was more than double the number of any other machine.



TABLE XXIV

WHERE SUBJECTS WERE STUDIED MOST FREQUENTLY  
BY GENERAL CLERKS

Subject	No. who studied	High School		Business College		University or College		High School and Business College		High School and College		Self Taught		Others	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Typewriting	289	107	37.0	65	22.5	9	3.1	56	19.4	14	4.8	10	3.5	28	9.7
Filing	140	28	20.0	41	29.3	8	5.7	10	7.1	2	1.4	36	25.7	15	10.0
Shorthand	212	61	28.8	78	36.8	6	2.8	29	13.7	10	4.7			28	13.2
Business English	217	72	33.2	68	31.3	18	8.3	29	13.4	14	6.5	1	0.5	15	6.9
Bookkeeping	199	66	33.2	52	26.1	15	7.5	14	7.0	11	5.5	8	4.0	33	16.6
Secretary Training	103	14	13.6	56	54.4	12	11.7	13	12.6	3	2.9	1	1.0	4	3.9
Office Practice	115	20	17.4	39	33.9	10	8.7	6	5.2	2	1.7	19	16.5	19	16.5
Commercial Geography	51	36	70.6	3	5.9	9	17.6			2	3.9			1	2.0
Commercial Law	110	40	36.4	31	28.2	15	13.6	7	6.4	4	3.6			13	11.8
Salesmanship	101	26	25.7	42	41.6	9	8.9	5	5.0	2	2.0	9	8.9	8	7.9
Economics	92	35	38.0	4	4.3	30	32.6	5	5.4	9	10.0	2	2.2	7	7.6
Business Mathematics	156	64	41.0	40	25.6	15	9.6	18	11.5	11	7.1			8	5.1
Total	1785	569	31.9	519	29.1	156	8.7	192	10.8	84	4.7	86	4.8	179	10.0

NOTE: This table should read as follows: Of the 289 general clerks who studied typewriting 107, or, 37.0 per cent, studied the subject in high school; 65, or 22.5 per cent studied the subject in business college; 9, or 3.1 per cent, studied the subject in college; 56, or 19.4 per cent studied the subject in both high school and business college; 14, or 4.8 per cent studied the subject in high school and college; 10, or 3.5 per cent indicated the subject was self-taught; 28, or 9.7 per cent, studied the subject in schools or combinations of schools other than those named. The Totals give similar information for all the subjects studied by all the general clerks.

TABLE XXV

WHEN SUBJECTS WERE STUDIED MOST FREQUENTLY  
BY GENERAL CLERKS

Subject	Sex			Total	Per cent of Group	Before		After		Both		N. S.	
	M.	F.	N. S.			No.	%	No.	%	No.	%	No.	%
Typewriting	64	216	9	289	86.3	183	63.3	21	7.3	12	4.2	73	25.3
Filing	19	116	5	140	41.8	54	38.6	42	30.0	5	3.6	39	27.9
Shorthand	28	176	8	212	63.3	123	58.0	17	8.0	11	5.2	61	28.8
Business English	49	162	6	217	64.8	117	53.9	14	6.5	8	3.7	78	35.9
Bookkeeping	61	132	6	199	59.4	95	47.7	34	17.1	7	3.5	63	31.7
Secretarial Training	10	89	4	103	30.7	56	54.4	11	10.7	8	7.8	28	27.2
Office Practice	21	89	5	115	34.3	46	40.0	26	22.6	5	4.3	38	33.0
Commercial Geography	23	26	2	51	15.2	25	49.0	2	3.9	0		24	47.1
Commercial Law	41	65	4	110	32.8	54	49.1	11	10.0	9	8.2	36	32.7
Salesmanship	27	69	5	101	30.1	51	50.5	10	9.9	3	3.0	37	36.6
Economics	33	57	2	92	27.5	41	44.6	12	13.0	4	4.3	35	38.0
Business Mathematics	45	107	4	156	46.6	78	50.0	3	1.9	6	3.8	69	44.2
Total	421	1304	60	1785		923	51.7	203	11.4	78	4.4	531	32.5

NOTE: This table should be read as follows: Of the workers in the general clerk group 289, or 86.3 per cent had studied typewriting; 183, or 63.3 per cent studied the subject before working; 21, or 7.3 per cent studied the subject after working; 12, or 4.2 per cent studied the subject both before and after working; 73, or 25.3 per cent did not state when they studied typewriting. The Totals show similar information concerning all the subjects studied by all the workers.

used. Almost as many had been self-taught as had been learned by all other sources, and in agreement with this, over half of the executives, managers, and supervisors signified that training had been received after working.

In proportion to the number of workers those in the bookkeeping group used more machines than those in any other group. (Table XXIX). However, as was stated in a previous chapter, the workers whose duties were principally bookkeeping machine operation were included with machine operators. The machines which were used decidedly more than any others were the adding machine and the comptometer. Training had been received by more than one-half of the workers after employment was secured.

Apparently the secretaries and stenographers used fewer machines than any other group. (Table XXX). In contrast to the data concerning the other groups the data for this group shows that almost one-half of the workers had received training in the use of machines in business college and over one-half had received training before working. The adding machine and comptometer were again the most used machines.

The proportion of the number of machines to the number of workers in the general clerical group was next to the highest of the groups. (Table XXXI). Inclusion of the machine operators did much to increase the proportion.

The data in this chapter show that all subjects were studied more frequently before working than after working. The typewriter was used far more than any other machine and as a subject typewriting was studied more than any other.

Of the entire group 620 or 86.2 per cent had studied the subject. The secretaries and stenographers had studied typewriting most frequently. All except 3 per cent indicated they had studied the subject. General clerks were second in the per cent who had studied typewriting. The bookkeeping group had the lowest per cent who had studied the subject. Over 60 per cent had studied the subject before working.

Business English had been studied by approximately 66 per cent of the workers. Secretaries and stenographers evidently felt training in business English was necessary to prepare them for their work. Over 60 per cent of them had studied the subject, while not over 70 per cent of the workers in any of the other groups had studied it.

Shorthand ranked third in the frequency with which it was studied. Training in it was definitely more important to the secretaries and stenographers than to any other group. Over 90 per cent of this group had studied the subject and not more than 70 per cent of the workers of any other group had studied it. Shorthand was studied both before and after working more frequently than any other subject though the per cent who studied it at both times was small.

As would be expected bookkeepers took bookkeeping more frequently than did the workers in any other group. However, earlier in the chapter it was pointed out that more executives had studied bookkeeping than had studied any other subject.

The per cent of workers taking business mathematics was 50.6. Though the per cent of workers in each group studying the subject



TABLE XXVI

## WHERE MACHINES WERE STUDIED BY ALL WORKERS

Machine	No. who studied	High School		Business College		Machine School		Self-Taught		Others	
		No.	%	No.	%	No.	%	No.	%	No.	%
Adding Mach.	57	5	8.8	6	10.5	0	0	41	71.9	5	8.8
Addressograph	1							1	100.0		
Billing Mach.	3							3	100.0		
Bookkeeping Machine	17	4	23.5	3	17.6	1	5.8	6	35.3	3	17.6
Calculator	18	3	16.7	2	11.1	2	11.1	9	50.0	2	11.1
Comptometer	50	3	6.0	4	8.0	18	36.0	115	30.0	10	20.0
Duplicating Machine	11	3	27.3	2	18.2			3	27.3	3	27.3
Multigraph	3							2	66.7	1	33.3
Posting Mach.	19	1	5.3	4	21.1	1	5.3	8	42.1	5	26.4
Stenotype	6			5	83.3					1	16.7
Sundstrand	1	1	100.0								
Tabulating	3					1	33.3			2	66.7
Teletype	1							1	100.0		
Transcribing	11	1	9.1	2	18.2	1	9.1	1	9.1	6	54.5
Kind Not Stated	117	17	14.5	37	31.6	12	10.3	20	17.1	31	27.2
Total	318	38	11.9	65	20.4	36	11.3	110	34.6	69	21.7

NOTE: This table should read as follows: Of the total number of workers 57 or 7.9 per cent used machines; 5, or 8.8 per cent received training in high school; 6 or 10.5 per cent received training in business college; 41 or 71.9 per cent had been self taught; 5 or 8.8 per cent had received training in other schools than those named. The Totals and Per Cents show similar information concerning all the machines used by all the workers.

TABLE XXVII

## WHEN MACHINES WERE STUDIED MOST FREQUENTLY

Machine			N.S.	Total	Per Cent of All Workers	Before		After		Both		N. S.	
	M.	F.				No.	%	No.	%	No.	%	No.	%
Adding Machine	23	34		57	7.9	14	24.6	40	70.2	1	1.8	2	3.5
Addressograph	1	0		1	0.1	0		1	100.0	0		0	
Billing Machine	0	3		3	0.4	0		2	66.7	0		1	33.3
Bookkeeping Machine	1	16		17	2.4	8	47.1	6	35.3	0		3	17.6
Calculator	5	13		18	2.5	6	33.3	6	33.3	1	5.6	5	27.8
Comptometer	10	40		50	7.0	16	32.0	25	50.0	1	2.0	8	16.0
Duplicating Machine	3	8		11	1.5	6	54.5	3	27.3	1	9.1	1	9.1
Multigraph	2	1		3	0.4	0		1	33.3	0		2	66.7
Posting Machine	8	9	2	19	2.6	5	26.3	12	63.2	0		2	10.5
Stenotype	1	5		6	0.8	4	66.7	1	16.7	0		1	16.7
Sundstrand	0	1		1	0.1	1	100.0	0		0		0	
Tabulating	2	1		3	0.4	2	66.7	0		0		1	33.3
Teletype	0	1		1	0.1	0		1	100.0	0		0	
Transcribing	1	10		11	1.5	5	45.5	3	27.3	0		3	27.3
Kind Not Stated	34	78	5	117	16.3	47	40.2	32	27.4	3	2.6	35	29.9
Total	91	220	7	318	44.2	114	35.8	133	41.8	7	2.2	64	20.1

NOTE: This table should be read as follows: Of all the workers 57 or 7.9 per cent used adding machines; 14 or 24.6 per cent received training on them before working; 40 or 70.2 per cent received training after working; 1 or 1.8 per cent received training both before and after; 2 or 3.5 per cent did not state when training was received. The Totals and Per Cents show similar information concerning all the machines studied by all the workers.

TABLE XXVIII

## MACHINES STUDIED BY EXECUTIVES, MANAGERS, AND SUPERVISORS

Machine	M.	F.	Total	%	High School	Business College	Machine School	Self Taught	Others	Before	After	Both	N.S.
Adding	10	1	11	13.6	1	0	0	8	2	2	9	0	0
Calculator	2	1	3	3.7	0	0	0	2	1	1	0	0	2
Comptometer	3	0	3	3.7	0	0	0	2	1	0	3	0	0
Transcribing	0	1	1	1.2	0	0	1	0	0	0	0	0	1
Posting Mach.	2	3	5	6.2	0	0	1	2	2	1	4	0	0
Stenotype	1	0	1	1.2	0	1	0	0	0	0	0	0	1
Tabulating Machine	2	0	2	2.5	0	0	1	0	1	2	0	0	0
Kind Not Stated	1	7	8	9.9	2	2	0	2	2	4	2	0	2
Total	21	13	34	41.8	3	3	3	16	9	10	13	0	6

NOTE: This table should be read as follows: 10 men and 1 woman used the adding machine; the total, 11, was 13.6 per cent of the executives, managers, and supervisors; 1 had studied machine operation in high school; 8 indicated machines had been self-taught; 2 indicated that machines had been studied in other schools than those named; 2 had studied machines before working; 9 had studied machines after working. The Totals and Per Cents show similar information concerning all the machines studied by all the executives, managers, and supervisors.

TABLE XXIX  
MACHINES USED BY BOOKKEEPERS

Machine	M. F.		Total	%	High School	Business College	Machines School	Self Taught	Others	Before	After	Both	N.S.
Adding Machine	9	17	26	15.5	0	1	0	23	2	4	21	0	1
Bookkeeping Machine	0	6	6	3.6	1	1	0	4	0	2	2	0	2
Calculator	1	2	3	1.8	1	0	0	1	1	2	1	0	0
Comptometer	6	8	14	8.3	1	0	4	5	4	2	9	1	2
Steno-graph	0	2	2	1.2	1	0	0	0	1	2	0	0	0
Posting Machine	4	3	7	4.2	1	1	0	4	1	2	5	0	0
Transcribing Machine	0	3	3	1.8	0	0	0	1	2	1	2	0	0
Kind Not States	12	14	26	15.5	3	9	0	6	8	14	8	1	3
Total	32	55	87	51.8	8	12	4	44	19	29	48	2	8

NOTE: This table should be read as follows: 9 men and 17 women used the adding machine; the total, 26, was 15.5 per cent of all the bookkeepers; 1 studied machine operation in business college; 23 indicated it was self-taught; 2 studied in other schools than those named; 4 studied machines before working; 21 after working; 1 did not state when machines were studied. The Totals and Per Cents show similar information concerning all the machines studied by all the workers.



TABLE XXX

## MACHINES STUDIED BY SECRETARIES AND STENOGRAPHERS

Machine	N.	F.	Total	%	High School	Business College	Machines School	Self Taught	Others	Before	After	Both	N.S.
Adding Machine	0	4	4	3.0	2	1	0	1	0	2	1	1	0
Calculator	0	3	3	2.2	0	1	0	2	0	1	1	0	1
Comptometer	0	6	6	4.4	2	1	1	0	2	3	1	0	2
Bookkeeping Machine	0	4	4	3.0	2	0	0	1	1	3	1	0	0
Posting Machine	0	(N.S.1)		0.7	0	1	0	0	0	1	0	0	0
Duplicating	0	2	2	1.5	1	1	0	0	0	2	0	0	0
Stenotype	0	4	4	3.0	0	4	0	0	0	4	0	0	0
Sundstrand	0	1	1	0.7	1	0	0	0	0	1	0	0	0
Transcribing	1	2	3	2.2	0	2	0	0	1	1	1	0	1
Kinds Not Stated	1	14	15	11.1	2	3	0	2	2	5	2	0	3
Totals	2	40	(1)43	31.9	10	19	1	6	6	23	7	1	12

NOTE: This table should be read as follows: 4 men or 3.0 per cent of the secretaries and stenographers used machines; 2 had received training in high school; 1 in business college; 1 indicated machines had been self taught; 2 studied machines before working; 1, after; 1 studied machines both before and after working. The Totals and Per Cents show similar information for all machines used by all the secretaries and stenographers.

TABLE XXXI

## MACHINES STUDIED BY GENERAL CLERKS

Machine	M.	F.	Total	%	High School	Business College	Machines School	Self Taught	Others	Before	After	Both	N.S.
Adding Machine	4	12	16	4.8	2	4	0	9	1	6	9	0	1
Billing Mach.	0	3	3	0.9	0	0	0	3	0	0	2	0	1
Bookkeeping Machine	1	6	7	2.1	1	2	1	1	2	3	3		1
Addressograph	1	0	1	0.3	0	0	0	1	0	0	1	0	0
Calculator	2	7	9	2.7	2	1	2	4	0	2	4	1	2
Comptometer	1	26	27	8.1	0	3	13	8	3	11	12	0	4
Multigraph	2	1	3	0.9	0	0	0	2	1	0	1	0	2
Posting Machine	2	3	(1 N.S)	6 1.8	0	2	0	2	2	1	3	0	2
Duplicating	3	4	7	2.1	1	1	0	3	2	2	3	1	1
Transcribing	0	4	4	1.2	1	0	0	0	3	3	0	0	1
Tabulating	0	1	1	0.3	0	0	0	0	1	0	0	0	1
Stenotype	0	1	1	0.3	0	0	0	0	1	0	1	0	0
Teletype	0	1	1	0.3	0	0	0	1	0	0	1	0	0
Kinds Not Stated	20	43	(5 N.S)	68 20.3	10	18	12	10	19	24	20	2	22
Totals	36	112	(6 N.S)	154 46.0	17	31	28	44	32	52	60	4	38

NOTE: This table should be read as follows: 4 men and 12 women had studied machines; 2 studied machines in high school; 4 in business college; 9 had been self taught; 1 studied in schools other than those named; 6 had taken work before; 9 had taken work after; 1 did not state when work was taken. The Totals and Per Cents give similar information concerning all machines studied by general clerks.

did not vary greatly, it had been most frequently studied by executives managers, and supervisors and bookkeepers. Of those workers who indicated when they studied the subject few had studied it after working.

Filing was studied almost as frequently after working as it was studied before. The secretaries and stenographers apparently had more use for filing than the other workers. About 10 per cent fewer executives, managers, and supervisors had studied filing, yet they ranked second.

Approximately one-half of the executives, managers, and supervisors had studied commercial law. Approximately one-sixth of the workers of these two groups studied the subject after working.

Office practice was second to filing in the per cent of workers who studied the subject after working. The data show that this subject was studied more frequently by secretaries and stenographers than by any other group.

A few more than one-third of the workers had studied secretarial training. The secretarial group had the largest per cent of workers who had studied the subject.

About one-third of the workers had studied salesmanship. The per cent who studied the subject in each of the groups showed little difference. Salesmanship ranked fourth in the per cent of workers who studied it after working.

Though economics was studied by less than one-third of the workers, over 50 per cent of the executives had studied the subject. Commercial geography did not seem to be so necessary as the other subjects. Only 18.1 per cent had studied it and a very small per cent had studied the subject after working. The executives, managers, and supervisors had studied the subject more than any other group though the per cent who

studied it in this group was only 27.2.

About one-half of the workers had training in machine operation. The machines most frequently listed were the adding machine and the comptometer. One-third of the workers indicated that machines were self-taught; too, more workers learned to operate machines after working than before. The per cent of workers who operated machines was highest in the bookkeeping group.

The subjects studied by each of the groups correspond very closely to the type of school the workers attended. As an example, the subjects which had the highest per cent of frequency in the secretarial and stenographic group were those which were studied most often in business college. The subjects studied most frequently by the executives, managers, and supervisors were very similar to those studied by the bookkeepers. No one subject seemed to be definitely a clerical subject. The per cents were more nearly the average than in any other group. The data show that much of the training for clerks was received in high school.

This chapter has given the answer to the question raised by Chapter II concerning the kind of training received by the workers and when and where the training was received.

Undoubtedly, anticipation of employment was the chief incentive for the workers spending time, money, and energy to secure training. Factors which deal with employment, such as the method or agency by which employment was obtained, the length of time elapsing between completing school training and securing a position, and the length of experience of the workers will be discussed in the following chapter.



## CHAPTER IV

## EMPLOYMENT AND EXPERIENCE OF WORKERS

After school training had been completed the workers then had the task of securing positions where the knowledge gained and the skills acquired could be used. The sources of securing employment varied. (Table XXXII). Many of the workers stated that several methods or agencies had been used. Apparently the most effective of the methods was that of personal application. Almost three times as many had received positions by this method as had received employment by any other method. However, personal application had been used in conjunction with other methods frequently. Next in importance according to frequency named were friends, recommendation of former employees, and relatives.

More executives, managers, and supervisors indicated that promotion had been important in securing positions than did the workers in any other group. A number either owned the business or had an interest in it.

Besides the sources previously named school employment agencies were responsible for placing a number of the workers. Promotion was indicated most frequently in securing present positions. (Table XXXIII). The sources of employment for the secretaries and stenographers, general clerks were but slightly different from those used by the bookkeepers. (Tables XXXIV and XXXV).

More than 40 per cent of the workers had secured positions within two weeks after leaving school, and more than 70 per cent had secured positions within eight months. (Table XXXVI). Some workers indicated that they had done other kinds of work such as housekeeping, teaching, and manual labor, immediately after leaving school.

TABLE XXXII  
EMPLOYMENT OF ALL WORKERS

Method or Agency	Present Position	First Position with Firm	First Office Position
Commercial Employment	12	17	8
School Employment	35	38	92
State Employment	4	2	2
Machine School	4	5	3
Friends	127	139	130
Relatives	41	43	54
Personal Application	354	384	311
Recommendation of Former Employers	97	81	28
Transfer	8	2	0
Promotion	42	3	9
Merit Examination	9	10	6
News Ad	4	4	3
Employer's Request	14	12	12
Ownership	10	9	7
Y. M. C. A. and Y. W. C. A.	1	1	0
Not Stated	27	30	72

NOTE: This table should be read as follows: 12 of the 719 workers secured their present positions through commercial employment agencies; 17 received their first positions with the firm through commercial employment agencies; 8 secured their first positions through commercial employment agencies.

TABLE XXXII a  
METHODS AND AGENCIES USED BY EXECUTIVES,  
MANAGERS, AND SUPERVISORS

Method or Agency	Present Position				First Position with Firm				First Office Position			
	M.	F.	N.S.	T.	M.	F.	N.S.	T.	M.	F.	N.S.	T.
Commercial												
Employment	1			1	2	1		3	2			2
School												
Employment										1		1
State												
Employment									1			1
Machine												
School										1		1
Friends	5	3	1	9	6	3	1	10	5	3	1	9
Relatives	5	1		6	6	2		8	4	2		6
Personal												
Application	11	14	1	26	20	16	1	37	20	13		33
Recommendation of												
Former Employers	5	7		12	3	7		10	3	2		5
Transfer	1			1	1			1				
Promotion	10	4		14	3			3	3	2		5
Merit												
Examination	3			3	3			3	1			1
News Ad										1		1
Employer's												
Request	2	1		3	2	1		3	3	1		4
Ownership	6	3		9	6	2		8	6	1		7
Y. M. C. A. and												
Y. W. C. A.												
Not Stated	1	1		2		1		1	4	4	1	9

NOTE: This table should be read as follows: In the executive, managerial, and supervisory group 1 man secured his present position through a commercial employment agency; 2 men and 1 woman secured their first positions with the firm through a commercial employment agency; 2 men secured their first office positions through a commercial employment agency. Some workers checked more than one method or agency as helpful in securing employment.

TABLE XXXIIL

## METHODS AND AGENCIES USED BY BOOKKEEPERS IN SECURING EMPLOYMENT

Method or Agency	Present Position			First Position with Firm			First Office Position		
	M.	F.	N.S. T.	M.	F.	N.S. T.	M.	F.	N.S. T.
Commercial									
Employment	1	1	2	1	1	2	2		2
School									
Employment	5	3	8	5	4	9	7	10	1 18
State									
Employment		2	2		1	1			
Machine									
School									
Friends	7	24	31	6	26	32	10	27	37
Relatives	6	10	16	7	9	16	7	15	2 24
Personal									
Application	29	58	2 89	29	62	2 93	25	48	73
Recommendation of									
Former Employers	3	16	2 21	6	8	3 17		3	3
Transfer		1	1						
Promotion	4	6	10						
Merit									
Examination					1	1			
News									
Ad		1	1		1	1		1	1
Employer's									
Request		6	6		4	4	1	2	3
Ownership									
Y. M. C. A. and									
Y. W. C. A.									
Not									
States	1	1	2	4	5	9	5	10	15

NOTE: This table should be read as follows: In the book-keeping group 1 man and 1 woman secured their present positions through a commercial employment agency; 1 man and 1 woman secured their first positions with the firm through a commercial employment agency; 2 men secured their first office positions through a commercial employment agency. Some workers checked more than one method or agency as helpful in securing employment.



TABLE XXXIV.  
METHODS AND AGENCIES USED BY SECRETARIES  
AND STENOGRAPHERS IN SECURING EMPLOYMENT

Method or Agency	Present Position				First Position with Firm				First Office Position				
	M.	F.	N.S.	T.	M.	F.	N.	S.	T.	M.	F.	N.S.	T.
Commercial													
Employment		3		3		3			3		1		1
School													
Employment		3	1	9		9	1	10		3	24	1	28
State													
Employment	1			1	1				1		1		1
Machine	1			1	1				1				
School	1			1	1				1				
Friends	1	27	2	30	2	29	2	33		1	22	2	25
Relatives		3		3		2		2			5		5
Personal													
Application	2	68		70	2	72		74		1	64	1	66
Recommendation of													
Former Employers	1	22	1	24		18	1	19			5		5
Transfer		4		4									
Promotion		6											
Merit													
Examination		1		1		1			1		1		1
News Ad													
Employer's													
Request		1		1		1			1		3		3
Ownership													
Y. M. C. A. and													
Y. W. C. A.		1		1		1			1				
Not Stated		6		6		8			8	1	10		11

NOTE: This table should be read as follows: In the secretarial and stenographic group 3 women secured their present positions through a commercial employment agency; 3 women secured their first positions with the firm through a commercial employment agency; 1 woman secured her first office position through a commercial employment agency. Some workers checked more than one method or agency as helpful in securing employment.

TABLE XXXV

METHODS AND AGENCIES USED BY GENERAL CLERKS  
IN SECURING EMPLOYMENT

Method or Agency	Present Position				First Position with Firm				First Office Position			
	M.	F.	N.S.	T.	M.	F.	N.S.	T.	M.	F.	N.S.	T.
Commercial Employment	2	4		6	4	5		9	1	2		3
School Employment	5	13		18	5	14		19	11	33	1	45
State Employment		1		1								
Machine School		3		3		4		4		2		2
Friends	12	43	2	57	14	48	2	64	13	44	2	59
Relatives	14	11	1	16	4	12	1	17	5	12	2	19
Personal Application	38	125	6	169	44	131	5	180	33	102	4	139
Recommendation of Former Employers	9	28	3	40	9	24	2	35	2	13		15
Transfer	1	1		2	1			1				
Promotion	4	8		12						4		4
Merit Examination	1	4		5	1	4		5	1	3		4
News Ad.		3		3	3			3	1			1
Employer's Request		4		4		4		4		2		2
Ownership		1		1		1		1				
Y. M. C. A. and Y. W. C. A.												
Not Stated	6	10	1	17	2	8	2	12	10	25	2	37

NOTE: This table should be read as follows: In the general clerical group 2 men and 4 women secured their present positions through a commercial employment agency; 4 men and 5 women secured their first positions with the firm through a commercial employment agency; 1 man and 2 women secured their first office positions through a commercial employment agency. Some workers checked more than one method or agency as helpful in securing employment.

TABLE XXXVI  
TIME ELAPSED BEFORE SECURING POSITIONS

Group and Position	Total	$\frac{1}{2}$	1	2	4	8	16	32	64	More	N.S.
<b>EXECUTIVE, MANAGER, AND SUPERVISOR</b>											
	81	39	5	1	4	5	5	5	4	4	9
Per Cent	100.0	48.1	6.2	1.2	4.9	6.2	6.2	6.2	4.9	4.9	11.1
<b>BOOKKEEPER</b>											
Bookkeeper, Accountant, and Auditor	57	20	3	7	10	4	2	2	2	1	6
Bookkeeper and Cashier	9	2	0	1	1	1	3	0	0	0	1
Bookkeeper and Stenographer	12	7	1	0	1	2	0	0	0	0	1
Bookkeeper and Others	90	42	2	9	5	7	6	4	3	6	6
Total	168	71	6	17	17	14	11	6	5	7	14
Per Cent	100.0	42.3	3.6	10.1	10.1	8.3	6.5	3.6	3.0	4.2	8.3
<b>SECRETARY AND STENOGRAPHER</b>											
Secretary	49	30	2	2	3	3	2	1	3	1	2
Stenographer	86	47	2	4	6	9	5	2	1	0	10
Total	135	77	4	6	9	12	7	3	4	1	12
Per Cent	100.0	57.1	3.0	4.4	6.7	8.9	5.2	2.2	3.0	0.7	8.9
<b>GENERAL CLERK</b>											
Cashier	32	9	1	1	3	5	3	3	1	0	6
File Clerk	14	4	2	0	2	2	0	0	0	1	3
Machine Operator	39	15	1	4	4	2	5	1	1	0	6
Office Boy	3	3	0	0	0	0	0	0	0	0	0
P. B. X. Operator	5	2	1	1	0	0	1	0	0	0	0
Reporter	24	3	3	2	1	4	1	0	3	2	5
Special Clerk	15	6	0	0	1	2	2	1	1	0	2
Teller	12	7	0	0	4	0	0	0	0	0	1
Typist	19	6	2	2	3	2	0	1	0	0	3
Others	172	63	8	10	15	17	10	9	7	6	27
Total	335	118	18	20	33	34	22	15	13	9	53
Per Cent	100.0	35.2	5.4	6.0	9.9	10.1	6.6	4.5	3.9	2.7	15.8
<b>TOTAL OF ALL WORKERS</b>											
	719	305	33	44	63	65	45	29	26	21	88
Per Cent	100.0	42.4	4.6	6.1	8.8	9.0	6.3	4.0	3.6	2.9	12.2

NOTE: This table should be read as follows: Of the 81 executives, managers, and supervisors, 39, or 48.1 per cent, secured employment between two weeks and 1 month after leaving school; 1, or 1.2 per cent, secured employment between 1 month and 2 months; 4, or 4.9 per cent secured employment between 2 months and 4 months; 5, or 6.2 per cent secured employment between each, 4 months and eight months, 8 months and 16 months, 16 months and 32 months.

The per cent of secretaries and stenographers securing employment within two weeks, 57.1 per cent, was higher than the percent of the workers in any other group. In the executive, managerial, and supervisory group the per cent was 48.1 and in the bookkeeping group, 42.3. The general clerical group had the lowest per cent, 35.2 who had been employed within two weeks.

The amount of experience workers had in present positions ranged from two weeks to twenty-one years. Table XXXVII shows that almost one-third of the workers had held their present positions between one and three years, and one-fifth of them had been in the present position between three and six years. Of the executives 22.2 per cent had held their present positions between ten and fifteen years. No other group had nearly so high a per cent of workers with so much experience in present positions. The general clerical group had the largest per cent of workers who had held positions one year or less, though it did not vary greatly from that of the bookkeeping and stenographic group.

As was seen by the data concerning the amount of experience in the present position, approximately one-third of the workers had been with the present firm from one to three years. (Table XXXVIII). About one-sixth of the workers had been with the firm one month or less.

Executives, managers, and supervisors had the longest tenure with the firm. About one-fifth of them had been with the present firm ten years or more. The per cent of workers in this group who had been with the firm less than one year was much smaller than the per cents in the other groups.

Very few bookkeepers had been with the firm longer than ten years, only 4.8 per cent. Most of the secretaries and stenographers had worked



TABLE XXXVII  
EXPERIENCE OF WORKERS IN PRESENT POSITIONS

Group and Position	Total	Years of Experience							More	N.S.
		$\frac{1}{2}$	1	3	6	10	15			
EXECUTIVE, MANAGER, AND SUPERVISOR	81	6	2	14	17	15	18	8	1	
Per Cent	100.0	7.4	2.5	17.3	21.0	18.5	22.2	9.9	1.2	
BOOKKEEPER										
Bookkeeper, Accountant, and Auditor	57	2	3	12	17	10	7	6	0	
Bookkeeper and Cashier	9	0	0	3	4	2	0	0	0	
Bookkeeper and Stenographer	12	2	2	3	1	2	2	0	0	
Bookkeeper and Others	90	17	5	32	20	9	6	0	1	
Total	168	21	10	50	42	23	15	6	1	
Per Cent	100.0	12.5	6.0	30.0	25.0	13.7	8.9	3.6	0.6	
SECRETARY AND STENOGRAPHER										
Secretary	49	3	5	16	11	8	5	0	1	
Stenographer	86	8	12	24	21	7	9	1	4	
Total	135	11	17	40	32	15	14	1	5	
Per Cent	100.0	8.1	12.6	30.0	23.7	11.1	10.4	0.7	3.7	
GENERAL CLERK										
Cashier	32	3	4	6	6	5	4	3	1	
File Clerk	14	5	2	3	3	0	1	0	0	
Machine Operator	39	7	0	16	5	7	4	0	0	
Office Boy	3	0	0	2	1	0	0	0	0	
P. B. X. Operator	5	1	2	0	1	1	0	0	0	
Reporter	24	0	0	15	3	2	4	0	0	
Special Clerk	15	0	0	4	4	4	2	1	0	
Teller	12	0	0	1	8	1	2	0	0	
Typist	19	6	1	8	1	1	2	0	0	
Others	172	20	24	54	31	13	17	12	1	
Total	335	42	33	109	63	34	36	16	2	
Per Cent	100.0	12.5	9.9	32.5	18.8	10.1	10.7	4.8	0.6	
TOTAL OF ALL WORKERS	719	80	62	213	154	87	83	31	9	
Per Cent	100.0	11.1	8.6	30.0	21.4	12.1	11.5	4.3	1.3	

NOTE: This table should be read as follows: Of the 81 executives, managers, and supervisors, 6 had held their present positions one-half year or less; 2, or 2.5 per cent, had held their positions between 6 months and a year.

TABLE XXXVIII  
EXPERIENCE OF WORKERS WITH PRESENT FIRMS

Group and Position	Total	$\frac{1}{2}$	1	3	6	10	15	More	N.S.
<b>EXECUTIVE, MANAGER, AND SUPERVISOR</b>									
	81	6	2	14	17	15	18	8	1
Per Cent	100.0	7.4	2.5	17.3	21.0	18.5	22.2	9.9	1.2
<b>BOOKKEEPER</b>									
Bookkeeper, Accountant, and Auditor	57	2	3	12	17	10	7	6	
Bookkeeper and Cashier	9			3	4	2			
Bookkeeper and Stenographer	12	2	2	3	1	2	2		
Bookkeeper and Others	90	17	5	32	20	9	6		1
Total	168	21	10	50	42	23	15	6	1
Per Cent	100.0	12.5	6.0	30.0	25.0	13.7	8.9	3.6	6
<b>SECRETARY AND STENOGRAPHER</b>									
Secretary	449	3	5	16	11	8	5		1
Stenographer	86	8	12	24	21	7	9		4
Total	135	11	17	40	32	15	14	1	5
Per Cent	100.0	8.1	12.6	30.0	23.7	11.1	10.4	0.7	3.7
<b>GENERAL CLERK</b>									
Cashier	32	3	4	6	6	5	4	3	1
File Clerk	14	5	2	3	3	0	1	0	0
Machine Operator	39	7	0	16	5	7	4	0	0
Office Boy	3	0	0	2	1	0	0	0	0
P. B. X. Operator	5	1	2	0	1	1	0	0	0
Reporter	24	0	0	15	3	2	4	0	0
Special Clerk	15			4	4	4	2	1	
Teller	12			1	8	1	2		
Typist	19	6	1	8	1	1	2		
Others	172	20	24	54	31	13	17	12	1
Total	335	42	33	109	63	34	36	16	2
Per Cent	100.0	12.5	9.9	32.5	18.8	10.1	10.7	4.8	0.6
<b>TOTAL OF ALL WORKERS</b>									
	719	80	62	213	154	87	83	31	9
Per Cent	100.0	11.1	8.6	30.0	21.4	12.1	11.5	4.3	1.3

NOTE: This table should be read as follows: Of the 81 executives 6 had worked for the present firm for less than 6 months; 2 had worked for the firm between one-half and one year; 14 had worked for the firm between one year and three years.

six or less years for the company. Though the general clerical group had the largest per cent of workers who had worked for the firm less than one year, the per cent of the workers in this group who had been with the present firm for ten years or more was higher than that of either the bookkeeping or secretarial and stenographic group.

Table XXXIX shows the first positions of the workers. Almost one-half, 47.3 per cent, of the workers started as general clerks. Secretarial and stenographic positions ranked second as initial positions for employees.

It is possible that those who had been employed for a number of years may not have recalled exactly what the first office position was as some indicated they had been promoted or transferred frequently.

The experience of the workers in all office positions is shown in Table XL. Amount of experience of the workers ranged from one week to thirty-five years. Over one-fourth, 28.4 per cent, of the executives had over fifteen years of experience in office work. Only 5.0 per cent had one year or less of experience. The range of experience which included 81.7 per cent of the bookkeepers was from one year to 15 years. The range of experience for most of the secretaries and stenographers was smaller. Of the general clerical group 29.6 per cent had between two and three years of experience and more workers in this group had one-half year or less of experience than did the workers in any of the other groups.

The data in the chapter show that by far the most positions are secured by personal application. The two methods or agencies used most other than personal application were friends and relatives. Promotion was given by executives, managers, and supervisors more often than by any other group.



TABLE XXXIX  
FIRST POSITIONS HELD BY WORKERS

POSITION	PRESENT	EXECUTIVE	BOOKKEEPER AND OTHERS	SECRETARY AND STENOGRAPHER	CASHIER	FILE CLERK MACHINE OPERATOR	OFFICE BOY	P. B. X. OPERATOR	TYPIST	GENERAL CLERK	OTHERS	NOT STATED	TOTAL	
EXECUTIVE	12	6	13	8	2	0	1	1	1	1	22	10	4	81
Per Cent	14.8	7.4	16.0	9.9	2.5		1.2	1.2	1.2	1.2	27.2	12.3	4.9	100
BOOKKEEPER														
Bookkeeper, Accountant, and Auditor	6	0	6	9	4	0	0	3	0	2	11	11	5	57
Bookkeeper and Cashier	3	1	2	0	1	0	0	0	0	1	1	0	0	9
Bookkeeper and Stenographer	2	0	1	3	1	0	0	0	0	0	1	0	4	12
Bookkeeper and Others	14	0	18	19	2	0	1	1	1	2	6	16	10	90
Total	25	1	27	31	8	0	1	4	1	5	19	27	19	168
Per Cent	14.9	0.6	16.1	18.5	4.8		0.6	2.4	0.6	3.0	11.3	16.1	11.3	100
SECRETARY AND STENOGRAPHER														
Secretary	8	0	3	26	0	0	0	0	1	2	2	5	2	49
Stenographer	16	0	3	46	2	0	0	0	0	7	4	4	4	86
Total	24	0	6	72	2	0	0	0	1	9	6	9	6	135
Per Cent	17.8		4.4	53.3	1.5				0.7	6.7	4.4	6.7	4.4	100
GENERAL CLERK														
Cashier	7	0	3	2	6	2	0	0	0	1	3	2	6	32
File Clerk	1	0	3	1	0	1	0	0	0	1	4	0	3	14
Machine Operator	7	0	2	5	2	2	5	0	0	2	4	6	4	39
Office Boy	2	0	0	0	0	0	0	1	0	0	0	0	0	3
P. B. X. Operator	1	0	0	0	0	1	0	0	0	1	0	1	1	5
Reporter	6	1	2	0	0	0	1	0	0	0	3	8	3	24
Special Clerk	2	0	1	2	0	0	2	0	0	1	4	2	1	15
Teller	1	5	1	0	1	0	0	0	1	0	0	1	2	12
Typist	6	0	0	3	0	0	0	0	0	5	1	1	3	19
Others	24	1	11	43	6	6	5	2	4	7	22	27	14	172
Total	57	7	23	56	15	12	13	3	5	18	41	48	37	335
Per Cent	17.0	2.1	6.7	16.7	4.5	3.6	3.9	0.9	1.5	5.4	12.2	14.3	11.0	100
TOTAL OF ALL WORKERS	118	14	69	167	27	12	15	8	8	33	88	94	66	719
Per Cent	16.4	1.9	9.6	23.2	3.8	1.7	2.1	1.1	1.1	4.6	12.2	13.0	9.2	100

NOTE: This table should be read as follows: 12, or 14 per cent of the executives, managers, and supervisors were still in their first positions; 6, or 7.4 per cent, held executive positions as their first positions.



TABLE XL  
OFFICE EXPERIENCE OF ALL WORKERS

Group and Position	Total	$\frac{1}{2}$	1	3	6	10	15	More	N.S.
<b>EXECUTIVE, MANAGER, AND SUPERVISOR</b>									
	81	2	2	8	11	12	19	23	5
Per Cent	100.0	2.5	2.5	9.9	13.6	14.8	23.4	28.4	6.2
<b>BOOKKEEPER</b>									
Bookkeeper, Accountant, and Auditor	57	2		2	14	11	12	14	2
Bookkeeper and Cashier	9	1			4	3	1		
Bookkeeper and Stenographer	12		1	3	1	1	3	3	
Bookkeeper and Others	90	6	4	22	17	16	11	13	1
Total	168	8	5	29	37	31	27	28	3
Per Cent	100.0	4.8	3.0	17.3	22.0	18.5	16.1	16.7	1.8
<b>SECRETARY AND STENOGRAPHER</b>									
Secretary	49	1	2	11	9	13	7	6	
Stenographer	86	3	7	14	18	21	17	2	4
Total	135	4	9	25	27	34	24	8	4
Per Cent	100.0	3.0	6.7	18.5	20.0	25.2	17.8	5.9	3.0
<b>GENERAL CLERK</b>									
Cashier	32	3	2	5	5	3	4	5	5
File Clerk	14	3	1	3	2	2		1	2
Machine Operator	39		3	4	9	7	8	5	3
Office Boy	3			2	1				
P. B. X. Operator	5		1	2	1				1
Reporter	24			9	3	5	5	1	1
Special Clerk	15			4	2	3	3	3	
Teller	12			2	2	3	4	1	
Typist	19	1	1	9	2	2	3		1
Others	172	9	12	44	35	24	24	18	6
Total	335	23	15	99	56	51	47	28	16
Per Cent	100.0	6.9	4.5	29.6	16.7	15.2	14.0	8.4	4.8

NOTE: This table should be read as follows: Of the 81 executives, managers, and supervisors 2, or 2.5 per cent had at least one-half year of experience; 2, or 2.5 per cent, had between one-half and 1 year of experience; 8, or 9.9 per cent, had between 1 year and 3 years of experience.

Within two weeks after leaving school 40 per cent of the workers had secured positions; 70 per cent had secured positions within eight months. The secretaries and stenographers found employment more rapidly than the other workers.

About one-third of the workers had been in their present positions between one and three years. The executives had much the highest tenure in present positions. The largest per cent of workers holding present positions less than one year were in general clerical group.

As was true concerning the tenure in present position the executives, managers, and supervisors had the longest tenure with the present firm. Few of the bookkeepers had been with the firm longer than ten years and few of the secretaries and stenographers longer than six years.

The range of experience for office workers was from one week to thirty-five years. The executives had the most office experience and the general clerks the least.

The final chapter will be devoted to summarizing the previous chapters so that a more compact picture of the study may be seen.

## CHAPTER V

## SUMMARY AND CONCLUSIONS

The purpose of this study was to determine the sources and extent of training of office and clerical workers and the methods used in securing employment.

From offices representing a variety of kinds and sizes of businesses in six cities and towns in Oklahoma, 719 useable questionnaires were secured. Personal interviews were used for obtaining information on the questionnaires. After materials were gathered workers were classified according to duties performed into four groups: executive, manager, and supervisor; bookkeeper; secretary and stenographer; general clerk. Of the 719 workers 81, or 11.3 per cent, were executives, managers, and supervisors; 168, or 23.4 per cent, were bookkeepers; 135, or 18.8 per cent were secretaries and stenographers; 335, or 46.6 per cent, were general clerks. The number of women holding office and clerical positions was almost 50 per cent greater than the number of men. The largest group of workers was the general clerical group. This corroborates the findings of Nichols and other research workers. Position names had little standardization and little reference to the duties performed.

Tabulation of the data showed the schools in which most of the training had been received were the high school, the business college, and college or university. The per cent who had not attended high school was 2.8, and the per cent who had not graduated was 9.5. Almost one-half of the workers attended college and one-eighth had graduated. Business college had been attended by about one-half of the workers. Very few workers had attended other schools. Thus

it would appear that high school graduation may be regarded as a prerequisite for office employment and that attendance at either business college or college or university is becoming a prerequisite. Since over three-fifths of the secretaries and stenographers received training in business college it seems evident that this type of school meets the needs of the group better than the needs of any other group. As many of the workers who graduated from high school went on to business college or college or university, the high school work in those cases could be considered as preparatory rather than vocational.

In keeping with the findings of other studies, typewriting is the most important subject to study if one plans to become an office worker. Of all the workers 86.2 per cent had studied the subject. Other subjects most studied given in order of frequency studied were: business English, shorthand, and bookkeeping. A larger per cent of subjects had been studied prior to employment than after employment. As evidenced by the fact that a number of supervisory workers secured their present positions through promotion it would appear that some relationship exists between promotion and continued study.

Some kind of office machine other than the typewriter was used by almost one-half of the workers. From this data it would appear that bookkeepers and general clerical workers need training in some type of calculating machine.

Since personal application was the most effective method of securing employment it would appear that institutions should devote some attention to teaching people how to make personal application.

Approximately 40 per cent had secured positions within two



weeks after leaving school, and more than 70 per cent had secured positions within eight months. This indicates that employment is more easily secured immediately after leaving school than later. Secretaries and stenographers secured employment more rapidly than did the workers of other groups.

Almost one-half of the workers started as general clerks. Since the high school program is designed to prepare for initial positions it would appear that more attention should be given in the high school program to general clerical work. Next in line as initial positions were the secretarial and stenographic positions though they did not make up one-half of the positions other than the general clerical.

However, since so many of that group had received training in business college there appears to be little need for the high school emphasizing secretarial and stenographic training to the extent it does.

Almost one-third of the workers had been in their present positions and with the present firms between one and three years. This would indicate that since there is little permanency the workers should be adaptable to different office positions. As would be expected, workers holding executive, managerial, and supervisory positions had the longest tenure in office positions.

Over one-half of the workers had six years or less of experience in office work. Between 10 and 15 years of experience was had by over one-fourth of the workers. Therefore, it would appear that office work is not a lifetime work for all workers.

APPENDIX

TABLE I

CITIES AND TOWNS IN WHICH QUESTIONNAIRES WERE SECURED

Norman	Shawnee
Oklahoma City	Stillwater
Seminole	Tulsa

TABLE II  
WORKERS IN EACH KIND OF BUSINESS

POSITION	EDUCATION	FINANCE	GOVERNMENT	INSURANCE, P. ESTATE	MANUFACTURING	MERCANTILE	OIL	PERSONNEL	PUBLICATIONS	PROFESSIONAL	UTILITIES	TRANSPORTATION	MECHANICAL SERVICE	NOT STATED	TOTAL
EXECUTIVE	2	3	17	5	2	33	4	0	0	2	6	2	0	0	81
Per Cent	2.5	9.9	21.0	6.5	2.5	40.7	4.9			2.5	7.4	2.5			100
BOOKKEEPER															
Bookkeeper, Accountant, and Auditor	1	8	3	0	1	19	8	0	0	1	13	3	0	0	57
Bookkeeper and Cashier	0	0	0	2	0	6	0	0	0	0	1	0	0	0	9
Bookkeeper and Stenographer	0	0	0	7	0	4	1	0	0	0	1	0	0	0	12
Bookkeeper and Others	3	6	8	16	3	37	2	0	0	10	2	1	1	1	90
Total	4	14	11	25	4	66	11	0	0	11	16	4	1	1	168
Per Cent	2.4	8.3	6.5	14.9	2.4	39.3	6.5			6.5	9.5	2.4	0.6	0.6	100
SECRETARY AND STENOGRAPHER															
Secretary	7	6	12	2	0	7	4	1	1	3	4	2	0	0	49
Stenographer	4	9	26	5	6	9	4	0	0	3	17	2	0	1	86
Total	11	15	38	7	6	16	8	1	1	6	21	4	0	1	135
Per Cent	8.1	11.1	28.1	5.2	4.4	11.9	5.9	0.7	0.7	4.4	15.6	3.0		0.7	100
GENERAL CLERK															
Cashier	1	3	0	1	0	23	2	0	0	0	2	0	0	0	32
File Clerk	0	2	5	0	0	6	1	0	0	0	0	0	0	0	14
Machine Operator	0	4	5	1	2	19	3	0	0	0	5	0	0	0	39
Office Boy	0	0	0	1	0	0	0	0	0	0	2	0	0	0	3
P. B. X. Operator	0	0	0	0	1	3	0	0	0	0	1	0	0	0	5
Reporter	0	24	0	0	0	0	0	0	0	0	0	0	0	0	24
Special Clerk	0	1	2	0	1	2	2	0	0	0	5	2	0	0	15
Teller	0	12	0	0	0	0	0	0	0	0	0	0	0	0	12
Typist	0	6	7	2	1	1	2	0	0	0	0	0	0	0	19
Others	2	16	44	15	8	47	13	0	0	4	18	4	1	0	172
Total	3	68	63	20	13	101	23	0	0	4	33	6	1	0	335
Per Cent	0.9	20.3	18.8	6.0	3.9	30.1	6.9			1.2	32.5	1.8	0.3		100
TOTAL OF ALL WORKERS	20	105	129	57	25	216	46	1	1	23	76	16	2	2	719
Per Cent	2.8	14.6	17.9	7.9	3.5	30.0	6.4	0.1	0.1	3.2	10.6	2.2	0.3	0.3	100

NOTE. This table should be read as follows: 2, or 2.5 per cent of the executives, managers, and supervisors were employed in educational work; 20, or 2.8 per cent of all the workers were employed in educational work.



TABLE III  
NUMBER OF WORKERS EMPLOYED IN OFFICES

GROUP AND POSITION	Number of Workers in Office											N.S. Total
	1	2	3-4	5-8	9-16	17-32	33-64	65-128	129-254	255- more		
EXECUTIVE, MANAGER, AND SUPERVISOR	13	10	13	13	6	17	3	1	3	0	2	81
BOOKKEEPER												
Bookkeeper, Accountant, and Auditor	1	3	6	4	11	19	6	0	3	0	4	57
Bookkeeper and Cashier	1	6	1	0	0	1	0	0	0	0	0	9
Bookkeeper and Stenographer	3	0	3	6	0	0	0	0	0	0	0	12
Bookkeeper and Others	23	16	14	20	5	6	1	0	0	1	4	90
SECRETARY AND STENOGRAPHER												
Secretary	8	2	5	5	2	15	3	1	5	1	2	49
Stenographer	4	8	3	15	18	20	5	3	3	0	7	86
GENERAL CLERK												
Cashier	3	2	2	10	3	9	0	0	0	0	3	32
File Clerk	0	0	1	1	2	5	1	2	1	0	1	14
Machine Operator	0	0	3	7	6	13	6	0	1	0	3	39
Office Boy	0	1	0	2	0	0	0	0	0	0	0	3
P. B. X. Operator	0	0	0	0	2	3	0	0	0	0	0	5
Reporter	0	0	0	0	0	0	24	0	0	0	0	24
Special Clerk	1	0	1	2	3	2	2	3	1	0	0	15
Teller	0	0	0	0	5	7	0	0	0	0	0	12
Typist	0	0	3	3	3	1	3	4	0	0	2	19
Others	8	10	19	40	25	35	11	7	4	0	13	172
TOTAL	65	58	74	128	91	153	65	21	21	2	41	719
PER CENT	9.0	8.1	10.3	17.8	12.7	21.3	9.0	2.9	2.9	0.2	5.7	100

NOTE. This table should be read as follows: Of all the workers 65, or 9.0 per cent were employed in offices which employed only 1 worker; 13 of the 65 were executives, managers, or supervisors.



FORM IV

(The following data are to be used in a study of the sources of training of office and clerical workers. Your answers to the questions will be appreciated.)

1. a. Underline or add to the list below the kind of business in which your firm is engaged.

b. How many are employed in the office in which you now work? \_\_\_\_\_

b. How long have you been in your present position? \_\_\_\_\_ Years \_\_\_\_\_ Months

b. What are your principal duties? (describe briefly) \_\_\_\_\_

	Comm'l Employ- ment Agency	School Employ- ment Agency	State Employ- ment Agency	Friends	Relatives	Personal Applica- tion	Recom- menda- tions of Former Employers	Others
Present position								
First position with this firm								
First office position								

[illegible]



TABLE V

## CLASSIFICATION OF WORKERS BY GROUPS AND SUB-DIVISIONS

GROUP AND POSITION	Male		Female		Not Stated		Total	
	No.	%	No.	%	No.	%	No.	%
<b>EXECUTIVE MANAGER, AND SUPERVISOR</b>								
	48	59.3	31	38.3	2	2.5	81	100.0
Total	48	59.3	31	38.3	2	2.5	81	100.0
<b>BOOKKEEPER</b>								
Bookkeeper, Accountant, and Auditor	31	54.4	25	43.9	1	1.8	57	100.0
Bookkeeper and Cashier	1	11.1	8	88.9	0		9	100.0
Bookkeeper and Stenographer	0		12	100.0	0		12	100.0
and Others	18	20.0	70	77.8	2	2.2	90	100.0
Total	50	29.8	115	68.5	3	1.8	168	100.0
<b>SECRETARY AND STENOGRAPHER</b>								
Secretary	5	10.2	43	87.8	1	2.0	49	100.0
Stenographer	1	1.2	82	95.3	3	3.5	86	100.0
Total	6	4.4	125	92.6	4	3.0	135	100.0
<b>GENERAL CLERK</b>								
Cashier	5	15.6	27	84.4	0		32	100.0
File Clerk	2	14.3	11	78.6	1	7.1	14	100.0
Machine Operator	8	20.5	31	79.5	0		39	100.0
Office Boy	3	100.0	0		0		3	100.0
P. B. X. Operator	0		5	100.0	0		5	100.0
Reporter	0		22	91.7	2	8.3	24	100.0
Special Clerk	7	46.7	7	46.7	1	6.7	15	100.0
Teller	11	91.7	1	8.3	0		12	100.0
Typist	1	5.3	18	94.7	0		19	100.0
Others	40		123		9		172	100.0
Total	77		245		13		335	100.0
<b>TOTAL WORKERS</b>	<b>181</b>	<b>25.2</b>	<b>516</b>	<b>71.8</b>	<b>22</b>	<b>3.1</b>	<b>719</b>	<b>100.0</b>

NOTE: This table should read as follows: of the 81 workers in the executive, managerial and supervisory group, 48 or 59.3 per cent were men, 31, or 38.3 per cent were women; 2, or 2.5 per cent, did not state sex.

TABLE VI  
ATTENDANCE OF HIGH SCHOOL DROP-OUTS

Group and Position	Months in Attendance								Total
	6-9	10-14	15-18	19-23	24-27	28-32	33-36	N.S.	
EXECUTIVE, MANAGER, AND SUPERVISOR	2				3	2	1	1	9
BOOKKEEPER									
Bookkeeper, Accountant, and Auditor	1	1	1		2			2	7
Bookkeeper and Cashier						1			1
Bookkeeper and Steno- grapher					1				1
Bookkeeper and Others	1		3		1	1	1		7
SECRETARY AND STENOGRAPHER									
Secretary							1		1
Stenographer	1				1				2
GENERAL CLERK									
Cashier			1	1	1	1		2	6
File Clerk					1				1
Machine Operator			3		1		1	1	6
Office Boy						1			1
P. B. X. Operator					1				1
Reporter					3	1			4
Special Clerk					2				2
Teller					1				1
Typist									0
Others	2	1	2	1	3	3	1	5	18
TOTAL OF ALL WORKERS	7	2	10	2	21	10	5	11	68
Per Cent	10.3	2.9	14.7	2.9	30.9	14.7	7.4	16.2	100

NOTE: This table should be read as follows: Of the 9 in the executive, managerial, and supervisory group who had dropped out of high school 2 had attended between 6 and 9 months as did 10.3 per cent of all the workers who dropped out.



TABLE VII  
ATTENDANCE OF COLLEGE DROP-OUTS

Group and Position	Months in Attendance									N.S.	Total
	1-5	6-9	10-14	15-18	19-23	24-27	28-32	33-36			
EXECUTIVE, MANAGER, AND SUPERVISOR	1	3	3	12	2	5	2	3	1		32
BOOKKEEPER											
Bookkeeper, Accountant and Auditor	1	3		4	1	4			1		14
Bookkeeper and Cashier		1							2		3
Bookkeeper and Stenographer	1	2	1	1							5
Bookkeeper and Others	1	13	1	9	2	3	2	2	2		35
SECRETARY AND STENOGRAPHER											
Secretary	1	4	1	6	2	3			1		18
Stenographer	3	8	6	8	1	4			3		33
GENERAL CLERK											
Cashier	2	2		1	1	2			1		9
File Clerk		2		4					1		7
Machine Operator	3	2	1	4					1		11
Office Boy	1		1								2
P. B. X. Operator		1		1							2
Reporter						2		1	2		5
Special Clerk		2	1	2	1	2		1			9
Teller		1	2	1	1	3					8
Typist	1	1	1	1		1	1				6
Others	7	12	7	15	2	6		2	5		56
TOTAL OF ALL WORKERS	22	57	25	69	13	35	5	9	20		255
Per Cent	8.6	22.4	9.8	27.1	5.1	13.7	2.0	3.5	7.8		100

NOTE: This table should be read as follows: Of the executive, managerial, and supervisory group who had dropped out of college 1 had attended between 1 and 5 months as had 8.6 per cent of all the workers who had dropped out.

TABLE VIII

## MAJORS OF WORKERS WHO ATTENDED COLLEGE

Group and Position	Total	Agri-	Arts	Com-	Edu-	Engi-	Home	Not	
		cul-	and	Com-	ca-	neer-	Econ-		
		ture	Science	merce	tion	ing	omics	Stated	
		D ND	D ND	D ND	D ND	D ND	D ND	D ND	D ND
EXECUTIVE, MANAGER, AND SUPERVISOR	51	1	7 5	7 7	1		1 1	3 18	
BOOKKEEPER									
Bookkeeper, Accountant, and Auditor	22			5 3	1 2			2 9	
Bookkeeper and Cashier	4		1	2	1				
Bookkeeper and Steno- grapher	5		1						4
Bookkeeper and Others	45		5 7	4 7	2	1	2	1 16	
SECRETARY AND STENOGRAPHER									
Secretary	31		2 3	6 2	1 3		1 4	9	
Stenographer	42		6 4	3 8	1		1	19	
GENERAL CLERK									
Cashier	11		1 2	1 1					6
File Clerk	9		1 2	1			1 1	3	
Machine Operator	14		2 2	1 3			1	5	
Office Boy	2		1	1					
P. B. X. Operator	2		1						1
Reporter	9		2 1	1			1	4	
Special Clerk	9		1	3	1			4	
Teller	9		2	1 3				3	
Typist	8		1 1	1 3				2	
Others	73	1	7 11	2 13	1 5	1 1	1 5	25	
TOTAL OF ALL WORKERS WHO ATTENDED	346	2	35 44	32 57	3 16	1 2	2 8	16 128	
Per Cent		0.6	10.1 12.7	9.2 15.5	0.9 4.6	0.3 0.6	0.6 2.3	4.6 37.0	

NOTE: This table should be read as follows: Of the 51 executives, managers, and supervisors who attended college 1 had a degree in agriculture; of the 7 majoring in arts and science 7 had degrees.

TABLE IX

NUMBER OF BOOKKEEPERS ATTENDING EVENING PUBLIC SCHOOL AND  
MACHINE SCHOOL

Position	Total	Attended Evening Public School				Attended Machine School			
		M.	F.	N.S.	Total	M.	F.	N.S.	Total
Bookkeeper, Accountant, and Auditor	57	3	2	0	5	1	0	0	1
Bookkeeper and Cashier	9	0	0	0	0	0	0	0	0
Bookkeeper and Stenographer	12	0	0	0	0	0	1	0	1
Bookkeeper and Others	90	0	2	0	2	0	1	0	1
TOTAL	168	3	4	0	7	1	2	0	3
Per Cent	100	6.0	3.5		4.2	2.0	1.7		1.8

NOTE: This table is to be read as follows: Of the 57 bookkeepers, accountants, and auditors 3 men and 2 women attended evening public school; one man attended machine school. Of all the men in the group 3 or 6.0 per cent had attended evening public school.

TABLE X

NUMBER OF SECRETARIES AND STENOGRAPHERS ATTENDING EVENING PUBLIC  
SCHOOL AND MACHINE SCHOOL

Position	Total	Attended Evening Public School				Attended Machine School			
		M.	F.	N.S.	Total	M.	F.	N.S.	Total
Secretary	49	0	2	0	2	0	0	0	0
Stenographer	86	0	8	0	8	0	1	0	1
TOTAL	135	0	10	0	10	0	1	0	1
Per Cent	100		8.0		7.4		0.8		0.8

NOTE: This table is to be read as follows: Of the 49 secretaries 1 woman had attended evening public school and no men had attended. Of all the women in the group 10, or 8.0 per cent had attended evening public school.



TABLE IX

## NUMBER OF GENERAL CLERKS ATTENDING EVENING PUBLIC SCHOOL AND MACHINE SCHOOL

Position	Total	Attended Evening Public School				Attended Machine School			
		M.	F.	N.S.	Total	M.	F.	N.S.	Total
Cashier	32	1	5	0	6	0	0	0	0
File Clerk	14	1	3	0	4	0	1	0	1
Machine Operator	39	0	7	0	7	1	18	0	19
Office Boy	3	0	0	0	0	0	0	0	0
P. B. X Operator	5	0	0	0	0	0	2	0	2
Reporter	24	0	0	0	0	0	1	0	1
Special Clerk	15	0	2	0	2	0	0	1	1
Teller	12	2	0	0	2	0	0	0	0
Typist	19	0	1	0	1	0	0	0	0
Miscellaneous	172	8	11	1	20	0	5	1	6
TOTAL	335	12	29	1	42	1	27	2	30
Per Cent	100	6.6	5.6	4.5	12.5	0.5	5.2	9.0	8.9

NOTE: This table should be read as follows: Of all the men in the general clerical group 12, or 6.6 per cent had attended evening public school. Only 1 man and 5 women holding positions as cashiers had attended.



## BIBLIOGRAPHY

1. Arnold, Joseph P., A Study of Office Employees in the Major Offices of Denver, Colorado. Unpublished thesis, University of Denver, Denver, Colorado, 1932.
2. Nichols, Frederick G., A New Conception of Office Practice. Harvard Bulletins in Education, No. 12, 1927.
3. Patton, Elizabeth B., A Study of Office Employees in Kansas City, Kansas. Unpublished thesis, University of Denver, Denver, Colorado, 1935.