

A COMPARISON OF THE LEVEL OF
CAREER ADVANCEMENT IN BUSINESS
BETWEEN SELECTED LIBERAL ARTS AND
SCIENCE GRADUATES AND BUSINESS
ADMINISTRATION GRADUATES

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
William J. Kearney
1965



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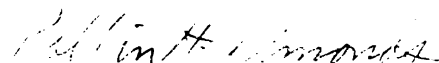
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ADMINISTRATION GRADUATES

presented by

William J. Kearney

has been accepted towards fulfillment
of the requirements for

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Maior professor

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ABSTRACT

A COMPARISON OF THE LEVEL OF CAREER ADVANCEMENT IN BUSINESS BETWEEN SELECTED LIBERAL ARTS AND SCIENCE GRADUATES AND BUSINESS ADMINISTRATION GRADUATES

by William J. Kearney

The purpose of this study was to determine whether or not there is a statistically significant difference in the level of career advancement attained in business, as measured by yearly earnings and position level within organizations, of college graduates who possess bachelor's degrees in liberal arts and science, as opposed to college graduates who possess bachelor's degrees in business administration, when the variables of age, socio-economic status, and mental ability or intelligence are controlled.

As an outgrowth of the data collected for the analysis of the research problem, an investigation was made to determine whether or not statistically significant correlations exist for either of the groups of graduates between socio-economic status, grade-point average, intelligence, number of organizations in which the graduates have been employed, and their present yearly earnings and position levels.

In total, 509 graduates of Michigan State University were selected for the purpose of the study. Of the 509 graduates, 321 graduated during the 1950 academic year, and 188 graduated during the 1955 academic year. Of the 321 graduates in 1950, 206 earned their bachelor's degree in business administration and 115 earned their

bachelor's degree in liberal arts and science. Of the 188 graduates in 1955, 100 received their bachelor's degree in business administration, while 88 received their bachelor's degree in liberal arts and science.

None of the graduates had any undergraduate or graduate education since receiving their bachelor's degrees. In addition, none of the graduates had training for such purposes as licensing or certification. The graduates in this study were all pursuing careers in business organizations; none of the graduates in this study were engaged in either military or civil service careers. Finally, all the graduates were males.

Age at college graduation, socio-economic status at graduation, and mental ability or intelligence were designated as the control variables to be used in the study. The two groups of 1950 graduates were statistically alike with respect to each of these factors. Similarly, the two groups of 1955 graduates were statistically alike with respect to age, socio-economic status, and intelligence. Position level within organizations and yearly earnings were the two factors that constituted the criteria for measuring the level of career advancement. Data for the study were collected from university records and by a mail questionnaire.

Four points in time following college graduation were selected for the purpose of making comparisons of the level of career advancement between the 1950 liberal arts and science graduates and the business administration graduates. Three points in time were selected for making similar comparisons between the two groups of 1955 graduates.

Within the methodological limitations of the study, no relationship was found between the two types of academic programs and the level of career advancement attained in business by either the 1950 or 1955



graduates of these programs. A slight relationship was found between grade-point average and the present yearly earnings of the 1950 business administration graduates. For the 1955 business administration graduates a slight relationship was found between the socio-economic status of the graduates at graduation and the present position levels occupied by these graduates.

The findings of this study suggest that the frequently expressed view of the superiority of a liberal arts and science program in preparing students for careers in business should be re-evaluated. Since the liberal arts and science graduates did not attain a higher level of career advancement than the business administration graduates under the control conditions of this study, we conclude that the preparation afforded by a liberal arts and science education is not inherently superior to that provided by a business administration education. At the same time, the findings of this study do not support the opposing view that a business administration education affords a superior preparation for a career in business to that provided by a liberal arts and science education.

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By

William J. Kearney

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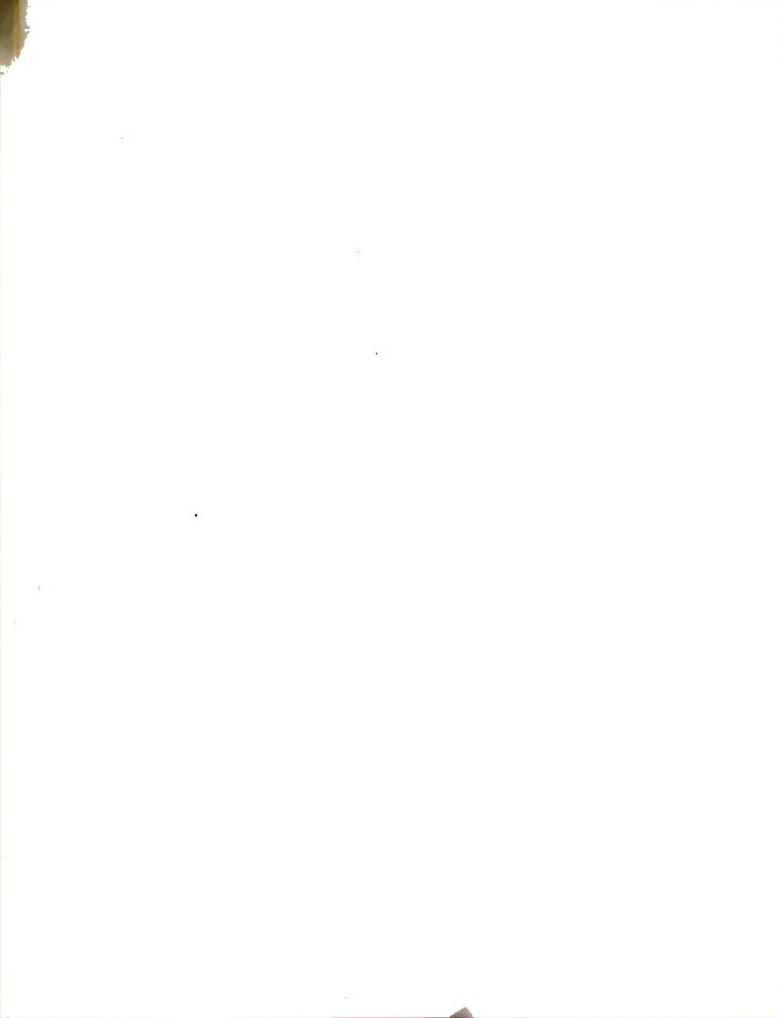
My deepest debt of gratitude is owed the hundreds of graduates who took part in this study. It was their interest and cooperation that made the completion of this study a reality. Their response to my request for participation in this study was overwhelming.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENT	ii
LIST OF TABLES	v
LIST OF ILLUSTRATIONS	xiii
CHAPTER	
I. INTRODUCTION	1
The Research Problem	1
Need for the Research	1
Nature and Scope of the Research	4
Summary	5
II. PREVIOUS RESEARCH	6
Introduction	6
Career Studies of Alumni	8
Views of Businessmen on Education for Business	12
Studies of the Relationship Between Type of Edu-	
cation and Business Careers	18
Summary	21
III. RESEARCH METHODOLOGY	23
Selection of the University	23
Selection of the Years of College Graduation . .	26
Definition of Terms	27
Curriculum Assignment of Major Areas of Study	29
Collection of Data on Graduates from Available	
University Records	30
The Control Variables	32
Criteria for Measuring the Level of Career	
Advancement	38
Selection of Time Periods for Analysis	43
Correlation Data	44
Pre-test	44
First Mailing	45

TABLE OF CONTENTS - Continued

CHAPTER	Page
Second Mailing	46
Screening of Returned Questionnaires	48
IV. ANALYSIS OF THE DATA	49
Re-statement of the Research Problem	49
Statistical Formulas	51
The 1950 Graduates	51
The 1955 Graduates	60
V. SUMMARY AND CONCLUSIONS.	68
Introduction.	68
Research Methodology	68
Findings	69
Implications of the Findings	72
Future Research	74
APPENDIX I.	76
APPENDIX II	83
BIBLIOGRAPHY.	165



LIST OF TABLES

TABLE	Page
1. Major Areas of Study Classified as a Liberal Arts and Science Curriculum for the 1950 Graduates . .	84
2. Major Areas of Study Classified as a Business Administration Curriculum for the 1950 Graduates	85
3. Major Areas of Study Classified as a Liberal Arts and Science Curriculum for the 1955 Graduates . .	86
4. Major Areas of Study Classified as a Business Administration Curriculum for the 1955 Graduates	87
5. Number of Michigan State University Graduates Receiving Questionnaires by Educational Program and Year of Graduation	88
6. Analysis of Questionnaire Mailings and Returns . .	89
7. Analysis of Factors Causing Rejection of Returned Questionnaires by Year of Graduation and Educational Program	90
8. Analysis of Questionnaires Mailed, Returned, Rejected, and Used by Educational Program and Year of Graduation	91
9. Age of 1950 Graduates when Bachelor's Degree Conferred	93
10. Principal Occupations of the Fathers of the 1950 Graduates at the Time the Graduates Received the Bachelor's Degree	94
11. Socio-Economic Ranking of 1950 Graduates at the Time Bachelor's Degree Conferred	95
12. Distribution of ACE Test Scores Among the 1950 Graduates	96



LIST OF TABLES - Continued

TABLE	Page
13. Distribution of Grade-Point Averages of the 1950 Graduates	97
14. Size of Organization in which 1950 Graduates Secured Their First Full-Time Job Following College Graduation	98
15. Distribution of 1950 Graduates by Structural Organization Size in which Graduates Secured Their First Full-Time Job Following College Graduation	99
16. Number of 1950 Graduates Who Secured Their First Full-Time Jobs in Organizations in which Relatives Were Owners or Executives	100
17. Position Levels Occupied by 1950 Graduates in First Full-Time Jobs Following College Graduation	101
18. Distribution of Yearly Earnings of 1950 Graduates from First Full-Time Job Following College Graduation	102
19. Size of Organization in which 1950 Graduates Were Employed Five Years after College Graduation . . .	103
20. Distribution of 1950 Graduates by Structural Organization Size in which Graduates Were Employed Five Years after College Graduation	104
21. Number of 1950 Graduates Employed in Organizations Five Years after College Graduation in which Relatives Were Owners or Executives	105
22. Position Levels Occupied by 1950 Graduates in Jobs Held Five Years Following College Graduation . . .	106
23. Distribution of Yearly Earnings of 1950 Graduates from Job Held Five Years after College Graduation .	107



LIST OF TABLES - Continued

TABLE	Page
24. Size of Organization in which 1950 Graduates Were Employed Ten Years after College Graduation . . .	108
25. Distribution of 1950 Graduates by Structural Organization Size in which Graduates Were Employed Ten Years after College Graduation	109
26. Number of 1950 Graduates Employed in Organizations Ten Years after College Graduation in which Relatives Were Owners or Executives	110
27. Position Levels Occupied by 1950 Graduates in Jobs Held Ten Years Following College Graduation . . .	111
28. Distribution of Yearly Earnings of 1950 Graduates from Job Held Ten Years after College Graduation.	112
29. Size of Organization in which 1950 Graduates Are Presently (1964) Employed	113
30. Distribution of 1950 Graduates by Structural Organization Size in which Graduates Are Presently (1964) Employed	114
31. Number of 1950 Graduates Presently (1964) Employed in Organizations in which Relatives Are Owners or Executives	115
32. Number of Organizations in which 1950 Graduates Have Been Employed Since College Graduation (including present organization).	116
33. Position Levels Occupied by 1950 Graduates in Their Present (1964) Jobs	117
34. Distribution of Yearly Earnings of 1950 Graduates from Present (1964) Jobs	118

LIST OF TABLES - Continued

TABLE	Page
35. Present (1964) Yearly Earnings Medians and Ranges for the 1950 Business Administration Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred	119
36. Present (1964) Yearly Earnings Medians and Ranges for the 1950 Liberal Arts and Science Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred	120
37. Present (1964) Yearly Earnings Medians and Ranges for the 1950 Business Administration Graduates by Grade-Point Average	121
38. Present (1964) Yearly Earnings Medians and Ranges for the 1950 Liberal Arts and Science Graduates by Grade-Point Average	122
39. Present (1964) Yearly Earnings Medians and Ranges for the 1950 Business Administration Graduates by ACE Test Score	123
40. Present (1964) Yearly Earnings Medians and Ranges for the 1950 Liberal Arts and Science Graduates by ACE Test Score	124
41. Present (1964) Position Level Medians and Ranges for the 1950 Business Administration Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred	125
42. Present (1964) Position Level Medians and Ranges for the 1950 Liberal Arts and Science Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred	126
43. Present (1964) Position Level Medians and Ranges for 1950 Business Administration Graduates by Grade-Point Average	127



LIST OF TABLES - Continued

TABLE	Page
44. Present (1964) Position Level Medians and Ranges for 1950 Liberal Arts and Science Graduates by Grade-Point Average	128
45. Present (1964) Position Level Medians and Ranges for the 1950 Business Administration Graduates by ACE Test Score	129
46. Present (1964) Position Level Medians and Ranges for the 1950 Liberal Arts and Science Graduates by ACE Test Score	130
47. Age of 1955 Graduates when Bachelor's Degree Conferred	132
48. Principal Occupations of the Fathers of the 1955 Graduates at the Time the Graduates Received the Bachelor's Degree	133
49. Socio-Economic Ranking of 1955 Graduates at the Time Bachelor's Degree Conferred	134
50. Distribution of ACE Test Scores Among the 1955 Graduates	135
51. Distribution of Grade-Point Averages of the 1955 Graduates	136
52. Size of Organization in which 1955 Graduates Secured Their First Full-Time Jobs Following College Graduation	137
53. Distribution of 1955 Graduates by Structural Organization Size in which Graduates Secured Their First Full-Time Job Following College Graduation	138
54. Number of 1955 Graduates Who Secured Their First Full-Time Jobs in Organizations in which Relatives were Owners or Executives	139



LIST OF TABLES - Continued

TABLE	Page
55. Position Levels Occupied by 1955 Graduates in First Full-Time Jobs Following College Graduation	140
56. Distribution of Yearly Earnings of 1955 Graduates from First Full-Time Job Following College Graduation	141
57. Size of Organization in which 1955 Graduates Were Employed Five Years after College Graduation . .	142
58. Distribution of 1955 Graduates by Structural Organization Size in which Graduates Were Employed Five Years after College Graduation	143
59. Number of 1955 Graduates Employed in Organizations Five Years after College Graduation in which Relatives Were Owners or Executives	144
60. Position Levels Occupied by 1955 Graduates in Jobs Held Five Years Following College Graduation	145
61. Distribution of Yearly Earnings of 1955 Graduates from Job Held Five Years after College Graduation	146
62. Size of Organization in which 1955 Graduates Are Presently (1964) Employed	147
63. Distribution of 1955 Graduates by Structural Organization Size in which Graduates Are Presently (1964) Employed	148
64. Number of 1955 Graduates Presently (1964) Employed in Organizations in which Relatives Are Owners or Executives	149
65. Number of Organizations in which 1955 Graduates Have Been Employed Since College Graduation (including present organization).	150



LIST OF TABLES - Continued

TABLE	Page
66. Position Levels Occupied by 1955 Graduates in Their Present (1964) Jobs	151
67. Distribution of Yearly Earnings of 1955 Graduates from Present (1964) Job	152
68. Present (1964) Yearly Earnings Medians and Ranges for the 1955 Business Administration Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred	153
69. Present (1964) Yearly Earnings Medians and Ranges for the 1955 Liberal Arts and Science Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred	154
70. Present (1964) Yearly Earnings Medians and Ranges for the 1955 Business Administration Graduates by Grade-Point Average	155
71. Present (1964) Yearly Earnings Medians and Ranges for the 1955 Liberal Arts and Science Graduates by Grade-Point Average	156
72. Present (1964) Yearly Earnings Medians and Ranges for the 1955 Business Administration Graduates by ACE Test Score	157
73. Present (1964) Yearly Earnings Medians and Ranges for the 1955 Liberal Arts and Science Graduates by ACE Test Score	158
74. Present (1964) Position Level Medians and Ranges for the 1955 Business Administration Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred	159
75. Present (1964) Position Level Medians and Ranges for the 1955 Liberal Arts and Science Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred	160



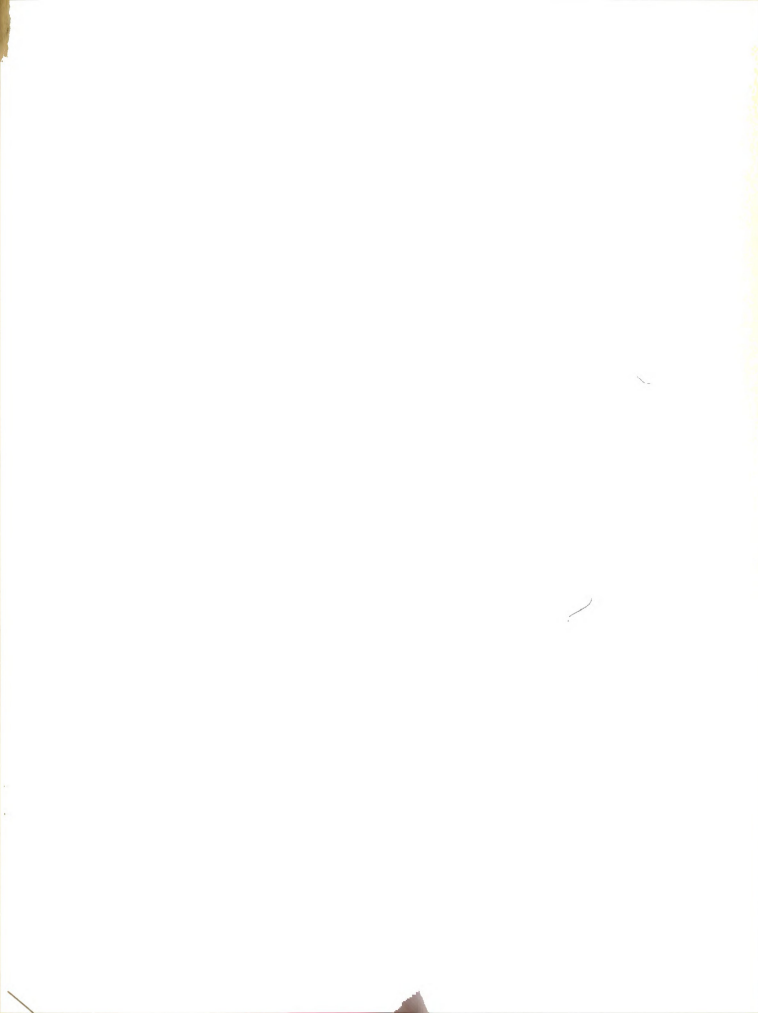
LIST OF TABLES - Continued

TABLE	Page
76. Present (1964) Position Level Medians and Ranges for 1955 Business Administration Graduates by Grade-Point Average	161
77. Present (1964) Position Level Medians and Ranges for 1955 Liberal Arts and Science Graduates by Grade-Point Average	162
78. Present (1964) Position Level Medians and Ranges for the 1955 Business Administration Graduates by ACE Test Score	163
79. Present (1964) Position Level Medians and Ranges for the 1955 Liberal Arts and Science Graduates by ACE Test Score	164



LIST OF ILLUSTRATIONS

FIGURE	Page
1. Structural Organization Sizes	40



CHAPTER I

INTRODUCTION

The Research Problem

The purpose of this study is to determine whether or not there is a statistically significant difference in the level of career advancement attained in business, as measured by yearly earnings and position level within organizations, by college graduates who possess bachelor's degrees in liberal arts and science, as opposed to college graduates who possess bachelor's degrees in business administration, when the variables of age, socio-economic status, and mental ability are controlled.

As an outgrowth of the data collected for the analysis of the research problem, an investigation will be made to determine whether or not statistically significant correlations exist for either of the groups of graduates between socio-economic status, grade-point average, mental ability, number of organizations in which the graduates have been employed, and their present yearly earnings and position levels.

Need for the Research

At the present time there is a lack of empirical research which is methodologically rigorous regarding the relationship between career advancement in business and type of educational preparation at the college level. If such a relationship exists, the identification of the relationship has important implications for prospective college students who wish to prepare themselves for careers in business, administrators

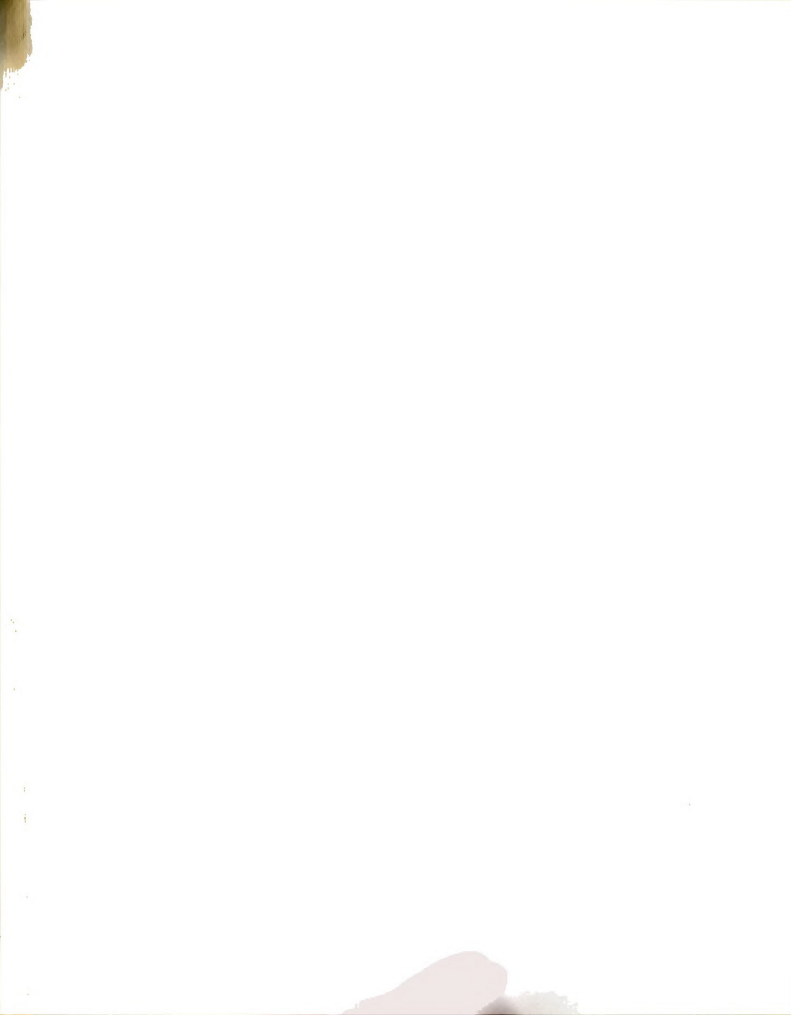


and faculties of colleges and universities who are responsible for the design of college curricula, and business organizations which seek to identify individuals possessing potential executive talent.

Among future college students who are planning a college education as a preparation for a career in business, the determination of a relationship between type of educational program and career advancement in business would be of direct benefit to them as an aid in deciding the type of educational program they should pursue.

While the preparation of students for a career is but one aspect of the education experience, it is nonetheless an important function of institutions of higher education, and schools of business in particular. In view of the recognition by business school faculties of the continuing need to improve business school curricula, the identification of a relationship between educational preparation and careers in business would provide a valuable guide for the design of business school curricula. Specifically, faculty members would have an invaluable aid in designing the type of business curricula that would facilitate the advancement of businessmen to the limits of their potential.

Evidence of a relationship between educational preparation and careers in business would provide business organizations with an extremely useful guide for the selection of individuals who possess top level executive potential. Knowledge of the superiority of either a liberal arts and science education or a business administration education as a preparation for business would be useful for the selection of corporate personnel for participation in executive development programs. Thus, those who would benefit most from such a program could be identified for participation. Benefits would accrue not only to individual firms but to our economy as well through the greater utilization of our most valuable resources--human resources.



The need for empirical research on the relationship between educational preparation and careers in business is well documented in the research and writings of Professor Frank C. Pierson and Professors Robert A. Gordon and James E. Howell.

Professor Frank C. Pierson, author of The Education of American Businessmen, a research study of education for business commissioned by the Carnegie Foundation, states the need for this research. Professor Pierson notes that it is not clear from the evidence, which he and others have analyzed, whether a particular type of educational program has any advantage in preparing individuals for careers in business.¹

Professors Gordon and Howell make specific reference to the need for determining the relationship between educational preparation and business careers in their study of education for business sponsored by the Ford Foundation:

There is particular need for a large scale study of the relationship between education and business career. This should include a survey of business school alumni drawn from a broad cross-section of schools and departments of business, in which an attempt would be made to evaluate the kinds of business training received. With this should go a companion study of a large sample of businessmen of varied educational backgrounds that would investigate in some detail the relationship between career pattern and type of education. The present report would have rested on a more solid foundation had it been possible for us to make these studies or to have had them already available.² (Italics mine.)

¹Frank C. Pierson and Others, The Education of American Businessmen: A Study of University-College Programs in Business Administration (New York: McGraw-Hill Book Company, Inc., 1959), p. 125.

²Robert A. Gordon and James E. Howell, Higher Education for Business (New York: Columbia University Press, 1959), p. 426.



Nature and Scope of the Research

The research study described in the following chapters is designed for the specific purpose of identifying the impact of two types of educational programs--liberal arts and science and business administration--upon the business careers of the graduates of these programs. All of the graduates in this study received their bachelor's degrees from Michigan State University. All of the graduates are males. None of the graduates have acquired additional undergraduate education or graduate education since receiving their bachelor's degrees. Similarly, none of the graduates have pursued courses of study for licensing or certification. All of the graduates have been engaged in business careers; none are pursuing military or civil service careers. Age and socio-economic status at college graduation, and intelligence were designated as the control variables for the study. The two groups of graduates in this study for each of the selected academic years of graduation are statistically alike in age at college graduation, socio-economic status at graduation, and intelligence, as measured by intelligence test scores.

Thus, by using rigid criteria in selecting the graduates to be included in the study, and by controlling three factors that may be of importance in business careers, the impact of the two types of educational programs upon business careers can be determined.

The research reported in the following chapters is limited to an analysis of the career patterns of the graduates of a single large, state supported university in the mid-west. In addition, the graduates included in this study have been selected on the basis of rigid criteria. A more detailed enumeration of the specific characteristics of the graduates analyzed and the research design is provided in the chapter on research methodology.



Summary

In the preceding paragraphs the research problem of this study has been stated. The need for research on the relationship between educational preparation at the college level and business careers has been indicated with particular reference to the needs of future students, administrators and faculties of colleges and universities, and business organizations, which seek to identify individuals with potential executive ability. The need for this research is also indicated in two important studies of education for business. Last, a brief description of the nature and scope of this study was presented. In the chapter which follows previous empirical research pertinent to the research problem of this study is briefly reviewed and analyzed.

CHAPTER II

PREVIOUS RESEARCH

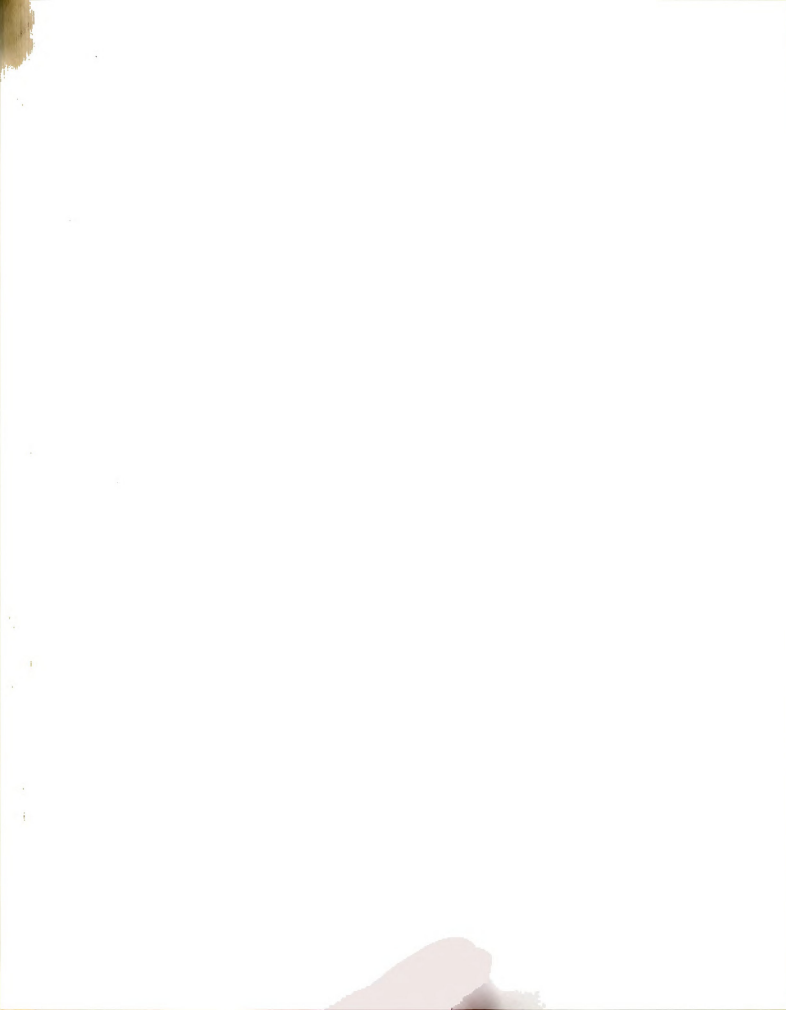
Introduction

Previous research related to the research problem of this study may be organized into three general categories: (1) career studies of alumni that attempt to portray the typical graduate a certain number of years after graduation, (2) studies that detail the views of businessmen on education for business, and (3) studies that attempt to determine the relationship between educational preparation and business careers.

The nature of most alumni career studies, usually conducted by college and university alumni offices, limit the usefulness of these studies in making a determination of the impact of educational preparation upon business careers. Studies that attempt to determine the views of businessmen on the kind of education needed for a business career, while useful, do not provide data that objectively identify and measure the relationship between types of educational programs and the careers in business of graduates possessing these educational backgrounds.

For the most part, the studies that comprise the above two categories formed the basis for the discussions in the Ford and Carnegie reports on the relative merits of different kinds of educational preparation for business careers.³ The foundation for the conclusions and

³Gordon and Howell, op. cit., pp. 75-126. Pierson, op. cit., pp. 55-123.



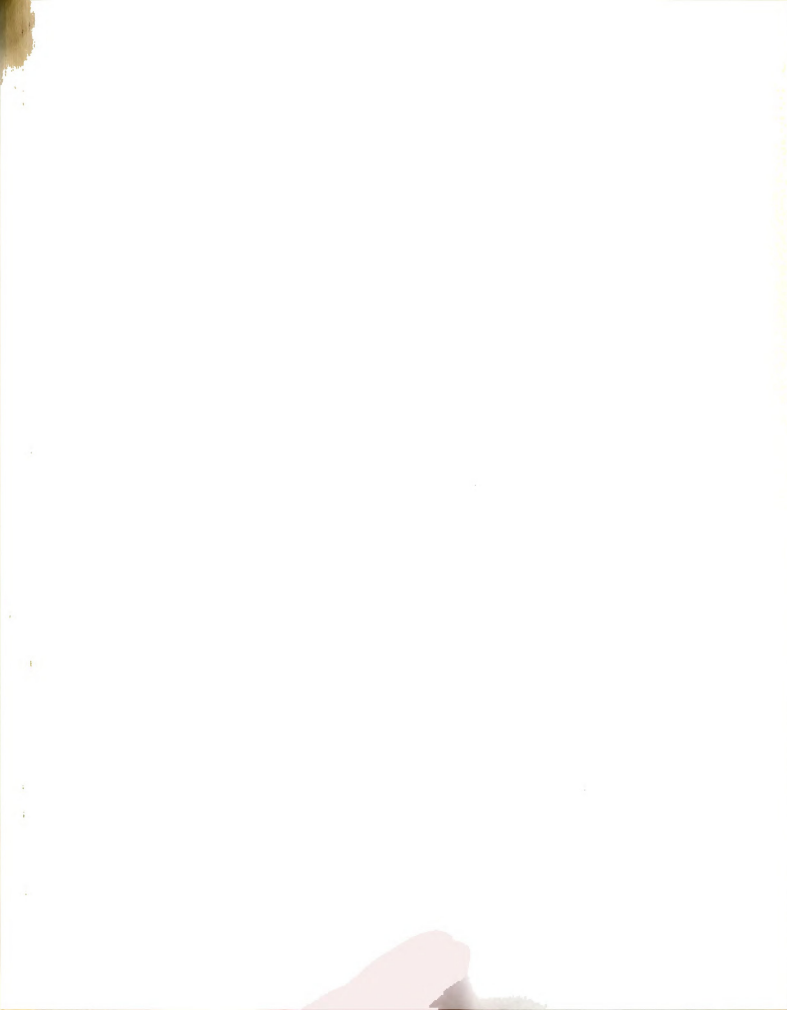
recommendations made by the authors of these two reports pertaining to curriculum changes in business schools must be assumed to rely heavily on these studies for their justification.

At the time of this research only two empirical studies were available that can be classified in the third category. One of these appeared in Professor Pierson's book, The Education of American Businessmen. In the Carnegie (Pierson) report an attempt was made to determine the relationship, if any, between the type of educational program of college graduates and their business careers. As we shall see later, however, this study was not methodologically rigorous in its design, and thus the findings can be explained on the basis of factors other than the type of educational experience of the graduates in the study. The other study was made by Dr. Don H. Palmer at Wayne State University in 1961.⁴ However, Palmer's research did not focus on liberal arts and science graduates, but rather was concerned with the analysis of the business careers of accounting graduates as opposed to business administration graduates.

The studies cited in the following two categories do not represent all of the empirical research available in each of the categories. They are, however, typical of the type of research that has been done.⁵ Since these studies offer little in the way of a factual foundation for identifying the existence of any relationship between type of educational

⁴Don H. Palmer, Ten Years in Business: Comparative Judgments Regarding Fulfillment of Career Expectations of Graduates in Accounting and in Business Administration at Wayne State University after a Decade of Practice (Detroit: Bureau of Business Research, School of Business Administration, Wayne State University, 1961).

⁵A more complete listing of these types of studies may be found in: Gordon and Howell, op. cit., pp. 75-126; and Pierson, op. cit., pp. 55-123.



preparation and business careers, only a very brief discussion of their nature will be presented here. Only to the extent that these studies reveal what is not available in the form of pertinent data are they relevant to this study.

Career Studies of Alumni

William S. Warren, Jr., reports in the Harvard Business School Bulletin the results of an alumni survey of two groups of Harvard School graduates.⁶ The purpose of this survey was, for the most part, to provide a picture of the careers of these graduates. Data are presented showing average salary, business ownership, number of job changes, community activities, type of industry in which employed, and functional specialty. The study was based on an analysis of 10,000 completed questionnaires from graduates receiving degrees in the time periods of 1922 through 1925 and 1947 through 1950.⁷

In 1958 the Stanford Graduate School of Business reported the findings of an alumni survey, which included MBA graduates of the classes 1927-1952.⁸ The survey

. . . summarizes where the alumni are employed, in what industries they are employed, what their functional activities are, how many have entered general management, and how interested and satisfied the graduates are with their careers.⁹

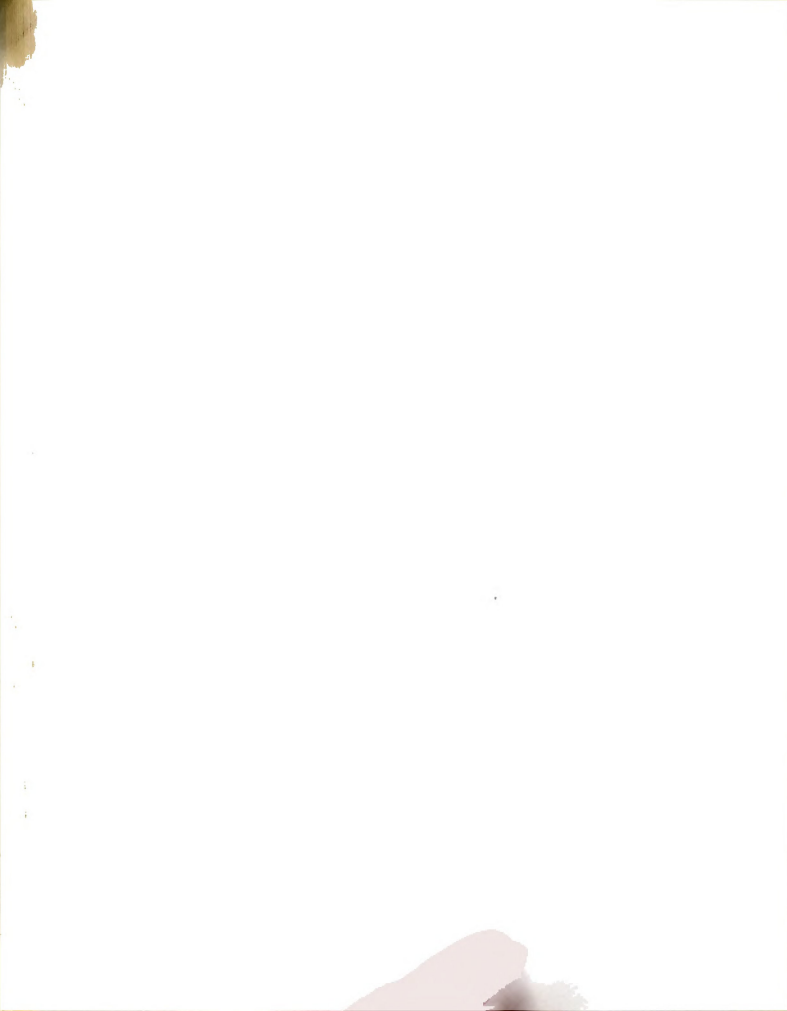
Salary data for graduates of four time periods of graduation are also presented.

⁶William S. Warren, Jr., "Three Clues to Your Future," Harvard Business School Bulletin, XXXII (Summer, 1956), 4-6.

⁷Ibid., p. 6.

⁸Ellen Uhrbrock, "Alumni Vocational Survey," The Stanford Business School Association Alumni Bulletin, XXVIII (January, 1959), 9-14.

⁹Ibid., p. 10.



A study by the Graduate Division of the University of Pennsylvania's Wharton School of Finance and Commerce presents data on the business careers of its 1949 and 1950 graduates ten years after their graduation.¹⁰ They found that one-half of them were earning \$13,000 or more a year. The average income was \$15,800. Seventy per cent had been employed by only one or two employers, including their present employer, since graduation. Thirteen per cent were working in firms with fewer than 500 employees. A similar study of the 1954 and 1955 graduating classes was cited that indicated these graduates were following closely in the footsteps of the 1949 and 1950 graduates.¹¹

Dr. Richard W. Husband conducted a study of the 1926 class of Dartmouth.¹² Dr. Husband's study was designed to determine if it might be possible to predict from a graduate's academic record how successful he would be twenty or thirty years after college graduation. Dr. Husband found that graduates who had low grade point averages had lower than average earnings, while graduates who had grade point averages in the highest two categories had the highest earnings.¹³ With regard to intelligence test scores and present earnings, Dr. Husband found that:¹⁴ (1) graduates scoring lowest had not done so well, (2) graduates scoring highest also fell off in earnings, and (3) for most graduates no significant relationship between present earnings and test

¹⁰"Ten Years After . . . , " Business Week (May 7, 1960), p. 89.

¹¹Ibid., p. 89.

¹²Richard W. Husband, "What Do College Grades Predict," Fortune, LV (June, 1957), 157-158.

¹³Ibid., p. 157.

¹⁴Ibid., p. 157.



score was evident. In addition, graduates who majored in business and economics had the highest median income, while those who majored in English, language, art, and philosophy ranked lowest.¹⁵ Similarly, those who were fraternity members, leaders in campus political organizations, and those who were in extra-curricular activities all experienced higher incomes than their less active counterparts. These findings were based on 275 questionnaire replies out of the 368 graduates of 1926.¹⁶

In 1955, the Amos Tuck School of Dartmouth College completed a survey in which alumni were asked whether they favored a "broad principles" approach in contrast to "vocational training" in education for business.¹⁷ Replies were received from 70.0 per cent of the living alumni. Sixty-one per cent or 712 expressed a view on the above issue. Ninety per cent of the graduates responding favored the "broad principles" approach.¹⁸

Dr. Chris A. Theodore conducted a study of the 1949 business graduates of Boston University.¹⁹ As in the case of the Wharton study, an attempt was made to develop a profile of the 1949 business graduate. In addition to earnings, the study focused on the graduates' social background, employment experience, and their opinions about the value of their college education. One-half of the 1949 class were surveyed. With regard to their opinions on the value of their college education,

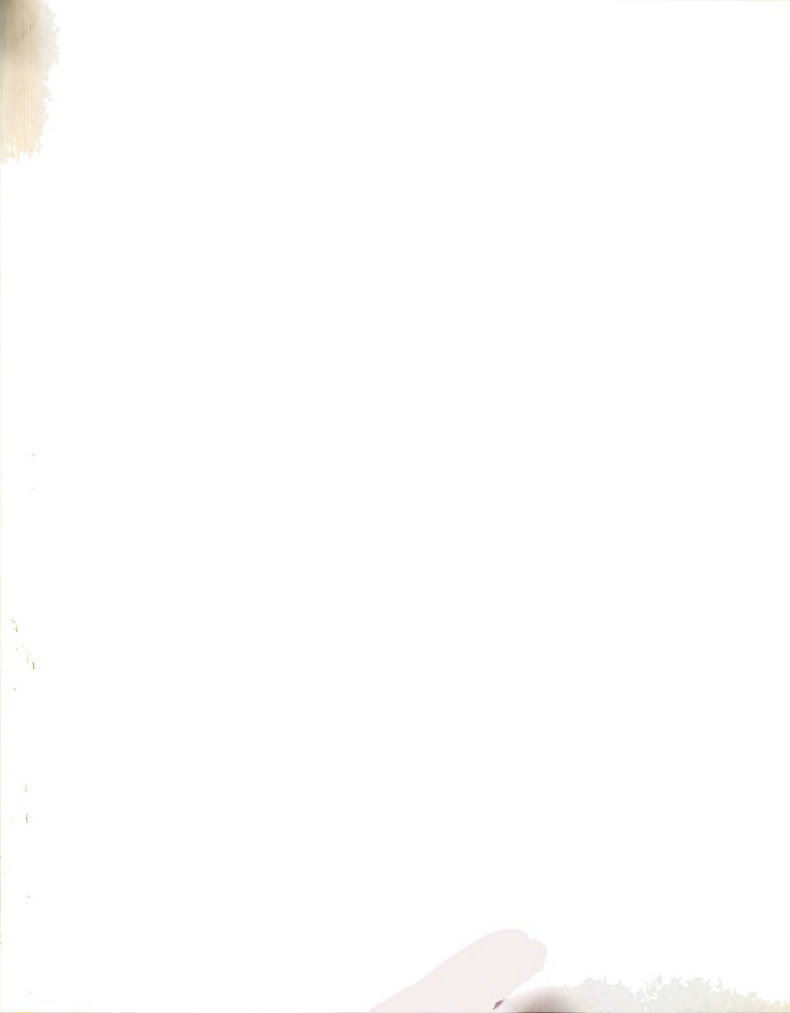
¹⁵Ibid., p. 157.

¹⁶Ibid., pp. 157-158.

¹⁷Dartmouth College, Report to Tuck Alumni (May, 1956), pp. 1-2.

¹⁸Ibid., p. 1.

¹⁹Chris A. Theodore, "Boston University Graduates in Business and Industry: A Sample Study of the Class of 1949," Boston University Business Review, III (Spring, 1956), 23-24.



75.0 per cent of the graduates felt that 25.0 per cent or more of the business courses they took in college were of value in their present employment. One-fourth felt that none, or less than 25.0 per cent of the business courses were of any value.²⁰ The areas in which the graduates felt that their business education was most deficient are philosophy, business research training, English, and labor-management relations, in that order.²¹ Some of the graduates volunteered that their educational experience did not adequately emphasize practical application of the subjects they studied.²²

It is important to note that in none of these six studies was there a contrasting group of businessmen with non-business educational backgrounds. Thus, because of the design of these studies, no inferences can be drawn about the relative merits of business versus non-business educational programs.

The Educational Relations Service of the General Electric Company undertook a study of its college-graduate personnel in 1955.²³ Of the 24,000 college graduates employed by General Electric, 13,586 were included in the study. Two groups of graduates were established--engineering graduates and non-engineering graduates. Although much data were collected as a result of a number of questions asked of the graduates, data on questions pertaining to the attitudes of the graduates about their college education are of particular relevance:

Four subject areas in the college curriculum were considered to be extremely valuable, regardless of the academic background or type of employment of the respondent, in contributing to career

²⁰Ibid., p. 29.

²¹Ibid., p. 29.

²²Ibid., p. 31.

²³What They Think of Their Higher Education (New York: Educational Relations Service, General Electric Company, 1957).



success. English communication--both written and oral--was reported high on the list. Non-engineering respondents placed this subject area first, while engineers rated it second only to Mathematics, which is also a communication tool. Other subject areas reported as important for career success by both groups of respondents included Physics, Economics, and Mathematics.

The least valuable subject areas, judged from a career standpoint above, were felt to be History, Foreign Language, miscellaneous sciences (Biology, Botany, Geology, etc.) and certain social sciences (principally Government and Economics).

When asked to name the program of studies most recommended for success in a business career, respondents gave almost equal emphasis to the four major study areas (Sciences, Social Science, Humanities, and Business). Except for differences in ranking as to importance, survey respondents indicated that a good collegiate program for business management training should include basic work in English, Science and Engineering, Mathematics, Economics, and General Business. Liberal-arts graduates also stressed the fundamental value of work in Psychology and the Humanities.

In general, the respondents seemed to value the broad liberal-arts background for personal and career development, with specialization, if essential, occurring at the graduate level. . . .²⁴

Although some inferences can be made from the studies of alumni and employees cited in the above paragraphs, the others that are available, the purpose of these studies and their methodological design do not establish the existence of any relationship between type of educational program and the business careers of the graduates of these programs.

Views of Businessmen on Education for Business

Studies that analyze the opinions of businessmen as to the type of educational program that most adequately prepares college graduates

²⁴Ibid., pp. 5-6.

for careers in business constitute the second group into which the available empirical research may be categorized. Five empirical studies that fall into this category are of particular interest.

At the University of North Carolina, a Business Executives Research Committee was appointed to undertake a study of education for business administration.²⁵ The report of this study contains the ideas and attitudes of seventy-three North Carolina Businessmen about professional business education. Their viewpoints on business education may be summarized:

If anything unique should be expected of a business school graduate, it is that he should be educated in breadth within several pertinent areas of business so that he can adapt himself more quickly than other students to a successful and productive career in business. We must guard against the tendency toward excessive specialization induced by the functionalization of business.²⁶

In a later section the report states:

It follows naturally that a broad education is to be preferred to a narrow specialization if we are to achieve the end product we have set forth above. By broad education we mean a basic foundation in the liberal arts plus an understanding of how all the elements of business administration function in relation to each other, and how the business unit as a whole functions within a capitalistic economy. We believe this can best be achieved with approximately fifty per cent of the student's course work in the area of business administration and the balance in liberal arts.

Specialized training--not education--is the one thing that we in industry are able and prepared to give our management employees through on-the-job responsibility and outside instruction. Broad general education in business administration and the arts and sciences can best be acquired in college. The higher up the management ladder an executive progresses, the more important it becomes that he not confine his thinking to a specialized channel,

²⁵Business Looks at Business Education (Chapel Hill: School of Business Administration, University of North Carolina, 1958).

²⁶Ibid., pp. 7-8.

but that he analyze the forces that affect his business activities from a broad frame of reference.²⁷

With regard to what a business school should do in terms of degree programs, the report states:

On the undergraduate level major emphasis should be placed on a four year program leading to a bachelor's degree. . . . Most of us, however, would prefer a graduate of a five year program, consisting of three years of liberal arts and two years of business, leading to a Master's degree.²⁸

Quite different views on education for business were found in another study of businessmen. In 1962, the University of Santa Clara School of Business published a study of the opinions of ninety-five businessmen in the Santa Clara Valley on education for business.²⁹ Dr. Lawrence C. Lockley, author of the report, summarized his findings:

The businessmen were asked about their own schooling, about the schooling that would be most beneficial for their competitors, and about the schooling they looked for in the candidates for career jobs in their companies. Without exception, the collegiate work they thought most valuable was specialized and vocational. They recommended organization and management, accounting and control, sales management, marketing, human relations, finance, and so forth.

They were asked: 'For the performance of your present job, in what areas would you like to have more knowledge or information.' It turned out that marketing, business administration, accounting, finance, and labor relations would be most useful. Only when presented with a check list did the respondents mention the liberal arts, and then, only to put them at the bottom of the list. Yet these

²⁷Ibid., p. 10.

²⁸Ibid., p. 20.

²⁹Lawrence C. Lockley, The Small Business Executive Evaluates Business Education (Santa Clara: School of Business, University of Santa Clara, 1962).

were the managers or heads of firms employing up to 1200 employees; 70 per cent of the respondents had had one or more years of college and 36 per cent of them were college graduates.³⁰

A similar study was conducted by Bond, Leabo, and Swinyard on the opinions and attitudes of sixty-six chief executive officers of leading American corporations.³¹ In response to a question that asked which specific academic subjects were most helpful as they progressed to their present position in management, the subjects most frequently mentioned were: accounting, economics, English, general management, human relations, law, and marketing.³² The report states that

. . . only one-third of the executives suggested that the best educational preparation involved a liberal arts undergraduate education without suggesting modifications which gave a more professional orientation to the program.³³

The authors of the study also made an attempt to determine from the executives' careers ". . . the relationship between the initial position and the route to general management."³⁴ Two interesting observations were made:

First, the liberal arts group showed less mobility than any of the others. One-half of them remained in the same industry and with the same company that originally hired them. The science-engineering category showed a similar pattern of immobility but to a slightly lesser degree. On the other hand, individuals with business school training tended to make more moves to different industries and different companies on their climb up the executive ladder.

³⁰Lawrence C. Lockley, "Another Look at the School of Business Graduate," Collegiate News and Views, XVII (October, 1963), 5.

³¹Floyd A. Bond, Dick A. Leabo, and Alfred W. Swinyard, Preparation for Business Leadership ("Michigan Business Reports," Number 43; Ann Arbor, Michigan: The University of Michigan, 1964).

³²Ibid., p. 9.

³³Ibid., p. 39.

³⁴Ibid., p. 7.



Second, the same two groups (liberal arts and science-engineering), and to some extent the law group, tended to remain in the department or function of their first job as they moved up to top management.

Perhaps the most striking fact revealed . . . is that all but one of the innovators--the entrepreneurs--came from business school backgrounds.³⁵

In a concluding section of the report, the authors state:

The background and experience of the executive group participating in the study provide evidence that traditional views on the relative values of a liberal arts education versus other types of training may not be as soundly based as was formerly believed. Among the participating executives, those with educational backgrounds in business administration tended to have greater inter-industry and functional mobility, and greater motivation for risk taking than executives with only liberal arts backgrounds. As a minimum, further research on the influence of various types of education on executive mobility, entrepreneurship, and career patterns is required.³⁶

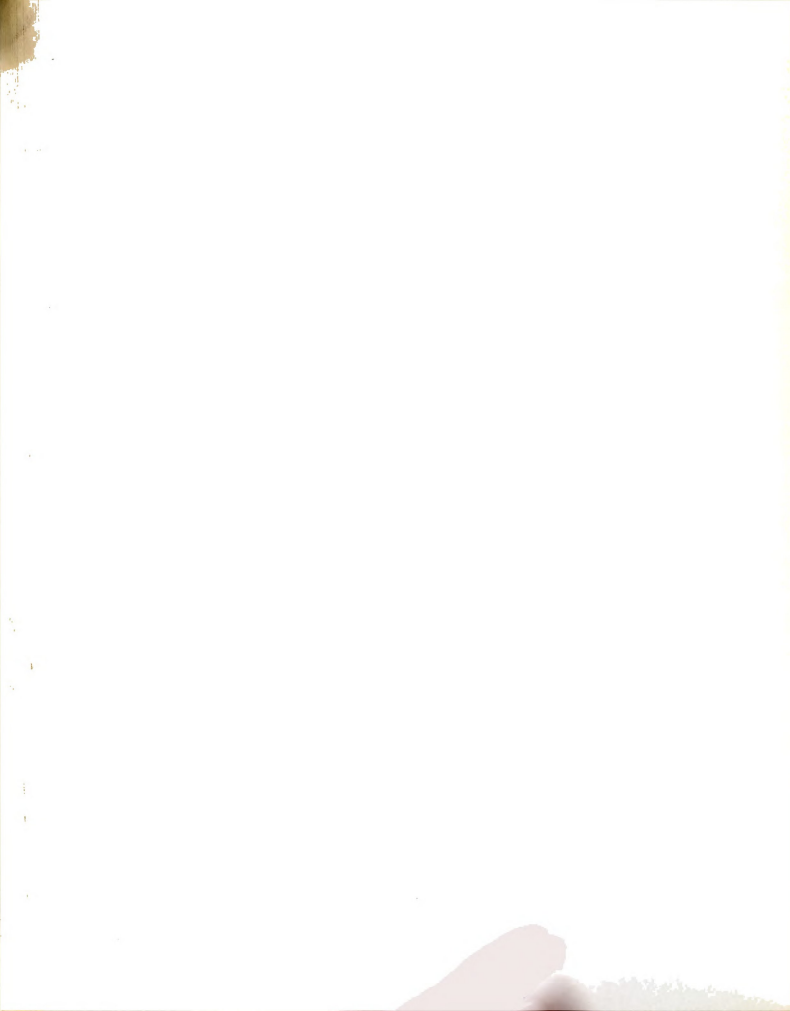
Dr. Rollin H. Simonds conducted a study to determine the skills and knowledge that business executives actually use that might be acquired through college courses. Rather than ask executives what skills and knowledge they look for or recommend for prospective executives, Dr. Simonds asked executives to recall the skills they used during the two years preceding the date of the study, so that more objective and valid statements on the educational requirements for executive positions could be made.

Two hundred forty executives grouped into 22 different classes of positions were surveyed by mail questionnaire. One hundred thirty-three executives, or over 55 per cent, returned completed questionnaires.³⁷

³⁵Ibid., p. 8.

³⁶Ibid., p. 42.

³⁷Rollin H. Simonds, "College Courses They Say They Use," Michigan Business Review, XIII (July, 1961), 23.



The courses that the executives indicated they use very often were Business Letter Writing, Human Relations, and Personnel Management. These were followed by English Composition, Principles of Accounting, Organization and Administrative Theory, Work Simplification, Public Speaking, Public Relations, and General Psychology.³⁸ Moreover, of the first twenty courses the executives indicated they use very often, fourteen were courses in business administration. Of the twenty courses in the group ranking lowest in the number of executives reporting frequent use, only two were business administration courses.³⁹ Data gathered for the study were also analyzed by the classes of positions in which the executives were grouped.

The last of the five studies of businessmen's views on education for business to be presented here is that reported by John Fielden, which surveyed a cross-section of Harvard Business Review readers.⁴⁰ In evaluating his findings, Fielden arrives at three specific conclusions:⁴¹ (1) the executives feel that an undergraduate education in liberal arts is just as useful as an undergraduate education in business administration for a career in business, (2) the executives do not have any one particular educational program clearly in mind when they speak of a liberal education, and (3) the executives feel that the individual best prepared for a career in business is one whose educational program consists of more than one discipline.

In a concluding remark Fielden states:

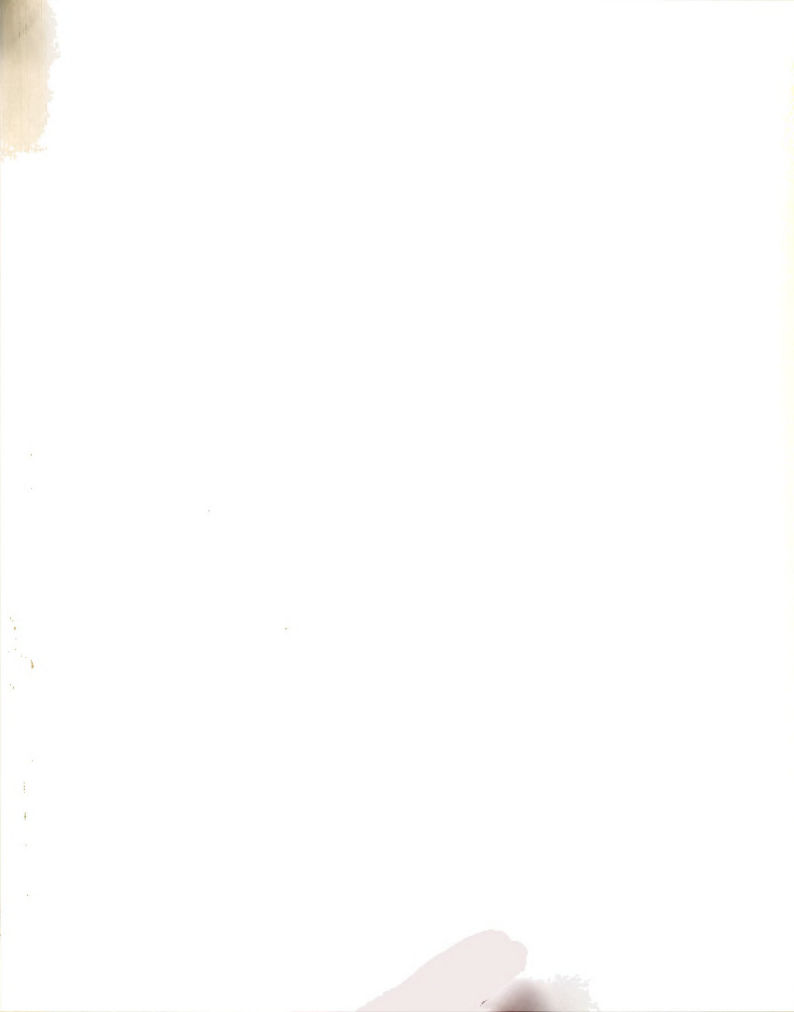
Our findings indicate that when businessmen cry out for liberal education, they do not mean a purely liberal arts education,

³⁸Ibid., p. 26.

³⁹Ibid., p. 27.

⁴⁰John Fielden, "Educating Tomorrow's Executives," Harvard Business Review, XXXVIII (November-December, 1960).

⁴¹Ibid., p. 176.



but a broad training that includes more than one general area of study. In effect, they are against narrow-mindedness, and are in favor of an educational experience which will broaden and liberalize an executive.⁴²

Two distinct and important conclusions may be drawn from the findings of the four preceding studies. First, the studies indicate that there is a diversity of opinion among businessmen as to the type of educational program that best prepares college graduates for careers in business. Second, with the possible exception of one phase of the study by Bond, Leabo, and Swinyard, these studies deal only with the opinions of businessmen. They do not attempt to trace in a methodologically rigorous manner the career patterns of college graduates in business who are graduates of different types of educational programs. Only through studies of this nature can a determination be made as to the relative merits of different types of educational programs for careers in business.

Studies of the Relationship Between Type of Education and Business Careers

The last two studies that will be reviewed in this chapter were specifically designed for the above purpose, although in one case two groups of business administration majors were studied, and in the other, no control variables were used so that the isolated impact of educational programs could be determined. Nevertheless, these studies are relevant to the research problem of this study.

In 1961, Dr. Don H. Palmer made a comparison of the career patterns of selected accounting majors as opposed to selected business administration majors.⁴³ In his report Palmer states that:

⁴²Ibid., p. 180.

⁴³Palmer, op. cit.



The specific purpose of this study is to determine if there is a significant difference in the degree to which graduates who major in accounting and those who major in other fields of business administration estimate that they have fulfilled their career expectations. The study seeks to assess the roles of accounting specialization when age, honor-point average, and certain measures of socioeconomic status are controlled.⁴⁴

One general hypothesis is stated in the study. Ten sub-hypotheses are presented for use in determining whether or not the research evidence supports or refutes the major hypothesis.

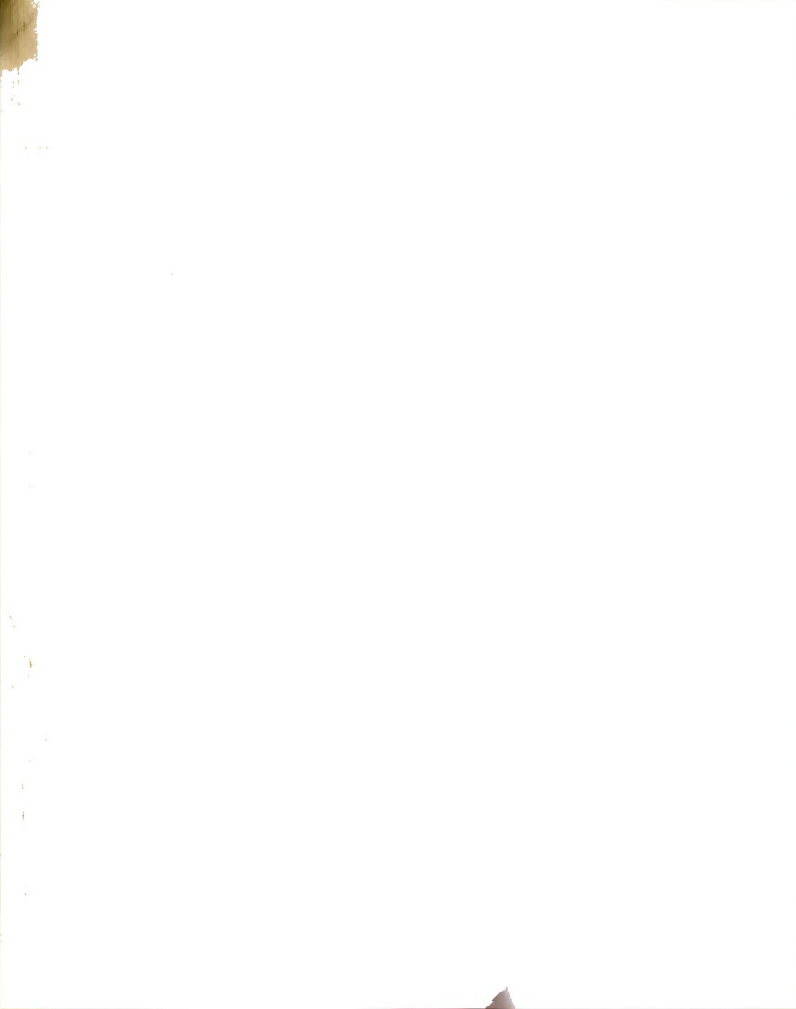
On the basis of his research, Palmer concludes:

The general hypothesis that ten years after college accounting specialists judge that they have more completely fulfilled their career expectations than do the business administration graduates, by and large, is not supported. This conclusion is based on the fact that eight of the ten sub-hypotheses did not reveal statistical differences at the established 5 per cent level. As so measured, the accounting specialists did not begin their careers with more appropriate entry positions than did the others as measured by their retrospective judgments. They were not better paid. They did not rate their careers as more nearly fulfilling their expectations than did the others. Accounting graduates have taken additional formal education and have abandoned business careers relatively just as often as have the others. Neither did they indicate that they are doing what they have wanted to do and plan to continue in their present careers to a degree significantly greater than do the graduates in general business. Finally, the year-to-year increases in salaries of the accounting majors were not more consistent than those of the others.⁴⁵

We noted earlier, however, that this study does not focus on other types of educational programs than those in business. A three-company study by National Analysts, Inc., reported in Professor Pierson's book, attempts to determine whether or not any relationship

⁴⁴Ibid., pp. 2-3.

⁴⁵Ibid., p. 108.



exists between educational experience and career patterns in business.⁴⁶

The purpose of the study was to make an intensive analysis of the educational experience and career patterns of college-trained managers in two cross-section samples of the managerial personnel in each of three moderate-sized companies. The focus of this inquiry was on the question, 'How effective is business education in preparing individuals for careers in business?' To this end the major comparisons in the study were between those whose major field of study was business or commerce and those with major fields of study in other areas.⁴⁷

In total, 144 interviews were taken. Of those interviewed, 59 were business majors, while 85 majored in other subjects.⁴⁸ As in the case of the preceding studies presented here, the graduates were asked questions about the circumstances under which they obtained their education, their present attitude toward their educational experience, and their general attitudes and values. Perhaps the most important finding of the study is that for the younger group of graduates (under 37 years of age), the starting salary of the business administration majors was slightly higher than that of graduates who majored in other fields. However, at the time of the study the present salary of business administration majors lagged behind that of graduates who majored in other fields.⁴⁹

Pierson states that the meaning of this finding is not too clear. He suggests that business graduates may not have performed as well on the job as graduates of other educational programs, and hence, are not promoted as rapidly.⁵⁰ He does suggest, however, that there may be other explanations.⁵¹

⁴⁶Pierson, *op. cit.*, pp. 124-148.

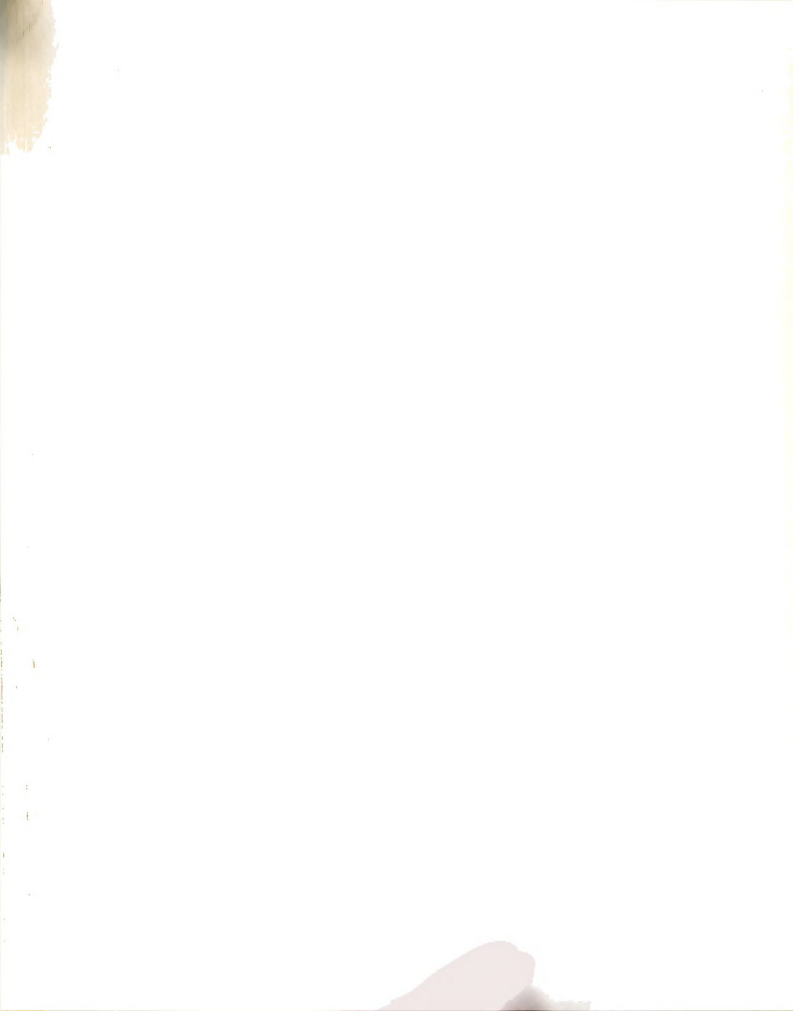
⁴⁷*Ibid.*, pp. 125-126.

⁴⁸*Ibid.*, p. 127.

⁴⁹*Ibid.*, p. 136.

⁵⁰*Ibid.*, p. 146.

⁵¹*Ibid.*, p. 146.

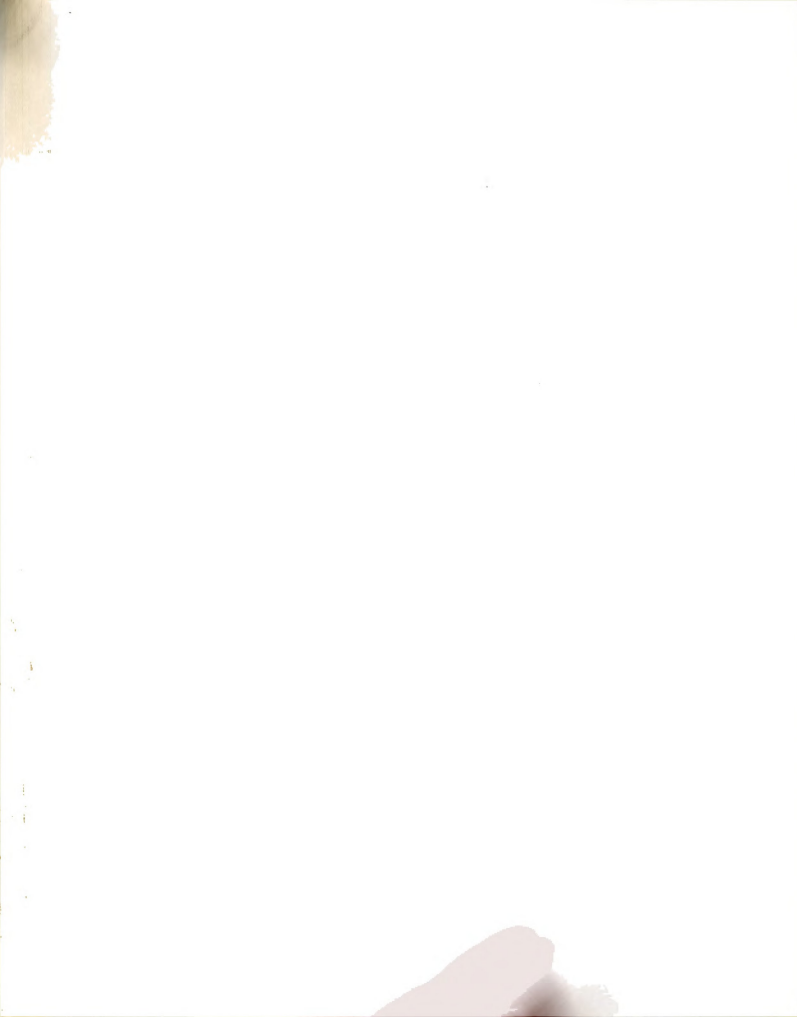


While the study by National Analysts may indeed indicate that other types of educational programs are superior to a business education in preparing graduates for careers in business, it is not clear that this is definitely true. As Pierson suggests, factors other than the type of educational preparation may be operating to cause differences in career patterns; in this case, perhaps differences in intelligence.⁵² Since the study by National Analysts did not establish two groups of graduates--business administration and others (i.e., liberal arts, science, engineering)--who were alike with regard to such factors as age, socio-economic status, intelligence and academic achievement, we can only conclude that the findings of the study do not clearly lead to the conclusion that one type of educational program is superior to another in preparing individuals for careers in business.

Summary

In the preceding paragraphs three categories of previous research have been identified and representative studies of research in these categories have been discussed. Three specific criticisms of these studies may now be noted: (1) The purpose and methodological design of the studies of alumni do not provide the kind of data necessary to draw conclusions about the existence of any relationship between the educational preparation of college graduates and their business careers. (2) Surveys of the views of businessmen on the education of college graduates for careers in business reveal only a diversity of opinion on the matter. Furthermore, they deal in opinions rather than in facts. (3) The findings of the study by National Analysts, Inc., and reported by Pierson, regarding the business careers of business versus non-business graduates may be explained on the basis of factors other than

⁵²Ibid., p. 136.



the type of educational program, since such important factors as socio-economic status, intelligence, and academic achievement were not controlled.

The research study reported in the following pages was undertaken largely as a result of the inadequacies of previous research in the area. This study attempts to establish whether or not a relationship does in fact exist between the educational programs pursued by college graduates and their business careers, when other career determining factors are controlled. The next chapter presents the methodological design and foundation for the research that was undertaken.



CHAPTER III

RESEARCH METHODOLOGY

This chapter outlines in detail the methodological framework utilized in the study. Each of the component parts of the framework that constitute a distinct step in this research design are identified and discussed.

Selection of the University

A primary consideration in the design of the research methodology was the selection of the university from which graduates would be drawn for inclusion in the study. At the outset, several factors indicated the advisability of selecting a university that had graduated large numbers of liberal arts and science and business administration graduates. These factors were as follows:

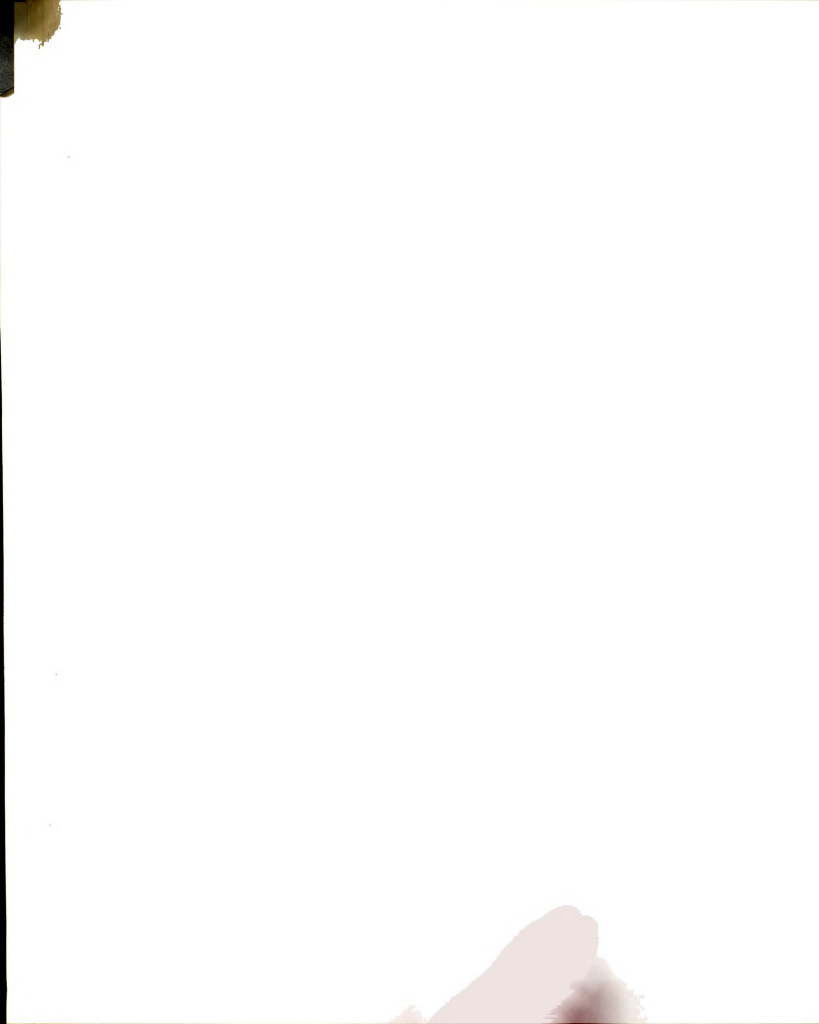
1. The anticipation that a large number of the graduates could not be contacted because of the absence of current mailing addresses.
2. The anticipation that questionnaire returns would not exceed 50 per cent of questionnaire mailings.
3. The failure of some respondents to answer critical questionnaire items.
4. Since the study would be restricted to only recipients of the bachelor's degree, some graduates would be excluded because of graduate study.



5. Since the study would be concerned only with those graduates who have followed a business career, some graduates would be excluded because they have pursued continuous careers in the military service, civil service, or one of the professions.
6. Only male graduates would be included.
7. In the process of establishing two groups of graduates who are alike with respect to the control variables, some graduates would be eliminated.
8. Since one of the control variables would be mental ability, the university selected would have to be one which had test scores available from an acceptable testing instrument measuring intelligence.

With the above limiting factors in mind, an investigation was initiated to identify universities that had graduated large numbers of liberal arts and science and business administration graduates. Since limited funds and proximity to the university would be deciding factors in the university selected, the decision was made to limit the investigation to the universities comprising the Big Ten, with the hope that Michigan State University, the writer's university, would prove to be a satisfactory selection. The following universities were therefore included:

University of Illinois
Indiana University
State University of Iowa
University of Michigan
Michigan State University
University of Minnesota
Northwestern University
Ohio State University
Purdue University
University of Wisconsin



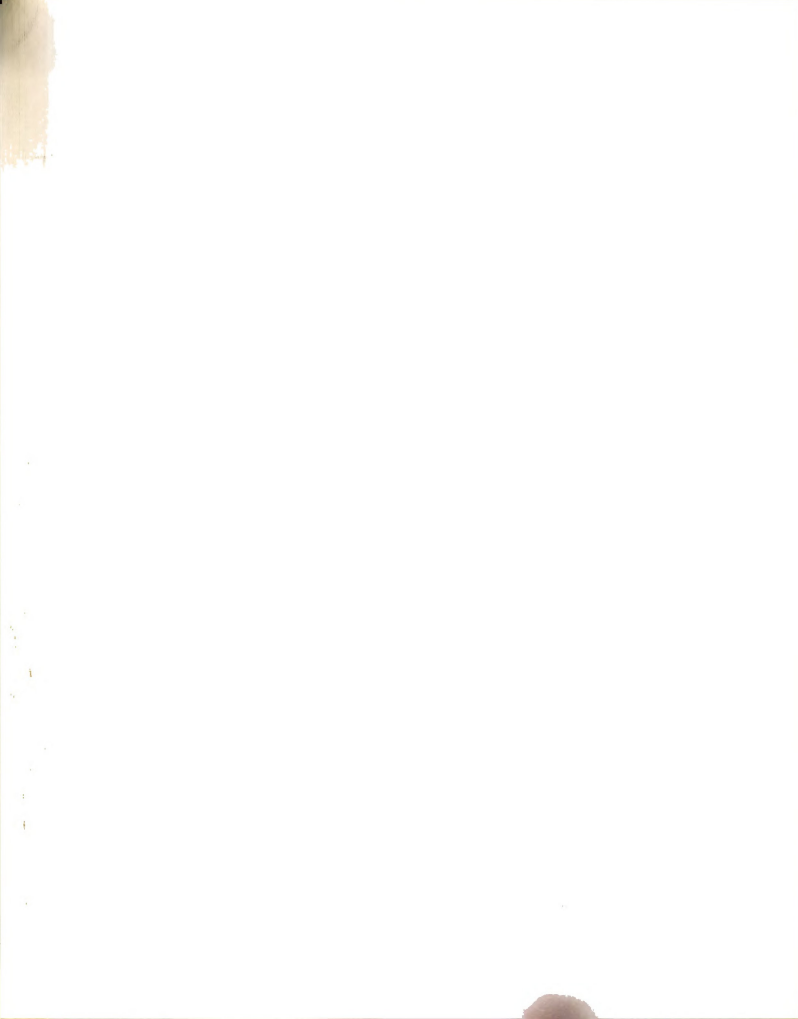
The annual reports of the Department of Health, Education, and Welfare titled, Earned Degrees Conferred: Bachelor's and Higher Degrees, provided information on the type and number of degrees conferred by colleges and universities by major areas of study for the years indicated in the appropriate annual report.⁵³ The report form, which is mailed to universities and colleges, lists 160 subject-field groupings.

On the basis of the 160 subject-field groupings, three categories of graduates were established: (1) business administration graduates, (2) liberal arts and science graduates, and (3) other graduates. Each of the 160 subject-field groupings was assigned to one of the three categories. Since only an approximation of the number of business administration and liberal arts and science graduates was desired, rigid or formal definitions of these terms were not formulated.

After assigning each of the 160 subject-field groupings to one of the three categories, data on the number of earned bachelor's degrees conferred to males in business administration and liberal arts and science for the years 1947 through 1961 were collected for each of the ten universities. Michigan State University was among the four universities having the largest number of business administration and liberal arts and science graduates.

Officials in the Registrar's Office, Alumni Office, and the Department of Evaluation Services of Michigan State University were contacted; they confirmed the availability and suitability of university records for the study, and agreed to cooperate in the study by making available the necessary data on file with the university. The Department

⁵³United States Office of Education, Earned Degrees Conferred: Bachelor's and Higher Degrees, Office of Education Circular Numbers: 247, 262, 282, 333, 360, 380, 418, 461, 499, 527, 570, 636, 687, 719 (Washington, D. C.: U. S. Government Printing Office).



of Evaluation Services indicated that the American Council on Education Psychological Examination for College Freshmen, an intelligence test, had been given to entering freshmen students since 1942, and that scores were available for freshmen entering Michigan State University from 1944 through 1958.

Michigan State University was therefore selected as the university from which graduates would be drawn for inclusion in the study. The next step was the identification of the graduating years from which the graduates would be selected.

Selection of the Years of College Graduation

The selection of two years of college graduation from which two groups of graduates--liberal arts and science and business administration--would be drawn for each of the graduating years was governed by the following two factors: (1) the need for obtaining a large number of graduates to form the universe on which the study would be based, and (2) the need for sufficient time to have elapsed since receipt of the bachelor's degree and the initiation of this study, so that differences in the level of career advancement between the two groups could occur and be discerned.

The decision was made to include two years of college graduation. This would permit a determination as to whether or not differences in the level of career advancement, if any, were present, between the two groups of graduates for one year of graduation were consistent with the differences in the level of career advancement of the two groups of graduates of another, more recent year of college graduation. This procedure would also provide a means of identifying the presence of any shifts in the impact on their business careers of the type of educational program pursued by the graduates.

The Annual Report of the Secretary of the State Board of Agriculture, State of Michigan, for 1950, 1955, and 1956, which provides data from the Michigan State University Registrar's Office on the number of bachelor's degrees conferred by the university by college major, and by the term of the academic year, was used as the basis for selecting the years of college graduation that would be studied.⁵⁴

On the basis of the need for a large number of graduates and sufficient elapsed time for differences in the level of career advancement to occur, the academic years of 1950 and 1955 were chosen as the years of college graduation from which recipients of the bachelor's degree would be selected as the universe for the study.

Definition of Terms

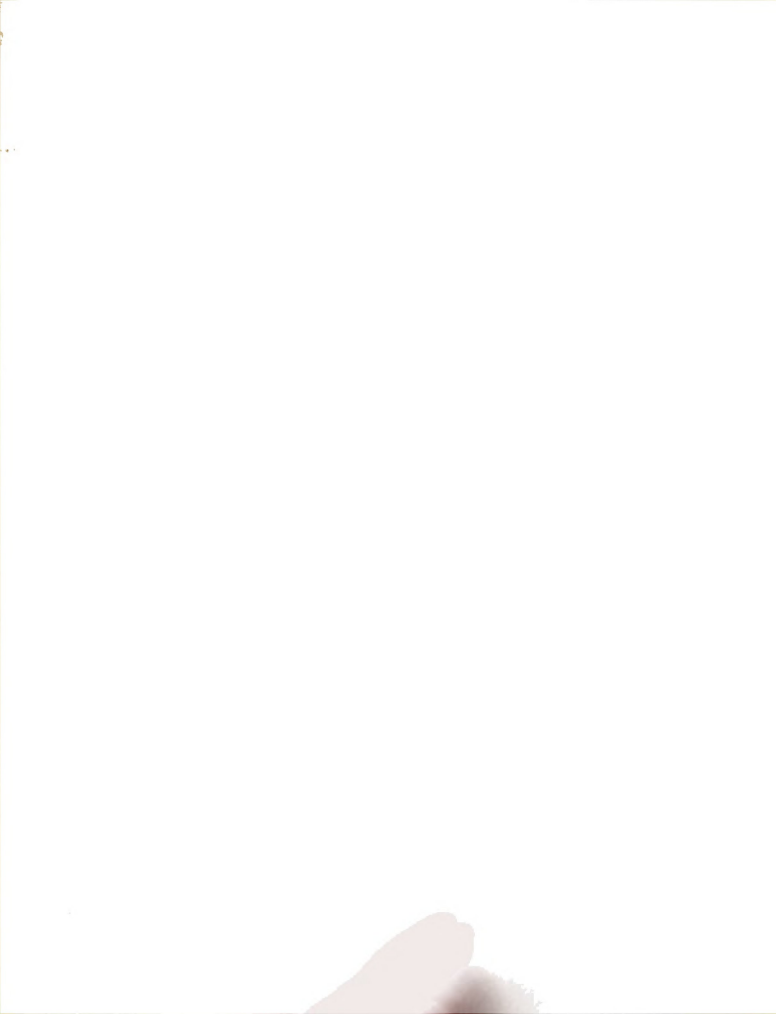
The following definitions were formulated as a means of identifying liberal arts and science and business administration graduates and of identifying the academic year in which graduates earned their bachelor's degree.

Liberal Arts and Science Curriculum⁵⁵

The term liberal arts and science curriculum shall be used to designate a college curriculum composed of major areas of study that led to the conferral of a bachelor's degree by the School of Science and Arts of Michigan State University during the academic years of 1950 and 1955.

⁵⁴Annual Report, Secretary of the State Board of Agriculture, State of Michigan (East Lansing, Michigan: Michigan State University).

⁵⁵The terms 'program' or 'education' will be used interchangeably with the term 'curriculum.'



Liberal Arts and Science
Graduate

The term liberal arts and science graduate shall be used to designate a graduate of Michigan State University who earned a bachelor's degree as a result of successfully completing the requirements of a liberal arts and science curriculum, as these requirements were outlined in the university catalogs of 1946-1947 and 1951-1952.⁵⁶

Business Administration
Curriculum

The term business administration curriculum shall be used to designate a college curriculum composed of major areas of study that led to the conferral of a bachelor's degree by the College of Business and Public Service of Michigan State University during the academic years of 1950 and 1955.

Business Administration
Graduate

The term business administration graduate shall be used to designate a graduate of Michigan State University who earned a bachelor's degree as a result of successfully completing the requirements of a business administration curriculum, as these requirements were outlined in the university catalogs of 1946-1947 and 1951-1952.

1950 Graduate

The term 1950 graduate shall be used to designate an individual who earned the bachelor's degree in either liberal arts and science or business administration during any one of the following terms of the

⁵⁶Students are held responsible for meeting the graduation requirements set forth in the university catalog in effect at the time of their enrollment in the university.



1950 academic year: Fall term 1949, Winter term 1950, Spring term 1950, and Summer term 1950.

1955 Graduate

The term 1955 graduate shall be used to designate an individual who earned the bachelor's degree in either liberal arts and science or business administration during any one of the following terms of the 1955 academic year: Fall term 1954, Winter term 1955, Spring term 1955, and Summer term 1955.

Curriculum Assignment of Major Areas of Study

In order to operationalize the definitions of liberal arts and science curriculum and business administration curriculum, the Registrar's Report in the Annual Report of the Secretary of the State Board of Agriculture, State of Michigan, for 1950, 1955, and 1956 were used to identify the major areas of study that constitute either a liberal arts and science curriculum or a business administration curriculum.⁵⁷ Table 1 presents the major areas of study classified as a liberal arts and science curriculum for 1950 graduates.⁵⁸ Table 2 presents the major areas of study classified as a business administration curriculum for 1950 graduates. Similarly, Tables 3 and 4, respectively, present

⁵⁷Eighty-Ninth Annual Report, Secretary of the State Board of Agriculture, State of Michigan (East Lansing, Michigan: Michigan State College, 1951), pp. 155-156; Ninety-Third Annual Report, Secretary of the State Board of Agriculture, State of Michigan (East Lansing, Michigan: Michigan State University, 1955), pp. 279-281; Ninety-Fourth Annual Report, Secretary of the State Board of Agriculture, State of Michigan (East Lansing, Michigan: Michigan State University, 1956), pp. 293-297.

⁵⁸All tables appear in Appendix II in the order in which they are discussed.

the major areas of study classified as a liberal arts and science curriculum and a business administration curriculum for the 1955 graduates.⁵⁹

Using the operational definitions of a liberal arts and science curriculum and a business administration curriculum in conjunction with the Registrar's Report in the appropriate Annual Report of the Secretary of the State Board of Agriculture, State of Michigan, the number of liberal arts and science and business administration graduates for the 1950 and 1955 academic years was determined.

The total number of graduates of each of the two curricula for each of the two academic years were then identified as the universe from which graduates would be screened for inclusion in the final groups for the study.

Collection of Data on Graduates from
Available University Records

The identification by name of liberal arts and science and business administration graduates for the 1950 and 1955 academic years was accomplished through the use of university commencement programs. The commencement programs pertinent for graduates of the 1950 and 1955 academic years were made available by the Registrar's Office. The graduates for each of these years were listed by the colleges of the university conferring the degrees. Each graduate's full name and college

⁵⁹There are two exceptions to the organization of the major areas of study appearing in the Registrar's Report for 1950, 1955, and 1956. Economics and Political Science are listed under the College of Business and Public Service for the academic years of 1950 and 1955. For the purposes of this study these two major areas of study are classified as constituting a liberal arts and science curriculum. Therefore, economics and political science graduates who are included in the study are classified as liberal arts and science graduates.



major were indicated. This information was recorded on a separate mimeographed worksheet for each graduate who met the requirements of the definition of a liberal arts and science or business administration graduate. Since student numbers were not listed, the graduate's full name and college major would later serve to identify the graduate with his individual record on file at the Alumni Office. Upon the completion of the collection of the names of the 1950 and 1955 graduates of the two educational programs, records on each graduate at the Alumni Office were consulted to record on the individual worksheets the graduate's student number and current mailing address. Prior communication with the Department of Evaluation Services indicated that test scores for students were recorded only by student number. It was therefore imperative that each graduate's student number be determined and recorded for the collection of test scores. Finally, grade-point averages for the graduates were obtained through the Registrar's Office.

Concurrently with the collection of current mailing addresses and student numbers, it was possible to eliminate certain graduates from the study on the basis of information appearing on their alumni record pertaining to their careers and educational attainment. Individuals eliminated from the study at this stage of data collection were as follows:

1. Graduates who indicated they are engaged in one of the professions.
2. Graduates who indicated they have taken undergraduate courses in business administration since receiving their bachelor's degree.
3. Graduates who indicated they have taken graduate work or earned a graduate degree.
4. Graduates who indicated they have taken a course of study leading to a license or certification (e.g., C.P.A., C. L. U.) and those who are licensed or certified.

5. Graduates who indicated they have pursued a continuous career since graduation in the military or civil service (federal or state).
6. Graduates who indicated they have earned a second bachelor's degree.

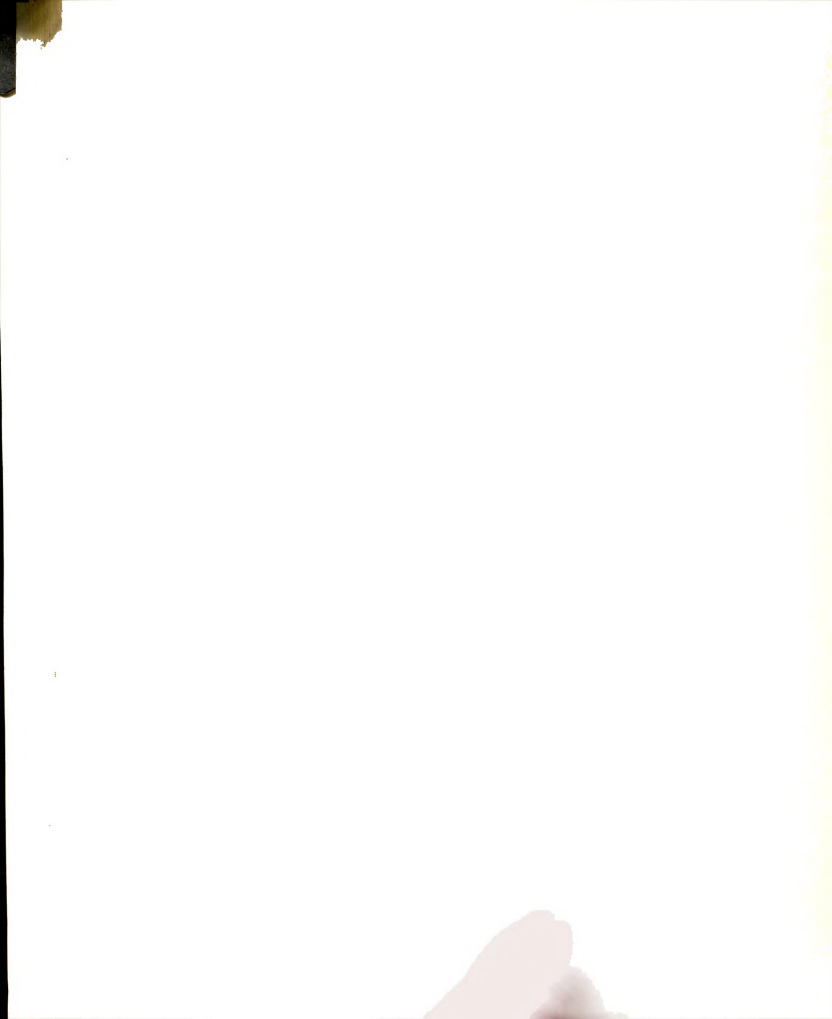
Upon the completion of collecting student numbers and current mailing addresses, test scores on the American Council on Education Psychological Examination for College Freshmen (ACE) were obtained from the Department of Evaluation Services.⁶⁰ The total score attained by each graduate was recorded on the worksheet for each graduate. Graduates for whom no test score was available were eliminated from further consideration in the study. The remaining graduates were those to whom the questionnaire was mailed. For each of the graduates who would receive a questionnaire, a code number was assigned and an address card was filled out with the following information:

address
college major
student number
code number

The Control Variables

Since the purpose of this study is to determine whether or not a significant difference exists in the level of career advancement in business of college graduates of liberal arts and science programs, as opposed to graduates of business administration programs, it was necessary to identify and consider other factors that are influential in determining the level of career advancement which is attained in business. Among the factors identified for consideration were the following: (1) the age at which the graduate earned the bachelor's

⁶⁰The abbreviation "ACE" will be used to refer to the American Council on Education Psychological Examination for Entering College Freshmen.

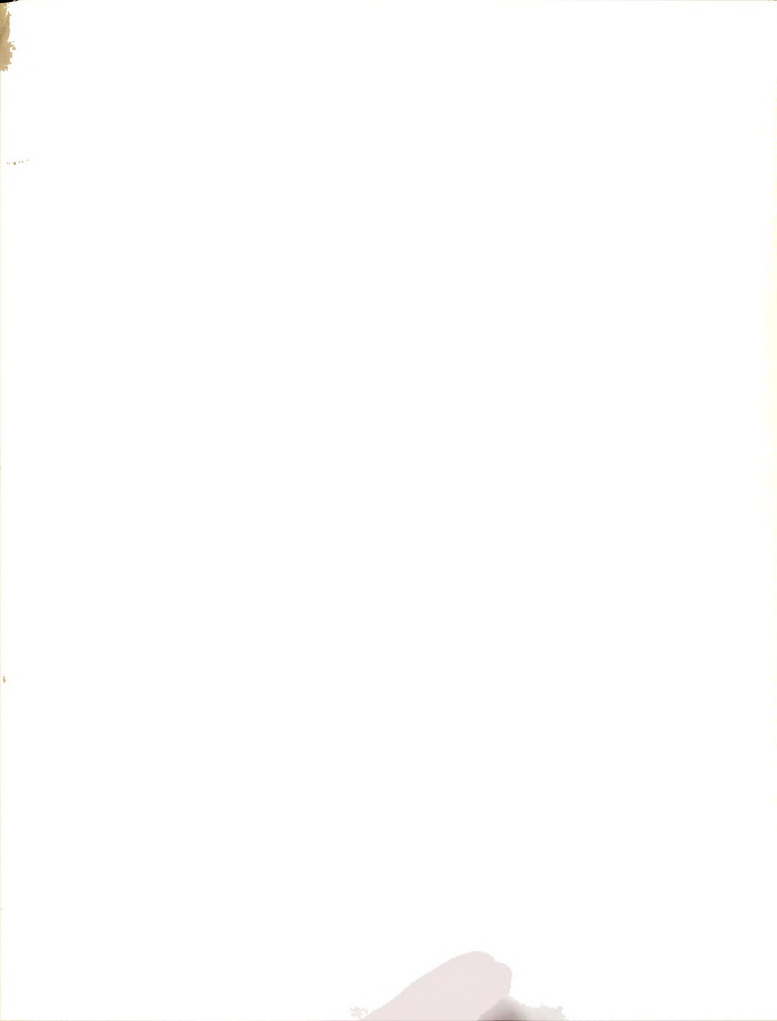


degree, (2) the socio-economic status of the graduate at the time of graduation, (3) mental ability or general intelligence, (4) employment in organizations in which relatives of the graduate are owners or executives at the time of hiring, (5) undergraduate study in business administration after conferral of the bachelor's degree, graduate study in any field, or study leading to licensing or certification (e.g., C.P.A., C.L.U.), (6) personality, and (7) motivation.

Each of the above factors was analyzed for the purpose of devising means of measuring and controlling them so that an accurate determination could be made of the impact of the two types of educational programs. Personality and motivation were immediately eliminated from further consideration. No personality tests were given the graduates during their college careers, and none could be administered in view of the obvious problems that would be encountered at the time of this study. Although the same situation existed for the factor of motivation, the lack of a suitable testing instrument to measure this factor clearly eliminated it as a control variable.

With the elimination of personality and motivation, the first three factors listed above were selected to be used as control variables. Graduates who indicated additional education following receipt of the bachelor's degree were to be excluded from the study.

In conjunction with the test score data available through the university and the data to be gathered by questionnaires mailed to the graduates, the characteristics of the graduates on each of the four remaining factors would be analyzed to determine whether or not the liberal arts and science graduates differed significantly from the business administration graduates for either one of the two years of graduation. Should a statistical difference on any factor be found between the two groups of graduates, those graduates whose data contributed to the difference would be eliminated from the groups. This process of



elimination would be continued until no statistically significant difference on any of the factors were present. The remaining graduates in the groups would then be analyzed for differences in level of career advancement.

Age

The age at which the graduates earned the bachelor's degree was determined by the questionnaire sent to each of the graduates. This variable was controlled by using the t distribution to determine whether or not a statistically significant difference existed between the mean age at which the bachelor's degree was conferred on liberal arts and science graduates versus business administration graduates for each of the years of graduation (1950 and 1955). We shall see later that no significant difference was found between the mean age of the 1950 liberal arts and science graduates and the 1950 business administration graduates who returned questionnaires that were not eliminated for failure to meet other requirements for acceptance. Similarly, no difference in mean age was found for the two groups of 1955 graduates. No attempt was made to adjust the mean age at graduation of the two groups between academic years of graduation so that no difference existed.

Socio-economic Status

Although no entirely satisfactory scale for identifying socio-economic levels in American society is available, the scale developed by Dr. Alba M. Edwards of the United States Census Bureau was selected.⁶¹ It is the most widely known and used of those available at

⁶¹Alba M. Edwards, Sixteenth Census of the United States: 1940. Population: Comparative Occupation Statistics for the United States: 1870 to 1940 (Washington, D. C.: U. S. Government Printing Office, 1943).

the present time. Dr. Edwards identifies six socio-economic levels in American society which he arranges in descending order of socio-economic status:⁶²

1. Professional persons
2. Proprietors, managers, and officials
 - a. Farmers (owners and tenants)
 - b. Wholesale and retail dealers
 - c. Other proprietors, managers, and officials
3. Clerks and kindred workers
4. Skilled workers and foremen
5. Semi-skilled workers
6. Unskilled workers
 - a. Farm laborers
 - b. Laborers, except farm
 - c. Servant classes

In presenting and discussing the relevance of the socio-economic groupings in his scale, Dr. Edwards states:

The social-economic groups are something more than large sub-divisions of the Nation's labor force; and they are something more than mere summary groups constructed to facilitate the broader aspects of the labor force. Each of them represents a distinctive part of the labor force--a part with its own peculiar characteristics and having its own peculiar significance. In forming these groups, industry lines were crossed and all of the workers who were doing productive work requiring similar qualifications or who were performing services requiring similar qualifications were brought together into one large, homogeneous group, without particular reference to the different occupations the workers were pursuing. So constituted it is evident that each of these groups represents not only a major segment of the Nation's work force, but, also, a large population group with a somewhat distinct standard of life, economically, and, to a considerable extent, intellectually and socially. In some measure, also, each group has characteristic interests and convictions as to numerous public questions--social, economic, and political. Each of them

⁶²Ibid., pp. 178-179.

is thus a really distinct and highly significant social-economic group.⁶³

The determination of the socio-economic status of the graduates was accomplished by data obtained from the questionnaire returned by the respondent concerning the occupation of the respondent's father at the time of the respondent's graduation from college. The socio-economic status of the graduates at the time of graduation was assumed to be identical to that of the father.⁶⁴ The questionnaire item concerning the father's occupation, which formed the basis for placing the graduates in one of the socio-economic levels, automatically located the graduate's position in one of the six rankings of Dr. Edwards' socio-economic scale.

Control of this variable was accomplished by using the t distribution to determine whether or not a statistically significant difference existed between the mean socio-economic status of liberal arts and science graduates and business administration graduates of 1950 and 1955. As will be discussed later, no significant difference was found for either of the two groups of 1950 and 1955 graduates who returned questionnaires that were not eliminated for failure to meet the other requirements for acceptance. No attempt was made to adjust the mean socio-economic status of the two groups between academic years of graduation so that no difference existed.

Mental Ability or Intelligence

The American Council on Education Psychological Examination for College Freshmen (ACE) was the instrument used to measure the

⁶³Ibid., p. 179.

⁶⁴For the most part, children inherit the socio-economic status of their parents, and that of the father in particular, until they are established in their own careers or marry. For the purposes of this study, then, graduates were assumed to occupy the same socio-economic status as that of the father at the time the graduates earned the bachelor's degree.

mental ability or intelligence of the graduates in this study. Test scores of the graduates on the ACE were made available through the Department of Evaluation Services of the University. The ACE test had been administered to the graduates at the time they entered the University as freshmen. The ACE examination has been widely used for years at the college level, and is one of the best modern, general intelligence tests available.⁶⁵ W. D. Cummins states that the ACE examination ". . . is perhaps the test that one is likely to recommend to anyone who is looking for a 'good' intelligence test to give to a group of college freshmen."⁶⁶

As the questionnaires sent to each of the graduates were returned, the graduate's ACE test score was recorded on the questionnaire. As in the case of age and socio-economic status, the t distribution was used to determine whether or not a statistically significant difference existed between the mean ACE test score for the liberal arts and science graduates and the business administration graduates of 1950 and 1955, who returned questionnaires that were not eliminated for failure to meet the other requirements for acceptance. No difference in the mean ACE test score was found, as will be shown later, and no attempt was made to adjust the mean ACE test score of the two groups between academic years of graduation so that no difference existed.

Summary

Age, socio-economic status, and mental ability or intelligence are all influential factors in determining the level of career advancement

⁶⁵Albert B. Crawford and Paul S. Burnham, Forecasting College Achievement: A Survey of Aptitude Tests for Higher Education: Part I. General Considerations in the Measurement of Academic Promise (New Haven: Yale University Press, 1946), p. 99.

⁶⁶Oscar K. Buros (ed.), The Third Mental Measurements Yearbook (New Brunswick: Rutgers University Press, 1949), p. 297.



achieved in business. They were determined to be factors that could be identified and measured. These factors were therefore designated as the control variables, and will hereafter be referred to as such. Only by isolating or neutralizing the effects of other influential factors would it be possible to learn the true impact of the type of educational program on the level of career advancement attained.

At the outset of the research it was recognized that the effect of two other factors, in addition to the three factors designated as the control variables, would have to be neutralized.

Education after the Bachelor's Degree and Relatives as Owners or Executives

As a means to further insure the validity of the study, graduates who returned questionnaires indicating that they had acquired additional education after receiving the bachelor's degree were eliminated from the final groupings. The discussion of the overall characteristics of the graduates included in the study, which follows in a later section, will indicate that the final two groups of graduates for either year of graduation possess only the undergraduate education they acquired at Michigan State University. Similarly, later analysis will show that there was no statistically significant difference in the number of graduates of either type of educational program for either academic year who were employed at any time in their careers where relatives were owners or executives.

Criteria for Measuring the Level of Career Advancement

Yearly earnings and position level in organizations were the two factors selected as the criteria for measuring the level of career advancement in business of the graduates in this study. Data on these



two factors for selected points in time in the occupational careers of the graduates were gathered from the questionnaires returned by the respondents.

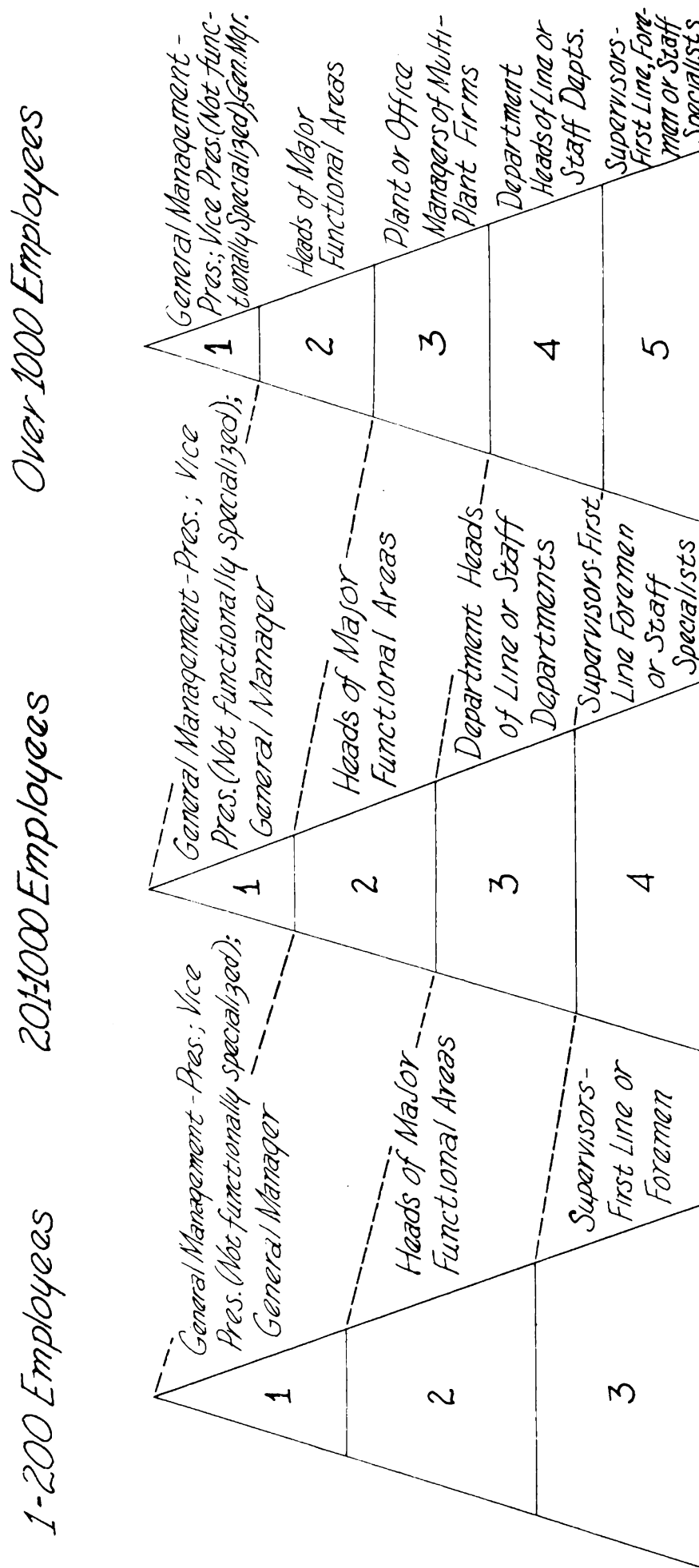
For the most part, earnings and status within an organization are the factors commonly used to evaluate business careers of individuals in American society. Although problems are encountered in defining and identifying position levels in organizations of different sizes, the yearly earnings and the position level of an individual in a business organization do serve as means for evaluating business careers. Since these are the most commonly used factors, they were selected for use in this study.

Graduates in the study were asked in the questionnaire to indicate their yearly earnings at specified points in time after college graduation. The graduates were instructed to include in the yearly earnings figure the salary and any commissions or bonuses or like income resulting from their source of employment.

For the purposes of establishing position levels in organizations to which the graduates would later be assigned on the basis of questionnaire data, three structural sizes of organizations, in terms of number of employees, were established. Figure 1 presents a graphical description of the structural types of organization that were established. It is assumed that organizations falling within one of the three organization classifications share a common number of levels of authority and responsibility, and that an individual's position in an organization corresponds to one of these levels. Figure 1 indicates the levels established for each of the structural types of organization, and shows how organization levels are assumed to evolve from the smallest structural type to the largest.⁶⁷ The highest level for each organization structure

⁶⁷Although the literature in management and organization theory does not provide specific and firmly established criteria or examples for the design of structural types of organizations, the work of the

Figure 1
Structural Organization Size



is designated as the first or highest level of authority and responsibility, and is designated as position level one. Succeeding position levels are numbered in descending order. Thus, organizations of a structural size employing 1 to 200 employees are identified as having three levels of authority and responsibility in rank order, and thus have three position levels. The largest of the three structural types encompasses organizations employing over 1,000 employees and has five levels of authority and responsibility in rank order; thus it has five position levels.

The assignment of graduates to one of the three structural types of organization was accomplished by a questionnaire item requesting the graduate to indicate the number of employees in the organizations in which he was employed at specified times in his occupational career. These figures were later verified in Poor's Register of Directors and Executives.

The factors established to indicate a graduate's level of organizational authority and responsibility within the organization at specified times in his occupational career, and therefore his position level, are as follows: (1) job title of his position, (2) primary duties, (3) job title of the person to whom he reported, (4) number of persons supervised, and (5) yearly earnings.

In the vast majority of cases, the first three of the above factors provided sufficient information for making position level assignments.

following authors is evidence that the attempt to establish such structures is not without foundation: Paul E. Holden, Lounsbury S. Fish, and Hubert L. Smith, Top-Management Organization and Control (New York: McGraw-Hill Book Company, Inc., 1951), pp. 1-75; Dalton E. McFarland, Management Principles and Practices (New York: The Macmillan Company, 1958), pp. 162-164; Thomas R. O'Donovan, "Contrasting Orientations and Career Patterns of Executives and Lower Managers" (unpublished Ph. D. dissertation, Department of Personnel and Production Administration, Michigan State University, 1961), pp. 2-6; Paul Pigors and Charles A. Myers, Personnel Administration (4th ed.; New York: McGraw-Hill Book Company, Inc., 1961), p. 110.



The item on the questionnaire designed to provide data on the number of people under the graduate's supervision was variously interpreted by the graduates. Some interpreted this question to mean the number of people under their direct supervision, while others interpreted it to mean the number of people below them in the organization. However, as stated above, the difficulty encountered on this factor did not hinder position level assignments because the data obtained on the first three factors proved to be quite adequate. Yearly earnings were also designed to be used as a factor determining position level, although in a secondary nature, since in large part yearly earnings or income reflect status. However, data on job title, primary duties, and the person to whom the graduate reported proved to be adequate.

Figure 1 indicates the levels established for each of the structural types of organization. It also shows the manner in which the organization levels in organizations employing 1 to 200 and 201 to 1,000 employees correspond with the levels in organizations employing over 1,000 employees. That is, an individual occupying a position in level two of an organization employing 1 to 200 employees is assumed to be exercising the authority and responsibility of an individual occupying a position in level four of a firm employing over 1,000 employees.

The actual position level of graduates employed in organizations employing 1 to 200 and 201 to 1,000 employees were equated with the position levels in organizations employing over 1,000 employees in the manner shown in Figure 1. Thus, the position level occupied by a graduate is expressed in terms of the level he would occupy in an organization employing over 1,000 employees, even though the organization in which he was actually employed had less than 1,000 employees.

These data were collected for specified points in time in the occupational careers of each of the two groups of graduates for each of the academic years of graduation. The numerical identification of

position levels enabled a determination to be made as to whether or not a statistically significant difference exists between the two groups of graduates in the position levels they occupied at the specified points in time after college graduation.

Selection of Time Periods for Analysis

Specific points in time after college graduation for which occupational data would be collected had to be designated. Although the procedure of collecting occupational data relevant as of the date of this study would reveal the existence of a current difference in the level of career advancement between the two groups of graduates, such a procedure would not indicate at what point in time this difference occurred, or whether or not the difference consistently favored one group through time. Such determinations were important for this study. The decision was therefore made to specify a number of time periods for which occupational data for comparative purposes would be gathered.

Four time periods since college graduation were established for the 1950 graduates, and three for the 1955 graduates. The first time period for 1950 and 1955 graduates was that immediately following college graduation. The 1950 graduates were instructed to give occupational data for the jobs they held during the first, fifth, tenth, and fourteenth years after college graduation. The 1955 graduates were instructed to give occupational data for the jobs they held during the first, fifth, and ninth years after college graduation. Reference to the questionnaire in Appendix I will show the manner in which the request for occupational data was made and the instructions the respondents were to follow in supplying the data.



Correlation Data

Data on the socio-economic status, grade-point average, ACE test score of the graduates, and the number of organizations in which the graduates have been employed were used to determine whether or not any significant correlations exist between these factors and the present yearly earnings and the present position levels of the graduates. Data on each of these four factors appeared on each respondent's questionnaire. Correlation coefficients were computed, using the values as they appeared on the questionnaire, between each of these four factors and the present yearly earnings of the graduates. The correlation coefficients were computed using the Pearson product-moment method for each group of graduates for each of the academic years of graduation.⁶⁸ The correlation computations for socio-economic status, grade-point average, ACE test score, and the number of organizations versus the present position levels of the graduates were computed using the same method as that employed for the yearly earnings correlations.

Pre-test

A pre-test of the questionnaire designed for the study was conducted to determine if the individual questionnaire items would provide the kind of data necessary for this study. A code book of instructions for coding the responses to the questionnaire items was also formulated so that its usefulness could be determined on the basis of actual returns. Although the primary reason for the pre-test was to establish the validity of the questionnaire items in gathering data, the pretest also served to provide some indication of the total returns to be expected, and established whether a difference in the number of returns might be encountered between any of the groups of graduates.

⁶⁸See page 51 for formula.

A random sample was taken of six graduates from each of the two groups of graduates for each of the years of graduation. This sample was taken from the groups of graduates previously rejected because test scores for them could not be obtained. With the exception of test scores, these graduates were identical to those who would be used in the actual study. A total of twenty-four graduates were selected for the pre-test, six from each of the four groups. Each graduate received a cover letter, questionnaire, and return envelope.

Seventeen questionnaires were returned out of the twenty-four mailed. The returns were about equally distributed between each of the four groups. Analysis of the returned questionnaires by individual questionnaire item revealed that with minor modifications, the questionnaire design and the individual questionnaire items would be satisfactory for gathering the data needed for the study. No problems were encountered in using the code book in coding the pre-test returns.

First Mailing

Appendix I contains the cover letter and questionnaire used in the study. The questionnaire and accompanying business return envelope were reproduced by offset. The cover letters were reproduced by an autotype machine. Thus, each graduate received an individually typed letter. Cover letters were individually signed in ink. The number of graduates who were mailed questionnaires, by type of educational program and year of graduation, is presented in Table 5. In total, 1,052 questionnaires were mailed on March 2, 1964. Table 6 shows the number of questionnaires returned by year of graduation and type of educational program.

March 25, 1964, was established as the cut-off date for the first mailing. As of that date, a total of 585 questionnaires were returned. As each questionnaire was returned, its corresponding address



card was pulled and marked. The returned questionnaires were then filed by academic year of graduation and type of educational program, in preparation for coding and screening. As of March 25, 1964, 467 questionnaires had not been returned.

Second Mailing

On March 31, 1964, a second mailing was made. Appendix I shows the cover letter used in the second mailing. The second cover letter, dated March 31, 1964, was reproduced by offset, and each was individually signed in ink. Each of the 467 graduates who did not respond to the first mailing received another questionnaire, cover letter, and return envelope. As each questionnaire was returned, its corresponding address card was marked and pulled. As in the case of the returns from the first mailing, those returned from the second mailing were grouped by academic year of graduation and type of educational program. As of May 1, 1964, the cut-off day for the second mailing, 160 questionnaires had been returned from those mailed on March 31, 1964. Table 6 provides a breakdown on the returns from the second mailing by year of graduation and educational program. In total, 745 questionnaires or 70.8 per cent of the 1,052 graduates returned questionnaires.

Chi-square analysis, shown in Table 6, indicates that at the 5 per cent level of confidence with three degrees of freedom no statistically significant difference exists between any of the groups in the number of questionnaires returned from the first and second mailing.

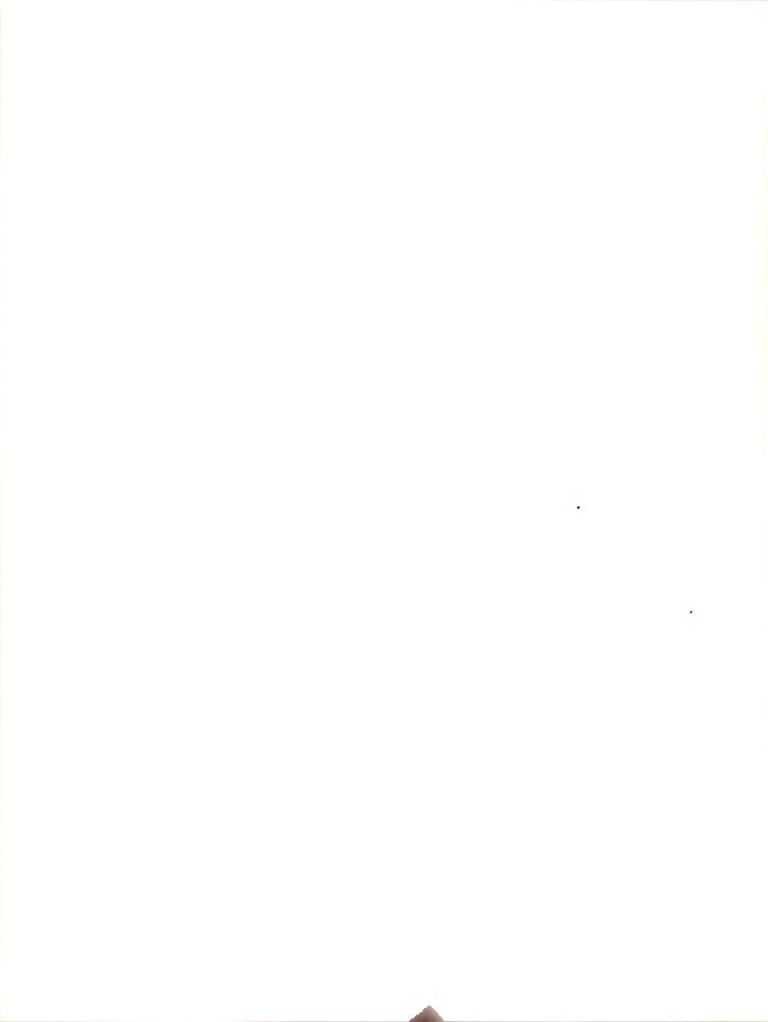
In order to determine whether there might be a difference in the graduates who returned questionnaires as opposed to those who did not, with regard to the control variables, the mean ACE test score achieved by the graduates in each of the four groups who returned questionnaires was compared with the mean ACE test score of those who did not return questionnaires. Since data on the ages and socio-economic



standing of the graduates were to be determined through the questionnaire, the analysis could not be extended to these variables.

The mean ACE test score for the 1950 business administration graduates who returned questionnaires is 108.102, while the mean score for those who did not return questionnaires is 109.090. The computed t value of -0.4873 is not significant at the 5 per cent level of confidence. For the 1950 liberal arts and science graduates, those who returned questionnaires obtained a mean score of 109.994, while those who did not return questionnaires achieved a mean score of 109.019. The computed t value of 0.4083 is not significant at the 5 per cent level of confidence. In the case of the 1955 business administration graduates, the mean ACE score for those who returned questionnaires is 112.351, while the mean score for those who did not return questionnaires is 104.090. The obtained t value of 2.6122 is significant at the 5 per cent level of confidence. Finally, the mean ACE test score for the 1955 liberal arts and science graduates who returned questionnaires is 109.302, while those who did not return questionnaires obtained a mean score of 109.382. The computed t value of -0.0247 is not significant at the 5 per cent level of confidence.

The analysis of test scores, in conjunction with the high percentage of graduates (70.8%) who responded to the questionnaire, strongly indicates that, with the possible exception of the 1955 business administration graduates, there is no difference in age, socio-economic status, or mental ability, between graduates who returned questionnaires and those who did not. Furthermore, this analysis indicates that the business careers of those who returned questionnaires are not likely to be different from those who did not return questionnaires.



Screening of Returned Questionnaires

After coding the questionnaires, each of the 745 questionnaires was screened for inclusion in the final groups. Table 7 indicates the number of graduates, by year of graduation and type of educational program, that were eliminated, and the reason for their elimination.

Table 8 presents the number of graduates by year of graduation and type of educational program who were included in this study, and for whom an analysis of the level of career advancement was made between liberal arts and science graduates and business administration graduates. Questionnaire data for these graduates were transferred to punch cards.

A computer program was written to establish whether or not a statistically significant difference between the two groups of graduates for each year of graduation could be found on the three control variables. We shall see in detail in the next chapter that no differences were found in age, socio-economic status, and mental ability between the 1950 liberal arts and science graduates and the 1950 business administration graduates. Likewise, no differences in these control variables were found for the 1955 graduates.

Another computer program was written for analyzing yearly earnings. Chi-square analysis was used in the analysis of position level, and these computations were made using a desk calculator. With the completion of the computer programs and the return of the questionnaire data from the computer, the next step was the analysis of the data. This is the subject of the next chapter. .



CHAPTER IV

ANALYSIS OF THE DATA

Re-statement of the Research Problem

The purpose of this study is to determine whether or not there is a statistically significant difference in the level of career advancement attained in business, as measured by yearly earnings and position level within organizations, of college graduates who possess bachelor's degrees in liberal arts and science, as opposed to college graduates who possess bachelor's degrees in business administration, when the variables of age, socio-economic status, and mental ability are controlled.

As an outgrowth of the data collected for the analysis of the research problem, an investigation will be made to determine if statistically significant correlations exist for either of the two groups of graduates between socio-economic status, grade-point average, mental ability, number of organizations in which the graduates have been employed, and their present yearly earnings and position levels.

It should be recalled at this time that all graduates who have pursued any type of education beyond the bachelor's degree and those employed in other than business organizations have been excluded from the two educational groups for each of the two years of graduation. Reference to Table 7 indicates in detail the graduates who have been excluded from the groups and the reason for their exclusion. Throughout the analysis presented in this chapter we will therefore be concerned with graduates who possess only an undergraduate education in liberal

arts and science or business administration, and who have been engaged in a business career.

Data for the 1950 graduates are analyzed first; analysis of the data for the 1955 graduates follows. Data are presented and discussed on the three control variables for each of the two groups of graduates. The data necessary for the analysis of career advancement are then presented and analyzed. The presentation and analysis of these data follow the sequence of time periods established for making comparisons between the two groups of graduates. Within each time period, a determination is made as to whether a difference between the two groups exists in the size of organizations in which they were employed. Similarly, a determination is made for each time period as to whether the two groups of graduates differ in the number who had relatives as owners or executives in the organizations in which they were employed. Once these analyses have been completed, the data on position level and yearly earnings for the time period under consideration are presented for analysis. Based on these two factors, a determination is made for the time period under consideration as to whether or not a statistically significant difference in the level of career advancement exists between the two groups of graduates.

Immediately following the analysis of data for the last (present) time period, data necessary for the correlation analyses are presented and analyzed.

The final step in the presentation of data pertaining to each year of graduation is a brief summary of the findings in the form of a statement as to whether or not a statistically significant difference in the level of career advancement exists between the two groups of graduates for any of the specified time periods. This is followed by a similar statement concerning the findings of the correlation analyses.

Statistical Formulas

The following formulas were used in the statistical analysis of the data:⁶⁹

$$\begin{aligned}\bar{X} &= \frac{\Sigma X}{N} \\ t &= \frac{\bar{X}_1 - \bar{X}_2}{Sp \sqrt{(1/N_1) + (1/N_2)}} \\ \chi^2 &= \sum_{i=1}^k \frac{(f_i - F_i)^2}{F_i} \\ r &= \frac{\Sigma (X - \bar{X}) (Y - \bar{Y})}{\sqrt{\Sigma (X - \bar{X})^2 \Sigma (Y - \bar{Y})^2}}\end{aligned}$$

The 1950 Graduates

The Control Variables

Table 9 presents the ages at which the 1950 graduates earned their bachelor's degree. The mean age for business administration graduates is 24.28 years, while the mean age for liberal arts and science graduates is 24.19 years. The t value is 0.3218, which is not significant at the 5 per cent level of confidence. We can therefore say that there is no statistically significant difference between the two groups in the mean age at which they earned the bachelor's degree.

The principal occupations of the fathers of the 1950 graduates at the time the graduates received the bachelor's degree are presented in Table 10. Item 4 on the questionnaire was coded in such a manner that the occupation of the graduate's father identified the socio-economic

⁶⁹Wilfred J. Dixon and Frank J. Massey, Jr., Introduction to Statistical Analysis (New York: McGraw-Hill Book Company, Inc., 1957), p. 121. Helen M. Walker and Joseph Lev, Statistical Inference (New York: Holt, Rinehart and Winston, 1953), p. 85 and p. 233. All computations were made from ungrouped data. The two tail test is used in all tests of significance in which the t distribution is utilized.

ranking of the graduate on the Edwards socio-economic scale. The numbers appearing in column 16 of the questionnaire indicate the socio-economic ranking of the occupations listed in item 4 of the questionnaire. Table 11, which shows the socio-economic ranking of the 1950 graduates, is therefore constructed on the basis of the data contained in Table 10. The mean socio-economic rank is 2.93 for the business administration graduates and 2.70 for the liberal arts and science graduates. The t value is 1.5252, and is not significant at the 5 per cent level of confidence. Therefore, there is no statistically significant difference in socio-economic status between the business administration graduates and the liberal arts and science graduates.

ACE test scores for each of the two groups of 1950 graduates are given in Table 12. The mean test score for business administration graduates is 108.308; the mean test score for liberal arts and science graduates is 108.630. The t value of -0.1521 is not significant at the 5 per cent level of confidence. Table 13 shows the distribution of grade-point averages for the 1950 graduates.

Summary

The preceding analysis establishes the fact that the business administration graduates and the liberal arts and science graduates of 1950 are statistically alike with respect to age, socio-economic status, and mental ability or intelligence. We will now analyze the occupational data at specified points in time to determine if a statistically significant difference exists in the level of career advancement between the liberal arts and science graduates and the business administration graduates.

First Full-Time Job

Tables 14 through 18 contain the occupational data relevant to the status of the business careers of the 1950 graduates immediately

following college graduation. The sizes of organizations in which the graduates obtained their first full-time job immediately following college graduation are shown in Table 14. Table 15 is constructed from the data in Table 14 and presents the distribution of the graduates in the three structural sizes of organizations. Chi-square analysis is used to determine the existence of a statistically significant difference in the distribution of the two groups of graduates in the three categories of organizations. The computed chi-square of 13.579 is significant at the 5 per cent level with three degrees of freedom. The chi-square value of 10.417 for the "no response" category indicates that, with the elimination of this category, no statistically significant difference between the groups exists. The number of graduates in the "no response" category is extremely small relative to the number in other categories. Furthermore, we are concerned only with the distribution of graduates in the three organization categories. We shall therefore eliminate the "no response" category from consideration and conclude that there is no statistically significant difference between the two groups in the structural size of organization in which they obtained their first full-time job after college graduation.

The number of 1950 graduates who obtained their first full-time job after college graduation in organizations in which relatives were owners or executives is shown by structural size of organization in Table 16. The computed chi-square values of 0.502, 2.123, and 2.030 for organizations employing 1 to 200, 201 to 1,000, and over 1,000 employees, respectively, are not significant at the 5 per cent level of confidence with three degrees of freedom. There is, therefore, no statistically significant difference between the two groups in the number of graduates who obtained their first full-time job after college graduation in organizations in which relatives were owners or executives.

The position levels attained by the 1950 graduates in their first full-time job following college graduation are presented in Table 17. The computed chi-square value is 10.682, which is not significant at the 5 per cent level of confidence with five degrees of freedom. We may therefore conclude that there is no statistically significant difference between the two groups of graduates in the position levels they occupied in their first full-time jobs immediately following college graduation.

The yearly earnings of the two groups of graduates are indicated in Table 18. The mean yearly earnings for business administration graduates is \$4,133.00, while the mean yearly earnings for liberal arts and science graduates is \$4,112.02. The t value is 0.1073, and is not significant at the 5 per cent level.

Based on the criteria of position level and yearly earnings, we therefore conclude that, for the time period immediately following college graduation, there is no statistically significant difference in the level of career advancement attained in business by the liberal arts and science graduates as opposed to the business administration graduates.

Fifth Year After Graduation

Data on the jobs the 1950 graduates held during the fifth year after graduation are presented in Tables 19 through 23. The various sizes of organizations in which the graduates were employed are shown in Table 19. Table 20 is constructed on the basis of the data in Table 19 and presents the distribution of the graduates in the three structural sizes of organizations. The computed chi-square value of 0.270 is not significant at the 5 per cent level of confidence with three degrees of freedom. Data on the number of graduates employed in organizations in which relatives were owners or executives are given in Table 21. At the 5 per cent level of confidence with three degrees of freedom, the computed

chi-square values of 1.038, 2.833, and 0.000 for organizations employing 1 to 200, 201 to 1,000, and over 1,000 employees, respectively, are not significant. We therefore conclude that there is no statistically significant difference between the liberal arts and science graduates and business administration graduates in the sizes of organizations in which they were employed or in the number of graduates who had relatives as owners or executives in the organizations in which they were employed.

Table 22 indicates the position levels the graduates occupied five years after graduation. At the 5 per cent level with five degrees of freedom, the chi-square value of 0.874 is not significant. Thus, there is no statistically significant difference between the groups in the position levels attained five years after graduation.

Yearly earnings of the graduates are shown in Table 23. Business administration graduates earned a mean of \$7,182.62 five years after graduation, while liberal arts and science graduates earned a mean of \$7,025.87. The t value of 0.4233 is not significant at the 5 per cent level.

On the basis of the findings that pertain to position level attained and yearly earnings, we conclude that, at the fifth year after graduation, there is no statistically significant difference in the level of career advancement of liberal arts and science graduates as opposed to business administration graduates.

Tenth Year After Graduation

Tables 24 through 28 provide data that pertain to the jobs the graduates held during the tenth year following college graduation. Table 24 indicates the sizes of organizations in which the two groups of graduates were employed. The distribution of the graduates in the three



structural sizes of organizations is given in Table 25. The computed chi-square value of 2.394 is not significant with three degrees of freedom at the 5 per cent level of confidence. The number of graduates employed in organizations in which relatives were owners or executives is indicated in Table 26. No significant difference between the two groups of graduates exists. The chi-square values of 2.622, 0.000, and 1.030 for organizations employing 1 to 200, 201 to 1,000, and over 1,000 employees, respectively, are not significant at the 5 per cent level of confidence with three degrees of freedom.

Data on the position level attained by the graduates ten years after graduation are presented in Table 27. No statistically significant difference between the two groups exists. The chi-square value of 9.915 is not significant at the 5 per cent level with five degrees of freedom.

Yearly earnings data for the tenth year are contained in Table 28. The mean yearly earnings for business administration graduates is \$10,334.80, while the mean yearly earnings for liberal arts and science graduates is \$10,030.81. The computed t value of 0.5871 is not significant at the 5 per cent level of confidence.

We therefore conclude that, at the tenth year after college graduation, the criteria of position level and yearly earnings indicate no statistically significant difference in the level of career advancement in business exists between the liberal arts and science graduates and the business administration graduates.

Fourteenth Year After Graduation

Occupational data for the jobs in which the graduates are now employed fourteen years after graduation are shown in Tables 29 through 34. The various sizes of organizations in which the graduates are employed are indicated in Table 29. Table 30 presents the distribution of



the graduates in the three structural sizes of organizations. The computed chi-square value of 4.391 is not significant with three degrees of freedom at the 5 per cent level. The number of graduates employed in organizations in which relatives are owners or executives is presented in Table 31. At the 5 per cent level of confidence with three degrees of freedom, the computed chi-square values of 1.008, 0.000, and 0.000 for organizations employing 1 to 200, 201 to 1,000, and over 1,000 employees, respectively, are not significant. Table 32 indicates the number of organizations in which the two groups of graduates have been employed. No statistically significant difference exists between the groups. At the 5 per cent level with eight degrees of freedom the chi-square value of 2.602 is not significant.

Analysis of the position levels the graduates occupy fourteen years after graduation reveals that there is no statistically significant difference in the distribution of position levels, indicated in Table 33, between the business administration graduates and the liberal arts and science graduates. The chi-square value of 5.528 is not significant with five degrees of freedom at the 5 per cent level.

Table 34 indicates the yearly earnings the two groups of graduates report for the fourteenth year after graduation. The mean yearly earnings are \$13,686.24 and \$13,459.89 for the business administration graduates and the liberal arts and science graduates, respectively. The t value of 0.2565 is not significant at the 5 per cent level.

Thus, fourteen years after college there is no statistically significant difference between the two groups of graduates in their level of career advancement as measured by position level and yearly earnings.

Correlation Analyses

The relationship between socio-economic status, grade-point average, mental ability, number of organizations in which employed,



and yearly earnings fourteen years after graduation is given by the correlation coefficients (r) of these four factors. The correlation of each of these factors for the 1950 business administration graduates with present yearly earnings is: .0268, .2268, -.0280, and -.0264, respectively. Only the correlation between grade-point average and present yearly earnings (.2268) is significant at the 5 per cent level of confidence with 163 degrees of freedom.

The correlation for the 1950 liberal arts and science graduates for each of these four factors with present yearly earnings is: -.0046, -.0112, .1079, and -.0829, respectively. These values are not significant at the 5 per cent level with 87 degrees of freedom. We therefore conclude that only in the case of the 1950 business administration graduates is there a slight relationship between any one of the above factors (grade-point average) and present yearly earnings.

Correlation coefficients were also computed to determine the relationship between socio-economic status, grade-point average, mental ability, and number of organizations in which employed, and the present position levels occupied by the 1950 graduates. For the 1950 business administration graduates the respective correlation coefficients are: .1283, .1175, .0682, and .0735. These values are not significant at the 5 per cent level of confidence with 180 degrees of freedom. Thus, we conclude for the 1950 business administration graduates, there is no relationship between the socio-economic status, grade-point average, mental ability, and the number of organizations in which the graduates have been employed, and their present position levels.

The correlation coefficients for socio-economic status, grade-point average, mental ability, number of organizations in which employed, and present position levels for the 1950 liberal arts and science graduates are: .0905, -.0057, .0512, and .0321, respectively. These values

are not significant at the 5 per cent level of confidence with 94 degrees of freedom. We conclude for the 1950 liberal arts and science graduates that there is no relationship between the socio-economic status, grade-point average, mental ability, and the number of organizations in which the graduates have been employed, and their present position levels. Tables 35 through 40 present the median present (1964) yearly earnings and yearly earnings ranges for each of the classifications of socio-economic status, grade-point average, and intelligence test scores for the 1950 graduates. Similarly, median present (1964) position levels and position level ranges are presented in Tables 41 through 46 for each of the classifications of socio-economic status, grade-point average, and intelligence test scores.

Conclusions

The preceding analysis for each of the time periods indicated reveals that there is no statistically significant difference in the level of career advancement, as measured by position level and yearly earnings, between the 1950 liberal arts and science graduates and the 1950 business administration graduates, all of whom are statistically alike with respect to age and socio-economic status at the time of graduation, and mental ability or intelligence.

For the 1950 graduates, we therefore conclude that under the control conditions of this study there is no relationship between the two types of academic programs--business administration and liberal arts and science--and the level of career advancement attained in business organizations.

Furthermore, we must conclude from the preceding analysis for the 1950 business administration graduates there is no relationship between socio-economic status, mental ability, the number of organizations in which they have been employed, and their present yearly

earnings. Only a slight relationship exists for this group of graduates between grade-point average and present yearly earnings. No relationships exist between any of these four factors and the present yearly earnings of the 1950 liberal arts and science graduates. Similarly, no relationships exist for either group of 1950 graduates between socioeconomic status, grade-point average, mental ability, and the number of organizations in which the graduates have been employed, and their present position levels. Finally, no difference between the two groups of 1950 graduates exists in the number of organizations in which they have been employed.

The 1955 Graduates

The Control Variables

The ages at which the 1955 graduates earned their bachelor's degree are shown in Table 47. The mean age for the business administration graduates is 22.72 years, while the mean age for the liberal arts and science graduates is 22.88 years. The t value is -0.4321, and is not significant at the 5 per cent level of confidence. We can therefore say that there is no statistically significant difference between the two groups of graduates in the mean age at which they earned the bachelor's degree.

Principal occupations of the fathers of the 1955 graduates at the time the graduates received the bachelor's degree are presented in Table 48. The organization and transfer of the father's occupational data into socio-economic rankings for the 1955 graduates was accomplished in the same manner as that previously described and used for the 1950 graduates. The socio-economic ranking of the 1955 graduates is presented in Table 49. The mean socio-economic ranks are 2.31 and 2.47, respectively, for the business administration graduates and the liberal arts and science graduates. At the 5 per cent level the obtained t value

of -1.0455 is not significant. No statistically significant difference exists in socio-economic status between the business administration graduates and the liberal arts and science graduates.

An indication and measure of the mental ability or intelligence of the graduates is provided by the test scores of the graduates on the ACE examination presented in Table 50. The mean score for the business administration graduates is 112.750; the mean score for liberal arts and science graduates is 107.710. The t value is 1.8570, and is not significant at the 5 per cent level. There is, therefore, no statistically significant difference between the two groups of graduates in mental ability or intelligence as measured by the ACE examination. Table 51 shows the distribution of grade-point averages for the 1955 graduates.

Summary

The preceding analysis establishes the fact that the 1955 business administration graduates and the 1955 liberal arts and science graduates are statistically alike with respect to age and socio-economic status at the time of graduation, and mental ability or intelligence. We shall now proceed to analyze at specified points in time the occupational data necessary to determine whether a statistically significant difference exists in the level of career advancement between the 1955 liberal arts and science graduates and the 1955 business administration graduates.

First Full-Time Job

Tables 52 through 56 contain the occupational data relevant to the status of the business careers of the 1955 graduates immediately following college graduation. The various sizes of organizations in which they obtained their first full-time job are shown in Table 52. Table 53 is constructed from the data in Table 52 and presents the

distribution of the graduates in the three structural sizes of organizations. The computed chi-square value of 1.468 is not significant with three degrees of freedom at the 5 per cent level of confidence. Thus, there is no difference between the two groups in the structural sizes of organizations in which they obtained their first full-time job immediately following college graduation.

The number of 1955 graduates who obtained their first full-time job after graduation in organizations in which relatives were owners or executives is given in Table 54. No difference exists between the two groups on this factor. The obtained chi-square values of 2.474, 0.000, and 0.000 for organizations employing 1 to 200, 201 to 1,000, and over 1,000 employees, respectively, are not significant at the 5 per cent level of confidence with three degrees of freedom.

The position levels attained by the 1955 graduates in their first full-time job after graduation are presented in Table 55. The computed chi-square value is 2.181. It is not significant at the 5 per cent level with five degrees of freedom. No difference therefore exists between the two groups on position level.

The yearly earnings of the two groups of graduates are indicated in Table 56. The mean yearly earnings for business administration graduates is \$4,773.51, while the mean yearly earnings for liberal arts and science graduates is \$5,053.05. The t value is -1.4746, and is not significant at the 5 per cent level.

We conclude that for the time period immediately following college graduation, there is no statistically significant difference in the level of career advancement attained by the liberal arts and science graduates as opposed to the business administration graduates.



Fifth Year After Graduation

Data on the jobs the 1955 graduates held during the fifth year after graduation are presented in Tables 57 through 61. The sizes of organizations in which the graduates were employed are shown in Table 57. The number of graduates employed in each of the three structural sizes of organizations is presented in Table 58. The obtained chi-square value of 1.239 is not significant at the 5 per cent level with three degrees of freedom.

The number of graduates who were employed in organizations in which relatives were owners or executives is given in Table 59. At the 5 per cent level with three degrees of freedom, the computed chi-square values of 1.379, 0.000, and 1.547 for organizations employing 1 to 200, 201 to 1,000, and over 1,000 employees, respectively, are not significant.

The position levels the graduates occupied five years after college graduation are indicated in Table 60. The obtained chi-square value of 3.845 is not significant at the 5 per cent level with five degrees of freedom. Thus, there is no statistically significant difference between the groups in the position level they attained five years after graduation.

Yearly earnings of the graduates are shown in Table 61. Business administration graduates earned a mean of \$8,179.11 five years after graduation, while liberal arts and science graduates earned a mean of \$8,186.40. The t value of -0.0149 is not significant at the 5 per cent level.

We conclude that at the fifth year after college graduation, using the criteria of position level and yearly earnings, there is no statistically significant difference in the level of career advancement of the liberal arts and science graduates as opposed to the business administration graduates.

Ninth Year After Graduation

Occupational data for the jobs in which the graduates are now employed nine years after college graduation are contained in Tables 62 through 67. Table 62 indicates the sizes of organizations in which the 1955 graduates are employed. Table 63 presents the distribution of the graduates in the three structural sizes of organizations. The computed chi-square value of 4.776 is not significant with three degrees of freedom at the 5 per cent level.

The number of graduates employed in organizations in which relatives are owners or executives is given in Table 64. The chi-square values of 0.346, 0.000, and 2.044 for organizations employing 1 to 200, 201 to 1,000, and over 1,000 employees, respectively, are not significant at the 5 per cent level of confidence with three degrees of freedom. Table 65 indicates the number of organizations in which the two groups of graduates have been employed. No statistically significant difference exists between the groups. At the 5 per cent level with eight degrees of freedom the chi-square value of 6.059 is not significant.

The position levels the 1955 graduates currently occupy nine years after college graduation are indicated in Table 66. The computed chi-square value is 7.919, and it is not significant at the 5 per cent level of confidence with five degrees of freedom. Thus, there is no statistically significant difference between the two groups in the position levels which they currently occupy.

Table 67 indicates the yearly earnings the two groups report for the ninth year after graduation. The mean yearly earnings are \$11,728.31 and \$11,751.56, respectively, for the business administration graduates and the liberal arts and science graduates. The t value of -0.0272 is not significant at the 5 per cent level.



Therefore, at the ninth year following college graduation there is no statistically significant difference between the two groups of graduates in their level of career advancement, as measured by the criteria of position level and yearly earnings.

Correlation Analyses

No relationships exist for either of the two groups of graduates between socio-economic status, grade-point average, mental ability, number of organizations in which employed, and the yearly earnings of the 1955 graduates nine years after college graduation. The respective correlation coefficients (r) for each of these four factors are: .0860, -.1141, -.0311, and -.0684 for the 1955 business administration graduates. The correlation coefficients for the 1955 liberal arts and science graduates are, in the same order: .1153, .1648, -.0488, and -.1394. None of the above correlation coefficients is significant at the 5 per cent level with 82 and 70 degrees of freedom, respectively.

The correlation coefficients for socio-economic status, grade-point average, mental ability, and the number of organizations in which the 1955 business administration graduates have been employed, with their present position levels, are: .2224, -.1489, -.0947, and -.0270, respectively. The correlation between socio-economic status and present position position level is significant at the 5 per cent level with 86 degrees of freedom. The remaining correlations are not significant for this group of graduates. The correlation coefficients for the above four factors with present position levels for the 1955 liberal arts and science graduates are, in the same order: .1319, .0299, .1120, and .0893. These values are not significant at the 5 per cent level of confidence with 75 degrees of freedom. Tables 68 through 73 present the median present (1964) yearly earnings and yearly earnings ranges for each of the classifications of socio-economic status, grade-point average,



and intelligence test scores for the 1955 graduates. Similarly, median present (1964) position levels and position level ranges are presented in Tables 74 through 79 for each of the classifications of socio-economic status, grade-point average, and intelligence test scores.

Conclusions

The analysis of occupational data for the 1955 graduates establishes the fact that, at the specified points in time, there is no statistically significant difference in the level of career advancement, as measured by position level and yearly earnings, between the liberal arts and science graduates and the business administration graduates, all of whom are statistically alike with regard to age and socio-economic status at the time of graduation, and intelligence.

These findings indicate that for the 1955 graduates, and under the established control conditions of the study, there is no relationship between the two types of academic program--liberal arts and science and business administration--and the level of career advancement attained in business organizations.

In addition, the findings of this study indicate that no relationship exists between the factors of socio-economic status, grade-point average, intelligence, number of organizations in which the graduates have been employed, and the yearly earnings of either group of 1955 graduates nine years after college graduation. No relationships exist between grade-point average, mental ability, and the number of organizations in which employed, and the present position levels occupied by the 1955 business administration graduates. There is, however, a slight relationship between socio-economic status at college graduation and the present position levels the 1955 business administration graduates occupy. In the case of the 1955 liberal arts and science graduates no relationships exist between the socio-economic status, grade-point average, mental



ability, the number of organizations in which the graduates have been employed, and the present position levels occupied by these graduates. Finally, the two groups of 1955 graduates do not differ in the number of organizations in which they have been employed.



CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

The purpose of this study was to determine whether or not there is a statistically significant difference in the level of career advancement attained in business, as measured by yearly earnings and position level within organizations, of college graduates who possess bachelor's degrees in liberal arts and science, as opposed to college graduates who possess bachelor's degrees in business administration, when the variables of age, socio-economic status, and mental ability are controlled.

As an outgrowth of the data collected for the analysis of the research problem, an investigation was made to determine whether statistically significant correlations exist for either of the groups of graduates between socio-economic status, grade-point average, mental ability, number of organizations in which the graduates have been employed, and their present yearly earnings and position levels.

Research Methodology

A total of 509 graduates of Michigan State University were selected for the purposes of this study. Of the 509 graduates, 321 graduated during the 1950 academic year, and 188 graduated during the 1955 academic year. Of the 321 who graduated in 1950, 206 earned their bachelor's degree in business administration and 115 earned their bachelor's degree in liberal arts and science. Of the 188 graduated in 1955, 100 received their bachelor's degree in business administration, while 88 received their bachelor's degree in liberal arts and science.

None of the graduates have had any undergraduate or graduate education since receiving their bachelor's degrees. In addition, none of the graduates have had training for such purposes as licensing or certification. The graduates in this study were all pursuing careers in business organizations; none of the graduates were engaged in either military or civil service careers. Finally, all the graduates were males.

Age at college graduation, socio-economic status at graduation, and mental ability or intelligence were designated as the control variables to be used in this study. The two groups of 1950 graduates were statistically alike with respect to each of these three factors. Similarly, the two groups of 1955 graduates were statistically alike with respect to age, socio-economic status, and mental ability or intelligence. Position level within organizations and yearly earnings were the two factors that constituted the criteria for measuring the level of career advancement of the graduates.

Findings

Four points in time following college graduation were selected for the purpose of making comparisons of the level of career advancement between the 1950 liberal arts and science graduates and the 1950 business administration graduates.

No statistically significant differences at the 5 per cent level of confidence were found at any of the four points in time between the two groups of graduates in the sizes of organizations in which they were employed, or in the number of graduates who had relatives as owners or executives in the organizations in which they were employed. At no point in time were statistically significant differences found at the 5 per cent level of confidence between the two groups in the position levels they occupied or in their yearly earnings. Thus, as measured by position



level in organizations and yearly earnings, there was no statistically significant difference between the 1950 liberal arts and science graduates and the 1950 business administration graduates in the level of their career advancement. At the 5 per cent level of confidence, no difference was found to exist between the two groups in the number or organizations in which they have been employed since college graduation.

Within the methodological limitations of this study, no relationship is found to exist between the two types of academic programs-- liberal arts and science and business administration--and the level of career advancement attained in business by the 1950 graduates of these two educational programs.

The findings of this study also indicate that there is no relationship between the factors of socio-economic status, intelligence, number of organizations in which the graduates have been employed, and the present yearly earnings of either group of 1950 graduates fourteen years after college graduation. While no relationship exists between grade-point average and present yearly earnings of the 1950 liberal arts and science graduates, a slight relationship between grade-point average and present yearly earnings exists for the 1950 business administration graduates. For both groups of 1950 graduates no relationships exist between socio-economic status, grade-point average, intelligence, number of organizations in which the graduates have been employed, and their present position levels.

Three points in time following college graduation were selected for the purpose of making comparisons of the level of career advancement between the 1955 liberal arts and science graduates and the 1955 business administration graduates. For each of the three points in time, at the 5 per cent level of confidence, no statistically significant differences were found between the two groups of graduates in the sizes of organizations in which they were employed, or in the number of graduates



who had relatives as owners or executives in the organizations in which they were employed. Similarly, at the 5 per cent level of confidence, no statistically significant difference between the two groups of 1955 graduates was found to exist in the level of their career advancement, as measured by position level within organizations and yearly earnings. No difference was found to exist at the 5 per cent level of confidence between the two groups in the number of organizations in which they had been employed since college graduation.

Therefore, no relationship is found to exist between the two types of academic programs and the level of career advancement attained in business by the 1955 graduates of these two educational programs.

Finally, no relationship exists for either group of 1955 graduates between the factors of socio-economic status, grade-point average, intelligence, number of organizations in which the graduates have been employed, and the present yearly earnings of the 1955 graduates nine years after college graduation. For the 1955 business administration graduates no relationships exist between grade-point average, intelligence, number of organizations in which the graduates have been employed, and their present position levels. A slight relationship exists between socio-economic status at college graduation and the present position levels occupied by the 1955 business administration graduates. In the case of the 1955 liberal arts and science graduates no relationships exist between these four factors and present position levels.

The absence of a relationship between academic achievement and present yearly earnings suggests that perhaps personality, motivation, and opportunity play an important role in high earnings. Since these factors were not incorporated into the research design of this study, their importance in achieving high earnings can only be surmised.



Implications of the Findings

Under the control conditions of this study, no relationship is found to exist between type of educational program--liberal arts and science or business administration--and the business careers of the graduates of these programs. The findings of this study were based on an analysis of the career patterns of the graduates of a single large, state-supported university. Thus the findings reached on the basis of this study do not constitute conclusive evidence that a relationship does not exist for graduates of other colleges and universities. However, it seems unlikely that similar studies of graduates from other institutions would arrive at substantially different findings. Other studies of a similar nature are, of course, necessary to confirm this view.

More importantly, the findings of this study strongly suggest, as Bond, Leabo, and Swinyard conclude from the evidence of their study, ". . . that the traditional views on the relative values of a liberal arts education versus other types of training may not be as soundly based as was formerly believed."⁷⁰ (*Italics mine.*) The author of the Carnegie

⁷⁰Bond, Leabo, and Swinyard, op. cit., p. 42. In support of their statement, the authors cite evidence from their study that executives possessing a business administration education tended to have greater interindustry and functional mobility, along with greater motivation for entrepreneurship and risk taking than their counterparts who had a liberal arts education. (See pp. 8 and 42.)

In the writer's opinion, the words "frequently expressed" should be substituted for the word "traditional" used by Bond, Leabo, and Swinyard. While it is true that many people can be found who express the view that a liberal arts education provides a superior preparation for a career in business, it is not clear that this is the traditional or generally accepted view, in the sense that a majority of people hold this view. The opposing view, that a business education is a superior preparation, is also held by a number of people, and there is no evidence to indicate that either view is an expression of the majority viewpoint. It is true, however, that both views have their advocates, and that both views are frequently expressed.



report implies, and the authors of the Ford report state, that business administration graduates of some schools are likely to be handicapped in their careers because of vocationalism and over-specialization in the curricula of schools of business.⁷¹ The findings of this study suggest that this criticism should be re-evaluated. The findings of this study indicate that liberal arts and science graduates were no better (or worse) prepared than the business administration graduates, since no differences were found in the levels of career advancement that they attained in business. Perhaps, then, we must conclude that the possession of a college education, in itself, is more important for a career in business than the area of study in which it is obtained.

Proliferation of specialized courses is not a unique characteristic of academic programs in schools of business. A brief examination of the course offerings in the liberal arts and science areas of most colleges and universities reveals a similar proliferation of specialized course offerings. Specialized courses can lead to narrowness and the routine learning of unimportant detail in the area of liberal arts and science in the same manner as it can in business education. "It should not be forgotten that what is called pedantry was invented in those studies which are commonly classified as liberal."⁷² If, however, faculty and students alike approach courses of study with a desire to develop basic problem-solving ability and skill in organizing and analyzing knowledge, the inherent limitations of specialized courses upon the intellectual growth of the student can often be mitigated. Perhaps what we have found in this study is evidence that the liberal arts and science area is subject to the

⁷¹Pierson, op. cit., pp. x and 166. Gordon and Howell, op. cit., p. 138.

⁷²Ralph Barton Perry, "When Is Education Liberal?" in Robert A. Goldwin and Charles A. Nelson (eds.), Toward the Liberally Educated Executive (New York: The New American Library, 1957), p. 49.



same criticism as that recently directed at schools of business; and that the frequently expressed view of the superiority of the liberal arts in developing within individuals a broad base of analytical skills and knowledge is really not the case.

The findings of this study do not support the view that a liberal arts and science education provides a superior preparation for a career in business. At the same time, the findings of this study do not support the opposing view that a business administration education provides a superior preparation for a career in business. If, then, we are not satisfied with the quality of college-trained men in business, the problem becomes one of improving the educational preparation offered in both liberal arts and science and business administration.

Future Research

While this study reveals no relationship between the two types of educational backgrounds of the graduates and their business careers at this time, differences may occur in the future. It would be entirely appropriate to repeat this study at a later date when the graduates of this study have reached an age at which they could be expected to have reached the peak of their business careers. Repetition of this study at a later time would therefore serve to confirm or refute the present findings and identify the long-run relationship between educational preparation and careers in business.

On the basis of this study, three additional areas worthy of future research also emerge. First, two or three studies identical to the present research in methodological design are needed to substantiate or confirm the findings reported in the previous chapters. Such studies would also provide an indication as to whether or not regional differences or differences among colleges or universities occur. In conjunction with this study, two or three other studies would provide a sufficiently



large population of graduates so that industry differences might be studied.

Second, studies similar in methodological design are needed to determine the impact of graduate study in business upon the careers of graduates of such programs. At the present time we do not know the relationship between graduate education in business and the business careers of graduates holding master's degrees in business.

Third, and perhaps most important of all, there is a need for a large scale study which is methodologically rigorous to indicate the impact of a college education on the careers of men in business.



APPENDIX I

COVER LETTERS AND
QUESTIONNAIRE

MICHIGAN STATE UNIVERSITY EAST LANSING

GRADUATE SCHOOL OF BUSINESS ADMINISTRATION
DEPARTMENT OF MANAGEMENT

March 2, 1964

Mr. James A. Jones
123 Green Street
Lansing, Michigan

Dear Mr. Jones:

In cooperation with Michigan State University, you are being asked to participate in a study of businessmen's career patterns.

This study will make a comparison of the career patterns of businessmen who have different educational backgrounds. Such information is vital to the institutions and individuals who are responsible for the formulation of educational programs. Your participation in this study will provide important information as to how these programs should be formulated. This study is an outgrowth of the recommendations made by the Ford Foundation and the Carnegie Corporation in previous research.

The enclosed questionnaire will take no more than fifteen minutes of your time. The number of businessmen being asked to participate in this study is very small. The success of this study, therefore, depends upon receiving your cooperation in returning a carefully completed questionnaire.

Your reply is coded and will be held in strict confidence. No firm or person will be identified in the final data. A stamped, self-addressed envelope is enclosed for your convenience.

Yours truly,

William J. Kearney
Project Director

Enclosure: 2

MICHIGAN STATE UNIVERSITY EAST LANSING

GRADUATE SCHOOL OF BUSINESS ADMINISTRATION
DEPARTMENT OF MANAGEMENT

March 31, 1964

Mr. James A. Jones
123 Green Street
Lansing, Michigan

Dear Mr. Jones:

A few weeks ago you received a questionnaire and a letter requesting your participation in a study which will make a comparison of the career patterns of businessmen having different educational backgrounds. Since I have not received your reply, I am enclosing a second questionnaire.

This study is an outgrowth of previous studies made by the Ford Foundation and the Carnegie Corporation, and will provide valuable information to the educators who are responsible for the formulation of educational programs in business.

Since the number of individuals selected for the study is quite small, the study will be successful only if each person returns a carefully completed questionnaire. Your questionnaire is coded, and your reply will be held in strict confidence. No firm or person will be identified in the final data. A business return envelope is enclosed for your convenience.

This is a rare and important opportunity for you to be an active force in the design of educational programs in business. May I hear from you soon?

Yours truly,

William J. Kearney
Project Director

Enclosure: 2

STUDY OF BUSINESSMEN

Michigan State University
P. O. Box 213
East Lansing, Michigan 48824

Strictly ConfidentialCode No.

1. At what age did you receive your bachelor's degree?..... Col
6-7

2. Have you taken any undergraduate college courses in business
administration since you received your bachelor's degree? 8

Yes ☐ 1No ☐ 2

If yes,

approximately how many credit hours? sem. hours 9-10
term
(Circle one)

3. Extent of schooling of yourself and your father. (Place an "x"
in the highest level attained): 11-12

	Self	Your Father
Less than high school.....	☐	☐ 1
Some high school.....	☐	☐ 2
High school graduate.....	☐	☐ 3
Some college.....	☐	☐ 4
College graduate.....	☐ 5	☐ 5
Some graduate degree study.....	☐ 6	☐ 6
Completed graduate degree.....	☐ 7	☐ 7

3a. If you have taken some graduate degree study or received a
graduate degree, please indicate your field of study and 13
degree:

Field of StudyDegree

4. Check the principal occupation of your father at the time you received your bachelor's degree. (If father was deceased, please indicate his previous occupation):

14-15-16

Occupation		Your Father	
Worker	{ Unskilled.....	☐	016
	{ Semi-skilled.....	☐	025
	{ Skilled.....	☐	034
Farmer	{ Farm worker or small tenant.....	☐	046
	{ Farm tenant with paid help.....	☐	052
	{ Farm owner without paid help.....	☐	062
	{ Farm owner or manager with paid help...	☐	072
Clerk or retail salesman.....		☐	083
Other salesman.....		☐	093
Foreman or first line supervisor.....		☐	104
Minor executive (above supervisor but below department head).....		☐	112
Major executive (department head and above).....		☐	122
Owner, small business (100 employees or less)....		☐	132
Owner, large business (over 100 employees).....		☐	142
Profession	{ Doctor.....	☐	151
	{ Engineer.....	☐	161
	{ Lawyer.....	☐	171
	{ Minister.....	☐	181
	{ Professor.....	☐	191
	{ Public school teacher.....	☐	201
	{ Other (please specify)....		211
Other occupation (please specify).....			22

OCCUPATIONAL CAREER HISTORY

How many firms have you been associated with as an employee during your business career since receiving your bachelor's degree (including your present firm)?.....

17

Please indicate on the following pages the status of your employment at the specified points in time after college graduation. Please provide employment data for each of the specified points in time, even if you remained with the same employer or held the same job title.

Salary data is especially important for this study. All data will be held in strict confidence.

Your first full-time job following college graduation which marked the beginning of your business career:

Name of Employer: _____	Job Title of Your Position: _____
Location: City _____ State _____	24 _____ Date Position Assumed: 25-28 _____ month _____ year
Number of Employees When You Were Employed. (Give employment figure for organization as a whole): _____ Employees	Briefly Describe Your Primary Duties: _____ _____ _____
18 Your Yearly Earnings. (To include commissions, bonuses, etc., from your source of employment): \$ _____	Number of People Under Your Supervision: _____ Employees
19-22	29 Job Title of Person to Whom You Reported: _____
30 Please check if any of the following people were owners or executives in this firm at the time you were employed:	
23 Father ☐ 1 Other relatives ☐ 2 None ☐ 3	

Your job 5 years after college graduation. (If you changed jobs during your fifth year after graduation, please supply data for the job which you held longest during the fifth year):

Name of Employer: _____	Job Title of Your Position: _____
Location: City _____ State _____	37 _____ Date Position Assumed: 38-41 _____ month _____ year
Number of Employees When You Were Employed. (Give employment figure for organization as a whole): _____ Employees	Briefly Describe Your Primary Duties: _____ _____ _____
31 Your Yearly Earnings. (To include commissions, bonuses, etc., from your source of employment): \$ _____	Number of People Under Your Supervision: _____ Employees
32-35	42 Job Title of Person to Whom You Reported: _____
43 Please check if any of the following people were owners or executives in this firm at the time you were employed:	
36 Father ☐ 1 Other relatives ☐ 2 None ☐ 3	

(over)

For 1950 graduates. Your job 10 years after college graduation.
 (If you changed jobs during your tenth year after graduation,
 please supply data for the job which you held longest during
 the tenth year.)

1955 graduates may proceed directly to the last section.

Name of Employer: _____	Job Title of Your Position: _____ 50
Location: City _____ State _____	Date Position Assumed: 51-54 _____ month _____ year
Number of Employees When You Were Employed. (Give employment figure for organization as a whole): _____ _____ Employees	Briefly Describe Your Primary Duties: _____ _____ _____ _____
44 Your Yearly Earnings. (To include commissions, bonuses, etc., from your source of employment): \$ _____	Number of People Under Your Supervision: _____ _____ Employees
45-48	55 Job Title of Person to Whom You Reported: _____ 56
Please check if any of the following people were owners or executives in this firm at the time you were employed:	
49 Father ☐ 1 Other relatives ☐ 2 None ☐ 3	

Your present job. For 1950 and 1955 graduates:

Name of Employer: _____	Job Title of Your Position: _____ 63
Location: City _____ State _____	Date Position Assumed: 64-67 _____ month _____ year
Number of Employees (Give employment figure for organization as a whole): _____ _____ Employees	Briefly Describe Your Primary Duties: _____ _____ _____ _____
57 Your Yearly Earnings. (To include commissions, bonuses, etc., from your source of employment): \$ _____	Number of People Under Your Supervision: _____ _____ Employees
58-61	68 Job Title of Person to Whom You Report: _____ 69
Please check if any of the following people were owners or executives in this firm at the time you were first employed:	
62 Father ☐ 1 Other relatives ☐ 2 None ☐ 3	

APPENDIX II

TABLES

Table 1.--Major Areas of Study Classified as a Liberal Arts and Science Curriculum for the 1950 Graduates^a

Major Area of Study	Number Graduated	Number in Study
Art	28	8
Bacteriology	22	2
Bacteriology and Public Health	0	0
Biological Science	8	1
Botany	11	1
Chemistry	69	13
Economics	95	20
English	18	0
Entomology	8	0
Fine Arts	0	0
Foreign Studies	1	0
French	2	0
Geology and Geography	0	0
Geography	6	1
Geology	42	4
German	2	0
History	15	2
History and Political Science	66	6
Latin	0	0
Mathematics	31	1
Mathematics and Physical Science	11	0
Philosophy	4	0
Philosophy and Psychology	10	0
Physics	30	2
Physiology	1	0
Political Science	2	0
Psychology	80	16
Social Science	57	10
Sociology and Anthropology	28	3
Spanish	1	0
Speech, Dramatics and Radio Education	81	17
Zoology	74	8
Total--Liberal Arts and Science	803	115

^aSources: Michigan State College Catalog: 1946-1947 (East Lansing, Michigan: Michigan State College, 1946), p. 145; Eighty-Ninth Annual Report. Secretary of the State Board of Agriculture, State of Michigan (East Lansing, Michigan: Michigan State College, 1951), pp. 155-156.



Table 2.--Major Areas of Study Classified as a Business Administration Curriculum for the 1950 Graduates^a

Major Area of Study	Number Graduated	Number in Study
Business Administration	619	177
Hotel Administration	85	29
Total--Business Administration ^b	704	206

^aSources: Michigan State College Catalog: 1946-1947 (East Lansing, Michigan: Michigan State College, 1946), p. 107; Eighty-Ninth Annual Report. Secretary of the State Board of Agriculture, State of Michigan (East Lansing, Michigan: Michigan State College, 1951), pp. 155-156.

^bEconomics and Political Science are classified under Liberal Arts and Science.

Table 3. --Major Areas of Study Classified as a Liberal Arts and Science Curriculum for the 1955 Graduates^a

Major Area of Study	Number Graduated	Number in Study
Bacteriology and Public Health	8	1
Botany and Plant Pathology	3	0
Chemistry	28	3
Divisional Biological Science	6	0
Divisional Physical Science	15	1
Divisional Social Science	72	14
Economics	114	34
English	17	5
Entomology	2	0
Fine Arts	16	1
Foreign Studies	1	0
French	1	0
Geography	4	2
Geology	13	1
German	1	0
History	35	3
Mathematics	20	2
Mathematics and Physical Science	0	0
Philosophy	3	0
Physics and Astronomy	15	2
Political Science	23	2
Psychology	32	2
Sociology and Anthropology	3	0
Spanish	0	0
Speech	57	15
Zoology	25	0
Total--Liberal Arts and Science	514	88

^aSources: Michigan State College Catalog: 1951-1952 (East Lansing, Michigan: Michigan State College, 1951), p. 179; Ninety-Third Annual Report. Secretary of the State Board of Agriculture, State of Michigan (East Lansing, Michigan: Michigan State University, 1955), pp. 279-281; Ninety-Fourth Annual Report. Secretary of the State Board of Agriculture, State of Michigan (East Lansing, Michigan: Michigan State University, 1956), pp. 293-297.



Table 4. --Major Areas of Study Classified as a Business Administration Curriculum for the 1955 Graduates^a

Major Area of Study	Number Graduated	Number in Study
Accounting	76	25
Food Distribution	9	2
General Business	155	52
General Institution Management	4	2
Hotel Management	42	13
Restaurant Management	15	6
Total--Business Administration ^b	301	100

^aSources: Michigan State College Catalog: 1951-1952 (East Lansing, Michigan: Michigan State College, 1951), p. 131; Ninety-Third Annual Report. Secretary of the State Board of Agriculture, State of Michigan (East Lansing, Michigan: Michigan State University, 1955), pp. 279-281; Ninety-Fourth Annual Report. Secretary of the State Board of Agriculture, State of Michigan (East Lansing, Michigan: Michigan State University, 1956), pp. 293-297.

^bEconomics and Political Science are classified under Liberal Arts and Science.

Table 5. --Number of Michigan State University Graduates Receiving
Questionnaires by Educational Program and Year of Graduation

Educational Program	Year of Graduation		Total
	1950	1955	
	Number	Number	
Business Administration	394	199	593
Liberal Arts and Science	260	199	459
Total	654	398	1052

Table 6. -- Analysis of Questionnaire Mailings and Returns

Year and Educational Program	Mailing							χ^2	
	First Mailing			Second Mailing			Total Returned		
	No.	No.	%	No.	No.	%			
	Mailed	Returned	% Returned	Mailed	Returned	% Returned	No.		% Returned
1950 Bus. Ad.	394	229	58.1	165	54	32.7	283	71.8	0.761
1950 L. A. & S.	260	138	53.1	122	42	34.4	180	69.2	0.295
1955 Bus. Ad.	199	111	55.8	88	27	30.7	138	69.3	0.383
1955 L. A. & S.	199	107	53.8	92	37	40.2	144	72.4	1.480
Total	1052	585	55.6	467	160	34.3	745	70.8	2.919

Table 7. -- Analysis of Factors Causing Rejection of Returned Questionnaires by Year of Graduation and Educational Program

Factor Causing Rejection of Questionnaire	1950			1955		
	Bus. Ad.		L.A.&S.	Bus. Ad.		L.A.&S.
	No.	%		No.	%	
Continuous Employment in Civil Service (Federal or State) since College Graduation	2	2.6	2 3.1	3	7.9	3 5.4
Continuous Military Service since College Graduation	1	1.3	2 3.1	2	5.3	5 8.9
Continuous Teaching Career since College Graduation	0	0.0	0 0.0	0	0.0	2 3.6
Undergraduate Study in Business since College Graduation	20	26.0	21 32.3	9	23.7	5 8.9
Graduate Study and/or Graduate Degree (Any Field of Study)	36	46.7	35 53.8	20	52.5	32 57.1
Study for Certification or Licensing	12	15.6	2 3.1	2	5.3	0 0.0
Study for a Profession Except Teaching	6	7.8	3 4.6	2	5.3	9 16.1
Total	77	100.0	65 100.0	38	100.0	56 100.0

Table 8. --Analysis of Questionnaires Mailed, Returned, Rejected, and Used by Educational Program and Year of Graduation

Educational Program and Year of Graduation	Graduated No.	Questionnaires					
		Mailed No.	Returned No.	Returned %	Rejected No.	Rejected %	Used No. %
1950 Business Administration	704	394	283	100.0	77	27.2	206 72.8
1950 Liberal Arts and Science	803	260	180	100.0	65	36.1	115 63.9
1955 Business Administration	301	199	138	100.0	38	27.5	100 72.5
1955 Liberal Arts and Science	514	199	144	100.0	56	38.9	88 61.1
Total	2322	1052	745	100.0	236	31.7	509 68.3

THE 1950 GRADUATES



Table 9. --Age of 1950 Graduates When Bachelor's Degree Conferred^a

Age When Bachelor's Degree Conferred	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
20	2	1.0	0	0.0	2	0.6
21	14	6.8	7	6.1	21	6.5
22	35	16.9	17	14.9	52	16.2
23	29	14.1	23	20.0	52	16.2
24	49	23.7	26	22.6	75	23.4
25	34	16.4	19	16.5	53	16.5
26	17	8.3	7	6.1	24	7.5
27	9	4.4	8	7.0	17	5.3
28	5	2.4	2	1.7	7	2.2
29	2	1.0	3	2.6	5	1.6
30	3	1.5	2	1.7	5	1.6
31	2	1.0	0	0.0	2	0.6
32	1	0.5	1	0.8	2	0.6
33	1	0.5	0	0.0	1	0.3
34	1	0.5	0	0.0	1	0.3
35	1	0.5	0	0.0	1	0.3
36	1	0.5	0	0.0	1	0.3
Total	206	100.0	115	100.0	321	100.0

^aBusiness Administration Mean Age = 24.28; Liberal Arts and Science Mean Age = 24.19; $t = 0.3218$.

Table 10. -- Principal Occupations of the Fathers of the 1950 Graduates at the Time the Graduates Received the Bachelor's Degree

Occupation		Bus. Ad.		L. A. & S.		Total	
		No.	%	No.	%	No.	%
Worker	{Unskilled	8	3.9	3	2.6	11	3.4
	{Semi-skilled	28	13.6	5	4.3	33	10.4
	{Skilled	13	6.3	13	11.3	26	8.1
Farmer	{Farm worker or small tenant	0	0.0	1	0.9	1	0.3
	{Farm tenant with paid help.	0	0.0	0	0.0	0	0.0
	{Farm owner without paid help	7	3.4	4	3.5	11	3.4
	{Farm owner or manager with paid help	4	1.9	0	0.0	4	1.2
Clerk or retail salesman	6	2.9	2	1.7	8	2.5	
Other salesman.	13	6.3	7	6.1	20	6.2	
Foreman or first line supervisor	17	8.3	10	8.7	27	8.4	
Minor executive (above supervisor but below department head) .	13	6.3	17	14.8	30	9.3	
Major executive (department head and above)	28	13.6	16	13.9	44	13.8	
Owner, small business (100 employees or less).	45	21.8	17	14.8	62	19.4	
Owner, large business (over 100 employees)	1	0.5	1	0.9	2	0.6	
Profession	{Doctor	1	0.5	2	1.7	3	0.9
	{Engineer	3	1.5	5	4.3	8	2.5
	{Lawyer	0	0.0	2	1.7	2	0.6
	{Minister	1	0.5	0	0.0	1	0.3
	{Professor.	1	0.5	1	0.9	2	0.6
	{Public school teacher	2	1.0	0	0.0	2	0.6
{Other (please specify)	4	1.9	1	0.9	5	1.6	
Other occupation (please specify)	11	5.3	8	7.0	19	5.9	
Total	206	100.0	115	100.0	321	100.0	



Table 11. --Socio-economic Ranking of 1950 Graduates at the Time Bachelor's Degree Conferred^a

Rank	Socio-economic Group	Bus. Ad.		L.A. S.		Total	
		No.	%	No.	%	No.	%
1	Professional Persons	13	6.3	11	9.6	24	7.5
2	Proprietors, Managers, and Officials	100	48.5	58	50.4	158	49.2
3	Clerks and Kindred Workers	24	11.7	13	11.3	37	11.5
4	Skilled Workers and Foremen	33	16.0	24	20.9	57	17.8
5	Semiskilled Workers	28	13.6	5	4.3	33	10.3
6	Unskilled Workers	8	3.9	4	3.5	12	3.7
Total		206	100.0	115	100.0	321	100.0

^aBusiness Administration Mean Socio-economic Rank = 2.93; Liberal Arts and Science Mean Socio-economic Rank = 2.70; $t = 1.5252$.

Table 12. -- Distribution of ACE Test Scores Among the 1950 Graduates^a

Test Score	Bus. Ad.		L. A. & S.	
	No.	%	No.	%
63.0	0	0.0	1	0.9
66.0	2	1.0	3	2.6
71.0	1	0.5	0	0.0
76.0	15	7.2	3	2.6
80.5	1	0.5	1	0.9
81.5	3	1.5	1	0.9
84.5	14	6.8	5	4.3
89.0	2	1.0	1	0.9
92.0	14	6.8	10	8.7
96.0	2	1.0	0	0.0
98.5	12	5.8	9	7.8
101.0	5	2.4	1	0.9
101.5	3	1.5	2	1.7
103.5	12	5.8	11	9.6
106.0	1	0.5	2	1.7
107.0	5	2.4	0	0.0
109.0	16	7.8	10	8.7
111.5	3	1.5	6	5.2
112.5	5	2.4	2	1.7
116.0	16	7.8	8	7.0
117.0	2	1.0	0	0.0
118.0	7	3.4	5	4.3
119.0	5	2.4	3	2.6
119.5	0	0.0	1	0.9
123.0	2	1.0	0	0.0
123.5	20	9.6	9	7.8
126.0	3	1.5	0	0.0
127.0	5	2.4	4	3.5
131.0	0	0.0	1	0.9
133.0	20	9.6	13	11.3
136.0	3	1.5	0	0.0
137.0	5	2.4	3	2.6
143.0	1	0.5	0	0.0
151.0	1	0.5	0	0.0
Total	206	100.0	115	100.0

^aBusiness Administration Mean Score = 108.308; Liberal Arts and Science Mean Score = 108.630; $t = 0.1521$.

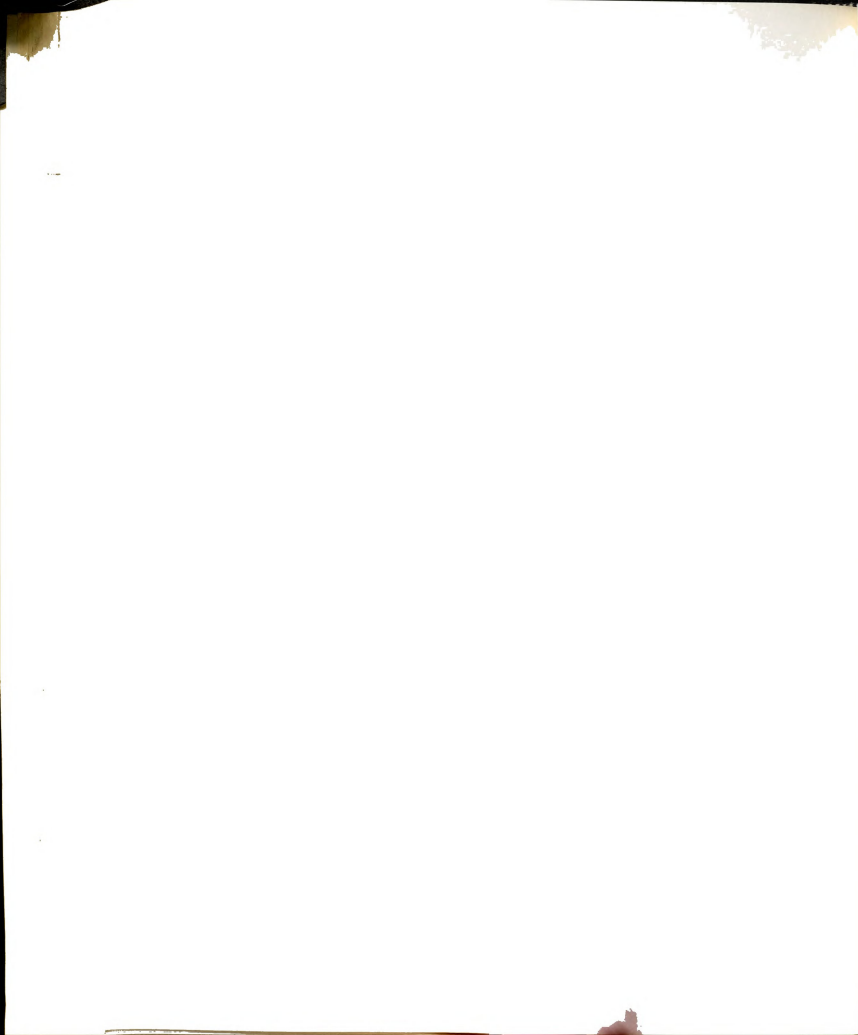


Table 13.--Distribution of Grade-Point Averages of the 1950 Graduates^a

Grade-Point Average	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
1.00-1.19	82	39.8	41	35.6	123	38.3
1.20-1.39	56	27.2	36	31.3	92	28.7
1.40-1.59	31	15.1	14	12.2	45	14.0
1.60-1.79	19	9.2	17	14.8	36	11.2
1.80-1.99	7	3.4	4	3.5	11	3.4
2.00-2.19	4	1.9	2	1.7	6	1.9
2.20-2.39	5	2.4	1	0.9	6	1.9
2.40-2.59	2	1.0	0	0.0	2	0.6
2.60-2.79	0	0.0	0	0.0	0	0.0
2.80-2.99	0	0.0	0	0.0	0	0.0
3.00	0	0.0	0	0.0	0	0.0
Total	206	100.0	115	100.0	321	100.0

^aA = 3.00; B = 2.00; C = 1.00.

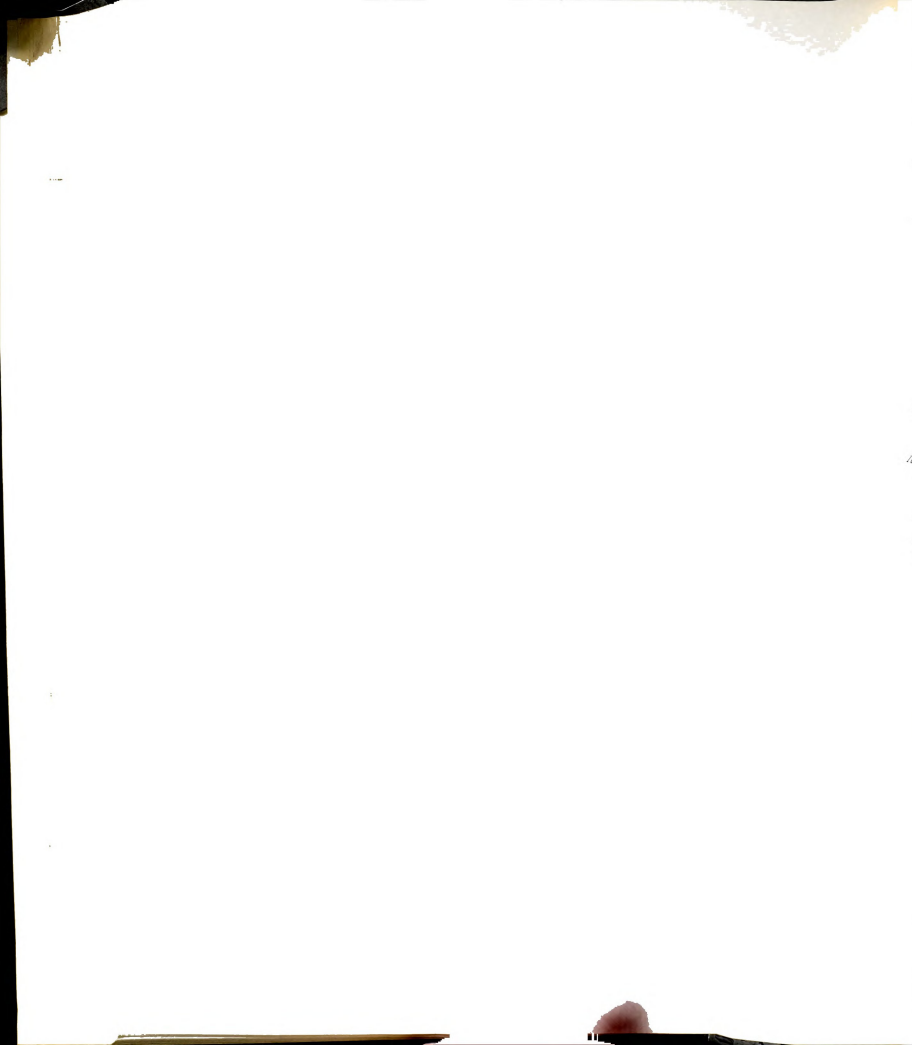


Table 14. --Size of Organization in Which 1950 Graduates Secured Their First Full-time Job Following College Graduation

Number of Employees	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^a	1	0.5	9	7.8	10	3.1
1-100	62	30.1	34	29.5	96	29.9
101-200	16	7.8	4	3.5	20	6.2
201-500	12	5.8	7	6.1	19	5.9
501-1,000	9	4.4	10	8.7	19	5.9
1,001-5,000	34	16.5	18	15.7	52	16.2
5,001-10,000	12	5.8	2	1.7	14	4.4
10,001-25,000	11	5.3	11	9.6	22	6.9
25,001-50,000	14	6.8	4	3.5	18	5.6
Over 50,000	35	17.0	16	13.9	51	15.9
Total	206	100.0	115	100.0	321	100.0

^a This category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.

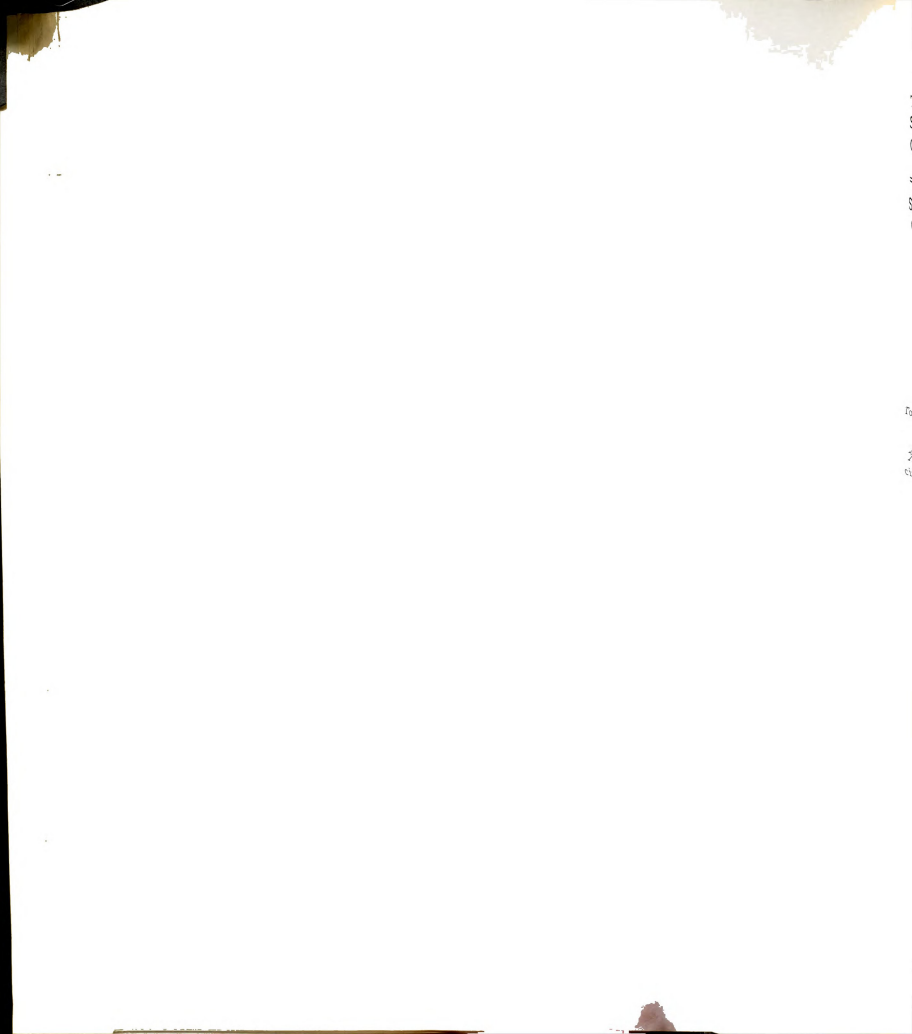


Table 15.--Distribution of 1950 Graduates by Structural Organization Size in Which Graduates Secured Their First Full-time Job Following College Graduation

Structural Organization Size	Bus. Ad.		L. A. & S.		Total		χ^2
	No.	%	No.	%	No.	%	
No Response ^a	1	0.5	9	7.8	10	3.1	10.417
1-200	78	37.9	38	33.0	116	36.2	0.597
201-1,000	21	10.2	17	14.8	33	11.8	1.871
Over 1,000	106	51.4	51	44.4	157	48.9	0.694
Total	206	100.0	115	100.0	321	100.0	13.579

^aThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.

Table 16. --Number of 1950 Graduates Who Secured Their First Full-Time Jobs in Organizations in Which Relatives Were Owners or Executives^a

Relationship	Structural Organization Size														
	1-200 Employees				201-1, 000 Employees				Over 1, 000 Employees						
	Bus. Ad.		L.A. & S.		χ^2	Bus. Ad.		L.A. & S.		χ^2	Bus. Ad.		L.A. & S.		
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
Father	15	19.2	7	18.4	0.000	2	9.5	1	5.9	0.000	2	1.9	0	0.0	2.000
Other															
Relative	4	5.1	3	7.9	0.450	2	9.5	0	0.0	2.000	0	0.0	0	0.0	0.000
None	58	74.4	28	73.7	0.052	17	81.0	16	94.1	0.123	104	98.1	51	100.0	0.030
Not															
Indicated	1	1.3	0	0.0	0.000	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000
Total	78	100.0	38	100.0	0.502	21	100.0	17	100.0	2.123	106	100.0	51	100.0	2.030

^aOne Business Administration graduate and nine Liberal Arts and Science graduates did not respond to the question concerning organization size, or were in military service or civil service during this time period.

Table 17. -- Position Levels Occupied by 1950 Graduates in First Full-Time Jobs Following College Graduation

Position Level	Educational Program				χ^2
	Bus. Ad.		L. A. & S.		
	No.	%	No.	%	
1	0	0.0	0	0.0	0.000
2	0	0.0	0	0.0	0.000
3	9	4.4	4	3.5	0.325
4	22	10.7	13	11.3	0.123
5	173	83.9	89	77.4	0.413
Not indicated	2	1.0	9	7.8	9.821
Total	206	100.0	115	100.0	10.682



Table 18.--Distribution of Yearly Earnings of 1950 Graduates from First Full-Time Job Following College Graduation^a

Yearly Earnings Category	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^b	6	2.9	11	9.6	17	5.3
Under \$2,000	1	0.5	0	0.0	1	0.3
2,000-2,999	34	16.5	18	15.7	52	16.2
3,000-3,999	78	37.8	43	37.3	121	37.8
4,000-4,999	40	19.4	21	18.2	61	19.0
5,000-5,999	22	10.7	7	6.1	29	9.0
6,000-6,999	9	4.4	7	6.1	16	5.0
7,000-7,999	8	3.9	1	0.9	9	2.8
8,000-8,999	5	2.4	5	4.3	10	3.1
9,000-9,999	0	0.0	1	0.9	1	0.3
10,000-10,999	1	0.5	0	0.0	1	0.3
11,000-11,999	1	0.5	1	0.9	2	0.6
12,000 and over	1	0.5	0	0.0	1	0.3
Total	206	100.0	115	100.0	321	100.0

^aBusiness Administration mean yearly earnings = \$4,133.00; Liberal Arts and Science mean yearly earnings = \$4,112.02; $t = 0.1073$.

^bThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.

Table 19. --Size of Organization in Which 1950 Graduates were Employed Five Years After College Graduation

Number of Employees	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^a	12	5.8	7	6.1	19	5.9
1-100	49	23.7	35	30.4	84	26.1
101-200	17	8.3	5	4.3	22	6.9
201-500	11	5.3	4	3.5	15	4.7
501-1, 000	10	4.9	7	6.1	17	5.3
1, 001-5, 000	34	16.5	19	16.5	53	16.5
5, 001-10, 000	10	4.9	8	7.0	18	5.6
10, 001-25, 000	16	7.8	10	8.8	26	8.1
25, 001-50, 000	11	5.3	5	4.3	16	5.0
Over 50, 000	36	17.5	15	13.0	51	15.9
Total	206	100.0	115	100.0	321	100.0

^aThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.

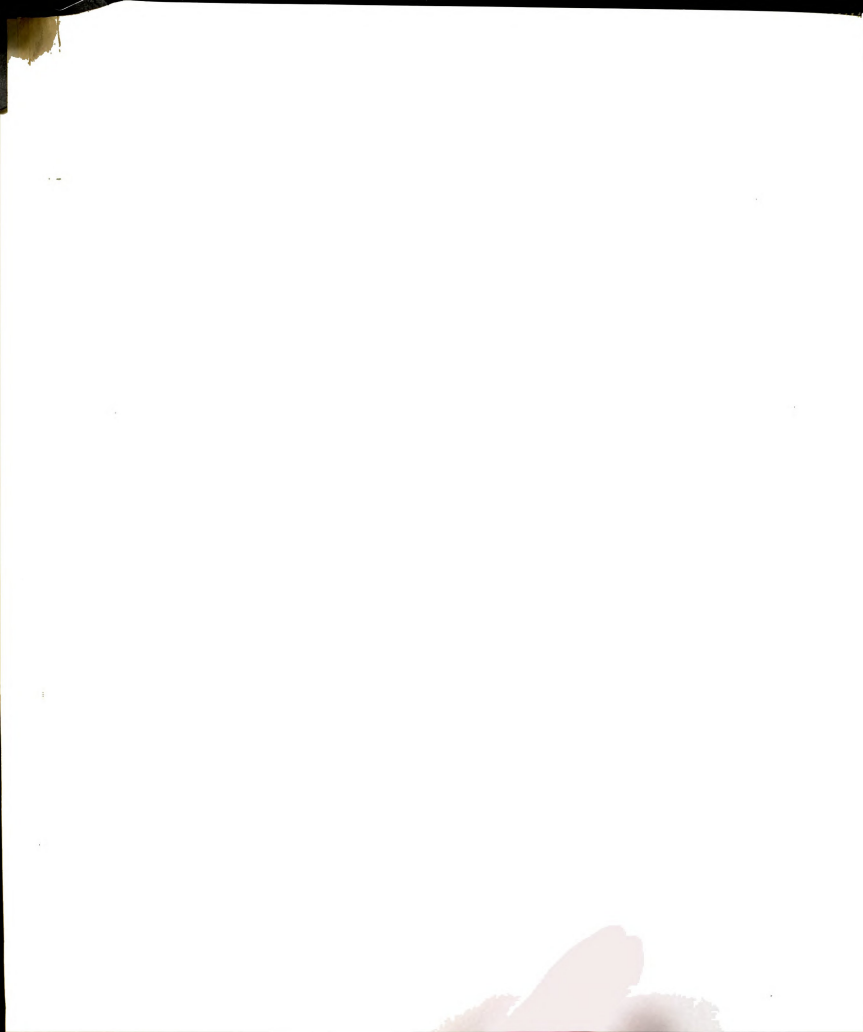


Table 20. -- Distribution of 1950 Graduates by Structural Organization Size in Which Graduates Were Employed Five Years After College Graduation

Structural Organization Size	Bus. Ad.		L. A. & S.		Total		χ^2
	No.	%	No.	%	No.	%	
No Response ^a	12	5.8	7	6.1	19	5.9	0.000
1-200	66	32.0	40	34.8	106	33.0	0.164
201-1,000	21	10.2	11	9.6	32	10.0	0.000
Over 1,000	107	52.0	57	49.5	164	51.1	0.106
Total	206	100.0	115	100.0	321	100.0	0.270

^aThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.

Table 21. -- Number of 1950 Graduates Employed in Organizations Five Years After College Graduation in Which Relatives Were Owners or Executives^a

Relationship	Structural Organization Size														
	1-200 Employees				201-1,000 Employees				Over 1,000 Employees						
	Bus. Ad.		L. A. & S.		χ^2	Bus. Ad.		L. A. & S.		χ^2	Bus. Ad.		L. A. & S.		
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
Father	15	22.7	6	15.0	0.808	2	9.5	2	18.2	1.333	2	1.9	1	1.8	0.000
Other															
Relative	6	9.1	4	10.0	0.000	3	14.3	0	0.0	1.500	1	0.9	0	0.0	0.000
None	44	66.7	30	75.0	0.230	16	76.2	9	81.8	0.000	104	97.2	56	98.2	0.000
Not Indicated	1	1.5	0	0.0	0.000	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000
Total	66	100.0	40	100.0	1.038	21	100.0	11	100.0	2.833	107	100.0	57	100.0	0.000

^a 12 Business Administration Graduates and seven Liberal Arts and Science Graduates did not respond to the question concerning organization size, or were in military service or civil service during this time period.

Table 22. -- Position Levels Occupied by 1950 Graduates in Jobs Held Five Years Following College Graduation

Position Level	Educational Program				χ^2
	Bus. Ad.		L.A. & S.		
	No.	%	No.	%	
1	1	0.5	0	0.0	0.000
2	2	1.0	1	0.9	0.000
3	24	11.7	12	10.4	0.119
4	34	16.5	24	20.9	0.671
5	132	64.0	71	61.7	0.084
Not indicated	13	6.3	7	6.1	0.000
Total	206	100.0	115	100.0	0.874

Table 23. -- Distribution of Yearly Earnings of 1950 Graduates from Job Held Five Years After College Graduation^a

Yearly Earnings Category	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^b	20	9.7	11	9.6	31	9.7
Under \$3,000	1	0.5	1	0.9	2	0.6
3,000-3,999	2	1.0	3	2.6	5	1.6
4,000-4,999	26	12.6	6	5.2	32	10.0
5,000-5,999	38	18.4	24	20.9	62	19.4
6,000-6,999	47	22.8	28	24.4	75	23.5
7,000-7,999	31	15.0	13	11.3	44	13.8
8,000-8,999	7	3.4	15	13.0	22	6.9
9,000-9,999	8	3.9	2	1.7	10	3.1
10,000-10,999	7	3.4	5	4.3	12	3.7
11,000-11,999	4	1.9	3	2.6	7	2.2
12,000-12,999	4	1.9	2	1.7	6	1.9
13,000-13,999	2	1.0	0	0.0	2	0.6
14,000-14,999	0	0.0	0	0.0	0	0.0
15,000-15,999	2	1.0	1	0.9	3	0.9
16,000-16,999	2	1.0	0	0.0	2	0.6
17,000-17,999	1	0.5	0	0.0	1	0.3
18,000-18,999	2	1.0	0	0.0	2	0.6
19,000-19,999	0	0.0	0	0.0	0	0.0
20,000-28,000	2	1.0	1	0.9	3	0.3
Total	206	100.0	115	100.0	321	100.0

^a Business Administration mean yearly earnings = \$7,189.62; Liberal Arts and Science mean yearly earnings = \$7,025.87; $t = 0.4233$.

^b This category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.



Table 24. --Size of Organization in Which 1950 Graduates Were Employed Ten Years After College Graduation

Number of Employees	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^a	13	6.3	11	9.6	24	7.5
1-100	62	30.0	25	21.7	87	27.2
101-200	13	6.3	7	6.1	20	6.2
201-500	16	7.8	10	8.7	26	8.1
501-1,000	12	5.8	8	7.0	20	6.2
1,001-5,000	37	18.0	16	13.9	53	16.5
5,001-10,000	7	3.4	9	7.8	16	5.0
10,001-25,000	13	6.3	6	5.2	19	5.9
25,001-50,000	9	4.4	9	7.8	18	5.6
Over 50,000	24	11.7	14	12.2	38	11.8
Total	206	100.0	115	100.0	321	100.0

^a This category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to this question.



Table 25.--Distribution of 1950 Graduates by Structural Organization Size in Which Graduates were Employed Ten Years After College Graduation

Structural Organization Size	Bus. Ad.		L. A. & S.		Total		χ^2
	No.	%	No.	%	No.	%	
No Response ^a	13	6.3	11	9.6	24	7.5	0.711
1-200	75	36.4	32	27.8	107	33.3	1.469
201-1,000	28	13.6	18	15.7	46	14.3	0.093
Over 1,000	90	43.7	54	46.9	144	44.9	0.121
Total	206	100.0	115	100.0	321	100.0	2.394

^a This category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.

Table 26. --Number of 1950 Graduates Employed in Organizations Ten Years After College Graduation in Which Relatives Were Owners or Executives^a

Relationship	Structural Organization Size														
	1-200 Employees				201-1,000 Employees				Over 1,000 Employees						
	Bus. Ad.		L. A. & S.		χ^2	Bus. Ad.		L. A. & S.		χ^2	Bus. Ad.		L. A. & S.		
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
Father	13	17.3	3	9.4	1.164	2	7.1	2	11.1	0.000	0	0.0	1	1.9	1.000
Other															
Relative	7	9.3	4	12.5	0.458	2	7.1	0	0.0	0.000	0	0.0	0	0.0	0.000
None	55	73.4	24	75.0	0.000	24	85.8	16	88.9	0.000	90	100.0	53	98.1	0.030
Not Indicated	0	0.0	1	3.1	1.000	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000
Total	75	100.0	32	100.0	2.622	28	100.0	18	100.0	0.000	90	100.0	54	100.0	1.030

^a 13 Business Administration Graduates and 11 Liberal Arts and Science Graduates did not respond to the question concerning organization size, or were in military service or civil service during this time period.

Table 27. -- Position Levels Occupied by 1950 Graduates in Jobs Held Ten Years Following College Graduation

Position Level	Educational Program				χ^2
	Bus. Ad.		L. A. & S.		
	No.	%	No.	%	
1	0	0.0	1	0.9	1.000
2	9	4.4	2	1.7	1.571
3	55	26.7	16	13.9	5.000
4	47	22.8	34	29.6	1.342
5	82	39.8	51	44.3	0.292
Not indicated	13	6.3	11	9.6	0.710
Total	206	100.0	115	100.0	9.915

Table 28. -- Distribution of Yearly Earnings of 1950 Graduates From Job Held Ten Years After College Graduation^a

Yearly Earnings Category	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^b	27	13.1	16	13.9	43	13.4
Under \$4,000	1	0.5	0	0.0	1	0.3
4,000-4,999	0	0.0	0	0.0	0	0.0
5,000-5,999	6	2.9	5	4.3	11	3.4
6,000-6,999	13	6.3	11	9.6	24	7.5
7,000-7,999	30	14.6	14	12.2	44	13.8
8,000-8,999	31	15.1	16	13.9	47	14.7
9,000-9,999	21	10.2	14	12.2	35	10.9
10,000-10,999	24	11.6	11	9.6	35	10.9
11,000-11,999	10	4.9	6	5.2	16	5.0
12,000-12,999	11	5.3	3	2.6	14	4.4
13,000-13,999	4	1.9	6	5.2	10	3.1
14,000-14,999	3	1.5	0	0.0	3	0.9
15,000-15,999	9	4.4	3	2.6	12	3.7
16,000-16,999	0	0.0	2	1.7	2	0.6
17,000-17,999	0	0.0	3	2.6	3	0.9
18,000-18,999	4	1.9	1	0.9	5	1.6
19,000-19,999	4	1.9	0	0.0	4	1.2
20,000-35,000	8	3.9	4	3.5	12	3.7
Total	206	100.0	115	100.0	321	100.0

^a Business Administration mean yearly earnings = \$10,334.80; Liberal Arts and Science mean yearly earnings = \$10,030.81; $t = 0.5871$.

^b This category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.

Table 29. -- Size of Organization in Which 1950 Graduates are Presently (1964) Employed

Number of Employees	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^a	20	9.7	15	13.0	35	10.9
1-100	64	31.0	22	19.1	86	26.9
101-200	10	4.9	7	6.1	17	5.3
201-500	10	4.9	8	7.0	18	5.6
501-1,000	10	4.9	8	7.0	18	5.6
1,001-5,000	33	16.0	19	16.5	52	16.2
5,001-10,000	13	6.3	11	9.6	24	7.5
10,001-25,000	7	3.4	5	4.3	12	3.7
25,001-50,000	12	5.8	6	5.2	18	5.6
Over 50,000	27	13.1	14	12.2	41	12.8
Total	206	100.0	115	100.0	321	100.0

^aThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to this question.



Table 30. --Distribution of 1950 Graduates by Structural Organization Size in Which Graduates are Presently (1964) Employed

Structural Organization Size	Bus. Ad.		L. A. & S.		Total		χ^2
	No.	%	No.	%	No.	%	
No Response ^a	20	9.7	15	13.0	35	10.9	0.490
1-200	74	35.9	29	25.2	103	32.1	2.700
201-1,000	20	9.7	16	13.9	36	11.2	1.083
Over 1,000	92	44.7	55	47.9	147	45.8	0.118
Total	206	100.0	115	100.0	321	100.0	4.391

^a This category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.



Table 31.--Number of 1950 Graduates Presently (1964) Employed in Organizations in Which Relatives are Owners or Executives

Relationship	Structural Organization Size														
	1-200 Employees				201-1,000 Employees				Over 1,000 Employees						
	Bus. Ad.		L. A. & S.		χ^2	Bus. Ad.		L. A. & S.		χ^2	Bus. Ad.		L. A. & S.		
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
Father	12	16.2	3	10.3	0.341	2	10.0	2	12.5	0.000	0	0.0	0	0.0	0.000
Other															
Relative	5	6.8	3	10.3	0.667	1	5.0	0	0.0	0.000	0	0.0	0	0.0	0.000
None	57	77.0	23	79.4	0.000	17	85.0	14	87.5	0.000	92	100.0	55	100.0	0.000
Not Indicated	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000
Total	74	100.0	29	100.0	1.008	20	100.0	16	100.0	0.000	92	100.0	55	100.0	0.000

^a 20 Business Administration Graduates and 15 Liberal Arts and Science Graduates did not respond to the question concerning organization size, or were in military service or civil service during this time period.



Table 32. --Number of Organizations in Which 1950 Graduates have been Employed Since College Graduation (Including Present Organization)

Number of Organizations	Bus. Ad.		L. A. & S.		Total		χ^2
	No.	%	No.	%	No.	%	
1	57	27.8	35	30.4	92	28.7	0.189
2	53	25.7	25	21.7	78	24.3	0.501
3	35	17.0	26	22.6	61	19.0	1.137
4	26	12.6	11	9.6	37	11.5	0.475
5	19	9.2	10	8.7	29	9.0	0.000
6	11	5.3	4	3.5	15	4.7	0.300
7	4	1.9	2	1.7	6	1.9	0.000
8	0	0.0	1	0.9	1	0.3	0.000
9 or more	1	0.5	1	0.9	2	0.6	0.000
Total	206	100.0	115	100.0	321	100.0	2.602

Table 33. -- Position Levels Occupied by 1950 Graduates in Their Present (1964) Jobs

Position Level	Educational Program				χ^2
	Bus. Ad.		L. A. & S.		
	No.	%	No.	%	
1	0	0.0	1	0.9	1.000
2	9	4.4	5	4.3	0.000
3	60	29.1	23	20.0	2.557
4	43	20.9	32	27.8	1.445
5	74	35.9	39	34.0	0.038
Not indicated	20	9.7	15	13.0	0.488
Total	206	100.0	115	100.0	5.528

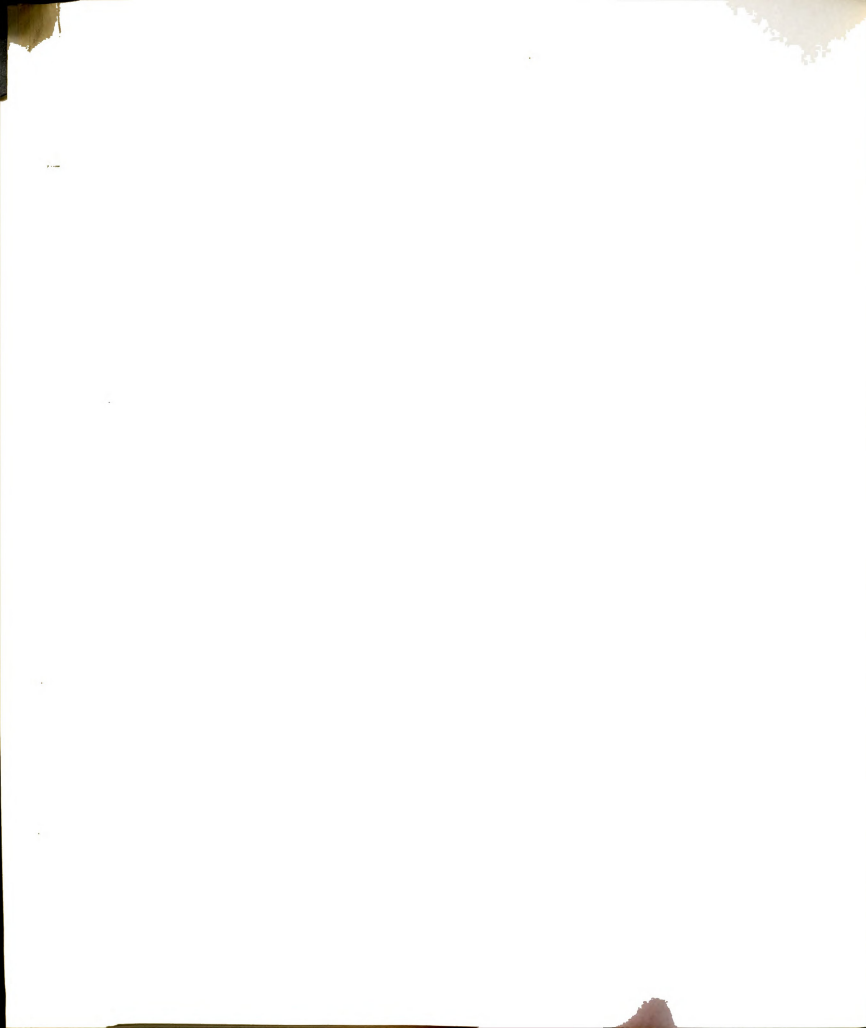


Table 34.--Distribution of Yearly Earnings of 1950 Graduates from Present (1964) Jobs^a

Yearly Earnings Category	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^b	36	17.5	21	18.3	57	17.8
Under \$4,000	1	0.5	0	0.0	1	0.3
4,000-4,999	0	0.0	0	0.0	0	0.0
5,000-5,999	1	0.5	1	0.9	2	0.6
6,000-6,999	4	1.9	4	3.5	8	2.5
7,000-7,999	8	3.9	4	3.5	12	3.7
8,000-8,999	15	7.3	9	7.8	24	7.5
9,000-9,999	14	6.8	6	5.2	20	6.2
10,000-10,999	27	13.1	13	11.3	40	12.5
11,000-11,999	16	7.8	12	10.4	28	8.7
12,000-12,999	10	4.9	15	13.0	25	7.8
13,000-13,999	11	5.3	3	2.6	14	4.4
14,000-14,999	11	5.3	8	7.0	19	5.9
15,000-15,999	14	6.8	2	1.7	16	5.0
16,000-16,999	6	2.9	1	0.9	7	2.2
17,000-17,999	4	1.9	0	0.0	4	1.2
18,000-18,999	4	1.9	3	2.6	7	2.2
19,000-19,999	2	1.0	3	2.6	5	1.5
20,000-50,000	22	10.7	10	8.7	32	10.0
Total	206	100.0	115	100.0	321	100.0

^aBusiness Administration mean yearly earnings = \$13,686.24; Liberal Arts and Science mean yearly earnings = \$13,459.89; $t = 0.2565$.

^bThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.

Table 35. -- Present (1964) Yearly Earnings Medians and Ranges for the 1950 Business Administration Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred

Rank	Socio-Economic Group	No.	%	Median Yearly Earnings	Yearly Earnings Range
1	Professional Persons	13 ^a	0.3	\$10,750	\$8,500 to 19,000
2	Proprietors, Managers, and Officials	100 ^b	48.5	12,000	2,700 to 50,000
3	Clerks and Kindred Workers	24 ^c	11.7	11,000	6,000 to 40,000
4	Skilled Workers and Foremen	33 ^d	16.0	11,750	6,300 to 23,500
5	Semi-Skilled Workers	28 ^e	13.6	11,750	5,600 to 24,590
6	Unskilled Workers	8 ^f	3.9	10,150	8,500 to 26,000
Total		206	100.0		

^a 12 Reported yearly earnings data.

^b 84 Reported yearly earnings data.

^c 21 Reported yearly earnings data.

^d 25 Reported yearly earnings data.

^e 22 Reported yearly earnings data.

^f 6 Reported yearly earnings data.

Table 36. --Present (1964) Yearly Earnings Medians and Ranges for the 1950 Liberal Arts and Science Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred

Rank	Socio-Economic Group	No.	%	Median Yearly Earnings	Yearly Earnings Range
1	Professional Persons	11 ^a	9.6	\$11,600	\$8,000 to 21,000
2	Proprietors, Managers, and Officials	58 ^b	50.4	11,270	6,900 to 40,000
3	Clerks and Kindred Workers	13 ^c	11.3	12,600	6,000 to 22,500
4	Skilled Workers and Foremen	24 ^d	20.9	12,000	5,800 to 19,800
5	Semi-Skilled Workers	5 ^e	4.3	11,250	6,300 to 13,000
6	Unskilled Workers	4 ^f	3.5	12,000	11,800 to 13,500
Total		115	100.0		

^a 9 Reported yearly earnings data.

^b 50 Reported yearly earnings data.

^c 9 Reported yearly earnings data.

^d 19 Reported yearly earnings data.

^e 4 Reported yearly earnings data.

^f 3 Reported yearly earnings data.

Table 37.--Present (1964) Yearly Earnings Medians and Ranges for the 1950 Business Administration Graduates by Grade-Point Average^a

Grade-Point Average	No.	%	Median Yearly Earnings	Yearly Earnings Range
1.00-1.19	82 ^b	39.8	\$10,500	\$5,600 to 40,000
1.20-1.39	56 ^c	27.2	13,000	6,000 to 30,000
1.40-1.59	31 ^d	15.1	11,500	2,700 to 32,500
1.60-1.79	19 ^e	9.2	10,000	7,500 to 40,000
1.80 and above	18 ^f	8.7	15,000	8,700 to 50,000
Total	206	100.0		

^a A = 3.00; B = 2.00; C = 1.00.^b 63 Reported yearly earnings data.^c 48 Reported yearly earnings data.^d 28 Reported yearly earnings data.^e 15 Reported yearly earnings data.^f 16 Reported yearly earnings data.



Table 38. -- Present (1964) Yearly Earnings Medians and Ranges for the 1950 Liberal Arts and Science Graduates by Grade-Point Average^a

Grade-Point Average	No.	%	Median Yearly Earnings	Yearly Earnings Range
1.00-1.19	41 ^b	35.6	\$12,000	\$6,300 to 40,000
1.20-1.39	36 ^c	31.3	10,550	5,800 to 32,000
1.40-1.59	14 ^d	12.2	14,000	8,950 to 45,000
1.60-1.79	17 ^e	14.8	12,450	8,000 to 35,000
1.80 and above	7	6.1	9,600	6,900 to 12,000
Total	115	100.0		

^aA = 3.00; B = 2.00; C = 1.00.

^b30 Reported yearly earnings data.

^c30 Reported yearly earnings data.

^d11 Reported yearly earnings data.

^e16 Reported yearly earnings data.

Table 39. --Present (1964) Yearly Earnings Medians and Ranges for the 1950 Business Administration Graduates by ACE Test Score

Test Score	No.	%	Median Yearly Earnings	Yearly Earnings Range
63.0-76.0	18 ^a	8.6	\$11,500	\$7,500 to 26,000
80.5-84.5	18 ^b	8.6	14,000	6,300 to 50,000
89.0-92.0	16 ^c	7.9	11,000	6,000 to 27,500
96.0-98.5	14 ^d	6.8	10,500	6,000 to 35,000
101.0-103.5	20 ^e	9.7	13,000	6,200 to 20,500
106.0-112.5	30 ^f	14.6	11,875	8,500 to 30,000
116.0-119.5	30 ^g	14.6	11,250	5,600 to 40,000
123.0-127.0	30 ^h	14.6	12,500	2,700 to 32,500
131.0-151.0	30 ⁱ	14.6	12,250	7,300 to 29,000
Total	206	100.0		

^a12 Reported yearly earnings data.

^b14 Reported yearly earnings data.

^c15 Reported yearly earnings data.

^d13 Reported yearly earnings data.

^e18 Reported yearly earnings data.

^f24 Reported yearly earnings data.

^g21 Reported yearly earnings data.

^h25 Reported yearly earnings data.

ⁱ28 Reported yearly earnings data.

Table 40.--Present (1964) Yearly Earnings Medians and Ranges for the 1950 Liberal Arts and Science Graduates by ACE Test Score

Test Score	No.	%	Median Yearly Earnings	Yearly Earnings Ranges
63.0-76.0	7 ^a	6.1	\$10,500	\$8,000 to 12,770
80.5-84.5	7 ^b	6.1	8,500	5,800 to 12,500
89.0-92.0	11 ^c	9.6	11,500	8,600 to 30,000
96.0-98.5	9 ^d	7.8	12,800	6,000 to 22,500
101.0-103.5	14 ^e	12.2	13,500	6,300 to 35,000
106.0-112.5	20 ^f	17.3	11,800	7,800 to 40,000
116.0-119.5	17 ^g	14.8	12,000	6,900 to 19,000
123.0-127.0	13	11.3	10,150	6,900 to 19,800
131.0-151.0	17 ^h	14.8	11,700	8,950 to 45,000
Total	115	100.0		

^a 6 Reported yearly earnings data.

^b 5 Reported yearly earnings data.

^c 8 Reported yearly earnings data.

^d 8 Reported yearly earnings data.

^e 13 Reported yearly earnings data.

^f 14 Reported yearly earnings data.

^g 13 Reported yearly earnings data.

^h 14 Reported yearly earnings data.

Table 41. --Present (1964) Position Level Medians and Ranges for the 1950 Business Administration Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred

Rank	Socio-Economic Group	No.	%	Median Position Level	Position Level Range
1	Professional Persons	13 ^a	6.3	4.5	2 to 5
2	Proprietors, Managers, and Officials	100 ^b	48.5	4	2 to 5
3	Clerks and Kindred Workers	24 ^c	11.7	4	2 to 5
4	Skilled Workers and Foremen	33 ^d	16.0	4.5	2 to 5
5	Semi-Skilled Workers	28 ^e	13.6	4	2 to 5
6	Unskilled Workers	8 ^f	3.9	4	3 to 5
Total		206	100.0		

^a 12 Reported data permitting a position level assignment.

^b 92 Reported data permitting a position level assignment.

^c 23 Reported data permitting a position level assignment.

^d 28 Reported data permitting a position level assignment.

^e 24 Reported data permitting a position level assignment.

^f 7 Reported data permitting a position level assignment.



Table 42. --Present (1964) Position Level Medians and Ranges for the 1950 Liberal Arts and Science Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred

Rank	Socio-Economic Group	No.	%	Median Position Level	Position Level Range
1	Professional Persons	11 ^a	9.6	4.5	3 to 5
2	Proprietors, Managers, and Officials	58 ^b	50.4	4	1 to 5
3	Clerks and Kindred Workers	13 ^c	11.3	4.5	3 to 5
4	Skilled Workers and Foremen	24 ^d	20.9	4.5	2 to 5
5	Semi-Skilled Workers	5	4.3	5	2 to 5
6	Unskilled Workers	4 ^e	3.5	5	3 to 5
Total		115	100.0		

^a 10 Reported data permitting a position level assignment.

^b 52 Reported data permitting a position level assignment.

^c 10 Reported data permitting a position level assignment.

^d 20 Reported data permitting a position level assignment.

^e 3 Reported data permitting a position level assignment.

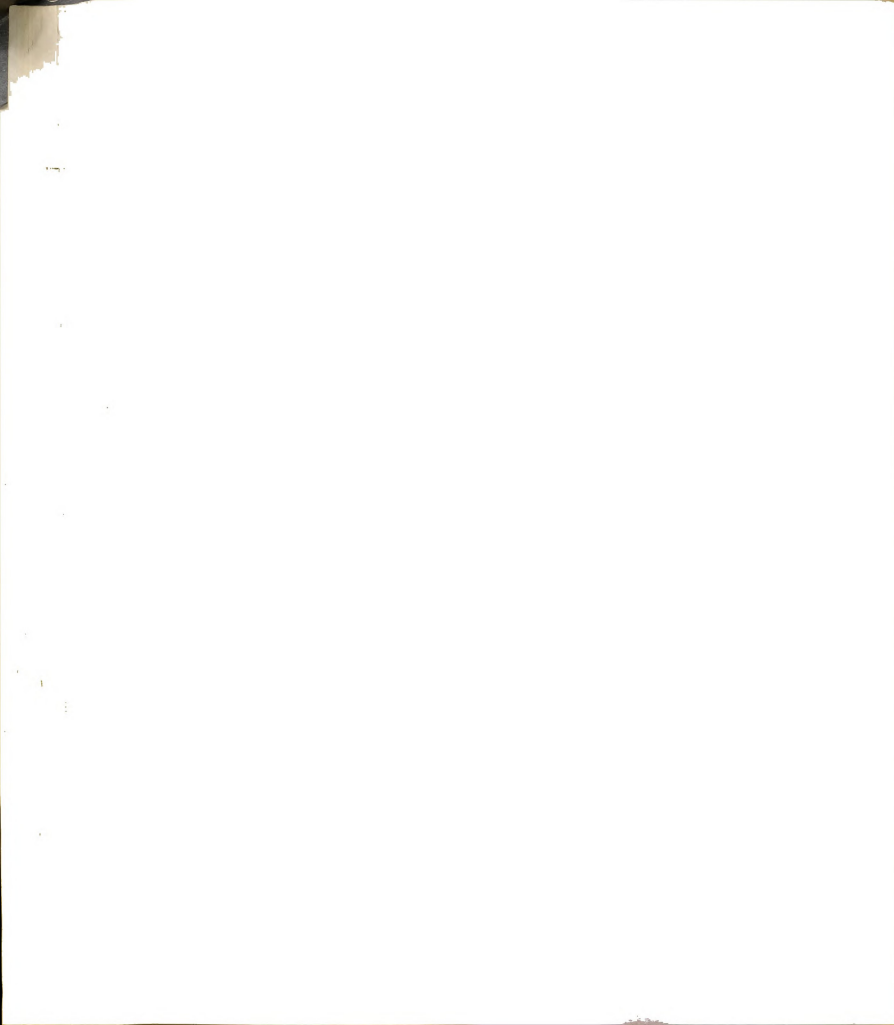


Table 43. -- Present (1964) Position Level Medians and Ranges for the 1950 Business Administration Graduates by Grade-Point Average^a

Grade-Point Average	No.	%	Median Position Level	Position Level Range
1.00-1.19	82 ^b	39.8	4	2 to 5
1.20-1.39	56 ^c	27.2	4	2 to 5
1.40-1.59	31 ^d	15.1	4	2 to 5
1.60-1.79	19 ^e	9.2	4	3 to 5
1.80 and above	18 ^f	8.7	3	2 to 5
Total	206	100.0		

^a A = 3.00; B = 2.00; C = 1.00.

^b 73 Reported data permitting a position level assignment.

^c 52 Reported data permitting a position level assignment.

^d 28 Reported data permitting a position level assignment.

^e 17 Reported data permitting a position level assignment.

^f 16 Reported data permitting a position level assignment.

Table 44. --Present (1964) Position Level Medians and Ranges for 1950 Liberal Arts and Science Graduates by Grade-Point Average^a

Grade-Point Average	No.	%	Median Position Level	Position Level Range
1.00-1.19	41 ^b	35.6	5	2 to 5
1.20-1.39	36 ^c	31.3	4	2 to 5
1.40-1.59	14 ^d	12.2	4	2 to 5
1.60-1.79	17 ^e	14.8	4	1 to 5
1.80 and above	7	6.1	5	4 to 5
Total	115	100.0		

^a A = 3.00; B = 2.00; C = 1.00.

^b 33 Reported data permitting a position level assignment.

^c 33 Reported data permitting a position level assignment.

^d 11 Reported data permitting a position level assignment.

^e 16 Reported data permitting a position level assignment.

Table 45.--Present (1964) Position Level Medians and Ranges for the 1950 Business Administration Graduates by ACE Test Score

Test Score	No.	%	Median Position Level	Position Level Range
63.0-76.0	18 ^a	8.6	5	3 to 5
80.5-84.5	18 ^b	8.6	4	2 to 5
89.0-92.0	16	7.9	3.5	2 to 5
96.0-98.5	14 ^c	6.8	5	3 to 5
101.0-103.5	20	9.7	4	3 to 5
106.0-112.5	30 ^d	14.6	4	2 to 5
116.0-119.5	30 ^e	14.6	4	2 to 5
123.0-127.0	30 ^f	14.6	4	2 to 5
131.0-151.0	30 ^g	14.6	4	2 to 5
Total	206	100.0		

^a 16 Reported data permitting a position level assignment.

^b 16 Reported data permitting a position level assignment.

^c 13 Reported data permitting a position level assignment.

^d 24 Reported data permitting a position level assignment.

^e 24 Reported data permitting a position level assignment.

^f 29 Reported data permitting a position level assignment.

^g 28 Reported data permitting a position level assignment.

Table 46.--Present (1964) Position Level Medians and Ranges for the 1950 Liberal Arts and Science Graduates by ACE Test Score

Test Score	No.	%	Median Position Level	Position Level Range
63.0-76.0	7	6.1	4	3 to 5
80.5-84.5	7 ^a	6.1	4	3 to 5
89.0-92.0	11 ^b	9.6	5	3 to 5
96.0-98.5	9	7.8	5	3 to 5
101.0-103.5	14 ^c	12.2	4	3 to 5
106.0-112.5	20 ^d	17.3	4	2 to 5
116.0-119.5	17 ^e	14.8	3	2 to 5
123.0-127.0	13	11.3	5	4 to 5
131.0-151.0	17 ^f	14.8	4	1 to 5
Total	115	100.0		

^a 5 Reported data permitting a position level assignment.

^b 9 Reported data permitting a position level assignment.

^c 13 Reported data permitting a position level assignment.

^d 15 Reported data permitting a position level assignment.

^e 14 Reported data permitting a position level assignment.

^f 15 Reported data permitting a position level assignment.

THE 1955 GRADUATES

Table 47.--Age of 1955 Graduates When Bachelor's Degree Conferred^a

Age When Bachelor's Degree Conferred	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
20	0	0.0	1	1.1	1	0.5
21	26	26.0	22	25.1	48	25.6
22	40	40.0	35	39.9	75	40.0
23	14	14.0	6	6.8	20	10.7
24	7	7.0	9	10.2	16	8.5
25	6	6.0	3	3.4	9	4.8
26	3	3.0	4	4.5	7	3.7
27	2	2.0	5	5.7	7	3.7
28	0	0.0	1	1.1	1	0.5
29	0	0.0	1	1.1	1	0.5
35	1	1.0	0	0.0	1	0.5
36	0	0.0	1	1.1	1	0.5
39	1	1.0	0	0.0	1	0.5
Total	100	100.0	88	100.0	188	100.0

^aBusiness Administration mean age = 22.720; Liberal Arts and Science mean age = 22.875; $t = -0.4321$.

Table 48. --Principal Occupations of the Fathers of the 1955 Graduates at the Time the Graduates Received the Bachelor's Degree

Occupation	Bus. Ad.		L. A. & S.		Total		
	No.	%	No.	%	No.	%	
Worker	Unskilled	2	2.0	2	2.3	4	2.1
	{ Semi-skilled	3	3.0	5	5.7	8	4.3
	{ Skilled	2	2.0	4	4.5	6	3.2
Farmer	{ Farm worker or small tenant	0	0.0	0	0.0	0	0.0
	{ Farm tenant with paid help.	0	0.0	0	0.0	0	0.0
	{ Farm owner without paid help	4	4.0	0	0.0	4	2.1
	{ Farm owner or manager with paid help	0	0.0	1	1.1	1	0.5
Clerk or retail salesman.	1	1.0	2	2.3	3	1.6	
Other salesman.	6	6.0	6	6.8	12	6.4	
Foreman or first line supervisor	7	7.0	6	6.8	13	6.9	
Minor executive (above supervisor but below department head).	7	7.0	9	10.2	16	8.5	
Major executive (department head and above).	12	12.0	12	13.7	24	12.9	
Owner, small business (100 employees or less).	36	36.0	24	27.4	60	32.0	
Owner, large business (over 100 employees).	3	3.0	1	1.1	4	2.1	
Profession	{ Doctor	2	2.0	4	4.5	6	3.2
	{ Engineer	4	4.0	3	3.4	7	3.7
	{ Lawyer	1	1.0	0	0.0	1	0.5
	{ Minister	1	1.0	0	0.0	1	0.5
	{ Professor.	2	2.0	1	1.1	3	1.6
	{ Public school teacher	1	1.0	0	0.0	1	0.5
{ Other (please specify)	2	2.0	2	2.3	4	2.1	
Other occupation (please specify)	4	4.0	6	6.8	10	5.3	
Total	100	100.0	88	100.0	188	100.0	

Table 49. --Socio-Economic Ranking of 1955 Graduates at the Time Bachelor's Degree Conferred^a

Rank	Socio-Economic Group	Bus. Ad.		L. A.		S.		Total	
		No.	%	No.	%	No.	%	No.	%
1	Professional Persons	13	13.0	10	11.4	23	12.2		
2	Proprietors, Managers, and Officials	64	64.0	52	59.0	116	61.7		
3	Clerks and Kindred Workers	9	9.0	9	10.2	18	9.6		
4	Skilled Workers and Foremen	9	9.0	10	11.4	19	10.1		
5	Semiskilled Workers	3	3.0	5	5.7	8	4.3		
6	Unskilled Workers	2	2.0	2	2.3	4	2.1		
Total		100	100.0	88	100.0	188	100.0		

^aBusiness Administration mean socio-economic rank = 2.31; Liberal Arts and Science mean socio-economic rank = 2.47; $t = -1.0455$.

Table 50. -- Distribution of ACE Test Scores Among the 1955 Graduates^a

Test Score	Bus. Ad.		L. A. & S.	
	No.	%	No.	%
49.0	0	0.0	2	2.3
62.0	0	0.0	2	2.3
73.0	2	2.0	0	0.0
76.0	2	2.0	3	3.4
85.0	3	3.0	1	1.1
86.5	2	2.0	3	3.4
88.5	6	6.0	4	4.5
94.5	3	3.0	3	3.4
96.5	0	0.0	2	2.3
98.5	3	3.0	0	0.0
100.0	3	3.0	5	5.7
100.5	2	2.0	5	5.7
102.0	2	2.0	7	8.1
106.0	5	5.0	1	1.1
107.0	0	0.0	1	1.1
107.5	0	0.0	1	1.1
111.0	3	3.0	4	4.5
111.5	4	4.0	4	4.5
112.5	21	21.0	14	16.1
113.5	0	0.0	1	1.1
116.5	0	0.0	2	2.3
123.0	4	4.0	6	6.9
123.5	9	9.0	1	1.1
124.0	3	3.0	1	1.1
126.0	9	9.0	5	5.7
127.0	1	1.0	0	0.0
127.5	1	1.0	1	1.1
131.5	1	1.0	2	2.3
134.5	0	0.0	1	1.1
136.5	5	5.0	1	1.1
138.5	1	1.0	2	2.3
142.0	2	2.0	1	1.1
149.0	1	1.0	1	1.1
152.0	1	1.0	0	0.0
160.0	0	0.0	1	1.1
161.0	1	1.0	0	0.0
Total	100	100.0	88	100.0

^aBusiness Administration mean score = 112.750; Liberal Arts and Science Mean Score = 107.710; $t = 1.8570$.



Table 51.--Distribution of Grade-Point Averages of the 1955 Graduates^a

Grade-Point Average	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
2.00-2.19	29	29.0	31	35.3	60	31.9
2.20-2.39	29	29.0	25	28.4	54	28.7
2.40-2.59	16	16.0	15	17.0	31	16.5
2.60-2.79	13	13.0	11	12.5	24	12.8
2.80-2.99	7	7.0	1	1.1	8	4.3
3.00-3.19	1	1.0	3	3.4	4	2.1
3.20-3.39	4	4.0	2	2.3	6	3.2
3.40-3.59	1	1.0	0	0.0	1	0.5
3.60-3.79	0	0.0	0	0.0	0	0.0
3.80-3.99	0	0.0	0	0.0	0	0.0
4.00	0	0.0	0	0.0	0	0.0
Total	100	100.0	88	100.0	188	100.0

^aA = 4.00; B = 3.00; C = 2.00.



Table 52. --Size of Organization in Which 1955 Graduates Secured Their First Full-Time Jobs Following College Graduation

Number of Employees	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^a	5	5.0	4	4.5	9	4.8
1-100	27	27.0	22	25.0	49	26.0
101-200	9	9.0	2	2.3	11	5.9
201-500	9	9.0	7	8.0	16	8.5
501-1,000	2	2.0	4	4.5	6	3.2
1,001-5,000	16	16.0	13	14.8	29	15.3
5,001-10,000	2	2.0	9	10.2	11	5.9
10,000-25,000	10	10.0	5	5.7	15	8.0
25,001-50,000	5	5.0	4	4.5	9	4.8
Over 50,000	15	15.0	18	20.5	33	17.6
Total	100	100.0	88	100.0	188	100.0

^aThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.

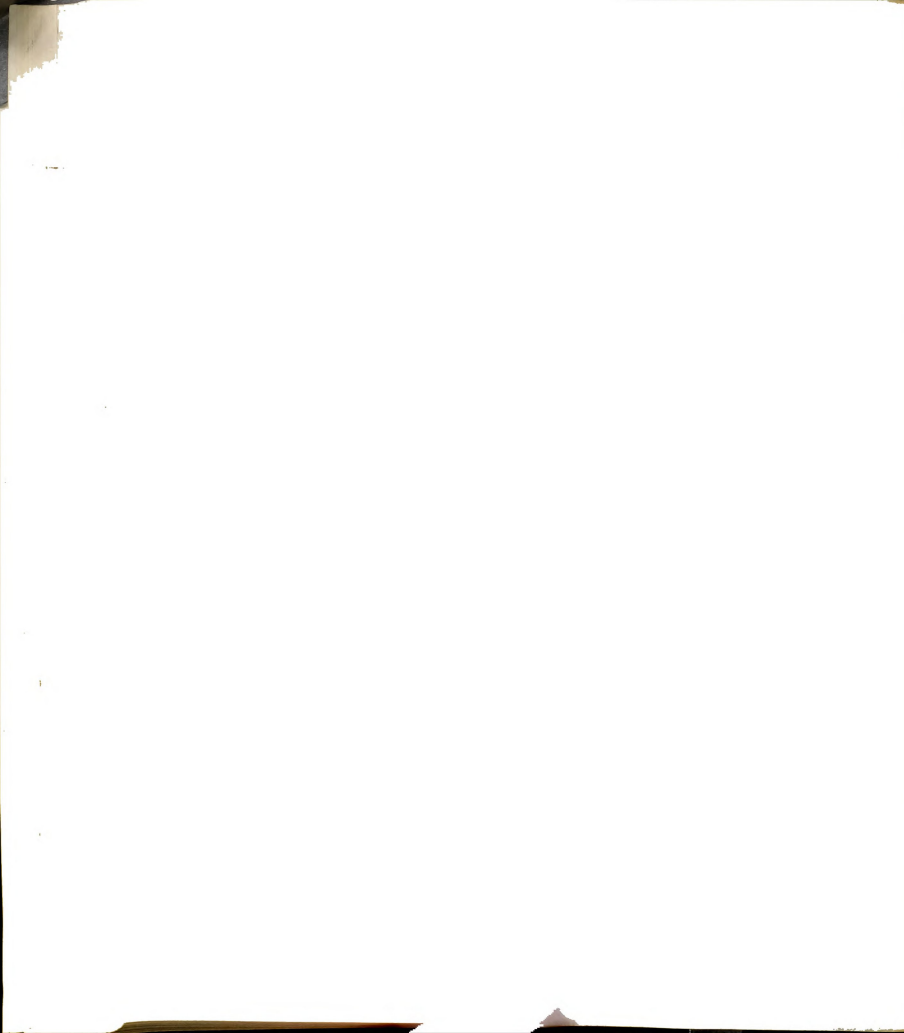


Table 53.--Distribution of 1955 Graduates by Structural Organization Size in Which Graduates Secured Their First Full-time Job Following College Graduation

Structural Organization Size	Bus. Ad.		L. A. & S.		Total		χ^2
	No.	%	No.	%	No.	%	
No Response ^a	5	5.0	4	4.5	9	4.8	0.000
1-200	36	36.0	24	27.3	60	31.9	1.071
201-1,000	11	11.0	11	12.5	22	11.7	0.000
Over 1,000	48	48.0	49	55.7	97	51.6	0.397
Total	100	100.0	88	100.0	188	100.0	1.468

^aThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to this question.



54. -- Number of 1955 Graduates Who Secured Their First Full-Time Jobs in Organizations in Which Relatives Were Owners or Executives^a

Relationship	Structural Organization Size														
	1-200 Employees			201-1,000 Employees			Over 1,000 Employees								
	Bus. Ad.	L. A. & S.	χ^2	Bus. Ad.	L. A. & S.	χ^2	Bus. Ad.	L. A. & S.	χ^2	Bus. Ad.	L. A. & S.	χ^2			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			
Father	13	36.1	6	25.0	0.864	1	9.1	0	0.0	0.000	0	0.0	1	2.0	0.000
Other															
Relative	1	2.8	2	8.3	1.500	0	0.0	1	9.1	0.000	1	2.1	0	0.0	0.000
None	22	61.1	16	66.7	0.110	10	90.9	10	90.9	0.000	47	97.9	48	98.0	0.000
Not															
Indicated	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000
Total	36	100.0	24	100.0	2.474	11	100.0	11	100.0	0.000	48	100.0	49	100.0	0.000

^a Five Business Administration Graduates and four Liberal Arts and Science Graduates did not respond to the question concerning organization size, or were in military service or civil service during this time period.



Table 55.--Position Levels Occupied by 1955 Graduates in First Full-Time Jobs Following College Graduation

Position Level	Educational Program				χ^2
	Bus. Ad.		L. A. & S.		
	No.	%	No.	%	
1	0	0.0	0	0.0	0.000
2	0	0.0	0	0.0	0.000
3	7	7.0	5	5.7	0.332
4	19	19.0	11	12.5	1.380
5	69	69.0	68	77.3	0.469
Not indicated	5	5.0	4	4.5	0.000
Total	100	100.0	88	100.0	2.181



Table 56.--Distribution of Yearly Earnings of 1955 Graduates From First Full-Time Job Following College Graduation^a

Yearly Earnings Category	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^b	6	6.0	6	6.8	12	6.4
Under \$3,000	3	3.0	2	2.3	5	2.7
3,000-3,999	13	13.0	10	11.4	23	12.2
4,000-4,999	40	40.0	33	37.5	73	38.8
5,000-5,999	24	24.0	18	20.5	42	22.3
6,000-6,999	12	12.0	9	10.2	21	11.2
7,000-7,999	0	0.0	6	6.8	6	3.2
8,000-8,999	0	0.0	3	3.4	3	1.6
9,000-9,999	2	2.0	0	0.0	2	1.1
10,000-10,999	0	0.0	1	1.1	1	0.5
11,000-11,999	0	0.0	0	0.0	0	0.0
12,000-12,999	0	0.0	0	0.0	0	0.0
Total	100	100.0	88	100.0	188	100.0

^aBusiness Administration mean yearly earnings = \$4,773.51; Liberal Arts and Science mean yearly earnings = \$5,053.05; $t = -1.4746$.

^bThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.



Table 57.--Size of Organization in Which 1955 Graduates Were Employed Five Years After College Graduation

Number of Employees	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^a	7	7.0	8	9.1	15	8.0
1-100	30	30.0	25	28.4	55	29.2
101-200	6	6.0	2	2.3	8	4.3
201-500	13	13.0	5	5.7	18	9.6
501-1,000	0	0.0	4	4.5	4	2.1
1,001-5,000	11	11.0	11	12.5	22	11.6
5,001-10,000	3	3.0	6	6.8	9	4.8
10,001-25,000	7	7.0	8	9.1	15	8.0
25,001-50,000	7	7.0	2	2.3	9	4.8
Over 50,000	16	16.0	17	19.3	33	17.6
Total	100	100.0	88	100.0	188	100.0

^aThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.



Table 58. --Distribution of 1955 Graduates by Structural Organization Size in Which Graduates were Employed Five Years After College Graduation

Structural Organization Size	Bus. Ad.		L. A. & S.		Total		χ^2
	No.	%	No.	%	No.	%	
No Response ^a	7	7.0	8	9.1	15	8.0	0.268
1-200	36	36.0	27	30.7	63	33.5	0.573
201-1,000	13	13.0	9	10.2	22	11.7	0.183
Over 1,000	44	44.0	44	50.0	88	46.8	0.215
Total	100	100.0	88	100.0	188	100.0	1.239

^aThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.



Table 1. -- Number of 1955 Graduates Employed in Organizations Five Years After College Graduation in Which Relatives Were Owners or Executives^a

Relationship	Structural Organization Size														
	1-200 Employees				201-1,000 Employees				Over 1,000 Employees						
	Bus. Ad. No.	L. A. & S. No.	%	χ^2	Bus. Ad. No.	L. A. & S. No.	%	χ^2	Bus. Ad. No.	L. A. & S. No.	%	χ^2			
Father	9	25.0	11	40.7	0.808	1	7.7	0	0.0	0.000	3	6.8	0	0.0	1.500
Other															
Relative	6	16.7	3	11.1	0.450	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000
None	21	58.3	13	48.2	0.121	12	92.3	9	100.0	0.000	41	93.2	44	100.0	0.047
Not															
Indicated	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000
Total	36	100.0	27	100.0	1.379	13	100.0	9	100.0	0.000	44	100.0	44	100.0	1.547

^a Seven Business Administration Graduates and eight Liberal Arts and Science Graduates did not respond to the question concerning organization size, or were in military service or civil service during this time period.



Table 60. --Position Levels Occupied by 1955 Graduates in Jobs Held Five Years Following College Graduation

Position Level	Educational Program				χ^2
	Bus. Ad.		L. A. & S.		
	No.	%	No.	%	
1	0	0.0	0	0.0	0.000
2	2	2.0	0	0.0	2.000
3	19	19.0	15	17.0	0.117
4	30	30.0	20	22.7	0.724
5	42	42.0	45	51.2	0.737
Not indicated	7	7.0	8	9.1	0.267
Total	100	100.0	88	100.0	3.845



Table 61.--Distribution of Yearly Earnings of 1955 Graduates From Job Held Five Years After College Graduation^a

Yearly Earnings Category	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^b	10	10.0	13	14.9	23	12.2
Under \$4,000	0	0.0	1	1.1	1	0.5
4,000-4,999	1	1.0	2	2.3	3	1.6
5,000-5,999	11	11.0	8	9.1	19	10.1
6,000-6,999	28	28.0	11	12.5	39	20.7
7,000-7,999	17	17.0	18	20.5	35	18.6
8,000-8,999	11	11.0	16	18.2	27	14.4
9,000-9,999	6	6.0	6	6.8	12	6.4
10,000-10,999	6	6.0	4	4.5	10	5.3
11,000-11,999	1	1.0	2	2.3	3	1.6
12,000-12,999	1	1.0	1	1.1	2	1.1
13,000-13,999	1	1.0	1	1.1	2	1.1
14,000-14,999	0	0.0	2	2.3	2	1.1
15,000-15,999	3	3.0	1	1.1	4	2.1
16,000-16,999	1	1.0	0	0.0	1	0.5
17,000-17,999	1	1.0	1	1.1	2	1.1
18,000-18,999	0	0.0	1	1.1	1	0.5
19,000-19,999	0	0.0	0	0.0	0	0.0
20,000-24,000	2	2.0	0	0.0	2	1.1
Total	100	100.0	88	100.0	188	100.0

^aBusiness Administration mean yearly earnings = \$8,179.11; Liberal Arts and Science mean yearly earnings = \$8,186.40; $t = -0.0149$.

^bThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.

Table 62.--Size of Organization in Which 1955 Graduates Are Presently (1964) Employed

Number of Employees	Bus. Ad.		L. A. & S.		Total	
	No.	%	No.	%	No.	%
No Response ^a	8	8.0	7	8.0	15	8.0
1-100	31	31.0	22	25.0	53	28.2
101-200	3	3.0	1	1.1	4	2.1
201-500	15	15.0	4	4.5	19	10.1
501-1,000	1	1.0	4	4.5	5	2.7
1,001-5,000	9	9.0	22	25.0	31	16.5
5,001-10,000	3	3.0	7	8.0	10	5.3
10,001-25,000	8	8.0	6	6.8	14	7.4
25,001-50,000	6	6.0	1	1.1	7	3.7
Over 50,000	16	16.0	14	16.0	30	16.0
Total	100	100.0	88	100.0	188	100.0

^aThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to this question.

Table 63. -- Distribution of 1955 Graduates by Structural Organization Size in Which Graduates are Presently (1964) Employed

Structural Organization Size	Bus. Ad.		L. A. & S.		Total		χ^2
	No.	%	No.	%	No.	%	
No Response ^a	8	8.0	7	8.0	15	8.0	0.000
1-200	34	34.0	23	26.1	57	30.3	1.126
201-1,000	16	16.0	8	9.1	24	12.8	1.510
Over 1,000	42	42.0	50	56.8	92	48.9	2.140
Total	100	100.0	88	100.0	188	100.0	4.776

^aThis category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.



Table 64. --Number of 1955 Graduates Presently (1964) Employed in Organizations in Which Relatives are Owners or Executives^a

Relationship	Structural Organization Size														
	1-200 Employees				201-1, 000 Employees				Over 1, 000 Employees						
	Bus. Ad.		L. A. & S.		χ^2	Bus. Ad.		L. A. & S.		χ^2	Bus. Ad.		L. A. & S.		
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
Father	10	29.4	9	39.1	0.216	1	6.3	0	0.0	0.000	2	4.8	0	0.0	2.000
Other															
Relative	4	11.8	2	8.7	0.000	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000
None	20	58.8	12	52.2	0.130	15	93.7	8	100.0	0.000	40	95.2	50	100.0	0.044
Not															
Indicated	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000	0	0.0	0	0.0	0.000
Total	34	100.0	23	100.0	0.346	16	100.0	8	100.0	0.000	42	100.0	50	100.0	2.044

^aEight Business Administration Graduates and seven Liberal Arts and Science Graduates did not respond to the question concerning organization size, or were in military service or civil service during this time period.



Table 65. -- Number of Organizations in Which 1955 Graduates have been Employed since College Graduation (Including Present Organization)

Number of Organizations	Bus. Ad.		L. A. & S.		Total		χ^2
	No.	%	No.	%	No.	%	
1	36	36.0	30	34.2	66	35.1	0.061
2	28	28.0	26	29.5	54	28.7	0.074
3	24	24.0	20	22.7	44	23.4	0.091
4	10	10.0	6	6.8	16	8.5	1.000
5	1	1.0	4	4.5	5	2.7	3.333
6	1	1.0	2	2.3	3	1.6	1.500
7	0	0.0	0	0.0	0	0.0	0.000
8	0	0.0	0	0.0	0	0.0	0.000
9 or more	0	0.0	0	0.0	0	0.0	0.000
Total	100	100.0	88	100.0	188	100.0	6.059

Table 66. -- Position Levels Occupied by 1955 Graduates in Their Present (1964) Jobs

Position Level	Educational Program				χ^2
	Bus. Ad.		L. A. & S.		
	No.	%	No.	%	
1	0	0.0	0	0.0	0.000
2	5	5.0	0	0.0	3.333
3	34	34.0	22	25.0	1.148
4	24	24.0	19	21.6	0.593
5	29	29.0	40	45.4	2.845
Not indicated	8	8.0	7	8.0	0.000
Total	100	100.0	88	100.0	7.919



Table 67.--Distribution of Yearly Earnings of 1955 Graduates From Present (1964) Job^a

Yearly Earnings Category	Bus. Ad.		L. A.		Total	
	No.	%	No.	%	No.	%
No Response ^b	11	11.0	11	12.5	22	11.7
Under \$4,000	0	0.0	0	0.0	0	0.0
4,000-4,999	0	0.0	3	3.4	3	1.6
5,000-5,999	0	0.0	1	1.1	1	0.5
6,000-6,999	2	2.0	1	1.1	3	1.6
7,000-7,999	12	12.0	10	11.4	22	11.7
8,000-8,999	12	12.0	8	9.1	20	10.6
9,000-9,999	12	12.0	6	6.8	18	9.6
10,000-10,999	12	12.0	8	9.1	20	10.6
11,000-11,999	5	5.0	7	8.1	12	6.4
12,000-12,999	12	12.0	12	13.7	24	12.8
13,000-13,999	3	3.0	3	3.4	6	3.2
14,000-14,999	1	1.0	6	6.8	7	3.7
15,000-15,999	7	7.0	5	5.7	12	6.4
16,000-16,999	2	2.0	1	1.1	3	1.6
17,000-17,999	0	0.0	1	1.1	1	0.5
18,000-18,999	2	2.0	0	0.0	2	1.1
19,000-19,999	1	1.0	1	1.1	2	1.1
20,000-42,000	6	6.0	4	4.5	10	5.3
Total	100	100.0	88	100.0	188	100.0

^a Business Administration mean yearly earnings = \$11,728.31; Liberal Arts and Science mean yearly earnings = \$11,751.56; $t = -0.0272$.

^b This category includes respondents who were in military service or civil service at this time period, as well as those who did not respond to the question.

Table 68. -- Present (1964) Yearly Earnings Medians and Ranges for the 1955 Business Administration Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred

Rank	Socio-Economic Group	No.	%	Median Yearly Earnings	Yearly Earnings Range
1	Professional Persons	13	13.0	\$9,000	\$7,000 to 21,000
2	Proprietors, Managers, and Officials	64 ^a	64.0	11,000	6,000 to 40,000
3	Clerks and Kindred Workers	9 ^b	9.0	10,000	8,500 to 15,500
4	Skilled Workers and Foremen	9 ^c	9.0	9,300	7,800 to 12,800
5	Semi-Skilled Workers	3 ^d	3.0	11,090	9,180 to 13,000
6	Unskilled Workers	2	2.0	9,700	8,400 to 11,000
Total		100	100.0		

^a 57 Reported yearly earnings data.

^b 7 Reported yearly earnings data.

^c 8 Reported yearly earnings data.

^d 2 Reported yearly earnings data.



Table 69. -- Present (1964) Yearly Earnings Medians and Ranges for the 1955 Liberal Arts and Science Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred

Rank	Socio-Economic Group	No.	%	Median Yearly Earnings	Yearly Earnings Range
1	Professional Persons	10	11.4	\$10,735	\$7,400 to 14,800
2	Proprietors, Managers, and Officials	52 ^a	59.0	11,650	4,800 to 42,000
3	Clerks and Kindred Workers	9 ^b	10.2	12,500	7,300 to 25,000
4	Skilled Workers and Foremen	10	11.4	11,140	7,500 to 15,000
5	Semi-Skilled Workers	5 ^c	5.7	8,050	5,400 to 10,000
6	Unskilled Workers	2	2.3	9,900	8,500 to 11,300
Total		88	100.0		

^a 45 Reported yearly earnings data.^b 7 Reported yearly earnings data.^c 4 Reported yearly earnings data.

Table 70. --Present (1964) Yearly Earnings Medians and Ranges for the 1955 Business Administration Graduates by Grade-Point Average^a

Grade-Point Average	No.	%	Median Yearly Earnings	Yearly Earnings Range
2.00-2.19	29 ^b	29.0	\$10,200	\$6,000 to 40,000
2.20-2.39	29 ^c	29.0	9,800	6,800 to 36,000
2.40-2.59	16 ^d	16.0	10,000	7,200 to 18,000
2.60-2.79	13	13.0	10,000	7,500 to 15,000
2.80 and above	13	13.0	10,200	7,000 to 15,500
Total	100	100.0		

^a A = 4.00; B = 3.00; C = 2.00.

^b 25 Reported yearly earnings data.

^c 25 Reported yearly earnings data.

^d 13 Reported yearly earnings data.

Table 71.--Present (1964) Yearly Earnings Medians and Ranges for the 1955 Liberals Arts and Science Graduates by Grade-Point Average^a

Grade-Point Average	No.	%	Median Yearly Earnings	Yearly Earnings Range
2.00-2.19	31 ^b	35.3	\$10,085	\$4,800 to 30,000
2.20-2.39	25 ^c	28.4	11,100	6,000 to 26,000
2.40-2.59	15 ^d	17.0	11,000	7,600 to 25,000
2.60-2.79	11	12.5	12,000	7,500 to 19,000
2.80 and above	6	6.8	10,750	4,870 to 42,000
Total	88	100.0		

^a A = 4.00; B = 3.00; C = 2.00.

^b 26 Reported yearly earnings data.

^c 21 Reported yearly earnings data.

^d 13 Reported yearly earnings data.



Table 72.--Present (1964) Yearly Earnings Medians and Ranges for the 1955 Business Administration Graduates by ACE Test Score

Test Score	No.	%	Median Yearly Earnings	Yearly Earnings Range
49.0-88.5	15 ^a	15.0	\$11,000	\$7,000 to 16,000
94.5-102.0	13 ^b	13.0	10,600	8,400 to 24,000
106.0-116.5	33 ^c	33.0	10,300	6,000 to 40,000
123.0-127.5	27 ^d	27.0	10,000	7,000 to 36,000
131.5-161.0	12	12.0	9,900	6,800 to 21,000
Total	100	100.0		

^a11 Reported yearly earnings data.

^b12 Reported yearly earnings data.

^c30 Reported yearly earnings data.

^d24 Reported yearly earnings data.

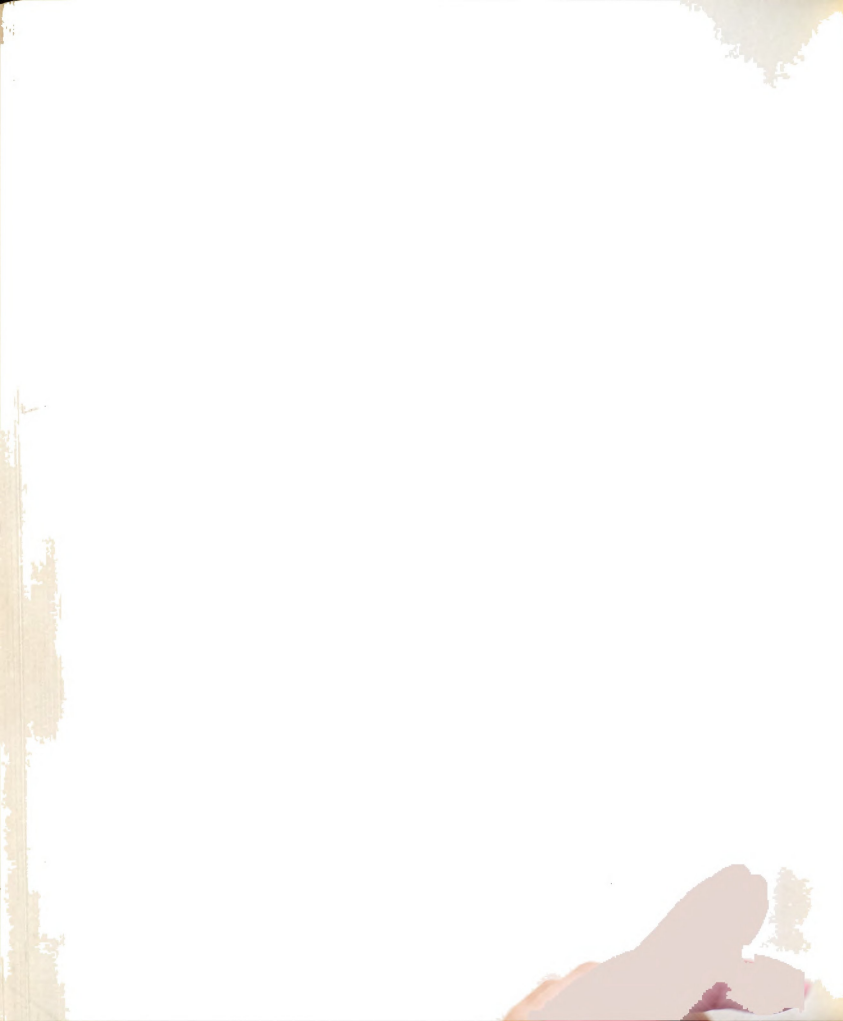


Table 73. --Present (1964) Yearly Earnings Medians and Ranges for the 1955 Liberal Arts and Science Graduates by ACE Test Score

Test Score	No.	%	Median Yearly Earnings	Yearly Earnings Range
49.0-88.5	15 ^a	17.0	\$11,780	\$8,500 to 30,000
94.5-102.0	22 ^b	25.2	9,385	4,800 to 17,500
106.0-116.5	28 ^c	31.8	10,650	6,000 to 26,000
123.0-127.5	14 ^d	15.9	12,000	11,000 to 42,000
131.5-161.0	9	10.1	10,000	7,500 to 16,000
Total	88	100.0		

^a11 Reported yearly earnings data.^b18 Reported yearly earnings data.^c26 Reported yearly earnings data.^d13 Reported yearly earnings data.

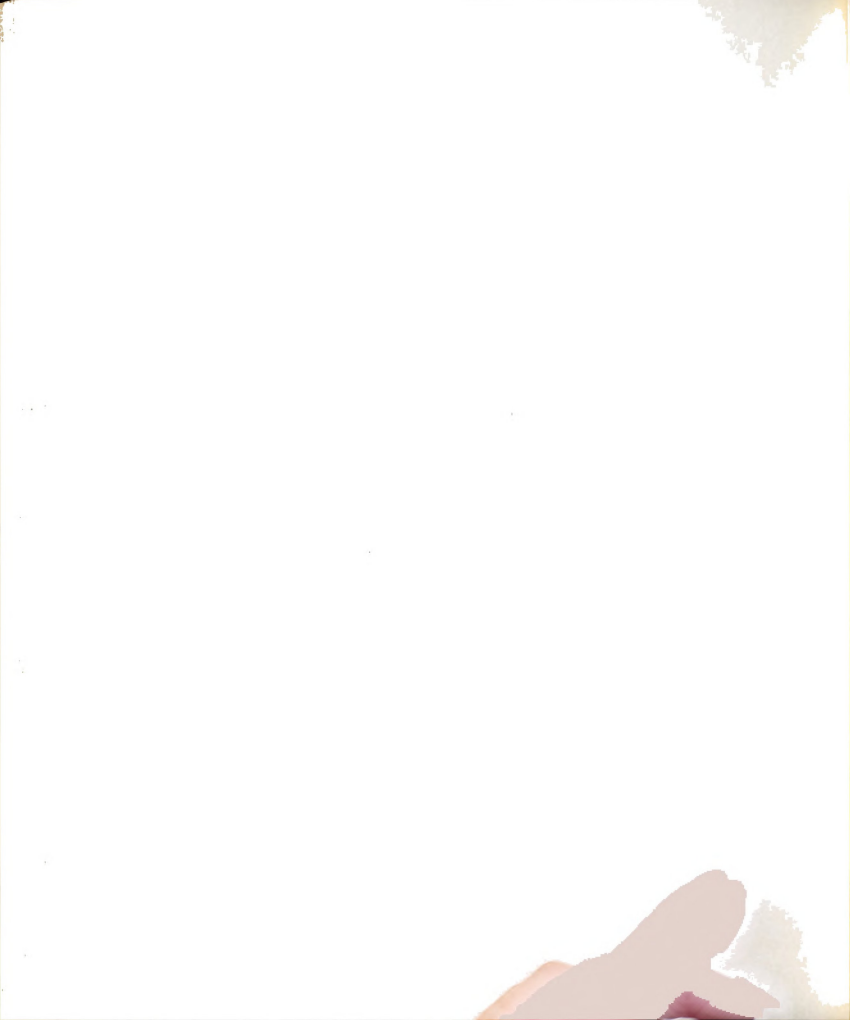


Table 74. -- Present (1964) Position Level Medians and Ranges for the 1955 Business Administration Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred

Rank	Socio-Economic Group	No.	%	Median Position Level	Position Level Range
1	Professional Persons	13	13.0	3	2 to 5
2	Proprietors, Managers, and Officials	64 ^a	64.0	4	2 to 5
3	Clerks and Kindred Workers	9 ^b	9.0	5	2 to 5
4	Skilled Workers and Foremen	9 ^c	9.0	4	3 to 5
5	Semi-Skilled Workers	3 ^d	3.0	4	3 to 5
6	Unskilled Workers	2	2.0	5	5
Total		100	100.0		

^a 59 Reported data permitting a position level assignment.

^b 8 Reported data permitting a position level assignment.

^c 8 Reported data permitting a position level assignment.

^d 2 Reported data permitting a position level assignment.

Table 75. --Present (1964) Position Level Medians and Ranges for the 1955 Liberal Arts and Science Graduates by Socio-Economic Rank at the Time Bachelor's Degree Conferred

Rank	Socio-Economic Group	No.	%	Median Position Level	Position Level Range
1	Professional Persons	10	11.4	5	3 to 5
2	Proprietors, Managers, and Officials	52 ^a	59.0	4	3 to 5
3	Clerks and Kindred Workers	9 ^b	10.2	5	3 to 5
4	Skilled Workers and Foremen	10	11.4	5	3 to 5
5	Semi-Skilled Workers	5 ^c	5.7	5	5
6	Unskilled Workers	2	2.3	4	3 to 5
Total		88	100.0		

^a 48 Reported data permitting a position level assignment.

^b 7 Reported data permitting a position level assignment.

^c 4 Reported data permitting a position level assignment.



Table 76. --Present (1964) Position Level Medians and Ranges for 1955 Business Administration Graduates by Grade-Point Average^a

Grade-Point Average	No.	%	Median Position Level	Position Level Range
2.00-2.19	29 ^b	29.0	4	3 to 5
2.20-2.39	29 ^c	29.0	3	2 to 5
2.40-2.59	16 ^d	16.0	3.5	3 to 5
2.60-2.79	13	13.0	4	2 to 5
2.80 and above	13	13.0	5	3 to 5
Total	100	100.0		

^a A = 4.00; B = 3.00; C = 2.00.

^b 25 Reported data permitting a position level assignment.

^c 27 Reported data permitting a position level assignment.

^d 14 Reported data permitting a position level assignment.



Table 77. --Present (1964) Position Level Medians and Ranges for 1955 Liberal Arts and Science Graduates by Grade-Point Average^a

Grade-Point Average	No.	%	Median Position Level	Position Level Range
2.00-2.19	31 ^b	35.3	4	3 to 5
2.20-2.39	25 ^c	28.4	5	3 to 5
2.40-2.59	15 ^d	17.0	5	3 to 5
2.60-2.79	11	12.5	4	3 to 5
2.80 and above	6	6.8	4	3 to 5
Total	88	100.0		

^aA = 4.00; B = 3.00; C = 2.00.

^b28 Reported data permitting a position level assignment.

^c23 Reported data permitting a position level assignment.

^d13 Reported data permitting a position level assignment.



Table 78.--Present (1964) Position Level Medians and Ranges for the 1955 Business Administration Graduates by ACE Test Score

Test Score	No.	%	Median Position Level	Position Level Range
49.0-88.5	15 ^a	15.0	4	3 to 5
94.5-102.0	13 ^b	13.0	4	3 to 5
106.0-116.5	33 ^c	33.0	4	3 to 5
123.0-127.5	27 ^d	27.0	4	2 to 5
131.5-161.0	12	12.0	5	3 to 5
Total	100	100.0		

^a12 Reported data permitting a position level assignment.

^b12 Reported data permitting a position level assignment.

^c30 Reported data permitting a position level assignment.

^d26 Reported data permitting a position level assignment.

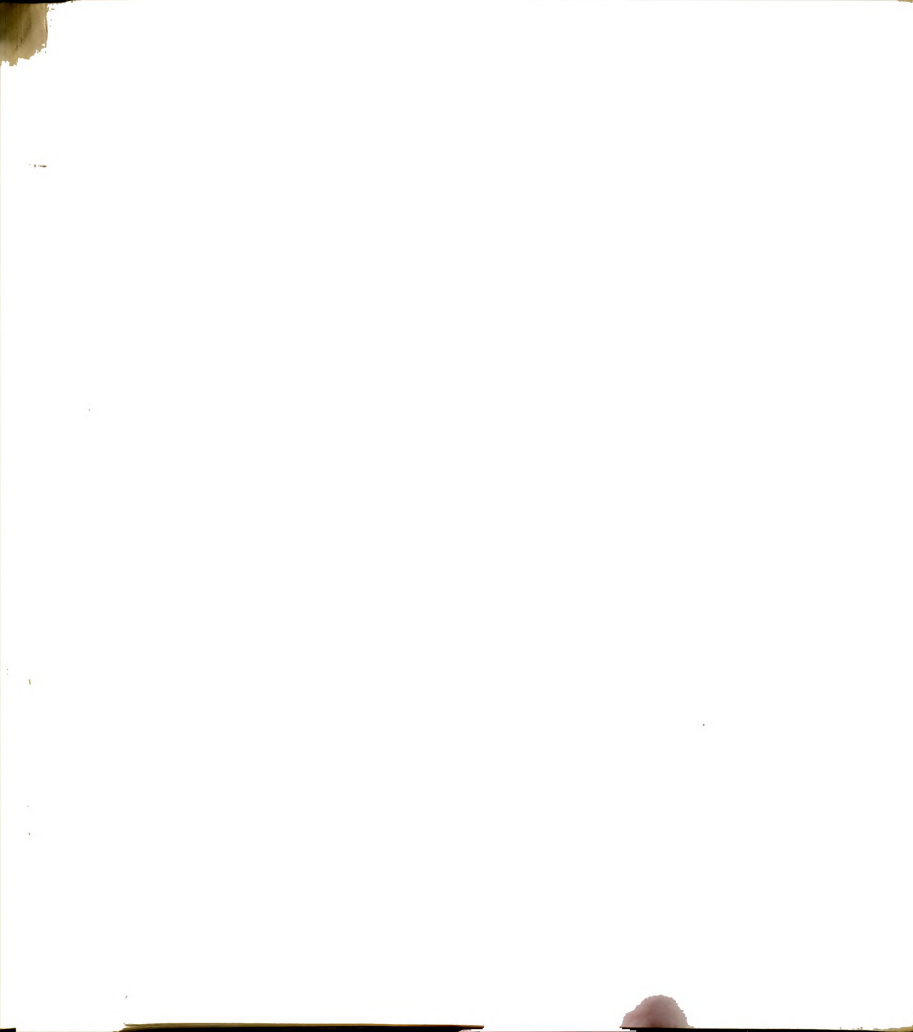


Table 79. --Present (1964) Position Level Medians and Ranges for the 1955 Liberal Arts and Science Graduates by ACE Test Score

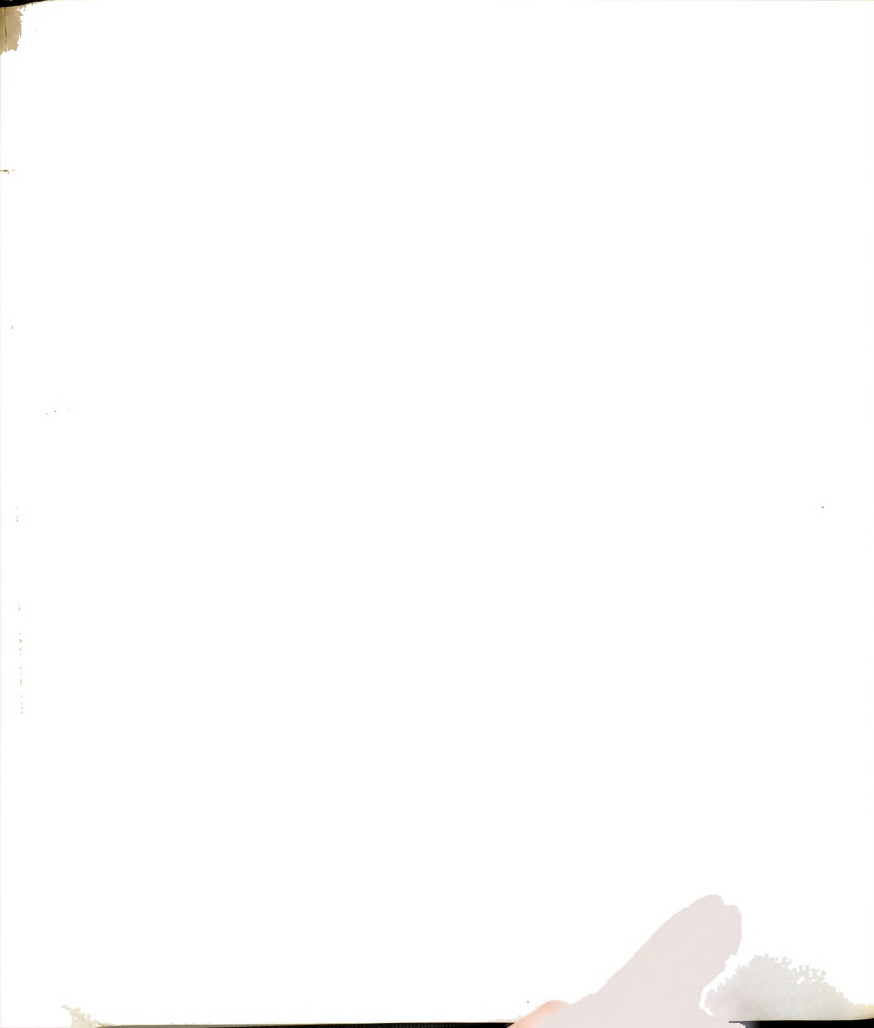
Test Score	No.	%	Median Position Level	Position Level Range
49.0-88.5	15 ^a	17.0	3	3 to 5
94.5-102.0	22 ^b	25.2	5	3 to 5
106.0-116.5	28 ^c	31.8	5	3 to 5
123.0-127.5	14 ^d	15.9	4	3 to 5
131.5-161.0	9	10.1	5	3 to 5
Total	88	100.0		

^a 13 Reported data permitting a position level assignment.

^b 19 Reported data permitting a position level assignment.

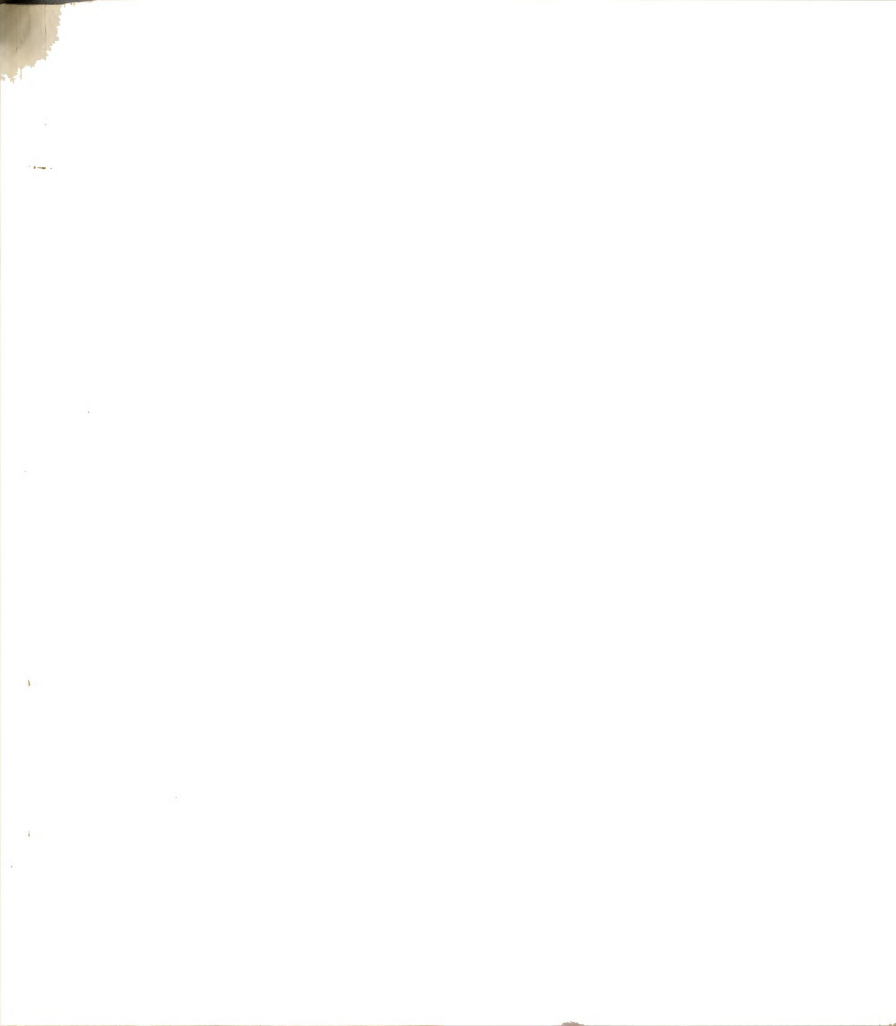
^c 27 Reported data permitting a position level assignment.

^d 13 Reported data permitting a position level assignment.



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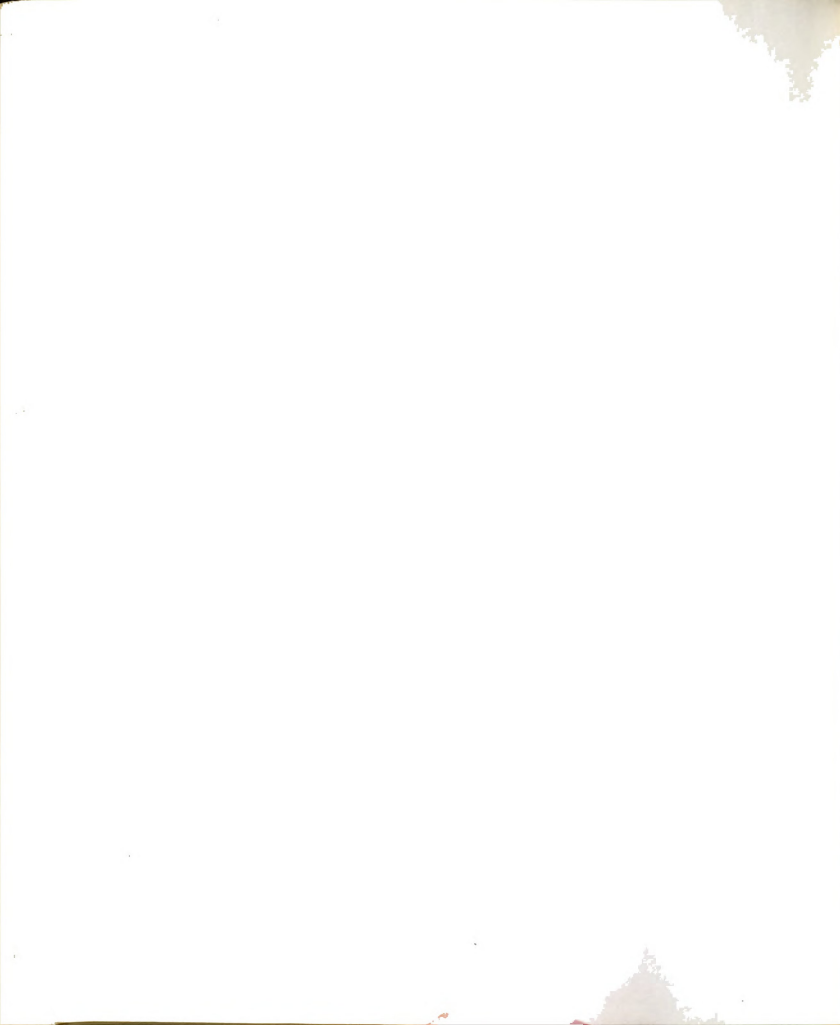
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