

R E P O R T R E S U M E S

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THE PROCESS AND PRODUCT OF T AND I HIGH SCHOOL LEVEL
VOCATIONAL EDUCATION IN THE UNITED STATES, THE PRODUCT.
BY- ENINGER, MAX U.

AMERICAN INST. FOR RESEARCH IN BEHAVIORAL SCIENCES

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DESCRIPTORS- *TRADE AND INDUSTRIAL EDUCATION, *HIGH SCHOOL GRADUATES, OPINIONS, VOCATIONAL HIGH SCHOOLS, COMPREHENSIVE HIGH SCHOOLS, NATIONAL SURVEYS, *GRADUATE SURVEYS, RACIAL CHARACTERISTICS, PILOT PROJECTS, *STUDENT ENROLLMENT, EMPLOYMENT, QUESTIONNAIRES, WAGES, GEOGRAPHIC REGIONS, *COMPARATIVE ANALYSIS, COUNSELORS, OCCUPATIONAL INFORMATION, JOB PLACEMENT, EDUCATIONAL EQUIPMENT, MALES, CITIZEN PARTICIPATION, POSTSECONDARY EDUCATION, ENROLLMENT INFLUENCES, OCCUPATIONAL MOBILITY, JOB SKILLS, PITTSBURGH

THE OBJECTIVES WERE--(1) TO DESCRIBE THE OCCUPATIONAL, EDUCATIONAL, AND RELATED EXPERIENCES OF TRADE AND INDUSTRIAL GRADUATES OF 1953, 1958, AND 1962, AND (2) TO COMPARE THE EXPERIENCES FOR VOCATIONAL AND ACADEMIC GRADUATES OF THE SAME CLASSES AND SCHOOLS. DATA WERE COLLECTED BY QUESTIONNAIRES FROM 5,327 VOCATIONAL GRADUATES AND 1,780 ACADEMIC GRADUATES WHO ATTENDED 100 HIGH SCHOOL IN EIGHT GEOGRAPHIC REGIONS OF THE UNITED STATES. THE DATA WERE ANALYZED AND PRESENTED IN TERMS OF--(1) GENERAL VERSUS VOCATIONAL EDUCATION, (2) VOCATIONAL VS. COMPREHENSIVE SCHOOLS, AND (3) SMALL VS. LARGE SCHOOLS. A 5 PERCENT CORRECTIVE SAMPLE WAS SELECTED FOR INTENSIVE FOLLOWUP OF NONRESPONDENTS, AND A SIMILAR SAMPLE WITH UNKNOWN ADDRESSES WAS PURSUED. DERIVED MEASURE INTERCORRELATIONS FOR 45 OCCUPATIONAL MEASURES, 28 NONOCCUPATIONAL MEASURES, AND 80 OCCUPATIONAL-NONOCCUPATIONAL MEASURES WERE OBTAINED BY THE PEARSON PRODUCT MOMENT CORRELATION METHOD. REASONS FOR NOT GETTING JOBS WERE NOT SIGNIFICANTLY DIFFERENT FOR VOCATIONAL AND COMPREHENSIVE GRADUATES. HELP IN FINDING THE FIRST JOB WAS OBTAINED FROM A FRIEND OR RELATIVE 38 PERCENT OF THE TIME AND FROM A COUNSELOR 5 PERCENT OF THE TIME. GRADUATES OF MEDIUM-SIZED SCHOOLS FELT LESS NEED FOR ADDITIONAL TRAINING IN BASIC SKILLS. THERE WAS NO SIGNIFICANT DIFFERENCE IN THE NUMBER OF FULL-TIME JOBS HELD BY ACADEMIC AND VOCATIONAL GRADUATES OR IN THEIR JOB SATISFACTION. (EM)

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September 1965

**Institute for Performance Technology
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Prepared By:

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SEPTEMBER 1965

**AMERICAN INSTITUTES FOR RESEARCH
Pittsburgh, Pennsylvania**

FOREWORD

" and the acid test of the quality of the vocational program is placement of graduates in the occupations for which they received instruction."

President's Panel of Consultants
Vocational Education, United States
Department of Health, Education and
Welfare

There have been many excellent studies of the placement of vocational graduates over the years. None have provided a nationwide picture. The present study aims to do so. Its primary purpose is to describe the essential occupational, educational and other dimensions of post-graduation experiences.

It is the intent of this report to bring the facts to the community of education with a minimum intrusion of researcher opinions, beliefs and attitudes. If some of the facts are provocative, the task will have been worthwhile.

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For making the study possible, and for giving the project freedom to determine and pursue its objectives, **THE FORD FOUNDATION** is warmly acknowledged.

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TABLE OF CONTENTS

Part I. Design and Procedure

| | |
|---|----------|
| I. GENERAL DESIGN OF CAREER FOLLOW-UP STUDY | Page 1-1 |
| II. QUESTIONNAIRE RETURNS AND SAMPLE CORRECTION | 2-1 |

Part II. Analysis of Data

| | |
|--|------|
| III. DERIVED MEASURES AND THEIR CHARACTERISTICS | 3-1 |
| IV. FACTORS RELATED TO VOCATIONAL COURSE SELECTION | 4-1 |
| V. THE FIRST FULL-TIME POST GRADUATION JOB | 5-1 |
| VI. EQUIPMENT, MATERIALS AND METHODS COMPARED | 6-1 |
| VII. ASSESSMENT OF SKILL ORIGINS AND REQUIREMENTS | 7-1 |
| VIII. GRADUATE'S RATINGS OF SCHOOL CHARACTERISTICS | 8-1 |
| IX. THEIR POST-HIGH SCHOOL OCCUPATIONAL HISTORY | 9-1 |
| X. THEIR POST-HIGH SCHOOL EDUCATIONAL HISTORY | 10-1 |
| XI. THEIR OFF THE JOB INTERESTS AND AFFILIATIONS | 11-1 |
| XII. MISCELLANEOUS FINDINGS ABOUT THE GRADUATES | 12-1 |
| XIII. APPENDIX | 13-1 |

TABLE OF TABLES

| TABLE | TITLE | PAGE |
|-------|---|------|
| 1. | Distribution of the Study's Population and Sample of Schools by Geographical Region | 1- 7 |
| 2. | Distribution of the Population and Sample Schools by Total Enrollment | 1- 8 |
| 3. | Distribution of the Population and Sample Schools by Type of School | 1- 8 |
| 4. | Maximum Numbers of Graduates Selected from Each Available Program at Each Comprehensive and Vocational School | 1-11 |
| 5. | Distribution of T & I Graduates Selected for Follow-up Study by Class Year and Type of School | 1-13 |
| 6. | Distribution of T & I Graduates Selected for Follow-up Study by Class Year and School Enrollment | 1-13 |
| 7. | Distribution of T & I Graduates Selected for Follow-up Study by Class Year and Geographic Region | 1-14 |
| 8. | Distribution of T & I Graduates Selected for Follow-up Study by Class Year and Trade | 1-15 |
| 9. | Number of T & I Graduates Selected from Each School for the Classes of 1953, 1958 and 1962, with Regional Subtotals | 1-17 |
| 10. | Schedule of Mail Contacts | 1-32 |
| 11. | Vocational Course Graduate Returns | 2- 2 |
| 12. | Academic Course Graduate Returns | 2- 3 |
| 13. | Frequency Distribution of Schools in Terms of Percentage of Address Unknown Cases by Year of Graduation | 2- 5 |
| 14. | Frequency Distribution of Schools in Terms of Percentage Returns (Based on Cases Contacted) by Year of Graduation | 2- 5 |
| 15. | Frequency Distribution of Schools in Terms of Respondents (Based on Cases Contacted) by Year of Graduation | 2- 6 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|-------|--|------|
| 16. | Vocational Graduate Returns by Type of School Attended | 2- 7 |
| 17. | Vocational Graduate Returns by Enrollment of Schools | 2- 8 |
| 18. | Vocational Graduate Returns by Type of Graduate | 2- 8 |
| 19. | Vocational Graduate Returns by Geographic Region | 2-10 |
| 20. | Vocational Graduate Returns by Race of Graduate | 2-11 |
| 21. | Distribution of Vocational and Academic Graduates by Year of Graduation (Usable Returns) | 2-13 |
| 22. | Distribution of T & I Graduates Who Returned Usable Questionnaires by Type of School and Year of Graduation | 2-14 |
| 23. | Distribution of T & I Graduates Who Returned Usable Questionnaires by School Enrollment and Year of Graduation | 2-15 |
| 24. | Correspondence Between School and Graduate Representation in School Enrollment Categories | 2-16 |
| 25. | Distribution of T & I Graduates Who Returned Usable Questionnaires by Region and Year of Graduation | 2-16 |
| 26. | Correspondence Between School and Graduate Representation Among the Eight Geographic Regions | 2-17 |
| 27. | Distribution of T & I Graduates Who Returned Usable Questionnaires by Race and Year of Graduation | 2-18 |
| 28. | Distribution of T & I Graduates Who Returned Usable Questionnaires by Class Year and Trade | 2-19 |
| 29. | Segment of Table Used to Select Five Percent Sample of Vocational Non-Respondents | 2-23 |
| 30. | Overall Returns from Five Percent Corrective Sample of Vocational Graduate Non-Respondents | 2-27 |
| 31. | Overall Returns from Five Percent Corrective Sample of Academic Graduate Non-Respondents | 2-27 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|--------------|--|-------------|
| 32. | Overall Results of the Five Percent Corrective Sample of Vocational Address Unknown Cases | 2-31 |
| 33. | Overall Results of the Five Percent Corrective Sample of Academic Address Unknown Cases | 2-31 |
| 34. | Split-Half Reliability Estimates, Uncorrected (R) and Corrected (R-SB) by the Spearman-Brown Formula | 3-25 |
| 35. | Frequency, Percentage and Cumulative Percentage Distributions of General Placement School Means | 3-26 |
| 36. | Stability Estimating Coefficients for Occupational and Non-Occupational Measures | 3-27 |
| 37. | Intercorrelations of Occupational Measure School Means for Each Year of Graduation Group (Vocational Graduates Only) | 3-31 |
| 38. | Intercorrelations of Non-Occupational Measure School Means for Each Year of Graduation Group (Vocational Graduates Only) of 1953, 1958 and 1962 | 3-38 |
| 38A. | Correlations Between Occupational and Non-Occupational Measure School Means for Each Year of Graduation Group (Vocational Graduates Only) | 3-42 |
| 39. | Class Year Comparison: Sources Acknowledged by Graduates to Have Influenced Type of Vocational Course Selected | 4- 4 |
| 40. | Class Year Comparison: Most Important Source of Influence on Type of Vocational Course Selected as Recalled by Graduates | 4- 5 |
| 41. | Related Placement and Job Relatedness Measures for Graduates Who Reported Parents, Teacher, Counselor, or Friend as the Most Important Influence on Type of Vocational Course Selected | 4- 8 |
| 42. | Type of School Comparison: Sources Acknowledged by Graduates to Have Influenced Type of Vocational Course Selected | 4- 9 |
| 43. | Type of School Comparison: Sources Reported as the Most Important Course Selection Influence | 4-10 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|-------|--|------|
| 44. | Enrollment Comparison: Sources Acknowledged by Graduates to Have Influenced Type of Vocational Course Selected | 4-13 |
| 45. | Enrollment Comparison: Sources Reported as the Most Important Course Selection Influence | 4-14 |
| 46. | Type of Graduate Comparison: Sources Acknowledged by Graduates to Have Influenced Type of Course Selected | 4-17 |
| 47. | Type of Graduate Comparison: Sources Reported as the Most Important Course Selection Influence | 4-19 |
| 48. | Type of Graduate Comparison: Sources Acknowledged by Graduates from Comprehensive Schools to have Influenced Type of Course Selected | 4-20 |
| 49. | Race Comparison: Sources Acknowledged by Graduates to Have Influenced Type of Vocational Course Selected | 4-21 |
| 50. | Race Comparison: Sources Reported by Graduates as the Most Important Influence on Vocational Course Selection | 4-23 |
| 51. | General Placement: Frequency Distribution for Vocational Course Graduates by Class Year (Based on Cases that Went Directly to Work) | 5- 3 |
| 52. | General Placement: Comparison of Comprehensive and Vocational Schools (Based on Cases that Went Directly to Work) | 5- 6 |
| 53. | General Placement: Comparison of School Total Enrollment Categories | 5- 7 |
| 54. | General Placement: Comparison of Vocational and Academic Graduates (Based on Cases that Went Directly to Work) | 5- 8 |
| 55. | General Placement: Comparison of Vocational and Academic Graduates from the Same Comprehensive Schools | 5- 9 |
| 56. | General Placement: Comparison of Race of Graduates | 5-10 |
| 57. | General Placement: Comparison of Eight Geographic Regions | 5-11 |
| 58. | Guide for Interpretation of Related Placement Measure | 5-13 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|-------|--|------|
| 59. | Related Placement: Frequency Distribution for Vocational Course Graduates by Class Year (Based on Cases that Went Directly to Work) | 5-14 |
| 60. | Trend in Number and Percentage of Vocational Graduates Placed in Four Categories of Relationship Between Trade Studied and First Full-Time Job | 5-16 |
| 61. | Related Placement: Comparison of Comprehensive and Vocational Schools | 5-18 |
| 62. | Comparison by Type of School: Number and Percentage of Graduates Placed in Four Categories of Relationship Between Trade Studied and First Full-Time Job | 5-19 |
| 63. | Related Placement: Comparison of School Total Enrollment Categories | 5-20 |
| 64. | Comparison by Enrollment: Number and Percentage of Graduates Placed in Four Categories of Relationship Between Trade Studied and First Full-Time Job | 5-21 |
| 65. | Related Placement: Comparison by Race of Vocational Graduates | 5-22 |
| 66. | Comparison by Race of Graduate: Number and Percentage of Graduates Placed in Four Categories of Relationship Between Trade Studied and First Full-Time Job | 5-23 |
| 67. | Related Placement: Comparison of Eight Geographic Regions | 5-24 |
| 68. | Reasons for Non-placement in Trade by Year of Graduation | 5-26 |
| 69. | Reasons for Non-placement in Trade by Type of School | 5-27 |
| 70. | Reasons for Non-placement in Trade by School Enrollment | 5-28 |
| 71. | Reasons for Non-placement in Trade by Race of Graduate | 5-29 |
| 72. | Graduate's Opinion of His Preparation for Trade by Year of Graduation | 5-31 |
| 73. | Graduate's Opinion of His Preparation for Trade by Type of School | 5-32 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|--------------|--|-------------|
| 74. | Graduate's Opinion of His Preparation for the Trade by School Enrollment | 5-33 |
| 75. | Methods Used to Get First Full-Time Job by Year of Graduation | 5-35 |
| 76. | Methods Used to Get First Full-Time Job by Type of School | 5-37 |
| 77. | Methods Used to Get First Full-Time Job by Type of Graduate | 5-38 |
| 78. | Methods Used to Get First Full-Time Job by Total School Enrollment | 5-39 |
| 79. | Methods Used to Get First Full-Time Job by Race of Graduate | 5-41 |
| 80. | Tools and Equipment: Comparability Analysis and Time Required to Learn What Was Very Much Different by Year of Graduation | 6- 3 |
| 81. | Work Methods: Comparability Analysis and Time Required to Learn What Was Very Much Different by Year of Graduation | 6- 5 |
| 82. | Work Materials: Comparability Analysis and Time Required to Learn What Was Very Much Different by Year of Graduation | 6- 6 |
| 83. | Tools and Equipment: Comparability Analysis and Time Required to Learn What Was Very Much Different by Type of School | 6- 8 |
| 84. | Work Methods: Comparability Analysis and Time Required to Learn What Was Very Much Different by Type of School | 6- 9 |
| 85. | Work Materials: Comparability Analysis and Time Required to Learn What Was Very Much Different by Type of School | 6-10 |
| 86. | Comparison of School Enrollment Categories in Terms of Weighted Average Scores of Comparability of Equipment, Methods and Materials and of Time Required to Learn What Was Very Much Different | 6-11 |
| 87. | Importance of Basic Skills: Mean Ratings by Year of Graduation (Based on graduates in the Trade or in Highly Related Trades) | 7- 4 |
| 88. | Importance of Basic Skills: Percentage by Response Category by Year of Graduation (Based on Graduates in the Trade or in Highly Related Trades) | 7- 8 |

TABLE OF TABLES (contd.)

| Table | TITLE | PAGE |
|-------|---|------|
| 89. | Importance of Basic Skills: Comparison of Comprehensive and Vocational Schools in Terms of Mean Ratings | 7- 9 |
| 90. | Importance of Basic Skills: Comparison of Total School Enrollment Categories in Terms of Mean Ratings | 7-10 |
| 91. | Amount of Skill Learned in High School: Ratings by Year of Graduation | 7-12 |
| 92. | Amount of Skill Learned in High School: Percentage by Response Category by Year of Graduation | 7-14 |
| 93. | Amount of Skill Learned in High School: Comparison of Comprehensive and Vocational Schools in Terms of Mean Ratings | 7-15 |
| 94. | Amount of Skill Learned in High School: Comparison of Total School Enrollment Categories in Terms of Mean Ratings | 7-16 |
| 95. | Acknowledged High School Learning: Frequency Distribution for Vocational Graduates by Year of Graduation | 7-20 |
| 96. | Acknowledged High School Learning: Comparison of Comprehensive and Vocational Schools | 7-21 |
| 97. | Acknowledged High School Learning: Comparison of Total School Enrollment Categories | 7-22 |
| 98. | Where Most Was Learned About Skill: Percentages by Response Category by Year of Graduation | 7-26 |
| 99. | Where Most Was Learned About Skill: Comparison of Comprehensive and Vocational Schools in Terms of Percentages by Response Category | 7-28 |
| 100. | Where Most Was Learned About Skill: Comparison of Total School Enrollment Categories in Terms of Percentages by Response Category | 7-30 |
| 101. | Need for Additional Skill Training: Percentages Reporting Such Need by Year of Graduation | 7-34 |
| 102. | Need for Additional Skill Training: Comparison of Comprehensive and Vocational Schools in Terms of Percentages Reporting Training Needs | 7-36 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|--------------|---|-------------|
| 103. | Need for Additional Skill Training: Comparison of Total School Enrollment Categories in Terms of Percentages Reporting Training Needs | 7-37 |
| 104. | Need for Additional Skill Training: Comparison of Top Ten Trades in Terms of Percentages Reporting Training Needs | 7-38 |
| 105. | Attitude Toward Former High School: Frequency Distribution for Vocational Graduates by Year of Graduation | 8- 2 |
| 106. | Attitude Indexes and Mean Ratings of the Related High School Factors by Year of Graduation | 8- 3 |
| 107. | Response Percentages, by Year of Graduation, to the Ten School Factors Rated by Vocational Graduates | 8- 5 |
| 108. | Attitude Indexes and Mean Ratings of the Related High School Factors by Type of School | 8- 7 |
| 109. | Response Percentages, by Type of School, to the Ten School Factors Rated by Vocational Graduates | 8- 8 |
| 110. | Attitude Indexes and Mean Ratings of the Related High School Factors by Size of School | 8- 9 |
| 111. | Response Percentages, by School Enrollment Categories, to the Ten School Factors Rated by Vocational Graduates | 8-10 |
| 112. | Attitude Indexes and Mean Ratings of the Related High School Factors by Race of Graduate | 8-11 |
| 113. | Response Percentages, by Race of Graduate, to the Ten School Factors Rated by Vocational Graduates | 8-13 |
| 114. | Attitude Indexes and Mean Ratings of the Related High School Factors by Type of Graduate | 8-14 |
| 115. | Attitude Toward Former High School: Frequency Distribution of School Means by Year of Graduation | 8-16 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|-------|---|------|
| 116. | Employment Security: Frequency Distributions for Vocational Course Graduates by Year of Graduation | 9- 4 |
| 117. | Employment Security: Comparison of Vocational and Comprehensive School Graduates | 9- 6 |
| 118. | Employment Security: Comparison of Small, Medium and Large Enrollment School Graduates | 9- 7 |
| 119. | Employment Security: Comparison of Graduates by Race | 9- 8 |
| 120. | Employment Security: Comparison of Vocational and Academic Graduates | 9- 9 |
| 121. | Employment Security: Comparison of Vocational and Academic Graduates | 9-10 |
| 122. | Employment Stability: Frequency Distributions for Vocational Course Graduates by Year of Graduation | 9-12 |
| 123. | Employment Stability: Comparison of Vocational and Comprehensive School Graduates | 9-13 |
| 124. | Employment Stability: Comparison of Small, Medium and Large Enrollment School Graduates | 9-14 |
| 125. | Employment Stability: Comparison of Graduates by Race | 9-15 |
| 126. | Employment Stability: Comparison of Vocational and Academic Graduates | 9-16 |
| 127. | Employment Stability: Comparison of Vocational and Academic Graduates | 9-17 |
| 128. | Number of Jobs Held: Frequency Distributions for Vocational Course Graduates by Year of Graduation | 9-20 |
| 129. | Number of Jobs Held: Comparison of Vocational and Comprehensive School Graduates | 9-21 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|--------------|--|-------------|
| 130. | Number of Jobs Held: Comparison of Small, Medium and Large Enrollment School Graduates | 9-22 |
| 131. | Number of Jobs Held: Comparison of Graduates by Race | 9-22 |
| 132. | Number of Jobs Held: Comparison of Vocational and Academic Graduates Who Have Had No College Education | 9-23 |
| 133. | Job Satisfaction: Frequency Distributions for Vocational Course Graduates by Year of Graduation | 9-26 |
| 134. | Job Satisfaction: Comparison of Vocational and Comprehensive School Graduates | 9-27 |
| 135. | Job Satisfaction: Comparison of Small, Medium and Large Enrollment School Graduates | 9-28 |
| 136. | Job Satisfaction: Comparison of Graduates by Race | 9-29 |
| 137. | Job Satisfaction: Comparison of Vocational and Academic Graduates | 9-30 |
| 138. | Job Satisfaction: Comparison of Vocational and Academic Graduates | 9-31 |
| 139. | Job Relatedness: Frequency Distributions for Vocational Course Graduates by Year of Graduation | 9-34 |
| 140. | Job Relatedness: Comparison of Vocational and Comprehensive School Graduates | 9-36 |
| 141. | Job Relatedness: Comparison of Small, Medium and Large Enrollment School Graduates | 9-37 |
| 142. | Job Relatedness: Comparison of Graduates by Race | 9-38 |
| 143. | Initial Earnings: Frequency Distributions for Vocational Course Graduates by Year of Graduation | 9-40 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | Page |
|-------|---|------|
| 144. | Initial Earnings: Comparison of Vocational and Comprehensive School Graduates | 9-41 |
| 145. | Initial Earnings: Comparison of Small, Medium and Large Enrollment School Graduates | 9-42 |
| 146. | Initial Earnings: Comparison of Graduates by Race | 9-43 |
| 147. | Initial Earnings: Comparison of Vocational and Academic Graduates | 9-43 |
| 148. | Initial Earnings: Comparison of Vocational and Academic Graduates with No College Education | 9-44 |
| 149. | Present Earnings: Frequency Distributions for Vocational Course Graduates by Year of Graduation | 9-48 |
| 150. | Present Earnings: Comparison of Vocational and Comprehensive School Graduates | 9-49 |
| 151. | Present Earnings: Comparison of Small, Medium and Large Enrollment School Graduates | 9-50 |
| 152. | Present Earnings: Comparison of Graduates by Race | 9-51 |
| 153. | Present Earnings: Comparison of Vocational and Academic Graduates | 9-52 |
| 154. | Present Earnings: Comparison of Vocational and Academic Graduates | 9-53 |
| 155. | Earnings Progression: Frequency Distributions for Vocational Course Graduates by Year of Graduation | 9-56 |
| 156. | Earnings Progression: Comparison of Vocational and Comprehensive School Graduates | 9-57 |
| 157. | Earnings Progression: Comparison of Small, Medium and Large Enrollment School Graduates | 9-58 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|--------------|--|-------------|
| 158. | Earnings Progression: Comparison of Graduates by Race | 9-59 |
| 159. | Earnings Progression: Comparison of Vocational and Academic Graduates | 9-60 |
| 160. | Kinds of Post-High School Education Reported by Vocational Graduates by Year of Graduation | 10- 1 |
| 161. | Kinds of Post-High School Education Reported by Vocational Graduates by Type of High School Attended | 10- 3 |
| 162. | Kinds of Post-High School Education Reported by Enrollment of High School Attended | 10- 4 |
| 163. | Kinds of Post-High School Education Reported by Race of Vocational Graduates | 10- 6 |
| 164. | Kinds of Post-High School Education Reported by Vocational Graduates by Type of Graduate | 10- 7 |
| 165. | College Education: Mean Total Accumulated Class Hours of Post-High School Education by Year of Graduation | 10-10 |
| 166. | College Education: Mean Total Accumulated Class Hours by Type of High School Attended | 10-11 |
| 167. | College Education: Mean Total Accumulated Class Hours by Race of Vocational Graduate | 10-12 |
| 168. | College Education: Mean Total Accumulated Class Hours by Race of Vocational Graduate | 10-13 |
| 169. | College Education: Mean Total Accumulated Class Hours by Type of High School Graduate | 10-14 |
| 170. | Non-College Education: Mean Total Accumulated Class Hours of Post-High School Education by Year of Graduation from High School | 10-16 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|-------|---|-------|
| 171. | Non-College Education: Mean Total Accumulated Class Hours of Post-High School Education by Type of High School Attended | 10-17 |
| 172. | Non-College Education: Mean Total Accumulated Class Hours of Post-High School Education by Enrollment of High School | 10-19 |
| 173. | Non-College Education: Mean Total Accumulated Class Hours of Post-High School Education by Race of High School Graduate | 10-20 |
| 174. | Non-College Education: Mean Total Accumulated Class Hours of Post-High School Education by Type of High School Attended | 10-21 |
| 175. | Conversational Interests Index: Frequency Distributions for Vocational Graduates by Year of Graduation | 11- 4 |
| 176. | Conversational Interest Indexes and Mean Frequency Ratings of Conversation Topics by Year of Graduation | 11- 6 |
| 177. | Conversational Interest Indexes and Mean Frequency Ratings of Conversation Topics by Type of School | 11- 7 |
| 178. | Conversational Interest Indexes and Mean Frequency Ratings of Conversation Topics by School Enrollment | 11- 9 |
| 179. | Conversational Interest Indexes and Mean Frequency Ratings of Conversation Topics by Race of Graduate | 11-10 |
| 180. | Conversational Interest Indexes and Mean Frequency Ratings of Conversation Topics by Type of Graduate | 11-12 |
| 181. | Conversational Interest Indexes and Mean Frequency Ratings of Conversation Topics by Type of Graduate | 11-14 |
| 182. | Leisure Activity Index: Frequency Distributions for Vocational Graduates by Year of Graduation | 11-16 |
| 183. | Leisure Activity Indexes and Mean Frequency Ratings of Leisure Activities by Year of Graduation | 11-18 |
| 184. | Leisure Activity Indexes and Mean Frequency Ratings of Leisure Activities by Type of School | 11-20 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|--------------|--|-------------|
| 185. | Leisure Activity Indexes and Mean Frequency Ratings of Leisure Activities by School Enrollment | 11-21 |
| 186. | Leisure Activity Indexes and Mean Frequency Ratings of Leisure Activities by Race of Graduate | 11-23 |
| 187. | Leisure Activity Indexes and Mean Frequency Ratings of Leisure Activities by Type of Graduate (All Graduates) | 11-25 |
| 188. | Leisure Activity Indexes and Mean Frequency Ratings of Leisure Activities by Type of Graduate (Comprehensive Only) | 11-28 |
| 189. | Organization Affiliation Index: Frequency Distributions for Vocational Graduates by Year of Graduation | 11-30 |
| 190. | Organization Affiliation Indexes and Mean Frequency Ratings of Organization Affiliation by Year of Graduation | 11-32 |
| 191. | Organization Affiliation Indexes and Mean Frequency Ratings of Organization Affiliation by Type of School | 11-33 |
| 192. | Organization Affiliation Indexes and Mean Frequency Ratings of Organization Affiliation by School Enrollment | 11-35 |
| 193. | Organization Affiliation Indexes and Mean Frequency Ratings of Organization Affiliation by Race of Graduate | 11-36 |
| 194. | Organization Affiliation Indexes and Mean Frequency Ratings of Organization Affiliation by Type of Graduate (All Graduates) | 11-38 |
| 195. | Organization Affiliation Indexes and Mean Frequency Ratings of Organization Affiliation by Type of Graduate (Comprehensive Schools Only) | 11-39 |
| 196. | Number of Moves to Other Cities: Frequency Distributions for Vocational Graduates by Year of Graduation | 12- 2 |
| 197. | Job Mobility Index: Frequency Distributions for Vocational Graduates by Year of Graduation | 12- 4 |
| 198. | Distances Moved for Employment: Frequency Distribution for Vocational Graduates by Year of Graduation | 12- 5 |

TABLE OF TABLES (contd.)

| TABLE | TITLE | PAGE |
|-------|---|-------|
| 199. | Job Mobility Index: Comparison of Vocational and Comprehensive School Vocational Graduates | 12- 6 |
| 200. | Job Mobility Index: Comparison of Small, Medium and Large Enrollment School Vocational Graduates | 12- 7 |
| 201. | Job Mobility Index: Comparison by Race of Vocational Graduates | 12- 7 |
| 202. | Job Mobility Index: Comparison of Vocational and Academic Graduates with no College Education | 12- 9 |
| 203. | Ordinal Day of Questionnaire Return: Frequency Distribution for Vocational Graduates by Year of Graduation | 12-12 |
| 204. | Ordinal Day of Questionnaire Return: Comparison of Vocational and Comprehensive School Vocational Graduates | 12-13 |
| 205. | Ordinal Day of Questionnaire Return: Comparison of Small, Medium and Large Enrollment School Vocational Graduates | 12-14 |
| 206. | Ordinal Day of Questionnaire Return: Comparison by Race of Vocational Graduates | 12-15 |
| 207. | Ordinal Day of Questionnaire Return: Comparison of Vocational and Academic Graduates | 12-16 |
| 208. | Military Service Claimed: Comparison of Vocational Graduates by Year of Graduation | 12-17 |
| 209. | Military Service Claimed: Comparison of Vocational Graduates from Vocational and Comprehensive Schools | 12-18 |
| 210. | Military Service Claimed: Comparison of Vocational Graduates of Small, Medium and Large Enrollment Schools | 12-18 |
| 211. | Military Service Claimed: Comparison by Race of Graduate | 12-19 |
| 212. | Military Service Claimed: Comparison of Vocational and Academic Graduates | 12-20 |

TABLE OF FIGURES

| FIGURE | TITLE | PAGE |
|--------|--|------|
| 1. | Geographical Distribution of High Schools | 1-10 |
| 2. | Mailing Control Card | 1-34 |
| 3. | Front and Back of Non-Respondent Card Used to Influence a Questionnaire Return | 2-25 |
| 4. | Front and Back of Address Unknown Card Used to Locate Address Unknowns | 2-29 |
| 5. | Relationship Between Annual U.S. Rate of Unemployment and the General Placement Measure for 1953, 1958, and 1962 Graduates | 5- 5 |
| 6. | Relationship Between Related Placement Measure and U.S. Rate of Unemployment for the Years 1953, 1958, and 1962 | 5-15 |
| 7. | Relationship Between Annual U.S. Rate of Unemployment and Percentage of Graduates Placed in the Trade Studied and in Completely Unrelated Trades | 5-17 |



GENERAL DESIGN OF CAREER FOLLOW-UP STUDY

| | |
|--|-----------|
| <input type="checkbox"/> Objectives and Issues | 1 |
| <input type="checkbox"/> School and Graduate Selection | 7 |
| <input type="checkbox"/> The Survey Questionnaires | 19 |
| <input type="checkbox"/> The Survey Procedure | 31 |

CHAPTER 1 SUMMARY

Objectives and Issues

1. Objectives. The primary objectives are to (1) describe the products of vocational education; i.e., the occupational, educational, and other experiences of vocational graduates; (2) describe the process of vocational education; i.e., relevant characteristics of schools offering vocational programs; and (3) establish the relationships between process and product variables. This volume is concerned with the first objective only.
2. Issues. Data will be organized in relation to three major issues: (1) general versus vocational education, (2) vocational versus comprehensive schools, and (3) small versus large enrollment schools. Each issue generates an independent variable in terms of which product variables are analyzed.

Selection of School and Graduates

3. Selection of schools. One hundred high schools offering three or more T&I courses were selected as a stratified random sample to represent the country as a whole. The sample was stratified by region, school enrollment, and type of school.
4. Selection of graduates. About 10,000 male graduates were randomly selected from the graduating classes of 1953, 1958, and 1962 for follow-up study. Consult the text for a detailed description of the sampling procedure and the sample.

The Survey Questionnaires

5. Survey questionnaires. A four-page follow-up questionnaire was developed for T&I vocational graduates, and also for academic-course graduates. Consult the text for exhibits.

The Survey Procedures

6. Questionnaire mailing schedule. A relatively massed seven-contact mailing schedule was adopted. Contacts included letters and postcards signed by school personnel. Consult the text for exhibits.

OBJECTIVES AND ISSUES

Introduction

After high school, then what? No less than 20 follow-up studies of vocational course graduates have sought to answer this question in the past fifteen years. For the most part, the studies have been well conceived, and the data provided has been useful. However, all are characterized by a major limitation. They are based upon samples which do not permit generalizations about vocational education in the United States as a whole. Most were limited to graduates from specific schools or school districts. Some can claim to be state-wide surveys. One, the North Atlantic Region Survey, covered graduates from a thirteen state area, including some of the most heavily industrialized states in the country.

The narrowness of the samples upon which previous follow-up studies have been based provided a major part of the motivation behind the present study. It is the first attempt at a nationwide survey of trade and industry (T & I) vocational course graduates based upon a representative sample of high schools offering three or more of such courses.

This report provides the results of that study. It describes the salient post-high school occupational and educational experiences of 5,500 graduates of high school level trade and industry vocational courses. It also compares their experiences with those of 1,800 academic course graduates who attended the same comprehensive high schools attended by half of the vocational course graduates.

Objectives

The basic objectives of the follow-up study herein reported were as follows:

1. To describe the essential dimensions of occupational, educational and other relevant experiences of a nationwide sample of T & I vocational course graduates from the classes of 1953, 1958, and 1962.

2. To compare vocational and academic course graduates from the same schools and graduating classes in terms of post-high school occupational, educational, and other relevant experiences.

In addition, the study provides data for three other objectives:

3. To determine the relationships between (1) school characteristics of curriculum, instructional methods, facilities, teacher personnel, student services and other relevant factors and (2) measures reflecting the post-high school occupational and educational experiences of vocational course graduates.
4. To determine the relationships between (1) the characteristics of vocational course graduates as revealed by school records and (2) measures reflecting post-high school occupational and educational achievement.
5. To determine the relationships between (1) measures of employment opportunity that characterize the region served by the school and (2) measures reflecting the post-high school occupational and educational achievement of vocational course graduates.

The present report is concerned with the first two objectives only. The findings relative to the other objectives will be discussed in a separate report.

Relevant Issues

When confronted with presenting research findings that have a bearing on important and controversial issues, the researcher has a choice. He can organize and present his findings so they are directly tied to the major issues. Or, he can pursue a more cautious route by presenting his findings in such a way that the reader is challenged to see the relationships between findings and issues. For the sake of stimulating both discussion and further research, this report takes the less cautious route. What were regarded as major issues in vocational education are met head-on in the data analyses.

There are strong temptations to the researcher who must write a report such as this to interject personal beliefs and opinions, particularly those that imply or call for remedial action to improve the quality of vocational education. Such temptations have been categorically rejected. The primary purpose of this report is to present the data and data-supported generalizations from the nationwide follow-up study of T & I graduates. It is essential that the findings be presented to the reader in as neutral and as objective a manner as possible. It is left to the reader to draw whatever implications for action there are in the data.

The data are analyzed and presented in terms of three major issues:

1. General vs. vocational education. We live in a world of rapidly changing technology. Occupations are born, grow to maturity, and become obsolescent within single generations, particularly at the semi-skilled level. If anything, the future promises even more rapid change. One reaction to this state of affairs has been a more vigorous insistence on advantages of a general as opposed to a vocational education. This viewpoint maintains that a general education provides a broad multi-directional base for whole families of occupations whereas vocational education ties individuals to occupational skills that are increasingly likely to become obsolescent.

The opposing viewpoint maintains that what is needed is more, not less, vocational education at the high school and post-high school level. It is pointed out that the majority of those who complete a general education still do not go to college. And, of those that do, a substantial percentage do not complete their college education. The end result, it is claimed, is that hundreds of thousands graduate from high schools ill-equipped to face the problem of finding jobs. Vocational education would be more realistic.

Again, the many specific pros and cons that stud the general versus vocational education issue are not here the concern.

The concern is with the implied but rarely stated question, "Does the type of high school education completed, i.e. general or vocational, make for significant differences in post-high school occupational or educational experiences, and in characteristics of the 'whole' individual?" The present study seeks to provide an answer in terms of major potential points of difference. It is unlikely that the issue will be resolved by the findings of this study. At the best, some long overdue data may move the issue off dead center.

2. Vocational vs. comprehensive type school. There is one viewpoint that maintains the "straight" vocational school is too narrow in its concept of high school education, that the direction of educational progress should be away from such schools toward the comprehensive high school in which presumably the student can obtain a broader academic base at the same time that he learns vocational skills. Many specific advantages are claimed for the comprehensive high school, e.g. more adequate preparation for post-high school education, superior instruction in non-vocational subjects, greater opportunity for extracurricular activities, and even less likelihood of discrimination in employment.

The opposing viewpoint maintains that the "straight" vocational school has all the advantages of a single-minded dedication to vocational education, that vocational education does not take a back seat to the college preparatory program that comprises the major emphasis of the comprehensive high school. Again, many specific advantages are claimed, e.g. closer ties with community employers, higher standards of what constitutes adequate vocational education, counseling geared to vocational education rather than college preparatory programs, and avoidance of instilling a sense of inferiority in the vocational program student that occurs when he is one of a small minority in a comprehensive school.

The merits of the specific advantages claimed and disadvantages denied are not here the concern. Behind the many viewpoints pro and

con either type of school, there is the implied but never stated question, "Does the type of high school, i.e. comprehensive or vocational, make for significant differences in post-high school occupational and educational experiences, and in the characteristics of the 'whole' individual?" The present study examines some of the major potential points of difference for the purpose of injecting some broadly-based data into the issue. Undoubtedly, the issue will continue to be a lively one in the vocational education community.

3. Small vs. large enrollment schools. The size of educational institutions is increasingly a controversial issue. True, the issue is at the present more visibly focused on the college and university level, but the theme is played at all levels of the educational ladder. The small school viewpoint stresses what is lost when "bigness" takes over, e.g. loss of close contact between student and teacher, dwindling of teacher-inspired motivation, deterioration of the quality of instruction and administration that loses "contact" with the student as an individual.

The large school viewpoint stresses the greater economies, the superior facilities, the wider choice of curriculum, the improved student services such as counseling and remedial education, and other advantages claimed for large enrollment schools.

Again, the concern here is not with the many-time repeated claims for and against small and large enrollment schools. The concern is with the basic question underlying the issue, "Does high school enrollment size make for significant differences in post-high school occupational and educational experiences, and in the characteristics of the 'whole' individual?" The present study examines major potential points of difference in terms of the enrollment variable.

In addition to the independent variables implied by the three issues cited above, the study explores selectively the effect upon post-high school occupational and educational experience of such variables as race, region, post-graduation mobility, and year of graduation.

It should be pointed out that the primary objective of the study is not to provide data on controversial issues. The primary objective remains a factual description of the essential dimensions of occupational, educational and other relevant experiences of a nationwide sample of T & I vocational course graduates. The analyses of the data in terms of issue-related variables is a part of the descriptive task rather than a special endeavor to be provocative.

SCHOOL AND GRADUATE SELECTION

Selection of Schools

The vocational course graduates were selected from 50 comprehensive high schools and 50 vocational and/or technical high schools located in 38 states. The schools were selected as follows: The population of comprehensive and vocational high schools in the United States that offered three or more T & I vocational courses was identified by means of the U. S. Office of Education 1961-62 directory, Preparatory Trade and Industrial Training Programs in Public Schools. The directory was updated by asking state directors of vocational education to provide more recent information about high school vocational course offerings in their states. The survey indicated that there were 667 public high schools in the United States offering three or more high school level T & I vocational courses. The number and percent of such schools in each of eight geographical regions is shown in Table 1.

From the population of 667 schools offering three or more T & I vocational courses, a stratified random sample of 100 schools was selected. The strata were geographical regions, total school enrollment, and type of school, i.e., comprehensive, vocational, technical, and vocational-technical.

Table 1 shows the regional distribution of both the population and the 100 school sample. Each region is represented in the sample in approximate proportion to its contribution to the United States total.

Table 1. DISTRIBUTION OF THE STUDY'S POPULATION AND SAMPLE OF SCHOOLS BY GEOGRAPHICAL REGION. (U. S. Office of Education Regions)

| Geographical Regions | Population | | Sample | |
|-----------------------|------------|-------------|------------|------------|
| | Number | Percent | Number | Percent |
| 1. New England | 72 | 10.8 | 11 | 11 |
| 2. Midwest | 162 | 24.3 | 24 | 24 |
| 3. Great Lakes | 100 | 15.0 | 15 | 15 |
| 4. Plains | 48 | 7.2 | 7 | 7 |
| 5. Southeast | 196 | 29.4 | 29 | 29 |
| 6. Southwest | 54 | 8.1 | 8 | 8 |
| 7. Rocky Mountain | 8 | .2 | 1 | 1 |
| 8. Far West & Pacific | 27 | 4.5 | 5 | 5 |
| UNITED STATES | 667 | 99.5 | 100 | 100 |

Table 2 shows the distribution of population and sample schools in the three total enrollment categories. Again, each enrollment category is represented in the sample in approximate proportion to its representation in the population.

Table 2. DISTRIBUTION OF THE POPULATION AND SAMPLE SCHOOLS BY TOTAL ENROLLMENT

| Enrollment | Population | | Sample | |
|----------------|------------|---------|--------|---------|
| | Number | Percent | Number | Percent |
| 1-499 | 177 | 26.5 | 30 | 30 |
| 500-1499 | 284 | 42.5 | 40 | 40 |
| 1500 and above | 206 | 30.9 | 30 | 30 |
| UNITED STATES | 667 | 99.9 | 100 | 100 |

Table 3 shows the distribution of population and sample schools in type of school categories. Each type of school is represented in the sample in approximate proportion to its representation in the population. Half of the sample consisted of comprehensive schools; the other half consisted of vocational schools, all types.

Table 3. DISTRIBUTION OF THE POPULATION AND SAMPLE SCHOOLS BY TYPE OF SCHOOL

| Type of School | Population | | Sample | |
|----------------------|------------|---------|--------|---------|
| | Number | Percent | Number | Percent |
| Vocational | 162 | 24.3 | 27 | 27 |
| Technical | 55 | 8.2 | 9 | 9 |
| Vocational-technical | 79 | 11.8 | 14 | 14 |
| Comprehensive | 371 | 55.6 | 50 | 50 |
| UNITED STATES | 667 | 99.9 | 100 | 100 |

The schools were randomly selected within each stratification category.¹ Figure 1 shows the geographical distribution of the schools. The titles and city locations of the schools are listed in the Appendix.

The 100 schools were visited in the Spring and Fall of 1964 by two-man data-collecting teams. During these visits, graduates from the classes of 1953, 1958, and 1962 were selected for follow-up study.

Selection of Graduates

Two restrictions were applied to the selection of graduates. The first restriction was to select only male graduates. This was done because males, unlike females, were more likely to be either gainfully employed or seeking such employment as long as ten years after graduation from high school. The decision was in no way regarded as a reflection on the worthwhileness of a follow-up study of female graduates.

The second restriction was to limit the follow-up study and report to graduates of T & I vocational courses. It was recognized that the primary criterion for the selection of the schools, i.e., a curriculum of three or more T & I vocational courses, would result in a non-representative sample of schools from the standpoint of other types of vocational programs such as agriculture, distributive education and commercial programs. Graduates of the latter type of programs were selected for exploratory purposes only, as a preliminary to possible future study based upon a representative sampling.

Table 4 shows the maximum number of graduates that were to be selected from each school, assuming the school offered such programs. It was not expected that each school would generate the maximums indicated in the table.

¹The principle of randomness was violated in the case of six schools which were replacements for schools initially selected. Factors beyond the control of investigators influenced the selection of these schools.

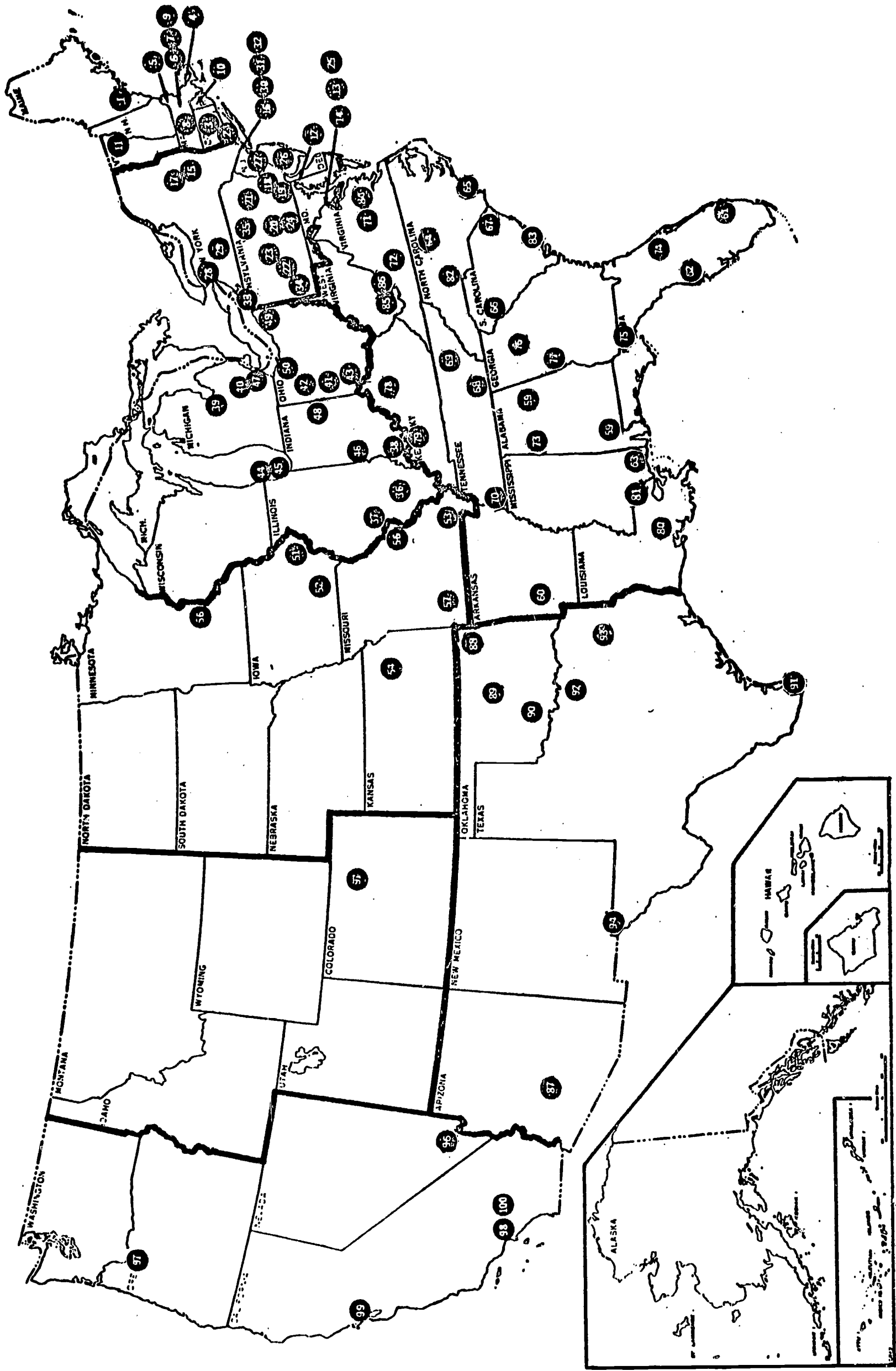


Figure 1. GEOGRAPHICAL DISTRIBUTION OF HIGH SCHOOLS. The number of schools selected from each region was proportional to the region's contribution of qualified schools to the United States total of such schools. (See text for details.)

Table 4. MAXIMUM NUMBERS OF GRADUATES SELECTED FROM EACH AVAILABLE PROGRAM AT EACH COMPREHENSIVE AND VOCATIONAL SCHOOL

| Type of Program | Graduating Classes | | |
|---------------------------|--------------------|------------|------------|
| | 1953 | 1958 | 1962 |
| Trade and industry | 50 | 50 | 50 |
| Diversified cooperative | 25 | 25 | 25 |
| Distributive education | 25 | 25 | 25 |
| Vocational agriculture | 25 | 25 | 25 |
| Commercial/business | 25 | 25 | 25 |
| Academic (non-vocational) | 25 | 25 | 25 |
| SCHOOL MAXIMUM | 175 | 175 | 175 |

The procedure for the selection of graduates was as follows:

1. The schools were contacted and asked to have alphabetized rosters of graduates ready for the visiting A·I·R team. A special roster form was provided to insure that graduates would be alphabetized by type of course and class year. A specimen form is shown in the Appendix section.
2. At the school, A·I·R personnel made the selection of names from the rosters of graduates. If the number of graduates for each available program was less than the maximums indicated in Table 4, all graduates were selected. If the number of graduates was more than the maximums to be selected, the procedure was to select every Nth graduate so as to get the desired number.

The procedure varied slightly for T & I courses. The maximum was obtained by taking approximately an equal number of graduates from each T & I course offered. In practice, it was not always possible to draw an equal number of graduates from each T & I course because of wide variation in the number of graduates from each course.

3. Once the names were selected, home addresses from school records were recorded on the roster forms. School personnel were asked to provide a more recent address if they knew of one. Addresses of parents, relatives or employers were accepted where the original school record address was in doubt or known to be incorrect. Graduates known to be deceased or institutionalized were replaced with other names.

The schools varied widely in their ability to provide updated addresses. Very few made an effort to maintain contact with graduates. It was more often the case that an individual instructor made such an effort on his own initiative.

4. A final screening of graduate names took place after the schools were visited. Incomplete addresses were removed. A small number of female graduates that escaped prior attention were also removed. Telephone directories were checked for more recent addresses for 1953 graduates when the school was unable to provide a more recent address.

Description of Sample Selected

A distinction is made between the sample of graduates initially selected for follow-up study and the actual sample as determined by questionnaire returns. The latter sample is described in Chapter 2. The initial sample selected is described in this section in terms of T & I graduates only.

Table 5 shows the distribution of T & I graduates by type of school and class year. The number of graduates selected from vocational schools was greater than comprehensive school graduates because of the smaller graduating classes among the latter schools.

**Table 5. DISTRIBUTION OF T & I GRADUATES SELECTED FOR FOLLOW-UP STUDY
BY CLASS YEAR AND TYPE OF SCHOOL**

| Type of School | YEAR OF GRADUATION | | | | | | | |
|-------------------------|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Vocational | 1779 | 60.4 | 2002 | 54.7 | 2379 | 56.7 | 6160 | 57.0 |
| Comprehensive | 1166 | 39.6 | 1659 | 45.3 | 1820 | 43.3 | 4645 | 43.0 |

Table 6 shows the distribution of T & I graduates by school enrollment category and class year. The percentages of all graduates by enrollment category is a reflection of the 30-40-30 distribution of schools by enrollment category.

**Table 6. DISTRIBUTION OF T & I GRADUATES SELECTED FOR FOLLOW-UP STUDY
BY CLASS YEAR AND SCHOOL ENROLLMENT ***

| School Enrollment | YEAR OF GRADUATION | | | | | | | |
|--------------------------|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Less than 500 | 1021 | 34.7 | 1146 | 31.3 | 1370 | 32.6 | 3537 | 32.7 |
| 500 - 1500 | 1119 | 38.0 | 1432 | 39.1 | 1553 | 37.0 | 4104 | 38.0 |
| More than 1500 | 805 | 27.3 | 1083 | 29.6 | 1276 | 30.4 | 3164 | 29.3 |

* As of October, 1963.

Table 7 shows the distribution of T & I graduates by geographic region and class year. The percentages of all graduates for the geographic regions corresponds remarkably with the percentage distribution of schools by geographic region. The Southeast, for example, contributed 29 percent of the total school sample and 27.5 percent of the total T & I graduate sample selected for follow-up. The correspondence was entirely the product of applying the selection principles described in the previous section.

Table 7. DISTRIBUTION OF T & I GRADUATES SELECTED FOR FOLLOW-UP STUDY
BY CLASS YEAR AND GEOGRAPHIC REGION

| Geographic Region | YEAR OF GRADUATION | | | | | | | |
|-----------------------|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Northeast | 345 | 11.7 | 426 | 11.6 | 500 | 11.9 | 1271 | 11.8 |
| Mideast | 809 | 27.5 | 971 | 26.5 | 1042 | 24.8 | 2822 | 26.1 |
| Great Lakes | 384 | 13.0 | 556 | 15.2 | 683 | 16.3 | 1623 | 15.0 |
| Plains | 301 | 10.2 | 283 | 7.7 | 371 | 8.8 | 955 | 8.8 |
| Southeast | 803 | 27.3 | 1038 | 28.4 | 1133 | 27.0 | 2974 | 27.5 |
| Southwest | 128 | 4.3 | 215 | 5.9 | 255 | 6.1 | 598 | 5.5 |
| Rocky Mountains . . . | 21 | 0.7 | 31 | 0.8 | 36 | 0.8 | 88 | 0.8 |
| Pacific | 154 | 5.2 | 141 | 3.8 | 179 | 4.3 | 474 | 4.4 |

Table 8 shows the distribution of T & I graduates by trade and class year. In rank order, the five most frequently drawn upon trades were automobile mechanics (15.2%), machinist (14.9%), electrician (10.9%), drafting (7.1%), and printing (7.0%). The percentages reflect indirectly the relative frequency with which courses were offered in the one hundred school sample.

Table 8. DISTRIBUTION OF T & I GRADUATES SELECTED FOR FOLLOW-UP STUDY
BY CLASS YEAR AND TRADE *

| Trade and Industry Trades | 1953 | | 1958 | | 1962 | | Combined | |
|--|------|------|------|------|------|------|----------|------|
| | N | % | N | % | N | % | N | % |
| Automotive mechanics | 412 | 14.0 | 565 | 15.4 | 668 | 15.9 | 1645 | 15.2 |
| Auto body repair | 42 | 1.4 | 58 | 1.6 | 84 | 2.0 | 184 | 1.7 |
| Airplane power mechanics | 37 | 1.2 | 49 | 1.3 | 40 | 1.0 | 126 | 1.2 |
| Air conditioning and heating | 0 | 0.0 | 10 | 0.3 | 23 | 0.5 | 33 | 0.3 |
| Building trades (mixed) | 62 | 2.1 | 102 | 2.8 | 104 | 2.5 | 268 | 2.5 |
| Carpentry | 144 | 4.9 | 167 | 4.6 | 146 | 3.5 | 457 | 4.2 |
| Commercial art | 51 | 1.7 | 67 | 1.8 | 78 | 1.8 | 196 | 1.8 |
| Drafting (all types) | 209 | 7.1 | 305 | 8.3 | 256 | 6.1 | 770 | 7.1 |
| Electrician | 337 | 11.4 | 403 | 11.0 | 436 | 10.4 | 1176 | 10.9 |
| Electronic technician | 42 | 1.4 | 94 | 2.6 | 171 | 4.1 | 307 | 2.8 |
| Food trades | 11 | 0.4 | 37 | 1.0 | 52 | 1.2 | 100 | 0.9 |
| Foundry | 11 | 0.4 | 12 | 0.3 | 15 | 0.3 | 38 | 0.4 |
| Machinist | 462 | 15.7 | 569 | 5.5 | 580 | 13.8 | 1611 | 14.9 |
| Masonry | 26 | 0.9 | 88 | 2.4 | 69 | 1.6 | 183 | 1.7 |
| Mill and cabinetry | 213 | 7.2 | 197 | 5.4 | 191 | 4.5 | 601 | 5.6 |
| Metal trades | 66 | 2.2 | 39 | 1.1 | 57 | 1.4 | 162 | 1.5 |
| Painting and decorating | 9 | 0.3 | 13 | 0.4 | 14 | 0.3 | 36 | 0.3 |
| Plumbing | 43 | 1.5 | 37 | 1.0 | 38 | 0.9 | 118 | 1.1 |
| Printing | 213 | 7.2 | 235 | 6.4 | 305 | 7.3 | 753 | 7.0 |
| Radio and TV repair | 94 | 3.2 | 92 | 2.5 | 126 | 3.0 | 312 | 2.9 |
| Sheet metal fabrication | 77 | 2.6 | 105 | 2.9 | 109 | 2.6 | 291 | 2.7 |
| Shoe repair | 8 | 0.3 | 24 | 0.6 | 17 | 0.4 | 49 | 0.4 |
| Tailoring | 11 | 0.4 | 33 | 0.9 | 39 | 0.9 | 83 | 0.8 |
| Upholstery | 13 | 0.4 | 15 | 0.4 | 16 | 0.4 | 44 | 0.4 |
| Welding | 147 | 5.0 | 123 | 3.4 | 190 | 4.5 | 460 | 4.2 |
| Other than above | 205 | 7.0 | 222 | 6.1 | 375 | 8.9 | 802 | 7.4 |

* Actual course titles do not in all cases correspond with the trade titles listed above. Efforts were made to give each vocational course an equal representation within a school.

Table 9 shows the distribution of T & I graduates by school and class year. Two points may be observed: (1) The number of graduates selected for follow-up in some schools was considerably less than the maximum to be selected. This was because of relatively small numbers of graduates. (2) A few schools were over-represented, i.e. the number of names of graduates exceeded the maximum of 50 for a given class year. Some of the school visitation teams enthusiastically took all graduate names even when the number exceeded the desired maximum of fifty.

Table 9. NUMBER OF T & I GRADUATES SELECTED FROM EACH SCHOOL FOR THE CLASSES OF 1953, 1958, 1962, and 1962, and 1962, WITH REGIONAL SUBTOTALS. (C = Comprehensive, V = Vocational)

| School | Class Years | | | School | Class Years | | | School | Class Years | | | School | Class Years | | |
|-----------|-------------|------|------|-------------|-------------|------|------|--------|-------------|------|------|------------|-------------|------|------|
| | 1953 | 1958 | 1962 | | 1953 | 1958 | 1962 | | 1953 | 1958 | 1962 | | 1953 | 1958 | 1962 |
| C 1 | 17 | 16 | 18 | V 27 | 37 | 57 | 58 | V 52 | 50 | 50 | 49 | V 78 | 107 | 90 | 94 |
| V 2 | 43 | 50 | 50 | V 28 | 48 | 52 | 51 | C 53 | 32 | 31 | 28 | V 79 | 27 | 31 | 41 |
| V 3 | 20 | 44 | 52 | V 29 | 46 | 48 | 48 | V 54 | 46 | 47 | 99 | V 80 | 30 | 45 | 41 |
| V 4 | 50 | 53 | 61 | V 30 | 61 | 65 | 53 | V 55 | 45 | 43 | 43 | V 81 | 115 | 41 | 52 |
| V 5 | 47 | 48 | 46 | V 31 | 30 | 55 | 70 | V 56 | 56 | 55 | 56 | V 82 | 6 | 10 | 28 |
| V 6 | 36 | 40 | 48 | C 32 | 38 | 22 | 28 | V 57 | 65 | 24 | 47 | V 83 | 20 | 33 | 36 |
| V 7 | 46 | 53 | 50 | V 33 | 39 | 50 | 53 | PLAINS | 301 | 283 | 371 | V 84 | 44 | 25 | 31 |
| V 8 | 16 | 24 | 18 | V 34 | 41 | 39 | 40 | C 58 | 16 | 14 | 9 | V 85 | 11 | 21 | 36 |
| V 9 | 17 | 27 | 69 | V 35 | 34 | 37 | 34 | C 59 | 21 | 68 | 47 | V 86 | 28 | 44 | 37 |
| V 10 | 33 | 48 | 61 | MIDEAST | 809 | 971 | 1042 | C 60 | 19 | 19 | 17 | SOUTHEAST | 803 | 1038 | 1133 |
| V 11 | 20 | 23 | 27 | C 36 | 40 | 43 | 36 | C 61 | 7 | 44 | 42 | C 87 | 27 | 19 | 26 |
| NORTHEAST | 345 | 426 | 500 | C 37 | 15 | 24 | 28 | C 62 | 3 | 19 | 59 | C 88 | 7 | 14 | 14 |
| C 12 | 13 | 18 | 27 | C 38 | 0 | 49 | 63 | C 63 | 12 | 36 | 35 | C 89 | 17 | 51 | 50 |
| C 13 | 37 | 49 | 53 | C 39 | 16 | 11 | 21 | C 64 | 7 | 27 | 22 | C 90 | 21 | 58 | 40 |
| C 14 | 0 | 40 | 26 | C 40 | 20 | 37 | 44 | C 65 | 23 | 15 | 22 | C 91 | 1 | 17 | 13 |
| C 15 | 5 | 11 | 28 | V 41 | 21 | 41 | 39 | C 66 | 30 | 44 | 45 | C 92 | 14 | 18 | 14 |
| C 16 | 56 | 40 | 52 | C 42 | 0 | 36 | 45 | C 67 | 18 | 37 | 19 | C 93 | 35 | 24 | 29 |
| C 17 | 27 | 39 | 41 | C 43 | 20 | 37 | 35 | C 68 | 27 | 52 | 53 | V 94 | 6 | 14 | 67 |
| C 18 | 24 | 34 | 37 | V 44 | 35 | 47 | 53 | C 69 | 37 | 40 | 43 | SOUTHWEST | 128 | 215 | 255 |
| C 19 | 42 | 28 | 26 | V 45 | 41 | 54 | 55 | V 70 | 25 | 26 | 35 | C 95 | 21 | 31 | 36 |
| C 20 | 0 | 38 | 40 | C 46 | 34 | 35 | 36 | C 71 | 18 | 45 | 30 | ROCKY MTS. | 21 | 31 | 36 |
| C 21 | 30 | 33 | 34 | V 47 | 44 | 49 | 30 | C 72 | 42 | 44 | 63 | C 96 | 37 | 18 | 32 |
| C 22 | 31 | 38 | 54 | C 48 | 43 | 26 | 30 | V 73 | 39 | 66 | 66 | V 97 | 41 | 42 | 47 |
| C 23 | 29 | 27 | 28 | V 49 | 5 | 15 | 123 | V 74 | 16 | 28 | 22 | C 98 | 48 | 11 | 19 |
| C 24 | 71 | 71 | 73 | V 50 | 50 | 52 | 45 | V 75 | 5 | 7 | 12 | V 99 | 17 | 42 | 22 |
| V 25 | 19 | 40 | 43 | GREAT LAKES | 384 | 556 | 683 | V 76 | 1 | 25 | 37 | C100 | 11 | 28 | 59 |
| V 26 | 51 | 40 | 45 | C 51 | 7 | 33 | 49 | V 77 | 49 | 42 | 59 | PACIFIC | 154 | 141 | 179 |

THE SURVEY QUESTIONNAIRES

Questionnaire Development

Two questionnaires were developed, one for vocational course graduates and the other for academic course graduates.

The initial drafts of the questionnaires were developed by the project staff, and submitted for initial review and comments to a number of vocational education specialists. Suggestions for revision were considered, and when deemed an improvement, incorporated into a first revision.

The first revision was tested in two ways: (1) A number of local high school graduates were asked to complete the questionnaire. They were then interviewed on the contents of the questionnaire to check their understanding of the items. A record was kept of items that appeared to be subject to misunderstanding. (2) A number of vocational educators were asked to review the first revision. The questionnaires then underwent additional revision for the purposes of two pilot studies designed to establish the survey procedures. The pilot studies are described below.

Pilot Study No. 1

The purpose of this pilot study was to determine (1) whether the length of the questionnaire would seriously influence the rate of return, (2) whether an incentive inducement to return the questionnaire would substantially increase the rate of return, and (3) whether the rate of return would be differentially effected by number of years since graduation, thereby calling for different approaches to the three graduating classes.

The 1953, 1958, and 1962 vocational course graduates of a nearby comprehensive and a vocational school were selected for the study. A total of 240 graduates were assigned equally to four experimental conditions: (1) long questionnaire, material incentive, (2) short questionnaire, material incentive, (3) long questionnaire, no material incentive, and (4) short

questionnaire, no material incentive. The different trades and graduating classes were equated among the experimental conditions. A maximum of seven mail contacts was made to non-respondents.

The results indicated (1) no significant difference in percentage of return between incentive and non-incentive groups, (2) no significant difference in percentage of return between long and short questionnaire group, and (3) significant differences in percentage of return, of those contacted, between the classes of 1953, 1958, and 1962.¹

The conclusions were to (1) offer no material incentives to graduates to return questionnaires, (2) be guided by judgment in adopting a short questionnaire form, and (3) use the same approach to the three classes of graduates, because of uncertainty about differential treatments.

Pilot Study No. 2

The purpose of the second pilot study was to determine (1) whether more complete knowledge of the study by the graduates contacted would influence the percentage of questionnaires returned, (2) whether the spacing of successive mail contacts would influence returns, and (3) whether a standard letterhead would be as effective as an actual school letterhead.

The 1953, 1958, and 1962 graduates of two vocational schools located in the same state were selected for the study. A total of 276 graduates were assigned randomly and in equal numbers to one of four experimental conditions: (1) massed contacts, standard letterhead, (2) spaced contacts, standard letterhead, (3) massed contacts, actual school letterhead, and (4) spaced contacts, actual school letterhead. The different trades and graduating classes were equated among the experimental conditions. A maximum of seven mail contacts was made to non-respondents.

¹Based upon graduates successfully contacted by mail, the percentages of returns for 1953, 1958, and 1962 graduates were 66, 72, and 77 percent respectively, indicating greater cooperation from recent graduates.

On the basis of an overall 69 percent return, (84 percent of those who could be located), the results indicated (1) a closely massed mailing schedule for successive contacts was more effective than a widely spaced schedule and (2) a distinctively designed standard letterhead, indicating Ford Foundation sponsorship and A-I-R direction of the study, was slightly more effective in percentage of questionnaire returns than the actual school letterhead.

The conclusions reached on the basis of these results were to (1) employ a closely spaced schedule of successive contacts with non-respondents in the main follow-up effort, and (2) use the standardized letterhead for the initial contact.

Final Version of Questionnaires

The questionnaire returns from the two pilot studies were analyzed for items likely to generate missing, questionable, or unusable data. Only minor changes were made to the questionnaires as a result of the last pilot study experience.

The final version of the vocational graduate questionnaire is shown on pages 22 through 25. The final version of the academic graduate questionnaire is shown on pages 26 through 29.

A comment is appropriate on the physical layout of the questionnaire. Normally, ease of data processing is a major concern in questionnaire design. The questionnaires would have been several pages longer, however, if designed with that purpose in mind. It was felt that a short, four-page, compact design would give a greater percentage of returns than a longer questionnaire designed to facilitate coding of the questionnaire data. Therefore, the decision was made in favor of a shorter questionnaire.

It would be comfortable to report that data coding was no problem with the questionnaires adopted. Unhappily, that was not the case. The short version of the questionnaires proved to be costly in both time and money for data processing. Solace was derived from the fact that the percentage of returns achieved was far greater than predicted by school personnel in sample schools that had attempted follow-up studies of their own.

VOCATIONAL EDUCATION IN UNITED STATES
An AMERICAN INSTITUTE FOR RESEARCH Survey

INSTRUCTIONS

Most items on this questionnaire require only a check mark (✓) to give your answer. Please answer all items ACCURATELY. The information will be STRICTLY CONFIDENTIAL.

Please return the questionnaire in the postage-paid, pre-addressed envelope provided.

THANKS FOR YOUR HELP ON THIS IMPORTANT STUDY

1. Your Name _____ 2. Your High School's Name _____

3. Year Graduated from High School: Mo _____ Yr _____ 4. High School Course Studied _____

5. Below are ways students are influenced to select a vocational course. Mark those that influenced you to choose the course you took in high school. **CIRCLE THE NUMBER OF THE MOST IMPORTANT INFLUENCE**

- | | | | |
|---|---|---|--|
| <input type="checkbox"/> 1. Books and magazines | <input type="checkbox"/> 5. Neighbor (adult) | <input type="checkbox"/> 9. School teacher | <input type="checkbox"/> 13. Other, specify below. |
| <input type="checkbox"/> 2. Parents | <input type="checkbox"/> 6. Friend your age | <input type="checkbox"/> 10. School counselor | _____ |
| <input type="checkbox"/> 3. Brother or sister | <input type="checkbox"/> 7. Job opportunities | <input type="checkbox"/> 11. School principal | _____ |
| <input type="checkbox"/> 4. Relative | <input type="checkbox"/> 8. Part-time job | <input type="checkbox"/> 12. Course graduate | _____ |

6. Did your school offer the vocational course you really wanted to take?

- | | |
|--|---|
| <input type="checkbox"/> 1. Yes → If Yes, did you get to take it? → | <input type="checkbox"/> 6-1.1 Yes, I took the course I wanted. |
| <input type="checkbox"/> 2. No → If No, what course did you want to take that was not offered? _____ | <input type="checkbox"/> 6-1.2 No, I could not take the course I wanted because _____ |

7. How long after leaving high school did it take you to get your first full-time job? _____ months

8. How did you get your first full-time job after leaving high school? (Mark all that apply.)

- | | |
|---|--|
| <input type="checkbox"/> 1. By answering a want-ad | <input type="checkbox"/> 6. Help of school principal |
| <input type="checkbox"/> 2. Private employment agency | <input type="checkbox"/> 7. Help of school placement service |
| <input type="checkbox"/> 3. State employment agency | <input type="checkbox"/> 8. Help of friend or relative |
| <input type="checkbox"/> 4. Help of school teacher | <input type="checkbox"/> 9. Through school coop program |
| <input type="checkbox"/> 5. Help of school counselor | <input type="checkbox"/> 10. Other than above |

If you never had a full-time job, mark here - SKIP TO ITEM 12

9. Was your first full-time job in the trade or field for which you were trained in high school?

- If Yes:** Indicate how well your vocational course prepared you for your first full-time job.
- 1. Exceptionally well-prepared; training covered all essentials required by first job
 - 2. Well-prepared on the whole; but there were some important gaps in training
 - 3. Poorly prepared; much that I needed to know was not covered in vocational course

- If No:** Mark reason below.
- | | |
|--|---|
| <input type="checkbox"/> 1. No job available in area of training | <input type="checkbox"/> 4. Decided I liked other work better |
| <input type="checkbox"/> 2. Learned new job by continuing school | <input type="checkbox"/> 5. Not accepted as apprentice in trade |
| <input type="checkbox"/> 3. Learned new job in military service | <input type="checkbox"/> 6. Other (specify) _____ |

10. How did the: (1) tools and equipment, (2) work methods, and (3) work materials used on your first full-time job compare with those used in your vocational shop courses? If a sub-item is not applicable, mark the box NA to the right. Otherwise, mark your answer.

- | | | |
|--|---|---|
| <p>TOOLS & EQUIPMENT <input type="checkbox"/> NA</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1. Identical or almost so <input type="checkbox"/> 2. Little real difference <input type="checkbox"/> 3. Very much different | <p>WORK METHODS <input type="checkbox"/> NA</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1. Identical or almost so <input type="checkbox"/> 2. Little real difference <input type="checkbox"/> 3. Very much different | <p>WORK MATERIALS <input type="checkbox"/> NA</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1. Identical or almost so <input type="checkbox"/> 2. Little real difference <input type="checkbox"/> 3. Very much different |
|--|---|---|

If you marked 3 above (Very much different), did it take long to learn what was new?

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> 1. Only about a few weeks <input type="checkbox"/> 2. Less than three months <input type="checkbox"/> 3. About three-six months <input type="checkbox"/> 4. About six months-a year <input type="checkbox"/> 5. More than a year | <ul style="list-style-type: none"> <input type="checkbox"/> 1. Only about a few weeks <input type="checkbox"/> 2. Less than three months <input type="checkbox"/> 3. About three-six months <input type="checkbox"/> 4. About six months-a year <input type="checkbox"/> 5. More than a year | <ul style="list-style-type: none"> <input type="checkbox"/> 1. Only about a few weeks <input type="checkbox"/> 2. Less than three months <input type="checkbox"/> 3. About three-six months <input type="checkbox"/> 4. About six months-a year <input type="checkbox"/> 5. More than a year |
|---|---|---|

11. For each of the skill areas listed below, answer the four questions at the right. Indicate your answers by marking appropriate boxes.

| | 1 How important is this skill for your present job? | | | | 2 How much of this skill was learned in high school? | | | | 3 Where did you learn the most about this skill? | | | | | 4 Do you feel the need for more instruction or training in this area? (Mark either Yes or No) |
|---|---|--------------------------|-----------------------------|-----------------------------|--|--------------------------|--------------------------|--------------------------|--|--------------------------------|--------------------------|--------------------------|--------------------------|---|
| | 1 Of No Real Importance | 2 Slightly Important | 3 Considerably Important | 4 Of Critical Importance | 1 Almost Nothing | 2 Some, But Not Much | 3 Large Amount | 4 Almost All | 1 High School Coop Program | 2 High School Shop or Class | 3 Apprentice Program | 4 On Regular Job | 5 Elsewhere | |
| 1 MANUAL JOB SKILLS. Refers to skill or using or operating tools, equipment, materials, machines, etc., in your work. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 2 JOB PRACTICAL KNOWLEDGE. Refers to practical everyday knowledge of work processes, methods, procedures, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 3 JOB THEORETICAL KNOWLEDGE. Refers to knowledge of basic principles and concepts underlying the practical trade work. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 4 MATHEMATICAL SKILLS. Refers to ability to use arithmetic or higher mathematics to solve work problems. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 5 COMMUNICATION SKILLS. Refers to skill of speaking, writing, drafting, sketching, etc., to communicate ideas. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 6 READING AND INTERPRETIVE SKILLS. Refers to skill of reading printed matter, blueprints, tables, diagrams, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 7 CLERICAL SKILLS. Refers to skill of keeping records, making out reports, and other types of routine paper work. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 8 PERSONAL RELATIONS SKILLS. Refers to skill of dealing with people, such as customers, co-workers, other trades, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 9 SUPERVISORY SKILLS. Refers to skill at supervising others, e.g., instructing, directing, evaluating, planning, organizing, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 10 OTHER SKILLS. Add what you feel applies to your job and is not covered by the above. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |

12. Please give your frank opinion about the following items concerning your high school education. (Mark one answer for each item.)

ON THE WHOLE:

1. Poor 2. Satisfactory 3. Good 4. Excellent

| | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Quality of instruction from shop instructors | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Quality of instruction from academic teachers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of shop facilities and equipment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. General physical condition of school | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Vocational counseling given to students | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Help given to students to find jobs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Opportunity for extra-curricular activities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Interest shown by teachers in student problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Reputation of the school in community | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Strictness of school in maintaining discipline | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

13. Please mark all kinds of education obtained since leaving high school, and provide the information requested about each. Put an asterisk (*) behind those you are presently attending. If you have not had any additional education since high school, mark here Estimate your average hours per week over the total period attended.

| Mark Here | Type of Education | Major Subject or Course(s) | Dates Attended (Give Month & Year) | Leave Blank | Avg. Hrs. Per Wk. in School | Leave Blank |
|-----------------------------|--------------------------------|----------------------------|------------------------------------|-------------|-----------------------------|-------------|
| <input type="checkbox"/> 0 | Two-year or junior college | | Fr: To: | | | |
| <input type="checkbox"/> 1 | Four-year college/university | | Fr: To: | | | |
| <input type="checkbox"/> 2 | Post-college graduate school | | Fr: To: | | | |
| <input type="checkbox"/> 3 | Private trade/technical school | | Fr: To: | | | |
| <input type="checkbox"/> 4 | Public trade/technical school | | Fr: To: | | | |
| <input type="checkbox"/> 5 | Business-commercial school | | Fr: To: | | | |
| <input type="checkbox"/> 6 | Adult continuation school | | Fr: To: | | | |
| <input type="checkbox"/> 7 | Military specialist school | | Fr: To: | | | |
| <input type="checkbox"/> 8 | Company course or school | | Fr: To: | | | |
| <input type="checkbox"/> 9 | Correspondence courses | | Fr: To: | | | |
| <input type="checkbox"/> 10 | Other (specify) | | Fr: To: | | | |

16. Did you have any military service? 1. No 2. Yes → How many months? _____ Nature of work? _____
17. Were you unemployed for reason of health or hospitalization? 1. No 2. Yes → How many months? _____

Part of our study concerns the interests, activities, and associations of high school graduates. We hope you will not regard this information too personal to give us. All is confidential. Please weigh your answers carefully.

18. How frequently do you talk about the following topics when you get together socially with others?

| | ALMOST NEVER 1 | INFREQUENTLY 2 | FREQUENTLY 3 | ALMOST ALWAYS 4 |
|---------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Your work | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Religion..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Politics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Business conditions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. World affairs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. National affairs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. State affairs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Community problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Your hobbies | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Sports and athletics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Music, art, literature, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Government matters | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Labor union matters | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Your family | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Other (specify) _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

19. How frequently do you engage in the following types of leisure-time activities?

| | ALMOST NEVER 1 | INFREQUENTLY 2 | FREQUENTLY 3 | ALMOST DAILY 4 |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Reading newspapers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Engaging in craft hobbies (model building, jewelry making, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Reading professional or trade books and periodicals | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Attending athletic events as a spectator | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Attending plays, concerts, ballets, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Watching television programs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Gardening (raising flowers, fruit trees, vegetables, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Reading general magazines (LIFE, LOOK, READERS' DIGEST, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Working at home shop activities (woodworking, metalworking, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Attending educational courses for self-improvement | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Engaging in team sports (softball, football, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Engaging in performing arts (acting, singing, instruments, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Visiting or entertaining friends | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Reading non-fiction books (biography, history, travel, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Collecting stamps, coins, rocks, or other items | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. Attending educational lectures and discussion groups | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. Engaging in individual sports (swimming, hunting, fishing, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Listening to music at home for pleasure | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Going to the movies | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. Other (please write in) _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

20. Below is a list of different type organizations and associations. Mark the space which best describes your membership status in each type of organization, association, or club.

| | NOT A MEMBER 1 | INACTIVE MEMBER 2 | ACTIVE MEMBER 3 | PRESENTLY AN OFFICER 4 |
|--|--------------------------|--------------------------|--------------------------|---------------------------|
| 1. A church or a religious organization | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Political organization | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Service organization (Rotary, Lions, Kiwanis, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Sports club or athletic organization | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Labor union | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Fraternal organization (Elks, Mosons, K. of C., etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Veterans' organization | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Business or trade association | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Music or other cultural association | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Local civic association | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Youth organization (Scouts, Y. M. C. A., etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Professional association | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Other (specify) _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

21. Marital Status 1. Single 2. Married 3. Other
22. Race 1. White 2. Negro 3. Other
23. Religion 1. Protestant 2. Catholic 3. Jewish 4. Other 5. None
24. Do you have any disability or health condition that limits your employability? 1. Yes 2. No



VOCATIONAL EDUCATION IN UNITED STATES

An AMERICAN INSTITUTE FOR RESEARCH Survey

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INSTRUCTIONS

Most items on this questionnaire require only a check mark (✓) to give your answer. Please answer all items ACCURATELY. The information will be STRICTLY CONFIDENTIAL.

Please return the questionnaire in the postage-paid, pre-addressed envelope provided.

THANKS FOR YOUR HELP ON THIS IMPORTANT STUDY

1. Your Name _____ 2. Your High School's Name _____
Your Address _____ City _____ State _____

3. Year Graduated from High School: Mo _____ Yr _____ 4. High School Course Studied _____

5. Below are ways students are influenced to select a high school course. Mark those that influenced you to choose the course you took in high school. CIRCLE THE NUMBER OF THE MOST IMPORTANT INFLUENCE.

- | | | | |
|---|---|---|--|
| <input type="checkbox"/> 1. Books and magazines | <input type="checkbox"/> 5. Neighbor (adult) | <input type="checkbox"/> 9. School teacher | <input type="checkbox"/> 13. Other, specify below. |
| <input type="checkbox"/> 2. Parents | <input type="checkbox"/> 6. Friend your age | <input type="checkbox"/> 10. School counselor | _____ |
| <input type="checkbox"/> 3. Brother or sister | <input type="checkbox"/> 7. Job opportunities | <input type="checkbox"/> 11. School principal | _____ |
| <input type="checkbox"/> 4. Relative | <input type="checkbox"/> 8. Part-time job | <input type="checkbox"/> 12. Course graduate | _____ |

6. Did your school offer the course of studies you really wanted to take?

1. Yes → If Yes, did you get to take it? → 6-1.1 Yes, I took the course I wanted.
 2. No → If No, what course did you want to take that was not offered? 6-1.2 No, I could not take the course I wanted because _____

7. What did you do after high school graduation?

- 1. Looked for a full-time job
- 2. Looked for a part-time job
- 3. Went to a college or university
- 4. Went to a public vocational-technical school
- 5. Went to a private trade-technical school
- 6. Went into military service
- 7. Other (please specify) _____

8. If you looked for a full-time job after graduating, did you find one?

1. Yes → If Yes, how many months did it take you to find the job? _____ months
 2. No → If Yes, what type of job was it? _____
→ If Yes, how did you get the job?
 1. By answering a want-ad
 2. Private employment agency
 3. State employment agency
 4. Help of school teacher
 5. Help of school counselor
 6. Help of school principal
 7. Help of school placement service
 8. Help of friend or relative
 9. Through school coop program
 10. Other than above

9. What are you doing now? (Mark all that apply.)

- 1. Employed full-time
- 2. Employed part-time
- 3. Attending college
- 4. Attending public trade/technical school
- 5. Attending private trade/technical school
- 6. Attending business-commercial school
- 7. In military service
- 8. Unemployed
- 9. Other (please specify) _____

10. Do you think you would have done better if you had taken vocational or technical training in high school?

1. Yes 2. No 3. Don't know

11.

| ANSWER ONLY IF YOU HAVE A FULL-TIME JOB For each of the skill areas listed below, answer the four questions at the right. Indicate your answers by marking appropriate boxes. | 1 How important is this skill for your present job? | | | | 2 How much of this skill was learned in high school? | | | | 3 Where did you learn the most about this skill? | | | | | 4 Do you feel the need for more instruction or training in this area? (Mark either Yes or No) |
|--|---|--------------------------|-----------------------------|-----------------------------|--|--------------------------|--------------------------|--------------------------|--|--------------------------------|--------------------------|--------------------------|--------------------------|---|
| | 1 Of No Real Importance | 2 Slightly Important | 3 Considerably Important | 4 Of Critical Importance | 1 Almost Nothing | 2 Some, But Not Much | 3 Large Amount | 4 Almost All | 1 High School Coop Program | 2 High School Shop or Class | 3 Apprentice Program | 4 On Regular Job | 5 Elsewhere | |
| 1 MANUAL JOB SKILLS. Refers to skill at using or operating tools, equipment, materials, machines, etc., in your work. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 2 JOB PRACTICAL KNOWLEDGE. Refers to practical everyday knowledge of work processes, methods, procedures, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 3 JOB THEORETICAL KNOWLEDGE. Refers to knowledge of basic principles and concepts underlying the practical trade work. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 4 MATHEMATICAL SKILLS. Refers to ability to use arithmetic or high mathematics to solve work problems. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 5 COMMUNICATION SKILLS. Refers to skill at speaking, writing, drafting, sketching, etc., to communicate ideas. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 6 READING AND INTERPRETIVE SKILLS. Refers to skill of reading printed matter, blueprints, tables, diagrams, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 7 CLERICAL SKILLS. Refers to skill at keeping records, making out reports, and other types of routine paper work. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 8 PERSONAL RELATIONS SKILLS. Refers to skill of dealing with people, such as customers, co-workers, other trades, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 9 SUPERVISORY SKILLS. Refers to skill at supervising others, e.g., instructing, directing, evaluating, planning, organizing, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |
| 10 OTHER SKILLS. Add what you feel applies to your job and is not covered by the above. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No |

12. Please give your frank opinion about the following items concerning your high school education. (Mark).

| | ON THE WHOLE: | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| | 1. Poor | 2. Satisfactory | 3. Good | 4. Excellent |
| 1. Quality of school library facilities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Quality of instruction from academic teachers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of shop furnishings and equipment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. General physical condition of school | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Guidance and counseling given to students | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Help given students to find jobs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Opportunity for extra-curricular activities | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Reputation shown by teachers in student problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Reputation of the school in community | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Strictness of school in maintaining discipline | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

13. Please mark all kinds of education obtained since leaving high school, and provide the information requested about each. Put an asterisk (*) behind those you are presently attending. If you have not had any additional education since high school, mark here Estimate your average hours per week over the total period attended.

| Mark Here | Type of Education | Major Subject or Course(s) | Dates Attended (Give Month & Year) | Leave Blank | Avg. Hrs. Per Wk. in School | Leave Blank |
|-----------------------------|--------------------------------|----------------------------|------------------------------------|-------------|-----------------------------|-------------|
| <input type="checkbox"/> 0 | Two-year or junior college | | Fr: To: | | | |
| <input type="checkbox"/> 1 | Four-year college/university | | Fr: To: | | | |
| <input type="checkbox"/> 2 | Post-college graduate school | | Fr: To: | | | |
| <input type="checkbox"/> 3 | Private trade/technical school | | Fr: To: | | | |
| <input type="checkbox"/> 4 | Public trade/technical school | | Fr: To: | | | |
| <input type="checkbox"/> 5 | Business-commercial school | | Fr: To: | | | |
| <input type="checkbox"/> 6 | Adult continuation school | | Fr: To: | | | |
| <input type="checkbox"/> 7 | Military specialist school | | Fr: To: | | | |
| <input type="checkbox"/> 8 | Company course or school | | Fr: To: | | | |
| <input type="checkbox"/> 9 | Correspondence courses | | Fr: To: | | | |
| <input type="checkbox"/> 10 | Other (specify) | | Fr: To: | | | |

14. JOB HISTORY SINCE HIGH SCHOOL. Start with your FIRST job after leaving high school. List ALL full-time jobs held six months or more, except if your present job is a part-time job. List the jobs in the order that you held them, up to and including your PRESENT JOB. (If self-employed, give NET EARNINGS, not GROSS INCOME of your business.)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------------|--|--|---|---|---|---|--|---|--|--|
| EXAMPLE | Starting Date Mo. <u>7</u> Yr. <u>53</u> Leaving Date Mo. <u>10</u> Yr. <u>54</u> | What type of work did you do? MACHINIST APPRENTICE | Did job require move to new city? 1. <input type="checkbox"/> No 2. <input checked="" type="checkbox"/> Yes How many miles? 20 | Full Time 1. <input type="checkbox"/> Yes 2. <input checked="" type="checkbox"/> No If part-time, how many hours per week, on average? 15 | Self Employed 1. <input type="checkbox"/> Yes 2. <input checked="" type="checkbox"/> No | Was the work related to vocational course you took? 1. <input checked="" type="checkbox"/> Same trade studied. 2. <input type="checkbox"/> Highly related 3. <input type="checkbox"/> Slightly related 4. <input type="checkbox"/> Completely unrelated | On the whole, were you satisfied with the work? 1. <input type="checkbox"/> Very satisfied 2. <input checked="" type="checkbox"/> Satisfied 3. <input type="checkbox"/> Dissatisfied 4. <input type="checkbox"/> Very dissatisfied | Earnings at Starting Give \$ per hr., wk., or mo. \$ 1.25 per HR Earnings at Leaving Give \$ per hr., wk., or mo. \$ 1.50 per HR | Reason For Leaving Job NO WORK | Were you unemployed after leaving job? 1. <input checked="" type="checkbox"/> Yes 2. <input type="checkbox"/> No If Yes, how long? 5 MONTHS |
| 1st JOB | Starting Date Mo. ___ Yr. ___ Leaving Date Mo. ___ Yr. ___ | What type of work did you do? | Did job require move to new city? 1. <input type="checkbox"/> No 2. <input type="checkbox"/> Yes How many miles? | Full Time 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If part-time, how many hours per week, on average? | Self Employed 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No | Was the work related to vocational course you took? 1. <input type="checkbox"/> Same trade studied 2. <input type="checkbox"/> Highly related 3. <input type="checkbox"/> Slightly related 4. <input type="checkbox"/> Completely unrelated | On the whole, were you satisfied with the work? 1. <input type="checkbox"/> Very satisfied 2. <input type="checkbox"/> Satisfied 3. <input type="checkbox"/> Dissatisfied 4. <input type="checkbox"/> Very dissatisfied | Earnings at Starting Give \$ per hr., wk., or mo. \$ _____ per _____ Earnings at Leaving Give \$ per hr., wk., or mo. \$ _____ per _____ | Reason For Leaving Job | Were you unemployed after leaving job? 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If Yes, how long? |
| 2nd JOB | Starting Date Mo. ___ Yr. ___ Leaving Date Mo. ___ Yr. ___ | What type of work did you do? | Did job require move to new city? 1. <input type="checkbox"/> No 2. <input type="checkbox"/> Yes How many miles? | Full Time 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If part-time, how many hours per week, on average? | Self Employed 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No | Was the work related to vocational course you took? 1. <input type="checkbox"/> Same trade studied 2. <input type="checkbox"/> Highly related 3. <input type="checkbox"/> Slightly related 4. <input type="checkbox"/> Completely unrelated | On the whole, were you satisfied with the work? 1. <input type="checkbox"/> Very satisfied 2. <input type="checkbox"/> Satisfied 3. <input type="checkbox"/> Dissatisfied 4. <input type="checkbox"/> Very dissatisfied | Earnings at Starting Give \$ per hr., wk., or mo. \$ _____ per _____ Earnings at Leaving Give \$ per hr., wk., or mo. \$ _____ per _____ | Reason For Leaving Job | Were you unemployed after leaving job? 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If Yes, how long? |
| 3rd JOB | Starting Date Mo. ___ Yr. ___ Leaving Date Mo. ___ Yr. ___ | What type of work did you do? | Did job require move to new city? 1. <input type="checkbox"/> No 2. <input type="checkbox"/> Yes How many miles? | Full Time 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If part-time, how many hours per week, on average? | Self Employed 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No | Was the work related to vocational course you took? 1. <input type="checkbox"/> Same trade studied 2. <input type="checkbox"/> Highly related 3. <input type="checkbox"/> Slightly related 4. <input type="checkbox"/> Completely unrelated | On the whole, were you satisfied with the work? 1. <input type="checkbox"/> Very satisfied 2. <input type="checkbox"/> Satisfied 3. <input type="checkbox"/> Dissatisfied 4. <input type="checkbox"/> Very dissatisfied | Earnings at Starting Give \$ per hr., wk., or mo. \$ _____ per _____ Earnings at Leaving Give \$ per hr., wk., or mo. \$ _____ per _____ | Reason For Leaving Job | Were you unemployed after leaving job? 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If Yes, how long? |
| 4th JOB | Starting Date Mo. ___ Yr. ___ Leaving Date Mo. ___ Yr. ___ | What type of work did you do? | Did job require move to new city? 1. <input type="checkbox"/> No 2. <input type="checkbox"/> Yes How many miles? | Full Time 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If part-time, how many hours per week, on average? | Self Employed 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No | Was the work related to vocational course you took? 1. <input type="checkbox"/> Same trade studied 2. <input type="checkbox"/> Highly related 3. <input type="checkbox"/> Slightly related 4. <input type="checkbox"/> Completely unrelated | On the whole, were you satisfied with the work? 1. <input type="checkbox"/> Very satisfied 2. <input type="checkbox"/> Satisfied 3. <input type="checkbox"/> Dissatisfied 4. <input type="checkbox"/> Very dissatisfied | Earnings at Starting Give \$ per hr., wk., or mo. \$ _____ per _____ Earnings at Leaving Give \$ per hr., wk., or mo. \$ _____ per _____ | Reason For Leaving Job | Were you unemployed after leaving job? 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If Yes, how long? |
| 5th JOB | Starting Date Mo. ___ Yr. ___ Leaving Date Mo. ___ Yr. ___ | What type of work did you do? | Did job require move to new city? 1. <input type="checkbox"/> No 2. <input type="checkbox"/> Yes How many miles? | Full Time 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If part-time, how many hours per week, on average? | Self Employed 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No | Was the work related to vocational course you took? 1. <input type="checkbox"/> Same trade studied 2. <input type="checkbox"/> Highly related 3. <input type="checkbox"/> Slightly related 4. <input type="checkbox"/> Completely unrelated | On the whole, were you satisfied with the work? 1. <input type="checkbox"/> Very satisfied 2. <input type="checkbox"/> Satisfied 3. <input type="checkbox"/> Dissatisfied 4. <input type="checkbox"/> Very dissatisfied | Earnings at Starting Give \$ per hr., wk., or mo. \$ _____ per _____ Earnings at Leaving Give \$ per hr., wk., or mo. \$ _____ per _____ | Reason For Leaving Job | Were you unemployed after leaving job? 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If Yes, how long? |
| 6th JOB | Starting Date Mo. ___ Yr. ___ Leaving Date Mo. ___ Yr. ___ | What type of work did you do? | Did job require move to new city? 1. <input type="checkbox"/> No 2. <input type="checkbox"/> Yes How many miles? | Full Time 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If part-time, how many hours per week, on average? | Self Employed 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No | Was the work related to vocational course you took? 1. <input type="checkbox"/> Same trade studied 2. <input type="checkbox"/> Highly related 3. <input type="checkbox"/> Slightly related 4. <input type="checkbox"/> Completely unrelated | On the whole, were you satisfied with the work? 1. <input type="checkbox"/> Very satisfied 2. <input type="checkbox"/> Satisfied 3. <input type="checkbox"/> Dissatisfied 4. <input type="checkbox"/> Very dissatisfied | Earnings at Starting Give \$ per hr., wk., or mo. \$ _____ per _____ Earnings at Leaving Give \$ per hr., wk., or mo. \$ _____ per _____ | Reason For Leaving Job | Were you unemployed after leaving job? 1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No If Yes, how long? |

15. YOUR PRESENT JOB. (Please give this additional information.)

1. Present Earnings? Give \$ per hour, week, or month. \$ _____ per _____
2. Your Employer: _____
Street Address: _____
City-State: _____

ATTENTION: If you held more than six full and part-time jobs, please continue on the page enclosed. Be sure to include your present full-time and/or part-time job. Thank you.



16. Did you have any military service? 1. No 2. Yes → How many months? _____ Nature of work? _____

17. Were you unemployed for reason of health or hospitalization? 1. No 2. Yes → How many months? _____

Part of our study concerns the interests, activities, and associations of high school graduates. We hope you will not regard this information too personal to give us. All is confidential. Please weigh your answers carefully.

18. How frequently do you talk about the following topics when you get together socially with others?

| | ALMOST NEVER 1 | INFREQUENTLY 2 | FREQUENTLY 3 | ALMOST ALWAYS 4 |
|---------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Your work | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Religion | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Politics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Business conditions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. World affairs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. National affairs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. State affairs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Community problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Your hobbies | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Sports and athletics | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Music, art, literature, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Government matters | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Labor union matters | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Your family | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Other (specify) _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

19. How frequently do you engage in the following types of leisure-time activities?

| | ALMOST NEVER 1 | INFREQUENTLY 2 | FREQUENTLY 3 | ALMOST DAILY 4 |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Reading newspapers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Engaging in craft hobbies (model building, jewelry making, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Reading professional or trade books and periodicals | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Attending athletic events as a spectator | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Attending plays, concerts, ballets, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Watching television programs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Gardening (raising flowers, fruit trees, vegetables, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Reading general magazines (LIFE, LOOK, READERS' DIGEST, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Working at home shop activities (woodworking, metalworking, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Attending educational courses for self-improvement | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Engaging in team sports (softball, football, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Engaging in performing arts (acting, singing, instruments, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Visiting or entertaining friends | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Reading non-fiction books (biography, history, travel, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Collecting stamps, coins, rocks, or other items | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. Attending educational lectures and discussion groups | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. Engaging in individual sports (swimming, hunting, fishing, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Listening to music at home for pleasure | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Going to the movies | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. Other (please write in) _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

20. Below is a list of different type organizations and associations. Mark the space which best describes your membership status in each type of organization, association, or club.

| | NOT A MEMBER 1 | INACTIVE MEMBER 2 | ACTIVE MEMBER 3 | PRESENTLY AN OFFICER 4 |
|--|--------------------------|--------------------------|--------------------------|------------------------------|
| 1. A church or a religious organization | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Political organization | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Service organization (Rotary, Lions, Kiwanis, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Sports club or athletic organization | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Labor union | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Fraternal organization (Elks, Masons, K. of C., etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Veterans' organization | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Business or trade association | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Music or other cultural association | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Local civic association | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Youth organization (Scouts, Y. M. C. A., etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Professional association | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Other (specify) _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

21. Marital Status

- 1. Single
- 2. Married
- 3. Other

22. Race

- 1. White
- 2. Negro
- 3. Other

23. Religion

- 1. Protestant
- 2. Catholic
- 3. Jewish
- 4. Other
- 5. None

24. Do you have any disability or health condition that limits your employability?

- 1. Yes
- 2. No

THANK YOU FOR YOUR TIME AND EFFORT

THE SURVEY PROCEDURES

Description of Mailing Schedule

A maximum of seven mail contacts was planned to encourage graduates to return the questionnaire. A returned questionnaire terminated any further contacts.

The first contact consisted of (1) a letter signed by the graduate's former instructor and/or principal, (2) the questionnaire, and (3) a pre-addressed postage-paid airmail envelope for returning the questionnaire. A sample of the letter is shown opposite page 36.

The second contact consisted of a postcard, designed to thank the graduate if he had already returned his questionnaire and to remind him to do so if he had not as yet mailed the questionnaire. An exhibit of the postcard is shown opposite page 38.

The third contact consisted of a second postcard, having the signature name of the school principal. In effect, it reminded the graduate that his questionnaire had not yet been received, and urged him to mail in the completed questionnaire. An exhibit of this postcard is shown opposite page 38.

The fourth contact consisted of (1) a letter from Dr. John C. Flanagan, president of A·I·R, (2) a questionnaire on the possibility that the first one mailed had been misplaced or thrown away, (3) a brochure describing the study, and (4) a pre-addressed, postage-paid airmail return envelope. A sample of the letter is shown opposite page 40.

The fifth contact was a letter from the school principal, on regular school stationary. It reminded the graduate that his questionnaire had not yet been received, and stressed the need to learn from his experiences since graduating. He was urged to complete and return the questionnaire promptly. An exhibit of the letter is shown opposite page 42.

The sixth contact was another postcard, reminding the student to return the questionnaire. A specimen is shown opposite page 44.

The seventh and last contact was a letter from the graduate's former instructor (or the school principal, if the former instructor was no longer at the school). The letter made a personal appeal for cooperation. A specimen is shown opposite page 46.

The seven-contact strategy resulted from information obtained from the pilot studies, which indicated that a multiple contact procedure is essential for a high percentage of returns.

Description of Survey Materials

The results of the pilot studies suggested that returns would be greater if the time interval between successive mail contacts were kept short, i.e., several days rather than several weeks. However, because of return mail transit time, a very short between-contact interval would have meant asking graduates to complete the questionnaire a second time and possibly a third time after they had already mailed in their questionnaire. To avoid the confusion which might result from such circumstances, a between-contact schedule was adopted to minimize unnecessary requests. The schedule for the first of three series of mailings is shown in Table 10.

Table 10. SCHEDULE OF MAIL CONTACTS. (All contacts but the fourth were mailed from local post offices.)

| Contact Number | Ordinal Day | Nature of Contact | Day Mailed | Date Mailed | Contact Interval |
|----------------|-------------|---------------------------------------|------------|-------------|------------------|
| 1 | 1 | School letter plus questionnaire | Tues. | Sep. 15 | — |
| 2 | 4 | Reminder/thank you postcard | Fri. | Sep. 18 | 3 |
| 3 | 10 | Second reminder postcard | Thurs. | Sep. 24 | 6 |
| 4 | 24 | A-I-R letter plus questionnaire | Thurs. | Oct. 8 | 14 |
| 5 | 38 | Third reminder postcard | Thurs. | Oct. 22 | 14 |
| 6 | 52 | Principal's letter plus questionnaire | Thurs. | Nov. 5 | 14 |
| 7 | 60 | Final principal/instructor letter | Fri. | Nov. 13 | 8 |

The first series of mailings covered the graduates of 88 of the 100 schools. It was necessary to initiate a second and third series of mailings because all schools had not yet been visited at the time that the first series was initiated. The schedule of mailings of the second series was modified slightly to accommodate the Christmas holidays. The last series, involving the graduates of two schools that could not be visited as planned because of school problems, was mailed under a considerably accelerated schedule. The seven contacts were completed within a 36 day period. As anticipated, some duplicate questionnaires were received.

The Successive Contact Procedure

Before the first mailing was initiated, the high schools formerly attended by the graduates were oriented by mail on the procedure and mailing schedule that would be followed. A specimen set of the seven mail contacts was provided. School principals were requested to urge graduates who might check with the school to complete and return the questionnaire. The principals were also warned that there would undoubtedly be a trivial percentage of those contacted who would write or phone the school to protest the persistence of reminders to complete the questionnaire. They were urged to do whatever their judgment dictated to influence callers to return a completed questionnaire.

Prior to the first mailing, a procedure for addressing and mailing successive contacts was established. The key to this procedure was a standard data processing card which functioned as an envelope addressing master in an addressing machine. It also was used to record information about the graduate on his return, e.g., "address unknown", "military service overseas", "deceased", "date of questionnaire return", and similar control information. The card was designed to facilitate control of successive contacts to non-respondents and processing returns for the status of mailing results. A specimen master card is shown in Figure 2.

| REG | SCH | Y | S | H | O | P | STU | DAY RETURNED | STEP RETURNED | RET | ELIM | UNK | SPEC | NEW CARD | NEW CARD AT DAY NUMBER |
|-----|-----|---|---|---|---|---|-----|--------------|---------------|----------|------|------|------|----------|------------------------|
| | | | | | | | | | | OUTSTUDY | SKP | STEP | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

Figure 2. MAILING CONTROL CARD

Each master card contained a number which identified the graduate, the school he graduated from, the course he took, and the year he graduated. The cards were sequenced by school and by identification number with school groupings to form a master control deck.

When the material mailed to a graduate was returned "address unknown" by postal authorities, the graduate's card was removed from the master deck and placed into an "address unknown" file for additional processing later. Similarly, if information was received that the graduate was deceased or institutionalized, his master card was withdrawn and placed into an "eliminated" file.

When a questionnaire was received from a graduate, the date of receipt was noted on his master card, and the card was withdrawn from the addressing file and placed into a returned file, organized by school and graduate identification number.

This procedure made it a simple matter to address the next mailing with the balance of the master cards in the addressing file. The procedure was followed after each mailing, with the result that the non-responsive addressing deck was gradually reduced as cards were withdrawn for reasons described previously.

INITIAL CONTACT LETTER

The same contact letter and letterhead style was used for all schools. The signatures were simulated, with the permission of the instructors and principals.

The letters were mailed from the cities in which the schools were located to assure a local postmark, a tactic which lent authenticity to the letter.



WALTHAM VOCATIONAL HIGH SCHOOL / Waltham, Massachusetts

September 15, 1964

Mr. Keith Adams
914 Providence Avenue
Lima, Ohio

Dear Keith:

Our school is taking part in a nation study of vocational education. Our vocational courses, our shops and teachers have all been studied by a research team from the American Institute for Research. Now they plan to study the careers of one-hundred of our graduates - you have been selected to represent your school and graduating class.

You are the most important source of the information needed to help improve the vocational courses offered by the schools in this area. The things that only you can tell us about your vocational education and job experience will help other men seeking vocational training.

Please complete the questionnaire and use the pre-addressed, postage-paid envelope to return it as soon as possible. The information and opinions you give to the American Institute for Research will be treated as confidential. The Institute will give us a summary and analysis that will not be identified with you in any way. Your cooperation is important and will be appreciated by us all.

Thank you for your help.

Sincerely,

Lloyd F Van Audale
Principal

George A Stanley
Instructor

VOCATIONAL EDUCATION SURVEY / American Institute for Research

SECOND CONTACT POSTCARD

The purpose of the postcard was to thank those who had already returned their questionnaires, and to remind those who had not returned the questionnaire to do so. The signature of the principal was simulated with his permission. The cards were mailed from the cities in which the schools were located.

THIRD CONTACT POSTCARD

The purpose of the postcard was to again remind and urge the graduate to return his questionnaire. The card intended to convey that the principal would be kept informed of those who had not as yet returned their questionnaires. The signatures were simulated. The cards were mailed from the cities in which the schools were located.

September 18, 1965

Thank you for completing the questionnaire mailed to you a few days ago. Your responses have a direct bearing on the improvement of vocational courses, teacher training, and shops. No one else can give us the insights and experience which you have - and which we need.

If your questionnaire is already in the mail, thank you for your help. If not, please do it today.

Lloyd F. Van Audale
Principal

September 24, 1964

The American Institute for Research has informed me that your questionnaire has not been received.

I wish to urge you again to complete and return the questionnaire. This study is of national importance, and promises to do much to help vocational education in the United States. It is in keeping with the new emphasis given to vocational education by recent congressional legislation.

If your questionnaire has been mailed, thank you for your cooperation. If not, please complete and mail the questionnaire today.

Lloyd F. Van Audale
Principal

FOURTH CONTACT LETTER

For a change of pace, the fourth contact was a letter from A-I-R's President, John C. Flanagan. It was felt that this letter would stress the nationwide aspects of the study, and show the importance attached to the study by the head of the research organization. The letter continued the theme that the graduate was selected and that he had an opportunity to make a contribution for the improvement of vocational education. The letter was mailed from Pittsburgh, together with another questionnaire and a brochure describing the study.

October 1, 1964

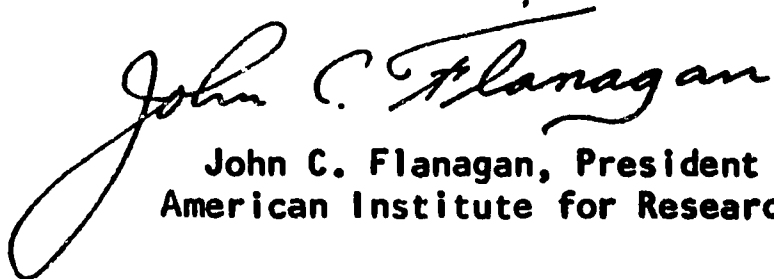
Mr. Keith Adams
914 Providence Avenue
Lima, Ohio

Dear Keith:

You were selected as one of the graduates to represent your high school in our nationwide educational study. We need your answers to our questions. They will help in improving the programs in all our schools. This is your opportunity to make a direct and constructive contribution to the improvement of our schools.

In the event you have misplaced the questionnaire we sent to you earlier, we are enclosing another copy. Please return it as soon as possible. Thank you for your time and effort.

Yours sincerely,

A handwritten signature in cursive script that reads "John C. Flanagan". The signature is written in dark ink and is positioned above the typed name and title.

John C. Flanagan, President
American Institute for Research

P. S. All information reported to the American Institute for Research will be treated as confidential. The summary and analysis given to participating schools will not identify graduates.

FIFTH CONTACT LETTER

The fifth contact used the regular school letter-head with the hope that it would add realism to the letter. The tone of the letter was friendly, although with an increased sense of urgency. The undertone was one that suggested failure to return the questionnaire would be letting the school down. The signature was simulated. The letters were mailed from the city in which the school was located.

WALTHAM PUBLIC SCHOOLS
VOCATIONAL HIGH SCHOOL

100 Summer Street
WALTHAM 54, MASSACHUSETTS

Telephone TWinbrook 3-8050

ES FITZGERALD
Superintendent

LLOYD F. VAN ARSDALE
Director

October 8, 1964

Mr. Keith Adams
914 Providence Avenue
Lima, Ohio

Dear Keith:

The American Institute for Research reports that you still have not completed and returned the questionnaire which was sent to you a short time ago. I want to personally request that you do so since it is very important to our school.

We look to our graduates to help us learn from their training and work experience. There is much that you can tell us that will influence future decisions about vocational courses. Please complete and return your questionnaire today.

Sincerely,

Lloyd F. Van Arsdale
Principal

P. S. All information reported to the American Institute for Research will be treated as confidential. The summary and analysis given to participating schools will not identify graduates.

SIXTH CONTACT POSTCARD

The postcard was a reminder follow-up on the school principals' fifth contact letter. Its purpose was to activate those who mentally agreed to complete the questionnaire after receiving the letter from the principal, but had yet failed to do so. The signature was simulated. The cards were mailed from the cities in which the schools were located.

October 15, 1964

I want to personally remind you to complete and return the questionnaire we sent to you two weeks ago.

Your responses can be significantly meaningful and helpful to our school and the vocational training programs in our area. Do not underestimate the importance of the contribution you can make. Your school and job experience can help frame future decisions as to the course and contents of vocational education. Please complete and return your questionnaire today.

Lloyd F. Van Audale
Principal

FINAL CONTACT LETTER

The seventh and last contact with the non-respondent graduate was a letter from the graduate's instructor. The principal's signature was used if the graduate's former instructor was no longer at the school. The letter was a personal plea for cooperation. Signatures were simulated and the letters were mailed from the cities in which the schools were located.



WALTHAM VOCATIONAL HIGH SCHOOL / Waltham, Massachusetts

October 23, 1964

Mr. Keith Adams
914 Providence Avenue
Lima, Ohio

Dear Keith:

As I wrote to you several weeks ago, our school has taken part in a national study of vocational education. You were selected as one of the graduates to represent our school. All that you have to do is quickly check-off the items that - as you see it - best answer the questions in the attached form.

It will mean a great deal to the school, and to me personally. Please complete the enclosed questionnaire and use the pre-addressed, postage-paid envelope to return it as soon as possible. The American Institute for Research guarantees the fact that anything you report to them will remain confidential. Please help - for old times sake, and for better times and better vocational training in the future.

Thank you for your time and effort.

Sincerely,

Lloyd F. Van Audale
Principal

George A. Stanley
Instructor

P. S. Mail the questionnaire tonight! Drop in for a visit when you are around - meanwhile, good luck.

2

QUESTIONNAIRE RETURNS AND SAMPLE CORRECTION

- Returns on Mailings to Graduates 1
- The Nature of the Graduate Sample 13
- Procedure for Sample Correction 21

CHAPTER 2 SUMMARY

Results of Mailings to Graduates

1. Questionnaire returns by year. The returns for 1953, 1958, and 1962 vocational graduates were 40.2, 46.4, and 60.8 per cent respectively, for a combined return of 50.5 per cent. A substantial percentage of the non-returns were "address unknown" cases.
2. Questionnaire returns by school. There were striking differences in the returns by school. The school returns ranged from less than 10 per cent to more than 90 per cent.
3. Other factors influencing returns. Returns from vocational schools were higher than from comprehensive schools. School enrollment was unrelated to rate of return. Type of program taken; i.e., vocational or academic, was unrelated to rate of return. There were definite regional differences in rate of return.

Nature of Graduate Sample

4. Representation by year. The usable returns for 1953, 1958, and 1962 graduates were 21, 30, and 44 per cent respectively of the total sample, which included some intermediate-year graduates.
5. Representation by type of school. The percentages of usable vocational-graduate returns from vocational and comprehensive schools were 59 and 41 per cent respectively of the total sample. The comparable school ratio was 50-50.
6. Representation by school enrollment. The percentages of usable vocational-graduate returns from schools with enrollment less than 500, between 500 and 1,500, and more than 1,500 were 33, 38, and 29 per cent respectively of the total sample. The comparable school ratio was 32-38-30.
7. Representation by region. The percentages of usable vocational-graduate returns from the eight geographic regions corresponded closely with the school representation among the eight regions.
8. Representation by race. The percentages of usable vocational-graduate returns from white and Negro graduates were 93 and 7 per cent respectively. A high address-unknown problem among Negro graduates contributed to the relatively low Negro representation.
9. Representation by trade. More than 25 T&I trades were represented among the usable returns. Five trades accounted for 57 per cent of the total sample (machinist, automobile mechanic, electrician, drafting, and printing).

(Continued in Appendix B)

RESULTS OF MAILINGS TO GRADUATES

Introduction

The total returns from the questionnaire mailings to graduates have an important methodological bearing on the treatment of survey data. Mail surveys of the type used in this study do not yield a 100 percent return. Where the return is substantially less than 100 percent, as is almost invariably the case, there is always the question of how "different" are the non-respondents from the respondents, and what would the findings have been had the non-respondents answered. For example, if a survey which yields a 30 percent return reports that all vocational course graduates were gainfully employed in the trades for which they were trained within two months after graduation, the reader must wonder what would the finding be if the other 70 percent had returned their questionnaires.

In this section, the returns of the questionnaire mailings are presented as a background for the discussion of the procedure used to correct the sample for "address unknown" cases and "non-respondent" cases.

Questionnaire Returns by Year

The returns of the questionnaire mail-out can be categorized as follows:

1. Address unknowns: Mailings returned by authorities for reasons of "insufficient address," "no such address," or "not located at address."
2. Returns based on initial mailings: Returns expressed as a percentage of the number of graduates to which questionnaires were mailed.
3. Returns based on cases contacted: Returns expressed as a percentage of the number of graduates who did not have an "address unknown" outcome.

4. Non-respondents: The percentage obtained by subtracting the percentage of returns based upon cases contacted from 100 percent.

The returns for vocational course graduates are shown in Table 11.

Table 11. VOCATIONAL COURSE GRADUATE RETURNS

| Types of Contacts and Returns | YEAR OF GRADUATION | | | | | | | |
|------------------------------------|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Initial mailing to graduates | 2945 | — | 3654 | — | 4199 | — | 10758 | — |
| Cases returned "address unknown" | 959 | 32.6 | 1052 | 28.8 | 621 | 14.8 | 2632 | 24.5 |
| Cases contacted by mailings | 1986 | 67.4 | 2602 | 71.2 | 3578 | 85.2 | 8166 | 75.5 |
| Returns (based on initial mailing) | 1185 | 40.2 | 1694 | 46.4 | 2555 | 60.8 | 5434 | 50.5 |
| Returns (based on cases contacted) | 1185 | 59.7 | 1694 | 65.1 | 2555 | 71.4 | 5434 | 66.6 |

As was expected, percentages of address unknown cases increased as a function of years out of school: 14.8 percent for 1962 graduates, 28.8 percent for 1958 graduates, and 32.6 for 1953 graduates. The longer the graduate had been out of school, the less satisfactory were the addresses obtained from school personnel.

The above trend also influenced the percentages of returns based upon initial mailings. These percentages were 60.9 for 1962 graduates, 46.4 for 1958 graduates, and only 40.8 for 1953 graduates. These are the figures that make it desirable that the questionnaire returns be corrected for address unknown and non-respondent cases.

The percentages of returns based upon cases assumed to have been contacted were substantially greater: 71.4 percent for 1962 graduates, 65.1 percent for 1958 graduates, and 59.7 percent for 1953 graduates, for an overall return of 66.6 percent based upon cases contacted. The latter percentages clearly indicate

that recent graduates were more cooperative in returning questionnaires, thereby confirming the results of the pilot study.

How did the returns from academic course graduates compare with those from the vocational graduates? The data are shown in Table 12.

Table 12. ACADEMIC COURSE GRADUATE RETURNS

| Types of Contacts and Returns | YEAR OF GRADUATION | | | | | | | |
|------------------------------------|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Initial mailing to graduates | 1096 | — | 1184 | — | 1215 | — | 3494 | — |
| Cases returned "address unknown" | 441 | 40.2 | 356 | 30.1 | 166 | 13.7 | 963 | 27.6 |
| Cases contacted by mailings | 655 | 59.8 | 828 | 69.9 | 1049 | 86.3 | 2531 | 72.4 |
| Returns (based on initial mailing) | 431 | 39.3 | 569 | 48.1 | 798 | 65.7 | 1798 | 51.5 |
| Returns (based on cases contacted) | 431 | 65.8 | 569 | 68.7 | 798 | 76.1 | 1798 | 71.1 |

The trends reported for vocational graduate returns are confirmed by the academic graduate returns: (1) The greater the number of years since graduation, the greater the percentage of address unknown cases. Whereas, only 13.7 percent of the 1962 graduates were address unknown cases, 40.2 percent of the 1953 academic course graduates were address unknown cases. This indicates one of the major problems of doing surveys of this kind with graduates of many years past. (2) Based upon cases assumed to have been contacted, the percentage of returns decrease as the number of years since graduation increase. The recent graduate is more cooperative in returning the questionnaire. This may be a reflection of the dwindling influence of the school on the graduate as the years go by. Appeals based upon school loyalty apparently diminish in effectiveness as the years since graduation increase.

Questionnaire Returns by School

Are there significant differences between schools in terms of percentage of address unknown cases and percentage of respondents based upon numbers assumed to have been contacted? The answer is of value because it describes variation in school representation in the total sample. Chapter I made clear that the 100 schools differed widely in terms of number of graduates selected for follow-up study. The two problems of address unknown cases and non-respondent cases also contributed to unequal sample representation of the schools in the total sample.

Table 13 shows a frequency distribution of the schools in terms of percentage of address unknown cases. The individual school differences are readily apparent. Even for the most recent graduating class of the study, the class of 1962, three schools had between 41 and 50 percent of their graduates in the address unknown category. At the other extreme, 14 schools had 10 percent or fewer of their class of 1953 graduates in the address unknown category. What accounts for the school differences? Certainly one answer is that some schools make a vigorous effort to maintain contact with vocational course graduates, whereas most do not. Mobility in terms of address changes is obviously the basic answer. The reasons for differences in percentages of address changes from one school community to another can not be convincingly established by the data available.

Table 14 shows a frequency distribution of the schools in terms of percentage of returns based upon total number of school graduates to whom questionnaires were mailed. The differences between schools are the product of differences in numbers of address unknown and non-respondent cases. Notice the wide range of differences for each of the three class years. The differences emphasize the need for correcting the sample on the basis of individual schools as well as year of graduation.

The frequency distribution of the schools in terms of percentage returns based upon the numbers assumed to have been contacted is shown in Table 15. The range of differences between schools is striking. The percentages of returns

Table 13. FREQUENCY DISTRIBUTION OF SCHOOLS IN TERMS OF PERCENTAGE OF ADDRESS UNKNOWN CASES BY YEAR OF GRADUATION

| Percentage Class Intervals | Year of Graduation | | | |
|---------------------------------|--------------------|-------------|-------------|-------------|
| | 1953 | 1958 | 1962 | Combined |
| 91 - 100 | 2 | 0 | 0 | 0 |
| 81 - 90 | 0 | 0 | 0 | 0 |
| 71 - 80 | 2 | 1 | 0 | 0 |
| 61 - 70 | 8 | 1 | 0 | 0 |
| 51 - 60 | 9 | 6 | 0 | 3 |
| 41 - 50 | 17 | 8 | 3 | 6 |
| 31 - 40 | 12 | 25 | 8 | 19 |
| 21 - 30 | 23 | 27 | 8 | 28 |
| 11 - 20 | 13 | 21 | 44 | 34 |
| 0 - 10 | 14 | 11 | 37 | 10 |
| Total Address Unknowns | 959 | 1052 | 621 | 2632 |
| Percent Address Unknowns | 32.9 | 28.8 | 14.8 | 24.5 |

Table 14. FREQUENCY DISTRIBUTION OF SCHOOLS IN TERMS OF PERCENTAGE RETURNS (BASED ON INITIAL MAILING) BY YEAR OF GRADUATION

| Percentage Class Intervals | Year of Graduation | | | |
|----------------------------|--------------------|-------------|-------------|-------------|
| | 1953 | 1958 | 1962 | Combined |
| 91 - 100 | 1 | 1 | 1 | 0 |
| 81 - 90 | 2 | 2 | 6 | 0 |
| 71 - 80 | 4 | 7 | 20 | 10 |
| 61 - 70 | 9 | 13 | 24 | 15 |
| 51 - 60 | 8 | 16 | 19 | 22 |
| 41 - 50 | 18 | 17 | 13 | 26 |
| 31 - 40 | 20 | 24 | 10 | 16 |
| 21 - 30 | 15 | 14 | 6 | 9 |
| 11 - 20 | 10 | 6 | 1 | 2 |
| 0 - 10 | 13 | 0 | 0 | 0 |
| Total Respondents | 1185 | 1694 | 2555 | 5434 |
| Percent Respondents | 40.2 | 46.4 | 60.4 | 50.5 |

for 1953 graduates who were not in the address unknown category ranged from less than 10 percent for ten schools to more than 90 percent for five schools. The school differences are undoubtedly, in part, a reflection of differences in feelings of loyalty toward schools by their graduates. The mail contacts relied heavily upon the theme of helping the school and vocational education by returning the questionnaire. The use of principal and instructor signatures, and school letterheads gave added reality to the appeal. The fact that the graduates of schools responded differentially over such a wide range of return rates suggests the influence of strong attitudes toward schools. This interpretation is supported by the notes and letters that often accompanied questionnaires, and sometimes came without questionnaires. Many of the respondents wrote, in effect, that they completed the questionnaire in return for help given to them when they were in school or in need of a job. A non-respondent wrote to say, among other things, he would not complete the questionnaire because the school had never done him much good.

**Table 15. FREQUENCY DISTRIBUTION OF SCHOOLS IN TERMS OF RESPONDENTS
(BASED ON CASES CONTACTED) BY YEAR OF GRADUATION**

| Percentage Class Intervals | Year of Graduation | | | |
|-------------------------------|--------------------|-------------|-------------|-------------|
| | 1953 | 1958 | 1962 | Combined |
| 91 - 100 | 5 | 5 | 7 | 0 |
| 81 - 90 | 8 | 12 | 20 | 12 |
| 71 - 80 | 23 | 17 | 22 | 30 |
| 61 - 70 | 16 | 26 | 26 | 20 |
| 51 - 60 | 14 | 14 | 10 | 20 |
| 41 - 50 | 10 | 13 | 8 | 10 |
| 31 - 40 | 6 | 8 | 6 | 8 |
| 21 - 30 | 5 | 5 | 1 | 0 |
| 11 - 20 | 3 | 0 | 0 | 0 |
| 0 - 10 | 10 | 0 | 0 | 0 |
| Total Respondents | 1185 | 1694 | 2555 | 5434 |
| Percent Respondents | 59.7 | 65.1 | 71.4 | 66.6 |

Other Factors Influencing Returns

To what extent are differences in rates of returns attributable to such variables as geographic region, type of school attended, enrollment of school attended, and type of graduate? The answers may be of methodological value to those researchers who may undertake to do similar surveys.

Table 16 compares the returns from vocational course graduates from comprehensive schools with those from vocational schools.

Table 16. VOCATIONAL GRADUATE RETURNS BY TYPE OF SCHOOL ATTENDED

| Types of Contacts and Returns | TYPE OF SCHOOL | | | |
|--|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| Initial mailing to graduates | 6,160 | — | 4,645 | — |
| Returned "address unknown" | 1,446 | 23.5 | 1,168 | 25.1 |
| Contacted by mailings | 4,714 | 76.5 | 3,477 | 74.9 |
| Returns (based on initial mailings) . . | 3,224 | 52.3 | 2,210 | 47.6 |
| Returns (based on cases contacted) . . . | 3,224 | 68.4 | 2,210 | 63.6 |

Based upon number of cases contacted, the returns are greater for graduates from vocational schools (68.4 percent) than for comprehensive school graduates (63.6 percent). Perhaps the school "loyalty" factor mentioned earlier is greater among vocational school graduates.

Table 17 shows the relation between returns and school enrollment. The percentage of address unknown cases increases as a function of school enrollment. No doubt this is so because the large enrollment schools are located in metropolitan areas where address changes are more likely to occur than in small communities. Returns, however, were in the opposite direction. Based upon cases contacted, the returns were greatest from the above 1500 enrollment schools and least from the below 500 enrollment schools. No plausible explanation can be offered to account for the trend.

The regional returns for vocational graduates are shown in Table 19. There are sizable regional differences in the percentage of address unknown cases. The lowest regional percentage of address unknown cases was in the Northeast (11.9 percent); the highest percentage was in the Southeast (30.5 percent). The data suggest that the mobility of vocational course graduates varies widely among the geographic regions. Undoubtedly, differences in local employment opportunity are partly responsible. A more complete discussion of the mobility of vocational course graduates is reserved for Chapter 12.

Table 19 also shows substantial regional differences in the percentages of returns based upon the number assumed to have been contacted. The range is from a low of 59.7 percent (Southeast) to a high of 79.6 percent (Rocky Mountains). Why there should be such pronounced rate of return differences among the regions remains unanalyzed. The differences are interesting from the standpoint of questionnaire follow-up methodology, and make a problem worthy of research.

The regional differences in percentages of address unknowns and respondents based upon non-address unknowns point out the weakness of generalizing from regional surveys of this kind to the country as a whole.

A comparison of returns from Negro and white graduates is shown in Table 20. Lack of information on the race of graduates selected for follow-up make it impossible to analyze return data by race in the usual manner. The Negro graduates represented in Table 20 came from nine all-Negro enrollment schools. The white graduates analyzed in the table came from the nearest comparable type school, e.g. comprehensive or vocational with an all-white enrollment. A greater number of address unknown cases came from the Negro graduates (40.5 percent vs. 29.3 percent for the white graduates). Moreover, the rate of return based upon cases assumed to have been contacted was substantially smaller for the Negro graduates (54.1 percent vs. 69.1 percent for the white graduates). Clearly, race is a variable influencing rate of return.

Table 19. VOCATIONAL GRADUATE RETURNS BY GEOGRAPHIC REGION

| Geographic Regions | | Initial Mailing to Graduates | Returned Address Unknown | Contacted By Mail | Returns Based on No. Mailed | Returns Based on No. Contacted |
|--------------------|---|------------------------------|--------------------------|-------------------|-----------------------------|--------------------------------|
| Northeast | N | 1271 | 151 | 1120 | 869 | 869 |
| | % | — | 11.9 | 88.1 | 68.4 | 77.6 |
| Midwest | N | 2822 | 575 | 2247 | 1561 | 753 |
| | % | — | 20.4 | 79.6 | 55.3 | 69.5 |
| Great Lakes | N | 1623 | 437 | 1186 | 753 | 753 |
| | % | — | 26.9 | 73.1 | 46.4 | 63.5 |
| Plains | N | 955 | 264 | 691 | 457 | 457 |
| | % | — | 27.6 | 72.4 | 47.9 | 66.1 |
| Southeast | N | 2967 | 906 | 2061 | 1230 | 1230 |
| | % | — | 30.5 | 69.5 | 41.5 | 59.7 |
| Southwest | N | 598 | 140 | 458 | 277 | 277 |
| | % | — | 23.4 | 76.6 | 46.3 | 60.5 |
| Rocky Mountains | N | 88 | 19 | 69 | 55 | 55 |
| | % | — | 21.6 | 78.4 | 62.5 | 79.7 |
| Pacific | N | 474 | 140 | 334 | 232 | 232 |
| | % | — | 29.5 | 70.5 | 48.9 | 69.5 |

No satisfactory explanations can be offered for the greater percentage of address unknown cases among the Negro graduates, and their lower rate of return. Undoubtedly, there are a number of contributing factors. A discussion of possible reasons would be unnecessary speculation and beyond the purposes of the report.

Table 20. VOCATIONAL GRADUATE RETURNS BY RACE OF GRADUATE * (SEE TEXT.)

| Types of Contacts and Returns | Race of Graduate | | | |
|--|------------------|------|-------|------|
| | Negro | | White | |
| | N | % | N | % |
| Initial mailing to graduates | 770 | — | 1064 | — |
| Cases returned "address unknown" | 312 | 40.5 | 312 | 29.3 |
| Cases contacted by mailings | 458 | 59.5 | 752 | 70.7 |
| Returns (based on initial mailing) . . . | 248 | 32.2 | 520 | 48.9 |
| Returns (based on cases contacted) . . . | 248 | 54.1 | 520 | 69.1 |

* Nine all-Negro enrollment schools were compared with the nine nearest all-white enrollment schools.

THE NATURE OF THE GRADUATE SAMPLE

The usable questionnaire returns from vocational and academic course graduates have been analyzed in terms of such independent variables as year of graduation, type of school attended, enrollment of school attended, type of course taken, race of graduate, and geographic region. Therefore, a description of the graduate sample in terms of the aforementioned variables is desirable.

Representation by Year

The total sample of usable vocational and academic course graduate returns is distributed among the three years of graduation as shown in Table 21. The larger number of 1962 graduates in the sample is a reflection of: (1) a larger number of 1962 graduates in the initial sample of graduates to whom questionnaires were mailed (Chapter 1, Table 5, p.13), and (2) fewer address unknown cases and a higher rate of return from the 1962 graduates (Chapter 2, Table 11, p. 2). The initially larger number of 1962 graduates reflects the trend of increasing size of graduating classes over the past fifteen years.

Table 21. DISTRIBUTION OF VOCATIONAL AND ACADEMIC GRADUATES
BY YEAR OF GRADUATION (USABLE RETURNS) *

| Types of Graduates | YEAR OF GRADUATION | | | | | | | |
|--------------------------------|--------------------|------|------|------|------|------|----------|-----|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Vocational graduates | 1163 | 20.7 | 1658 | 29.5 | 2486 | 44.2 | 5327 | 100 |
| Academic graduates | 423 | 23.8 | 563 | 31.6 | 784 | 44.1 | 1780 | 100 |

* Approximately 20 vocational graduates fell into years adjacent to the three years indicated above.

The unequal representation of the three graduating class years in the total sample should be kept in mind where data are presented in terms of the total sample. In all such presentations, the data will also be presented separately for the three years of graduation.

Representation by Type of School

Table 22 shows the distribution of T & I graduates by type of school and year of graduation. For each of the three years of graduation, the number of vocational school graduates exceeds the number of T & I comprehensive school graduates. This is a reflection of the larger graduating classes found among the vocational schools, and the slightly higher rate of returns from the graduates of such schools. Thus, 58.6 percent of the graduates came from the 50 vocational schools and 41.4 percent came from the 50 comprehensive schools.

Table 22. DISTRIBUTION OF T & I GRADUATES WHO RETURNED USABLE QUESTIONNAIRES BY TYPE OF SCHOOL AND YEAR OF GRADUATION

| Type of School | YEAR OF GRADUATION | | | | | | | |
|-------------------------|--------------------|------|------|------|-------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Vocational * | 715 | 61.5 | 939 | 56.6 | 1,453 | 58.4 | 3,122 | 58.6 |
| Comprehensive | 448 | 38.5 | 720 | 43.4 | 1,033 | 41.6 | 2,205 | 41.4 |

* Includes vocational, technical, and vocational-technical schools.

Representation by School Enrollment

The classification of schools into enrollment categories of less than 500, 500 and 1500, and more than 1500 was based upon enrollment figures for the 1963-64 school year. The latter figures were not the enrollment figures for the schools in 1953, 1958, and 1962. However, because of the broad enrollment categories, it was assumed that the actual enrollment figures for 1953, 1958 and 1962 would not have substantially altered the distribution of schools in the three enrollment categories. Table 23 shows the distribution of graduates according to school enrollment category.

Table 23. DISTRIBUTION OF T & I GRADUATES WHO RETURNED USABLE QUESTIONNAIRES BY SCHOOL ENROLLMENT AND YEAR OF GRADUATION *

| School Enrollment | YEAR OF GRADUATION | | | | | | | |
|--------------------------|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Less than 500 | 419 | 36.0 | 545 | 32.8 | 786 | 31.6 | 1755 | 32.9 |
| 500 - 1500 | 438 | 37.7 | 650 | 39.2 | 918 | 36.9 | 2017 | 37.9 |
| More than 1500 | 306 | 26.3 | 464 | 28.0 | 782 | 31.5 | 1555 | 29.2 |

* As of October, 1963.

The correspondence between the percentage distribution of schools in the three enrollment categories and the percentage distribution of all T & I graduates is shown in Table 24. The correspondence is nothing less than amazing since the graduate representation figures do not necessarily follow from the school representation figures.

**Table 24. CORRESPONDENCE BETWEEN SCHOOL AND GRADUATE REPRESENTATION
IN SCHOOL ENROLLMENT CATEGORIES**

| Total School Enrollment | School Representation | | Graduate Representation | |
|--------------------------|-----------------------|------|-------------------------|------|
| | N | % | N | % |
| Less than 500 | 32 | 32.0 | 1755 | 32.9 |
| 500 to 1500 | 38 | 38.0 | 2017 | 37.9 |
| More than 1500 | 30 | 30.0 | 1555 | 29.2 |

Representation by Region

The distribution of graduates among the eight geographical regions in the sample of usable returns is shown in Table 25. It will be seen that the regions are not equally represented in the final sample. This is as should be because the regions do not contribute equally to the total number of schools in the United States offering T & I vocational programs. The Table indicates that 50.7 percent of the graduates came from two regions, the Mideast and the Southeast.

**Table 25. DISTRIBUTION OF T & I GRADUATES WHO RETURNED USABLE QUESTIONNAIRES
BY REGION AND YEAR OF GRADUATION**

| Geographic Region | YEAR OF GRADUATION | | | | | | | |
|---------------------------|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Northeast | 222 | 19.1 | 274 | 16.5 | 365 | 14.7 | 863 | 16.2 |
| Mideast | 375 | 32.2 | 495 | 29.8 | 674 | 27.1 | 1549 | 29.1 |
| Great Lakes | 121 | 10.4 | 233 | 14.0 | 390 | 15.7 | 749 | 14.1 |
| Plains | 107 | 9.2 | 121 | 7.3 | 226 | 9.1 | 454 | 8.5 |
| Southeast | 231 | 19.9 | 372 | 22.4 | 543 | 21.8 | 1153 | 21.6 |
| Southwest | 46 | 4.0 | 96 | 5.8 | 133 | 5.3 | 275 | 5.2 |
| Rocky Mountains | 12 | 1.0 | 20 | 1.2 | 23 | 0.9 | 55 | 1.0 |
| Pacific | 49 | 4.2 | 48 | 2.9 | 132 | 5.3 | 229 | 4.3 |

The correspondence between the percentage distribution of schools among the eight regions and the percentage distribution of T & I graduates in the final sample is shown in Table 26. On the overall, the correspondence is close.

Table 26. CORRESPONDENCE BETWEEN SCHOOL AND GRADUATE REPRESENTATION AMONG THE EIGHT GEOGRAPHIC REGIONS

| Geographic Region | School Representation | | Graduate Representation | |
|-------------------------|-----------------------|-------|-------------------------|-------|
| | N | % | N | % |
| Northeast | 11 | 11.0 | 869 | 16.0 |
| Mideast | 24 | 24.0 | 1561 | 28.7 |
| Great Lakes | 15 | 15.0 | 753 | 13.9 |
| Plains | 7 | 7.0 | 457 | 8.4 |
| Southeast | 29 | 29.0 | 1230 | 22.6 |
| Southwest | 8 | 8.0 | 277 | 5.1 |
| Rocky Mountains . . . | 1 | 1.0 | 55 | 1.0 |
| Pacific | 5 | 5.0 | 232 | 4.3 |
| UNITED STATES | 100 | 100.0 | 5435 | 100.0 |

Representation by Race

No effort was made to achieve a given ratio of the races in the final sample. Schools were selected without consideration for the racial composition of students. Within stratification of region, size of enrollment, and type of school, chance factors alone governed the selection of schools, with the exception of six schools previously mentioned. The ratio of races represented in the sample of usable returns is shown in Table 27. The data is based upon information received from the questionnaire returns. Race was not specified on 116 of the returns.

**Table 27. DISTRIBUTION OF T & I GRADUATES WHO RETURNED USABLE QUESTIONNAIRES
BY RACE AND YEAR OF GRADUATION**

| Race of Graduate | YEAR OF GRADUATION | | | | | | | |
|------------------|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| White | 1106 | 95.9 | 1501 | 92.8 | 2222 | 91.8 | 4847 | 93.0 |
| Negro | 44 | 3.8 | 111 | 6.9 | 188 | 7.8 | 344 | 6.6 |
| Other | 3 | 0.3 | 6 | 0.4 | 10 | 0.4 | 19 | 0.4 |

The Negro graduates constitute only 6.6 percent of the total sample, much less than what should be expected on the basis of chance, given the ratio of white to Negroes in the total population. A partial explanation is the higher number of address unknown cases among the Negro graduates, and the lower rate of return from those who were contacted. The low percentage of Negro representation in the total sample is unfortunate from the standpoint of exploring racial differences in post-high school occupational and educational experiences. The comparisons have been made. They would have been on firmer ground had the Negro representation been greater.

Representation by Trade

The representation of the different T & I trades among the graduates is shown by year of graduation in Table 28. The top five trades are machinists (16.6 percent), automobile mechanics (15.3 percent), electrician (11.0 percent), drafting all types (7.8 percent), and printing (6.9 percent). Thus, 57.4 percent of the total graduate sample is represented by five trades. The percentages may be interpreted as approximations of the percentages of graduates generated by the different T & I vocational courses based upon the total number of T & I graduates. Clearly, some trades have a very small representation in the total sample. Eight trades, for example, have less than a one

Table 28. DISTRIBUTION OF T & I GRADUATES WHO RETURNED USABLE QUESTIONNAIRES
BY CLASS YEAR AND TRADE *

| Trade and Industry Trades | 1953 | | 1958 | | 1962 | | Combined | |
|--|------|-------|------|------|------|------|----------|------|
| | N | % | N | % | N | % | N | % |
| Automotive mechanics | 162 | 13.99 | 245 | 14.8 | 398 | 16.0 | 813 | 15.3 |
| Auto body repair | 14 | 1.2 | 23 | 1.4 | 46 | 1.8 | 84 | 1.6 |
| Airplane power mechanics | 15 | 1.3 | 19 | 1.1 | 28 | 1.1 | 62 | 1.2 |
| Air conditioning and heating | 0 | 0.0 | 5 | 0.3 | 12 | 0.5 | 17 | 0.3 |
| Building trades (mixed) | 22 | 1.9 | 44 | 2.6 | 46 | 1.8 | 112 | 2.1 |
| Carpentry | 58 | 5.0 | 73 | 4.4 | 79 | 3.2 | 210 | 3.9 |
| Commercial art | 16 | 1.4 | 25 | 1.5 | 41 | 1.7 | 82 | 1.5 |
| Drafting (all types) | 74 | 6.4 | 129 | 7.8 | 213 | 8.6 | 417 | 7.8 |
| Electrician | 128 | 11.0 | 196 | 11.8 | 262 | 10.5 | 587 | 11.0 |
| Electronic technician | 18 | 1.5 | 46 | 2.8 | 152 | 6.1 | 216 | 4.1 |
| Food trades | 4 | 0.3 | 12 | 0.7 | 28 | 1.1 | 45 | 0.8 |
| Foundry | 3 | 0.3 | 4 | 0.2 | 9 | 0.4 | 16 | 0.3 |
| Machinist | 200 | 17.2 | 301 | 18.2 | 381 | 15.3 | 886 | 16.6 |
| Masonry | 8 | 0.7 | 14 | 0.8 | 27 | 1.1 | 49 | 0.9 |
| Mill and cabinetry | 108 | 9.3 | 100 | 6.0 | 126 | 5.1 | 337 | 6.3 |
| Metal trades | 22 | 1.9 | 13 | 0.8 | 27 | 1.1 | 62 | 1.2 |
| Painting and decorating | 3 | 0.3 | 8 | 0.5 | 8 | 0.3 | 19 | 0.4 |
| Plumbing | 23 | 2.0 | 23 | 1.4 | 22 | 0.9 | 68 | 1.3 |
| Printing | 84 | 7.2 | 108 | 6.5 | 175 | 7.0 | 367 | 6.9 |
| Radio and TV repair | 31 | 2.7 | 35 | 2.1 | 63 | 2.5 | 129 | 2.4 |
| Sheet metal fabrication | 36 | 3.1 | 55 | 3.3 | 66 | 2.7 | 157 | 2.9 |
| Shoe repair | 1 | 0.1 | 3 | 0.2 | 6 | 0.2 | 10 | 0.2 |
| Tailoring | 2 | 0.2 | 9 | 0.5 | 17 | 0.7 | 28 | 0.5 |
| Upholstery | 6 | 0.5 | 7 | 0.4 | 4 | 0.2 | 17 | 0.3 |
| Welding | 42 | 3.6 | 48 | 2.9 | 104 | 4.2 | 194 | 3.6 |
| Other than above | 83 | 7.1 | 114 | 6.9 | 146 | 5.9 | 343 | 6.4 |

* Actual course titles do not in all cases correspond with the trade titles listed above.

percent representation. Sixteen of the twenty-five trades have less than a three percent representation.

Occupational and educational history data will not be presented in terms of the individual T & I trades, for the reason that many of the trades are represented by a relatively few number of graduates. The data for such analyses will be made available to researchers who wish to go a step beyond the present study.

PROCEDURE FOR SAMPLE CORRECTION

Logic of Sample Correction

When questionnaire returns are substantially less than 100 percent, the failure to apply a sample correction for non-returns can and often does lead to false conclusions. For that reason, it was deemed essential to attempt to correct the returns for address unknown cases and for non-respondent cases.

The logic of the correction is simple. A N percent random sample of the address unknown cases is subjected to an intensified effort to locate their whereabouts. Once located, an effort is made to get a questionnaire return of 90 percent or better from the sample of address unknown cases. The questionnaires so obtained are considered to be an estimate of what the returns would have been like had questionnaires been obtained from all address unknown cases. On that assumption, the small correction sample is replicated $100/N$ times to give a total corrective sample equal to the total number of address unknown cases. The resulting correction sample is then added to the original questionnaire returns. The same basic procedure is applied to the non-respondents, i.e. those who received but did not return a questionnaire.

The logic of the sample correction procedure has a source of potentially serious error that should be understood. The validity of the sample correction is very much dependent upon how accurately the N percent correction sample estimates the population which it seeks to gauge. Any error is multiplied $100/N$ times, and fed into the uncorrected returns. Thus, the corrected returns can be badly distorted with a sizable error in the correction sample. Since the probable error is a function of the size of the correction sample, the size of the latter should be sufficiently large to insure confidence in the estimate. A five percent correction sample was considered the minimum necessary for an adequate sample. However, even with a five percent correction sample, the possibility of serious error remains, and should be recognized.

The correction procedure has another source of potential error. The uncorrected sample was obtained by having the respondent answer the questionnaire without the presence of an A.I.R. representative. A substantial percentage of the correction sample was obtained mainly through an interview procedure conducted by representatives of a nationwide organization specializing in personnel search and interview. There is the possibility that the two different techniques for getting the questionnaire data may differentially influence the data obtained. For example, the respondent may be inclined to hold back information in an interview situation that he might give in a non face-to-face situation. Or, the presence of the interviewer may influence the expression of information differently from what would be the case in a non-interview situation. Thus, the possibility of a systematic bias must be recognized when dealing with the type of sample correction procedure described earlier. Unfortunately, there exists no feasible alternative procedure.

The actual correction procedure used was somewhat more refined than described. It is described separately for non-respondent and address unknown cases below.

Sample Correction for Non-Response

The following steps were applied to correct the sample for non-response:

1. Determination of sample size. The total number of vocational non-respondents was 2732; the total number of academic non-respondents was 733. Five percent of these numbers gave a corrective sample of 136 for the vocational graduates and 37 for the academic graduates.
2. Determination of school contributions. Each school's percentage contribution to the total number of vocational non-respondents was determined. As nearly as could be approximated, the

number of graduates to be sampled from each school's population of non-respondents was determined so that each school's percentage contribution to the corrective sample for vocational non-respondents was the same as its percentage contribution to the population of vocational non-respondents.

3. Determination of class year contribution. Each graduating class year's percentage contribution to the total number of non-respondents was determined. The values were 40.3, 34.9, and 28.6 percent respectively for the classes of 1953, 1958, and 1962. On the basis of steps 2 and 3, a table was established specifying the number of non-respondents to be sampled by class year and school. Table 29 shows how a selected 11 of the 100 schools appeared in the table. The ratio of cases allotted to the three class years approximates the ratio of non-respondents from the three graduating class years.

Table 29. SEGMENT OF TABLE USED TO SELECT 5 PERCENT SAMPLE OF VOCATIONAL NON-RESPONDENTS

| School | Number Selected | | | |
|------------|-----------------|------|------|-------|
| | 1962 | 1958 | 1953 | Total |
| 1 | 0 | 0 | 0 | 0 |
| 2 | 0 | 1 | 0 | 1 |
| 3 | 1 | 1 | 0 | 2 |
| 4 | 0 | 1 | 0 | 1 |
| 5 | 0 | 0 | 1 | 1 |
| 6 | 0 | 1 | 0 | 1 |
| 7 | 0 | 1 | 1 | 2 |
| 8 | 1 | 0 | 0 | 1 |
| 9 | 1 | 0 | 0 | 1 |
| 10 | 1 | 0 | 0 | 1 |
| | ≈ | ≈ | ≈ | ≈ |
| 100 | 1 | 0 | 0 | 1 |
| Number | 40 | 45 | 51 | 136 |
| Percentage | 29.4 | 33.1 | 37.5 | 100 |

4. Selection of corrective sample. The non-respondent addressing masters were organized by school and class year, and sequenced by identification number within class year. Random sampling was assured by selecting every Nth card when it was necessary to draw more than one case from a given class year for a given school. Where it was necessary to draw only one card, it was alternately the first and last card in the appropriate deck for successive schools.
5. Solicitation of non-respondents by schools. The five percent corrective sample drawn was such that no school had more than 6 non-respondents. The small number of cases per school resulted in a decision to ask the schools to make an all-out effort to persuade their corrective sample non-respondents to return a questionnaire.

Figure 3 shows the front and back of a card sent to the schools for each non-respondent case. Additional questionnaires were provided. The accompanying letter explained the importance of getting all corrective sample non-respondents to return a questionnaire.

As a result of the efforts by school personnel, 27.9 percent of the vocational non-respondents and 35.1 percent of the general non-respondents returned questionnaires.

6. Interviews by credit agency personnel. It was assumed that many of the remaining non-respondents simply would not take the trouble to complete the questionnaires. The services of a credit agency were used to obtain the questionnaire information by personal interview. Such interviews brought the non-respondent corrective sample returns to 66.2 percent for vocational graduates and 64.9 percent for general graduates. The hard-core non-respondents were persons who could not be contacted for interview or who flatly refused to be interviewed.

(FRONT SIDE)

The name and address of the NON-RESPONDENT is given at the right. The records indicate that he:

graduated In 1953 1958 1962
took the course Auto Mechanics
Instructed by P. R. Davis

Mailing Address

025027

Dale Edwards
410 Kingston Road
Albany, New York

Seven mail contacts have been made to the above address. All letters were accepted so we assume that the graduate received the letters. This may not be the case. PLEASE FIND OUT IF THE GRADUATE IS LOCATED AT THE ABOVE ADDRESS.

Try to influence or obtain a completed questionnaire return from the graduate by one of the methods suggested at the right. A.I.R. will reimburse you for expenses involved. In addition, you will receive \$5.00 for each completed 'non-respondent' questionnaire.

SUGGESTED METHODS FOR OBTAINING QUESTIONNAIRE RETURN
(Check method used)

- 1. Mail contact
- 2. Telephone contact
- 3. Personal interview

SEE REVERSE SIDE

AMERICAN INSTITUTES FOR RESEARCH 410 AMBERSON AVE. PITTSBURGH, PENNSYLVANIA 15232

(BACK SIDE)

1. Mail contact. Write a personal letter to the non-respondent urging him again to complete the questionnaire. Offer to help him complete the questionnaire if he will drop by the school.
2. Telephone contact. Mail another copy of the questionnaire to him after you have explained the need for his return on the telephone. A personal telephone explanation persuades about 25% of non-respondents to respond.
3. Interview contact. Visit the non-respondent. Explain to him personally the importance of completing the questionnaire. Help him complete the questionnaire at the time of the interview. Mail the questionnaire to us.

RETURN CARD ON OR BEFORE FEBRUARY 15

Figure 3. FRONT AND BACK OF NON-RESPONDENT CARD MAILED TO SCHOOL TO GUIDE SCHOOL EFFORTS TO OBTAIN OR INFLUENCE A QUESTIONNAIRE RETURN.

A summary of the returns for the non-respondent corrective sample is given in Tables 30 and 31.

7. Replication of questionnaire returns. The questionnaire data were coded and transferred to data-processing cards. The corrective sample data were stored on a separate data-processing tape to facilitate processing of corrected and uncorrected returns. The called-for replication of the five percent correction sample was achieved by computer programming.

SAMPLE CORRECTION FOR ADDRESS UNKNOWNNS

The following steps were applied to correct the graduate sample for address unknown cases:

1. Determination of corrective sample size. The total number of vocational address unknowns was 2632; the total number of academic address unknowns was 963. Five percent of these numbers gave a corrective sample of 132 for the vocational graduates and 48 for the academic graduates.
2. Determination of school contributions. Each school's percentage contribution to the total number of vocational address unknowns was determined. Then, the number of address unknown graduates to be sampled from each school's total of address unknown cases was determined so that the school's percentage contribution to the corrective sample was the same as its percentage contribution to the all school population of address unknown cases.
3. Determination of class year contribution. The percentage contribution of each of the years of graduation to the total number of address unknowns was determined. The values were 32.6, 28.8, and 14.8 percent respectively for the classes of 1953, 1958, and 1962. A table similar to Table 29 was constructed to distribute the number of address unknown cases to be included from each

Table 30. OVERALL RETURNS FROM 5 PERCENT CORRECTIVE SAMPLE OF VOCATIONAL GRADUATE NON-RESPONDENTS

| Vocational Non-Respondents Corrective Sample Results | 1953 | | 1958 | | 1962 | | Total | |
|---|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|
| | N | % | N | % | N | % | N | % |
| Size of 5% corrective sample | 40 | - | 45 | - | 51 | - | 136 | - |
| Returns from school effort | 8 | 20.0 | 10 | 22.2 | 20 | 39.2 | 38 | 27.9 |
| Returns from credit agency | 11 | 27.5 | 27 | 60.0 | 14 | 27.4 | 52 | 38.2 |
| TOTAL RETURNS | 19 | 47.5 | 37 | 82.2 | 34 | 66.7 | 90 | 66.2 |
| Refused to be interviewed | 5 | 12.5 | 5 | 11.1 | 6 | 11.8 | 16 | 11.8 |
| Could not be located | 7 | 17.5 | 3 | 6.7 | 8 | 15.7 | 18 | 13.2 |
| Dead, institutionalized, unreported | 9 | 22.5 | 0 | 0.0 | 3 | 5.9 | 12 | 8.8 |

Table 31. OVERALL RETURNS FROM 5 PERCENT CORRECTIVE SAMPLE OF ACADEMIC GRADUATE NON-RESPONDENTS

| Academic Non-Respondents Corrective Sample Results | 1953 | | 1958 | | 1962 | | Total | |
|---|-----------|-------------|----------|-------------|----------|-------------|-----------|-------------|
| | N | % | N | % | N | % | N | % |
| Size of 5% corrective sample | 11 | - | 13 | - | 13 | - | 37 | - |
| Returns from school effort | 6 | 54.5 | 2 | 15.4 | 5 | 38.5 | 13 | 35.1 |
| Returns from credit agency | 4 | 36.4 | 5 | 38.5 | 2 | 15.4 | 11 | 29.7 |
| TOTAL RETURNS | 10 | 90.9 | 7 | 53.8 | 7 | 53.8 | 24 | 64.9 |
| Refused to be interviewed | 0 | 0.0 | 3 | 23.1 | 1 | 7.7 | 4 | 10.8 |
| Could not be located | 1 | 9.1 | 1 | 7.7 | 3 | 23.1 | 5 | 13.5 |
| Dead, institutionalized, unreported | 0 | 0.0 | 2 | 15.4 | 2 | 15.4 | 4 | 10.8 |

school so that the total cases in the corrective sample would be distributed among the graduating class years in approximately the ratio as the total of address unknown cases was distributed among the class years.

4. Selection of names for corrective sample. The address unknowns' master addressing cards were organized by school and class year, and ordered by identification number within class year. Random sampling was assured by selecting every Nth card when it was necessary to draw more than case per class year from a given school. Where only one case was drawn it was alternately the first and last card for successive schools.
5. Search for address unknown cases by schools. School personnel were requested to make an intensified effort to locate the whereabouts of the corrective sample address unknown cases. The number of such cases per school ranged from 1 to 7. The burden of an additional search was therefore not considered excessive.

Figure 4 shows the front and back of the type of card sent to the schools for each selected address unknown case. An accompanying letter explained the importance of locating the address unknown cases. The schools were requested to return all cards by a given date, with or without updated addresses.

The schools were able to locate 47.7 percent of the vocational address unknowns and 42.5 percent of the academic address unknowns.

6. Scheduled contacts with address unknowns with a new address. The cases for which a new address was obtained were subjected to the same seven contact procedure described in Chapter 1 of this report. Second-time address unknown cases were turned over to a credit agency for further search and interview if located, along with the cases which the schools could not locate. The same organization handled interviews with non-respondents to maximize the corrective sample returns.

(FRONT SIDE)

The name and address at the right were obtained from your school records. The records indicated that he:
graduated in () 1953 (✓) 1958 () 1962
took the course Machine Shop
instructed by P. J. Roberts

All mail to the above address has been returned by the post office. IT IS ESSENTIAL THAT WE LOCATE THE ABOVE-NAMED GRADUATE. Please help us to locate him. At the right is a list of methods that can be used to locate him. Check whatever methods have been used to locate him, even if they were unsuccessful.

On the reverse side, record better contact addresses. Record even a partial address if you cannot determine the exact address. RETURN THE CARD TO US IN THE SPECIAL ENVELOPE PROVIDED.

Thank you for your time and effort.

Record Address

028056

Mr. Keith Adams
914 Providence Avenue
Lima, Ohio

SUGGESTED METHODS FOR LOCATING GRADUATE
(Mark (✓) methods used)

- () 1. Check local telephone directory
- () 2. Check city inhabitant directory
- () 3. Inquire among school instructors
- () 4. Check with parents or relatives
- () 5. Check with known past employers
- () 6. Check with guidance counselor
- () 7. Check with former neighbors
- () 8. Ask teachers to ask their students
- () 9. Check at church formerly attended
- () 10. Check with persons who graduated from same course in same year

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(BACK SIDE)

1. GRADUATE'S PRESENT ADDRESS

Name

Number Street

City State

3. PRESENT EMPLOYER'S ADDRESS

Name

Number Street

City State

5. CLOSE FRIEND'S ADDRESS

Name

Number Street

City State

2. PARENTS' PRESENT ADDRESS

Name

Number Street

City State

4. PAST EMPLOYER'S ADDRESS

Name

Number Street

City State

6. RELATIVE'S ADDRESS

Name

Number Street

City State

Figure 4. FRONT AND BACK OF ADDRESS UNKNOWN CARD MAILED TO SCHOOL TO GUIDE SCHOOL EFFORTS TO LOCATE ADDRESS UNKNOWN CASES.

A summary of the returns for the address unknown corrective sample is given in Tables 32 and 33.

7. Replication of questionnaire returns. The same procedure was followed for the five percent correction sample of address unknowns as was described for the non-respondent correction sample.

USE OF CORRECTED SAMPLE DATA

The data presented in the body of this report is uncorrected data, i.e. data obtained from the seven mail contacts made with the graduates. The corrected sample data is presented selectively in the Appendix wherever: (1) the nature of a particular analysis makes it desirable that the results be known in terms of both corrected and uncorrected data, and (2) the conclusions drawn from the uncorrected sample for a given analysis differ in substance from those drawn from the corresponding corrected sample data.

An explanation is appropriate of why corrected data was not used exclusively. Earlier, two potential sources of error in the sample correction procedure were pointed out. The extent to which those errors influenced the corrected sample data is indeterminate. Under the circumstances, it seemed advisable to present the study findings in terms of uncorrected data in the body of the report, particularly in view of the importance of the data for research and action guidelines.

Table 32. OVERALL RESULTS OF THE 5 PERCENT CORRECTION SAMPLE OF VOCATIONAL ADDRESS UNKNOWN CASES

| Vocational Address Unknown Correction Sample Results | 1953 | | 1958 | | 1962 | | Total | |
|---|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|
| | N | % | N | % | N | % | N | % |
| Size of 5% correction sample | 48 | - | 53 | - | 31 | - | 132 | - |
| Revised addresses from schools | 19 | 39.6 | 30 | 56.6 | 14 | 45.2 | 63 | 47.7 |
| Returns from A.I.R. mailings | 15 | 31.2 | 16 | 30.2 | 7 | 22.6 | 38 | 28.8 |
| Returns from credit agency | 11 | 22.9 | 13 | 24.5 | 6 | 19.4 | 30 | 22.7 |
| TOTAL RETURNS | 26 | 54.2 | 29 | 54.7 | 13 | 41.9 | 68 | 51.5 |
| Could not be located in U.S. | 18 | 37.5 | 18 | 34.0 | 11 | 35.5 | 47 | 35.6 |
| Refused to be interviewed | 3 | 6.2 | 6 | 11.3 | 1 | 3.2 | 10 | 7.6 |
| Dead, institutionalized, unreported | 1 | 2.1 | 0 | 0.0 | 6 | 19.4 | 7 | 5.3 |

Table 33. OVERALL RESULTS OF THE 5 PERCENT CORRECTION SAMPLE OF ACADEMIC ADDRESS UNKNOWN CASES

| Academic Address Unknown Correction Sample Results | 1953 | | 1958 | | 1962 | | Total | |
|---|-----------|-------------|----------|-------------|----------|-------------|-----------|-------------|
| | N | % | N | % | N | % | N | % |
| Size of 5% correction sample | 22 | - | 18 | - | 8 | - | 48 | - |
| Revised addresses from schools | 6 | 27.3 | 9 | 50.0 | 2 | 25.0 | 17 | 35.4 |
| Returns from A.I.R. mailings | 5 | 22.7 | 4 | 22.2 | 2 | 25.0 | 11 | 22.9 |
| Returns from credit agency | 6 | 27.3 | 3 | 16.7 | 2 | 25.0 | 11 | 22.9 |
| TOTAL RETURNS | 11 | 50.0 | 7 | 38.9 | 4 | 50.0 | 22 | 45.8 |
| Could not be located in U.S. | 10 | 45.4 | 10 | 55.6 | 2 | 25.0 | 22 | 45.8 |
| Refused to be interviewed | 1 | 4.5 | 0 | 0.0 | 0 | 0.0 | 1 | 2.1 |
| Dead, institutionalized, unreported | 0 | 0.0 | 1 | 5.6 | 2 | 25.0 | 3 | 6.2 |

3

DERIVED MEASURES AND THEIR CHARACTERISTICS

- | | |
|--|----|
| <input type="checkbox"/> The Basic Dimensions of Description | 1 |
| <input type="checkbox"/> Occupational History Measures | 7 |
| <input type="checkbox"/> Non-Occupational History Measures | 15 |
| <input type="checkbox"/> Derived Measure Reliability and Stability | 23 |
| <input type="checkbox"/> Derived Measure Intercorrelations | 29 |
| <input type="checkbox"/> Derived Measures as Evaluation Tools | 47 |

CHAPTER 3 SUMMARY

Dimensions of Description

1. The post-high school experiences of the vocational and academic graduates are described in terms of relevant occupational and non-occupational dimensions.
2. The occupational dimensions selected for description included general job placement time, related job placement time, employment security, employment stability, job satisfaction, job relatedness to training, first job starting earnings, present job earnings, and earnings progression.
3. The non-occupational dimensions selected for description included mobility, college education, non-college education, conversational interests, leisure activities, organization affiliations, attitude toward former school, amount of trade, and learning attributed to former school.

Occupational and Non-Occupational Measures

4. Derived measures. For each dimension of description not covered by raw data, a derived measure was developed. Consult the text for the equations that define the measures.

Derived Measure Reliability and Stability

5. Occupational measure reliability. Split-half reliability estimates reported indicate that all occupational measures are significantly reliable with the exception of earnings progression.
6. Occupational measure stability. Between-year stability estimates indicate that all occupational measures are significantly stable over the years with the exception of employment security, job mobility, and job stability.
7. Non-occupational measure reliability. Split-half reliability estimates reported indicate that all non-occupational measures are significantly reliable.
8. Non-occupational measure stability. Between-year stability estimates indicate that all non-occupational measures are significantly stable except the non-college education index.

(Continued in Appendix B)

THE BASIC DIMENSIONS OF DESCRIPTION

Two Methods of Description

There are two basic ways of describing the post-high school occupational, educational and other experiences of the vocational course graduate. The first method is a point-in-time description of where he stands at a specified time. For example, does he have a job three months after graduation? The second method is a longitudinal summary of his experiences since leaving high school. For example, what percentage of his employable time was spent in full-time employment since leaving high school?

A good example of the point-in-time type of description is the follow-up studies reported for the North Atlantic Region by the United States Office of Education. The basic procedure is to contact the graduate a few months after graduation and ask him to report his employment status. Excluding those who can not be accounted for, responses are reported under two broad headings: (1) available for employment and (2) unavailable for employment. The latter are reported in terms of (1) percentage in military service, (2) percentage in full-time school, (3) percentage unavailable for employment for reasons other than military service or school. The former are reported in terms of (1) percentage working in jobs related to training, (2) percentage working in jobs unrelated to training, and (3) percentage unemployed.

The point-in-time description has the strong advantage of simplicity. The graduate answers a few simple questions about his status at the time. It also has a serious weakness. It provides a static picture of the graduate at one point in time, and nothing more. For example, if he is in military service, it does not tell us what happened to him when he returned to civilian life? Did he go to school? If not, how long did it take him to get a job? Or, if he was unemployed when surveyed, how long did his unemployment last? What kind of a job did he eventually get?

The point-in-time description can be misleading. For example, when the North Atlantic follow-up study for the 1958 graduates reports 17.4 percent in military service, 9.8 percent continuing in full time school, and 7.1 percent unemployed, is the unemployment picture a half-story? How many went into service because they could find no job? How many returned to full-time school because jobs were not available?

The alternative method is the longitudinal or through-time description. It describes the graduate's experiences since leaving high school by summarizing those experiences, preferably in quantitative ways. For example, how long did it take him to get his first job? How many jobs has he held? How much unemployment has he experienced? How have his jobs been related to the trade he studied in high school? Answers to such questions are historical summaries rather than point-in-time descriptions.

The longitudinal method of description, while not without disadvantages, is more capable of providing a complete picture of the graduate's post-high school career. For that reason, it is the basic method used in this study.

Derived Measures and Their Meaning

The raw data obtained from questionnaire returns does not usually lend itself directly to longitudinal description. It must be converted into derived measures that, in effect, integrate individual events of post-high school experience. Thus, for example, the months of employment spent on each of several jobs may be integrated into a measure which expresses the total time (months) employed since leaving high school as a percentage of total employable time in months. For convenience of dimension, such measures are given a name. The measure cited, for example, has been designated "employment security."

To adequately describe the salient features of the graduate's post-high school career, it was necessary to develop a number of derived measures. These measures introduce concepts not normally found in the literature of vocational education, e.g. employment security, job relatedness, earnings progression, job stability, and others. Whenever new concepts are introduced that

are tagged with names that suggest meanings, there is a hazard that people will attach meanings to the concepts beyond what is intended. The only meaning of the concepts introduced by the derived measures is the meaning given to them by the operations of converting raw data into derived measures. In other words, the meanings of the derived measures are not given to them by their names or by the connotations of their names, but by the equations which describe how they are derived. Much reader misunderstanding will be avoided if this is kept in mind.

Major Areas of Description

The initial problem that confronts any attempt to describe the post-high school careers of vocational course graduates is that of deciding the dimensions to be described. Even when the problem is narrowed down to selecting only dimensions which have a potential for evaluating the effectiveness of vocational education, there is still considerable choice. Limitations of budget, and of how much graduates will tolerate in the way of information-giving also have to be considered.

Three broad areas of description were decided upon. They were:

1. Occupational history since graduation.
2. Educational history since graduation.
3. Present interests, activities and affiliations.

It was felt that these areas had the greatest potential for dimensions that might be of use in the evaluation of vocational education. The dimensions associated with each of these areas, together with the question that prompted their inclusion in the study are identified in the sections that follow.

Occupational History Dimensions

The dimensions that describe the vocational graduate's occupational history are probably the most important from the standpoint of potential measures for evaluating vocational education. Of those identified, some were selected because of their undeniable face validity as evaluation tools. Others were selected because

of misgivings about their use as evaluation yardsticks. Still others were selected because they provided essential information, though not necessarily related to evaluation.

The ten dimensions selected are as follows:

1. General job placement. How quickly after graduation does it take the graduate to find full-time employment?
2. Related job placement. How quickly does it take him to find full-time employment in a field related to his vocational training?
3. Employment security. How much of his post-graduation employable time has he spent in full-time employment?
4. Earnings progression. How have his earnings increased over his total employment period?
5. Job relatedness. To what extent have the jobs he has held been related to his high school vocational training?
6. Job satisfaction. How satisfied has he been with the jobs held since graduation?
7. Job stability. How many different employers has he worked for during his employment period?
8. Job mobility. How often and how far has he moved to other communities to find employment or to improve his employment status?
9. Initial earnings. What were his initial earnings on his first full-time job?
10. Present earnings. What are his present earnings, N years after graduation?

The measures used to describe each of the ten dimensions are discussed fully in a later section.

Educational History Dimensions

The amount and kind of additional education obtained by the vocational course graduate is undoubtedly related to how well he fares in the rapidly changing cross-currents of manpower requirements. For that reason, two educational dimensions were included:

1. College education. How much college education has the graduate accumulated?
2. Non-college education. How much non-college education, e.g. private trade school, public trade school, adult continuation school, etc. has he accumulated since graduation from high school?

The measures used to describe these dimensions of education are discussed in a later section.

Interests, Activities and Attitudes

There has been much speculation in the past about the narrowness of vocational education from the standpoint of the total individual. Some have felt that there were serious omissions in the content of a vocational education that permanently influenced the personal interests and activities of the vocational course graduate as an adult. The general lack of data in this area prompted the inclusion of three additional dimensions for description:

1. Conversational interests. How broad is the vocational graduate's range of conversational interests?
2. Leisure-time activities. How broad is the range of the graduate's leisure-time activities?

3. Organization affiliation. To what extent does he affiliate with, and take an active part in, community and other organizations?

In addition to the foregoing dimensions, the following were included for special purposes:

4. Attitudes about high school. What are his attitudes about different elements of his high school education, looking back from the vantage point of N years?
5. Acknowledged high school learning. How much of the skills and knowledges that he regards essential to his present work does he acknowledge as a contribution of his high school education?

The measures used to describe the above dimensions of description are discussed in a later section.

OCCUPATIONAL HISTORY MEASURES

This section describes more precisely the measures used to define the concepts related to occupational history. Not all of the measures are derived measures.

General Job Placement

This measure indicates in months the time it took the graduate to obtain his first full-time job after graduation. It is not a derived measure. Questionnaire respondents gave the information directly.

A graduate was not scored on this measure if he went into military service or continued full time in school after graduation without having had a full-time job in the interim period. Thus, the graduate who continued in school full time for a year after graduation, and then got a job was not scored because doing so would have distorted the general picture of how long it takes graduates to get jobs.

Related Job Placement

This measure reflects two elements: (1) how long in months it took the graduate to get his first full-time job, and (2) how related his first full-time job was to his high school training. It was determined for vocational graduates only. The equation for calculation is:

$$RP = \frac{R \cdot 100}{D} \quad (1)$$

Where R = the weight given to the graduate's self-rating of the relation of his first job to the trade studied in high school, the weights being as follows:

4 = same trade

3 = highly related trade

2 = slightly related trade

1 = completely unrelated trade

D = the value given to the reported time it took to get the job, the values being as follows:

4 = directly from school to work

6 = within two weeks

8 = between two and four weeks

$8 + N$ = where N = number of months required to obtain full-time job

The measure has a range from 100 to an indefinite smaller number, depending upon how long it took the graduate to get a full-time job. A score of 100 means he went directly from school to work in the same trade studied in school. The data source for the measure is Items 7 and 14 on the questionnaire.

Employment Security

This measure describes how much of the graduate's time since high school was spent fully employed. It was determined for both vocational and academic graduates. The equation is:

$$ES = \frac{M \cdot 100}{E} \quad (2)$$

Where

E = months of employable time = months between graduation date and June 1, 1964, minus (1) months in military service, (2) months of full-time school attendance, and (3) months of incapacity because of illness.

M = equivalent full-time months of employment. (Two months of 20 hours per week is equivalent to one full-time month)

The measure has a range from 0 to 100. It expresses total employed time as a percent of employable time. A score of 100 means the graduate was fully employed since leaving high school. The data source for the measure is Item 14 on the questionnaire.

Earnings Progression

This measure tells how much the graduate has increased his earnings per month per month of employed time. For example, if he worked ten months, and increased his earnings one hundred dollars per month in that period, his increase per month per month would be ten dollars. The equation for the measure is:

$$EP = \frac{(L - S) \cdot 176}{M} \quad (3)$$

Where

L = present hourly rate, or if unemployed, terminal hourly rate on last full-time job.

S = starting hourly rate on first full-time job.

176 = working hours in average month.

M = number of months of full-time work
between graduation and June 1, 1964.

The measure describes the average dollar increase per month for the number of months of full-time employment. The data source for the measure is Item 14 on the questionnaire.

Job Relatedness

This measure describes the degree to which the graduate held jobs related to his trade training in high school. It is the mean of his ratings of how each full-time job held by him was related to his trade training. The equation is:

$$JR = \frac{\sum_{i=1}^N R_i}{N} \quad (4)$$

Where

R_i = value assigned to his rating of relatedness of his first job, the values being:

4 = same trade studied in school

3 = highly related trade

2 = slightly related trade

1 = completely unrelated work

N = number of full-time jobs rated

The measure ranged from 1 to 4. A score of 4 meant that the graduate held all jobs in the trade for which trained in high school. The data source for the measure is Item 14 on the questionnaire.

Job Satisfaction

This measure describes the degree to which the graduate claimed satisfaction with the jobs he held. The measure is based upon a self-rating of overall satisfaction with each job held. It is the mean of such ratings. The equation is:

$$JS = \frac{\sum_{i=1}^N S_i}{N} \quad (5)$$

Where S_i = value assigned to his rating of satisfaction on first job, the values being:

4 = very satisfied

3 = satisfied

2 = dissatisfied

1 = very dissatisfied

N = number of full-time jobs rated

The measure ranged from 1 to 4. A score of 4 meant that the graduate was "very satisfied" with all jobs held. The data source for the measure is Item 14 on the questionnaire.

Job Stability

This measure describes the average employment in months with each employer. It reflects stability of the graduate-employer relationship. The equation is:

$$\overline{JS} = M \cdot N \quad (6)$$

Where M = number of months of full-time work
between graduation and June 1, 1964
 N = number of full-time jobs held

Because the employable time, and therefore the employed time, increases as a rule as a function of years out of high school, the range of the measure varies for the three class years. Graduates of 1953, 1958, and 1962, who were fully employed with a single employer since leaving high school could have maximum scores of 132, 72, and 24 respectively. The data source for the measure is Item 14.

Job Mobility

This measure reflects the interaction of two elements: (1) how often the graduate has moved to another city to find employment or improve his employment status, and (2) how far in miles he moved. The equation is:

$$JM = N \sum_{i=1}^N D_i \quad (7)$$

Where D_i = the value assigned to the distance moved to get first job, the values being:

2 = 50 miles

3 = 51 - 150 miles

4 = 151 - 300 miles

5 = 301 - 600 miles

6 = 601 - 1200 miles

7 = 1200 miles

N = number of new city moves

Two alternative job mobility measures were considered: (1) number of new city moves, and (2) sum of distance values of moves made. The selected measure correlated .83 with the first alternative and .92 with the second for the 1962 graduates. It was selected because it combined the elements of number of moves and distances moved while showing substantial correlations with both. The data source for the measure is Item 14 on the questionnaire.

First Full-Time Job Starting Earnings

This measure was directly given by the questionnaire return. All data was converted to a dollars per hour rate when not given in that form. Military pay rates and part-time pay rates were excluded. The data source is Item 14.

Present Full-Time Job Earnings

This measure was also given directly by the questionnaire return. All data was converted to a dollars per hour rate when not given in that form.

Where the graduate was unemployed at the time he returned the questionnaire, the terminal dollar per hour rate on his last full-time job was used instead. The substitution involved less than one percent of the cases. The data source is Item 14.

NON-OCCUPATIONAL HISTORY MEASURES

This section describes more exactly the measures used to define concepts related to post-high school education, to interests, activities and organization affiliation, and other matters unrelated to occupational history.

College Education

This measure gives the total hours of college level class attendance completed by the graduate up to June 1, 1964. The basic expression of college education in terms of completed class attendance hours avoids the lack of comparability that occurs when such education is expressed in terms of credits. Also, it was felt that the respondents could more readily communicate how much college education they had accumulated by indicating the average hours of class attendance per week and the number of months they attended college than to recall accurately number of credits accumulated. The measure includes undergraduate and post-graduate studies. The equation is:

$$CE = \sum_{i=1}^3 4H_i \cdot A_i \quad (8)$$

Where H_i = average hours of class attendance per week at (1) two year college, (2) four year college or university, and (3) graduate school.

A_i = number of months college attendance

A score of 2160 hours is approximately equal to completion of thirty credits per year for four years, the number of credits normally required for an undergraduate degree. The data source for the measure is Item 13.

Non-College Education

This measure gives the total post-high school class hours accumulated during attendance of: (1) private trade/technical school, (2) public trade/technical school, (3) business or commercial school, (4) adult continuation school, (5) military specialist school, and (6) formal company training program. It is a raw quantitative expression of the amount of post-high school, non-college level education. The equation is:

$$NCE = \sum_{i=1}^6 4H_i \cdot A_i \quad (9)$$

Where

H_i = average hours of class attendance per week at one of six kinds of non-college education sources

A_i = number of months attendance at one of six kinds of non-college education sources

A comparable score can be calculated for each of the six sources of non-college level education. The combined score better served the purposes of the study. It gave an approximate measure of total non-college education obtained after high school. The data source for the measure is Item 13.

Conversational Interests

This measure describes the graduate's range of conversational interests. It is based upon his ratings of how frequently he talks about fourteen selected topics, e.g. his work, religion, politics, business conditions, world affairs, national affairs, and other topics often the subject of conversation. The measure is not concerned with any individual topic. It reflects breath of interest. The equation is:

$$CI = \sum_{i=1}^{14} F_i / 14 \quad (10)$$

Where F_i = the value assigned to the graduate's frequency rating of engagement in a given conversation, i.e.

1 = almost never

2 = infrequently

3 = frequently

4 = almost always

14 = the number of conversational topics

The data source for the measure is Item 18 on the questionnaire.

Leisure Time Activities

This measure describes the graduates range of involvement in leisure time activities. It is based upon how frequently he engages in 19 selected leisure time activities. The nineteen leisure activities

fall into six categories: (1) reading, (2) self-education, (3) hobbies and crafts, (4) athletics, (5) fine arts, and (6) entertainments. The equation integrates all categories as follows:

$$LA = \sum_{i=1}^{19} F_i / 19 \quad (11)$$

Where F_i = the value assigned to the graduate's frequency rating of engagement in a given leisure activity, i.e.

1 = almost never

2 = infrequently

3 = frequently

4 = almost daily

19 = the number of listed leisure activities

The measure is an average of the frequency rating values. The basic equation can also be applied separately to the six categories of activities. The data source for the measure is Item 19.

Organization Affiliation

This measure describes the degree to which the graduate is an active participant in community organizations. It is based upon his claimed participation in twelve types of organizations found in most communities.

The equation is as follows:

$$OA = \sum_{i=1}^{12} P_i / 12 \quad (12)$$

Where P_i = the value assigned to the graduate's claimed participation, i.e.

1 = not a member

2 = inactive member

3 = active member

4 = incumbent officer

12 = the number of listed types of organizations

The measure is the average of the values assigned to the graduate's twelve organization affiliation ratings. The data source for the measure is Item 20.

Attitude Toward High School

This is a composite measure of general attitude toward the former high school based upon the graduate's poor, satisfactory, good or excellent rating of each of ten factors, e.g. quality of shop instruction, condition of shop facilities, opportunity for extra-curricular activities, and similar factors. The assumption is that the mean of the individual factor ratings is a suitable representation of the graduate's general attitude toward his former school.

The equation is as follows:

$$AS = \sum_{i=1}^N R_i / N \quad (13)$$

Where R_i = the value assigned to his rating
of a given item, i.e.

1 = poor

2 = satisfactory

3 = good

4 = excellent

N_i = the number of items rated

The data source for the measure is Item 12.

Acknowledged High School Learning

The measure applies only to graduates who were at the time of the survey employed in the trade for which trained or a highly related trade. The graduates rated the importance of nine basic skills to their present job, e.g. manual job skills, mathematical skills, communication skills, clerical skills, and other skills. They then indicated how much of each skill was learned in high school, e.g. almost nothing, some but not much, a large amount, or almost all. The measure is the average of the separate products of ratings of importance and the corresponding ratings of acknowledged high school learning.

The equation is as follows:

$$AL = \sum_{i=1}^N I_i \cdot H_i / N \quad (14)$$

Where

- AL = acknowledged learning score
- I_i = importance rating assigned given skill
- H_i = learning rating assigned same skill
- N = number of skills rated per instruction

The measure describes, in effect, how much of what is regarded as important or unimportant to the present job was learned in high school. The data source for the measure is Item 11 on the questionnaire.

Ordinal Day of Return

This measure indicates how many days after mailing the initial letter of request, it took to receive the graduate's questionnaire. The measure does not purport to describe any characteristic of the graduate such as responsiveness, cooperativeness, or similar trait characteristics. It was used primarily to determine whether any relationships existed between ordinal day of return and the previously described derived measures.

The absence of any such relationships could be interpreted as an indication that respondents to an eighth or ninth contact urging return of the questionnaire would not be significantly different in derived measure performance from the graduates who had responded to the standard seven or fewer contacts. The findings are discussed in a later section of this chapter.

DERIVED MEASURE RELIABILITY AND STABILITY

Introduction

The occupational and non-occupational measures were developed with two purposes in mind. One was to describe what were considered major dimensions of occupational experiences and personal characteristics of vocational graduates. The other was to explore the interrelationships among the measures to assess their potential as criterion measures for evaluating vocational education systems.

The latter purpose requires a knowledge of their reliability. To be useful, a criterion (evaluative) measure must have some degree of reliability. If it does not, it cannot possibly be related to process variables, such as a school characteristics of one kind or another. Thus, school differences on a measure with zero order reliability are best attributable to chance factors rather than differences in school, student or community variables. Such a measure would be totally useless as an evaluative tool, no matter how much face validity it appeared to have.

The problem, then, is to estimate the reliability of the occupational and non-occupational measures. While a high degree of criterion measure reliability is desirable, it is not essential for the use of the measure. The necessary and sufficient condition is that there be a reliability estimate that is significantly different from zero. When it exists, low reliability will depress relationships between criterion measures or between process variables, such as school characteristics, and criterion measures. However, there are methods for estimating and correcting the influence of low reliability in a criterion measure. Hence, high reliability estimates are not essential.

This section provides both reliability and stability estimates for the occupational and non-occupational measures. Reliability estimates indicate the internal consistency of measures. Stability estimates indicate consistency over a period of time. It is desirable to know both characteristics of the measures to assess their potential as evaluative tools.

The Reliability Estimates

The reliability estimates were obtained as follows: For each year of graduation, the graduates of a given school who had a score on a particular derived measure were randomly assigned to two groups by assigning those that were in an odd ordinal number position on the data tapes to one group, and the even numbered cases to another group. A school mean was calculated for each group, thereby providing two mean scores for each measure for each school. Schools with less than ten cases for a given year were excluded from the reliability estimate on the reasoning that a split of less than ten cases would not provide an adequate estimate of the schools' performance on the measure. The reliability coefficients were obtained by correlating the pairs of school means for each measure.

The reliability coefficients are shown in Table 34. An asterisk indicates significance at the five percent or better level of confidence. The coefficients in parentheses are corrected for the split-half reliability procedure by use of the Spearman-Brown formula.

All but two of the occupational measures yielded statistically significant reliability coefficients, and thereby met a primary requirement for use as criterion measures. The two that did not are earnings progression and job stability. Their lack of reliability under the conditions that characterized the estimates does not preclude significant reliability estimates under more favorable conditions, such as a larger number of cases per school per year of graduation or a larger number of schools on which to base the estimates. They have been retained, therefore, for the analysis planned for all derived measures.

Two of the non-occupational measures, non-college education and acknowledged high school learning, failed to yield significant reliability coefficients for the 1953 graduates. Even these measures yielded significant, albeit not substantial, reliability coefficients for the graduates of 1958 and 1962.

The Stability Estimates

There are substantial differences between the schools on the derived measure means calculated for a given graduation class. For example, the highest

Table 34. SPLIT-HALF RELIABILITY COEFFICIENTS FOR OCCUPATIONAL AND NON-OCCUPATIONAL MEASURES (R = UNCORRECTED COEFFICIENTS, R-SB = SPEARMAN-BROWN CORRECTED COEFFICIENTS) *

| Occupational Measures | YEAR OF GRADUATION | | | | | | | | |
|---------------------------|--------------------|-------|-------|------|-------|-------|------|-------|-------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | R | R-SB | N | R | R-SB | N | R | S-B |
| General placement | 40 | .26 | .41 * | 54 | .31 * | .47 * | 76 | .31 * | .47 * |
| Related placement | 39 | .70 * | .82 * | 53 | .34 * | .51 * | 70 | .55 * | .71 * |
| Employment security | 46 | .42 * | .59 * | 67 | .24 * | .39 * | 76 | .15 | .26 * |
| Earnings progression | 41 | .23 | .37 * | 59 | .10 | .18 | 68 | .08 | .15 |
| Job relatedness | 48 | .66 * | .80 * | 65 | .26 * | .41 * | 77 | .49 * | .66 * |
| Job satisfaction | 48 | .03 | .06 | 65 | .38 * | .55 * | 77 | .46 * | .63 * |
| Job stability | 46 | .25 | .40 * | 65 | .03 | .06 | 75 | .13 | .23 * |
| Job mobility | 41 | .23 | .37 * | 59 | .45 * | .62 * | 69 | .56 * | .72 * |
| Initial earnings | 46 | .46 * | .63 * | 65 | .43 * | .60 * | 74 | .67 * | .80 * |
| Present earnings | 46 | .33 * | .50 * | 68 | .53 * | .69 * | 77 | .53 * | .69 * |
| Non-Occupational Measures | YEAR OF GRADUATION | | | | | | | | |
| | 1953 | | | 1958 | | | 1962 | | |
| | N | R | R-SB | N | R | R-SB | N | R | S-B |
| College education | 50 | .22 | .36 * | 72 | .61 * | .76 * | 86 | .59 * | .74 * |
| Non-college education | 46 | .13 | .23 | 66 | .24 * | .39 * | 86 | .37 * | .54 * |
| Conversation interests | 48 | .30 * | .46 * | 73 | .32 * | .48 * | 85 | .41 * | .58 * |
| Leisure activities | 48 | .38 * | .55 * | 70 | .49 * | .66 * | 86 | .30 * | .46 * |
| Organization affiliation | 49 | .32 * | .48 * | 71 | .23 * | .37 * | 86 | .53 * | .69 * |
| Attitude toward H. S. | 47 | .49 * | .66 * | 65 | .55 * | .71 * | 79 | .56 * | .72 * |
| High school learning | 43 | .16 | .28 | 60 | .26 * | .41 * | 68 | .46 * | .63 * |
| Ordinal day return | 51 | .51 * | .68 * | 74 | .39 * | .56 * | 86 | .38 * | .55 * |

* Significant at 5 percent or better level of confidence

school general placement mean was more than eighteen times greater than the lowest school mean on this measure. Table 35 shows a frequency distribution of the school means for the general placement measure calculated for the 1953 graduates. The school mean general placement is the average time required by the school's graduates to obtain their first full-time job.

Table 35. FREQUENCY, PERCENTAGE AND CUMULATIVE PERCENTAGE DISTRIBUTIONS OF GENERAL PLACEMENT SCHOOL MEANS

| General Placement Class Intervals | School Distribution | | |
|--------------------------------------|---------------------|------|-------|
| | N | % | C% |
| > 2.26 | 18 | 20.7 | 100.0 |
| 2.01-2.25 | 3 | 3.4 | 79.3 |
| 1.76-2.00 | 3 | 3.4 | 75.9 |
| 1.51-1.75 | 6 | 6.9 | 72.5 |
| 1.26-1.50 | 9 | 10.3 | 65.6 |
| 1.01-1.25 | 10 | 11.6 | 55.3 |
| .76-1.00 | 11 | 12.6 | 43.7 |
| .51- .75 | 15 | 17.3 | 31.1 |
| .26- .50 | 5 | 5.8 | 13.8 |
| 0 - .25 | 7 | 8.0 | 8.0 |

The differences between schools on this measure are readily apparent. The other measures also show similar school differences. The differences raise an interesting question: Are the school differences in occupational and non-occupational measures relatively stable over a period of years? Are some schools, for example, consistently better than others in the time required to place graduates into full-time jobs?

The question of stable school differences is answered by obtaining stability estimates of the measures. Such estimates are obtained by intercorrelating the school means calculated for each measure from each year of gradu-

ation group. Table 36 shows the three stability coefficients obtained for each occupational and non-occupational measure.

Table 36. STABILITY ESTIMATING COEFFICIENTS FOR OCCUPATIONAL AND NON-OCCUPATIONAL MEASURES, OBTAINED BY INTERCORRELATING YEAR OF GRADUATION SCHOOL MEANS FOR THE LISTED MEASURES *

| Occupational Measures | STABILITY ESTIMATES | | | | | |
|---|---------------------|----|-----------|----|-----------|-----|
| | 1953-1958 | | 1953-1962 | | 1958-1962 | |
| | R | N | R | N | R | N |
| General placement | .28* | 34 | .51* | 36 | .53* | 48 |
| Related placement | .54* | 32 | .66* | 34 | .56* | 47 |
| Employment security | .42* | 40 | .17 | 43 | .18 | 77 |
| Earnings progression | .40* | 35 | .22 | 31 | .32* | 47 |
| Job relatedness | .60* | 41 | .49* | 45 | .55* | 58 |
| Job satisfaction | .13 | 41 | .28* | 45 | .32* | 58 |
| Job stability | .13 | 41 | .23 | 44 | .05 | 58 |
| Job mobility | -.06 | 35 | -.05 | 35 | .35* | 56 |
| Initial earnings | .46* | 39 | .60* | 41 | .50* | 56 |
| Present earnings | .52* | 40 | .70* | 43 | .65* | 60 |
| Non-Occupational Measures | | | | | | |
| College education index | .60* | 44 | .56* | 50 | .65* | 68 |
| Non-college education index | -.12 | 40 | .08 | 46 | .33* | 63 |
| Conversational interests ** | .28* | 87 | .20* | 87 | .41* | 100 |
| Leisure activities ** | .20* | 87 | .18 | 87 | .32* | 100 |
| Organization affiliation | .35* | 42 | .41* | 49 | .37* | 67 |
| Attitude toward high school | .66* | 40 | .46* | 45 | .58* | 59 |
| Acknowledged high school learning | .52* | 38 | .18 | 35 | .31* | 47 |
| Ordinal day return | .54* | 44 | .49* | 49 | .44* | 68 |

* Significant at 5 percent or better level of confidence

** Based on all school means

Four of the occupational measures yielded significant stability coefficients for all three intercorrelations. They are related placement, job relatedness, initial earnings, and present earnings. Three others yielded significant stability for two of the three intercorrelations. They are general placement, earnings progression, and job satisfaction. The conclusion is that an appreciable degree of stability in school mean differences has been demonstrated for these measures. Two measures, employment security and job mobility, yielded only one significant stability coefficient, and one, job stability, yielded more.

Of the non-occupational measures, five yielded three significant stability coefficients (college education, conversational interests, organization affiliation, attitude toward former high school, and ordinal day of questionnaire return); two gave two significant stability coefficients (leisure activities and acknowledged high school learning); and one gave only one significant stability coefficient, (non-college education).

The stability coefficients in Table 36 indicate there is an appreciable degree of stability in the differences between schools for most measures over a five to ten year period. Some schools apparently do consistently better than others in terms of general placement, related placement and other measures for which significant stability coefficients were demonstrated. This leads to the question of why. What are the school, student, or community variables which are related to the occupational and non-occupational measures? A separate report will deal with this question. Later chapters in this report will be concerned with whether such basic variables as type of school, size of school enrollment, race of graduate, year of graduation and type of graduate are related to the derived measures. It should be expected that those measures for which no significant reliability estimates were established, i.e. job stability and earnings progression, will be unrelated to the aforementioned basic variables.

DERIVED MEASURE INTERCORRELATIONS

Introduction

Certain of the derived measures are readily interpreted in terms of what is desirable. There is little question, for example, about the desirability of maximum employment security. Similarly, measures like general placement, i.e. time required to obtain the first full-time job, and earnings progression, i.e. rate of increase in hourly earnings, have a face validity which also makes the interpretation of what is desirable a simple matter. Not all of the measures are so clear-cut. For example, vocational educators would generally agree that it is desirable to place graduates into the trade studied or a highly related trade. Would they agree as readily if it were shown that those who did not enter the trade or an allied trade had greater employment security, better earnings progression, and greater personal satisfaction with their work? The likelihood is that there would be considerable disagreement about the desirability of placement in the trade, taken from the standpoint of the graduate's good, if such relationships existed.

The assessment of the occupational and non-occupational measures as potential evaluative yardsticks requires a knowledge of their interrelationships. It is in the nature of their relationships with other measures that some measures will derive support for their use as evaluative tools. For that reason, derived measure intercorrelations were obtained.

Occupational Measure Intercorrelations

The method used for obtaining estimates of the occupational measure intercorrelations was as follows: For each school, a school mean was calculated for each measure for each year of graduation group. Thus, for each school there were three school means for each measure. In effect, the procedure scored schools in terms of how their graduates performed on the occupational measures. For

example, if a school's 1958 graduates took a mean of 4.5 months to obtain their first full-time job, the school's general placement performance score was 4.5. *

The intercorrelation estimates were obtained by the Pearson product-moment correlation method. Thus, for each potential relationship, there were three correlation coefficients, one for each year of graduation group.

The correlation coefficients obtained are shown in Table 37. Those that are significant at the five percent or better level of confidence are marked with an asterisk. The interpretation of the coefficients posed a problem. For a given potential relationship, how many coefficients would have to be statistically significant to warrant the conclusion that the two variables were related? The following arbitrary standard was applied: If none of the three coefficients were statistically significant, the conclusion was that the variables were unrelated. If only one of the three coefficients was significant, the conclusion was that a relationship was possible, but not convincingly established. The magnitude of the correlation was also considered. If two or all three of the coefficients were significant and of like sign, the conclusion was that a relationship had been established.

It should be pointed out that the above interpretation standard ignores the possibility of relationships that may shift from a positive sign for the 1953 graduates to a negative sign for the 1962 graduates, or the converse. It also ignores that possibility that a relationship might exist between two variables for one year of graduation group, but not for another. Thus, it runs the risk of rejecting relationships. However, that is no problem for the researcher who reads this report. He can always draw his own conclusions from the data.

* The initial method planned called for correlating within each year of graduation group the individual graduate scores on the measures. The computer program for obtaining such intercorrelations from taped data was inadvertently destroyed by a computer technician. The computation center had neither a spare program nor a written record of the program. Efforts to reconstruct the program proved to be too slow, so the decision was made to use the intercorrelation analysis method described above.

Table 37. INTERCORRELATIONS OF OCCUPATIONAL MEASURE SCHOOL MEANS FOR EACH YEAR OF GRADUATION GROUP (VOCATIONAL GRADUATES ONLY)

| Derived Measure Correlations Based On School Means | Year of Graduation | OCCUPATIONAL MEASURES | | | | | | | | | |
|--|-----------------------|-----------------------|----------------------|------------------------|-------------------------|--------------------|---------------------|------------------|-----------------|---------------------|---------------------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | | General Placement | Related Placement | Employment Security | Earnings Progression | Job Relatedness | Job Satisfaction | Job Stability | Job Mobility | Initial Earnings | Present Earnings |
| 1 General placement | 1962 | - | -.60* | -.70* | -.16 | -.35* | -.24* | -.07 | .01 | -.17 | -.39* |
| | 1958 | - | -.37* | -.63* | .00 | .28* | .14 | .06 | -.02 | -.11 | -.18 |
| | 1953 | - | -.56* | -.37* | .04 | -.37* | .02 | -.02 | .33* | -.09 | .22* |
| 2 Related placement | 1962 | 100 | - | .56* | .17 | .74* | .43* | .24* | -.01 | .08 | .30* |
| | 1958 | 100 | - | .45* | .05 | .60* | .35* | .05 | .22 | .07 | .37* |
| | 1953 | 86 | - | .30* | -.02 | .80* | .28* | -.02 | -.14 | .03 | .29* |
| 3 Employment security | 1962 | 100 | 100 | - | -.05 | .48* | .34* | .46* | -.11 | .07 | .28* |
| | 1958 | 100 | 100 | - | -.09 | .01 | .04 | .05 | .02 | .00 | .38* |
| | 1953 | 87 | 86 | - | -.02 | .30* | .04 | .23* | -.07 | -.10 | .25* |
| 4 Earnings progression | 1962 | 100 | 100 | 100 | - | -.03 | .02 | -.32* | .25* | -.06 | .38* |
| | 1958 | 100 | 100 | 100 | - | .10 | .25* | -.17 | .07 | .05 | .35* |
| | 1953 | 85 | 84 | 89 | - | .01 | .10 | -.06 | .07 | -.09 | .22* |
| 5 Job relatedness | 1962 | 100 | 100 | 100 | 100 | - | .62* | .45* | -.03 | .16 | .25* |
| | 1958 | 100 | 100 | 100 | 100 | - | .51* | .19* | .27* | .02 | .33* |
| | 1953 | 87 | 86 | 91 | 89 | - | .33* | -.07 | -.11 | .00 | .25* |
| 6 Job satisfaction | 1962 | 100 | 100 | 100 | 100 | 100 | - | .41* | .05 | .29* | .29* |
| | 1958 | 100 | 100 | 100 | 100 | 100 | - | .16 | .08 | .18 | .37* |
| | 1953 | 87 | 86 | 91 | 89 | 91 | - | .17 | -.19 | -.04 | .07 |
| 7 Job stability | 1962 | 100 | 100 | 100 | 100 | 100 | 100 | - | .02 | .17 | .11 |
| | 1958 | 100 | 100 | 100 | 100 | 100 | 100 | - | -.21* | .10 | .14 |
| | 1953 | 87 | 86 | 91 | 89 | 91 | 91 | - | -.14 | -.06 | .24 |
| 8 Job mobility | 1962 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | -.12 | -.05 |
| | 1958 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | -.14 | .04 |
| | 1953 | 84 | 83 | 87 | 87 | 87 | 87 | 87 | - | .01 | .06 |
| 9 Initial earnings | 1962 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | .74* |
| | 1958 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - | .53* |
| | 1953 | 86 | 85 | 90 | 89 | 90 | 90 | 90 | 87 | - | .32* |
| 10 Present earnings | 1962 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - |
| | 1958 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | - |
| | 1953 | 86 | 85 | 90 | 89 | 90 | 90 | 90 | 87 | 90 | - |

Significant at 5 percent or better level of confidence

With that background, the sets of correlation coefficients are selectively commented upon below:

1. General placement - related placement (1-2). The correlations are $-.60$, $-.37$ and $-.56$ respectively for 1962, 1958 and 1953 graduates, indicating a substantial inverse relationship. The relationship is the result of the two measures having in common the element of time required to get the first full-time job, and the inverse relationship implied by the equations, i.e. a low score on general placement corresponds in the direction of what is desirable to a high score on the related placement measure.
2. General placement - employment security (1-3). The correlations are $-.70$, $-.63$ and $-.37$ for the 1962, 1958 and 1953 graduates respectively. The substantial inverse relationships are because time required to obtain the first job is also a contributor to the total unemployment time that is reflected by the security measure. The higher the general placement score, the lower necessarily is the employment security score. The influence of the former on the latter is greatest for the 1962 graduates and least for the 1953 graduates. Hence, the trend in the magnitude of the correlations.
3. General placement - job relatedness (1-5). The correlations are $-.35$, $.28$ and $-.37$ for the 1962, 1958 and 1953 graduates respectively. The conclusion is that an inverse relationship exists, i.e. schools that have lower mean general placement scores, meaning relatively more prompt placement of graduates, tend to have higher mean job relatedness scores, meaning their graduates spend relatively more of their total employed time in the trades for which trained. The contradictory correlation for the 1958 graduates is attributable, perhaps, to the influence of a recession year. It was more difficult to get any job much less a job in the trade. The strongly trade-minded graduates simply looked longer until they found a job in the trade or a highly related trade. Unlike in normal years, those who got

jobs promptly tended not to get them in the trade for which trained or highly related trades.

4. Related placement - employment security (2-3). The correlations are .56, .45 and .30, all significant, for the 1962, 1958 and 1953 graduates respectively. A substantial positive relationship exists, i.e. schools that have higher mean related placement scores tend to have higher mean employment security scores. The interpretation for the graduate is, those who are placed promptly in the trade or a highly related trade tend to have a higher employment security. The relationship is attributable in part to the common element of time required to get the first job which enters both equations, and in part to the greater employment security experienced by those who go into the trade or highly related trades.
5. Related placement - job relatedness (2-5). The correlations are .74, .60 and .80 for the graduates of 1962, 1958 and 1953 respectively. The two variables are highly related, i.e. schools that have higher mean related placement scores tend to have higher mean job relatedness scores. Stated another way, graduates who are placed promptly into the trade or highly related trades tend to stay with the trade or highly related trades. Conversely, those who are placed in unrelated trades tend to stay in unrelated trades. Thus, the first job is a harbinger of things to come.
6. Related placement - job satisfaction (2-6). The correlations are .43, .35 and .28, all significant, for the graduates of 1962, 1958 and 1953 respectively. The two variables are moderately related, i.e. schools that have higher mean related placement scores tend to have higher mean job satisfaction scores. Stated in terms of the graduates, those who are placed promptly in the trade or highly related trade, report greater job satisfaction over all jobs held during their period of employable time. Since we already know that those who are placed in the trade or highly related trades

7. Related placement - present earnings (2-10). The correlations are .30, .37 and .29, all significant, for graduates of 1962, 1958 and 1953 respectively. Thus, the two variables are moderately related, i.e. schools that have higher mean related placement scores tend to have higher mean present earnings scores. Stated in terms of the graduates, those who are placed promptly in the trades or highly related trades tend to have at the end of two, six, or eleven years, depending upon the year of graduation, higher earnings. It is interesting to note that the measure is unrelated to initial earnings. Those entering the trade or a highly related trade do not earn more initially than those who enter unrelated trades, but as a group then end up with more.
8. Employment security - job relatedness (3-5). The correlations are .48, .01, and .30 for the graduates of 1962, 1958 and 1953 respectively. The first and third coefficient are significant, indicating the two variables are moderately related, i.e. schools that have higher mean job relatedness scores tend to have higher mean employment security scores. Thus, graduates who entered the trade studied or highly related trades tend to have greater employment security. The relationship was deduced from other correlations, and is directly confirmed. The lack of a significant relationship for the 1958 graduates is explainable. They graduated in a recession year. Those who found jobs in the trade did so by looking longer, thus accumulating considerable unemployment before, not after their first job. This reduced their employment security scores, and eliminated the relationship for the six year period covered by the correlation.
9. Employment security - job stability (3-7). The coefficients are .46, .05 and .23 for 1962, 1958 and 1953 graduates respectively. The first and third correlation coefficients are significant, indicating the two variables are related, i.e. schools having

higher mean job stability scores tend to have higher mean employment security scores. The relationship is simple to understand. The fewer employers the graduate has had over his period of employable time, the greater his employment security. Many graduates apparently have periods of unemployment between jobs. The recession year graduates of 1958 did not yield a significant coefficient, indicating the relationship does not hold for this group. It could be that these graduates, having had difficulty getting their first job, were less inclined to terminate a job before they had another job lined up.

10. Employment security - present earnings (3-10). The correlations are .28, .38 and .25, all significant, for the graduates of 1962, 1958 and 1953 respectively. Thus, the two variables are slightly related, i.e. schools having higher mean employment security scores tend to have higher mean present earnings scores. Thus, graduates who have had higher employment security over their employable time period tended to have higher earnings at the time of the survey. Since employer stability relates to employment security (3-7), the interpretation is that those who have higher employer stability have higher employment security and end up with higher earnings. Jumping from employer to employer does not augur well for either employment security or rate of earnings among vocational graduates.
11. Earnings progression - present earnings (4-10). The correlations are .38, .35, and .22, all significant, for the graduates of 1962, 1958 and 1953 respectively. The two variables are clearly related. However, the relationship is attributable to the inclusion of rate of present earnings into the calculation of earnings progression. No significance is attached to the relationship.
12. Job relatedness - job satisfaction (5-6). The correlations are .62, .51 and .33, all significant, for the 1962, 1958 and 1953 graduates respectively. The two variables are definitely related,

although the relationship decreases with years out of school. Schools having higher mean job relatedness scores tend to have higher mean job satisfaction scores. In terms of the graduate, the interpretation is that those with the greatest amount of employed time in the trade or a highly related trade tend to report the greatest amount of personal satisfaction with their work. The relationship was deduced from other correlations (2-5 and 2-6), and is here directly confirmed. Stated generally, it appears that those who do work highly related to the trade studied in high school experience greater job satisfaction over many years than those who work in unrelated trades or occupations.

13. Job relatedness - job stability (5-7). The correlations are .45, .19 and -.07 for 1962, 1958 and 1953 graduates respectively. The first two correlations are significant. The two variables appear to be related for a given period of years, after which the relationship disappears. Within the period for which the relationship holds, schools having higher mean job relatedness scores tend to have higher mean job stability scores. Thus, the graduates who have the greatest amount of their employed time in the trade or a highly related trade also tend to have the greatest amount of employment stability.
14. Job relatedness - present earnings (5-10). The correlations are .25, .33 and .25, all significant, for 1962, 1958 and 1953 respectively. The two variables are slightly related, i.e. schools having higher mean job relatedness scores tend to have higher mean present earnings scores. Thus, graduates who have spent the greatest amount of their employed time in the trade or a highly related trade tend to have higher earnings after two, six and eleven years, depending upon year of graduation, than those who have worked in completely unrelated trades.
15. Job satisfaction - present earnings (6-10). The correlations are .29, .37, and .07 for the 1962, 1958 and 1953 graduates respectively.

The first two are significant, indicating a low-level relationship does exist. Thus, graduates who reported higher present earnings, relative to others, also reported greater job satisfaction. It cannot be said that the former determines the latter; they do tend to go together.

16. Initial earnings - present earnings (9-10). The correlations are .74, .53 and .32, all significant, for the 1962, 1958 and 1953 graduates respectively. The relationship indicates that the higher the initial earnings on the first job after graduation, the higher will be the present earnings two, six and eleven years after graduation. The relationship reflects the differential starting and future earnings among the trades.

* * * * *

The lack of significant relationships among some measures also warrants comment. Earnings progression, for example, shows no convincing relationship with any other measure, with the exception of present earnings. Thus, rate of earnings increase is unrelated to placement in the trade, satisfaction with work, job mobility or job stability. Similarly, job mobility is unrelated to any other measure. Those who move to new cities to find jobs or better jobs have no better employment security, related placement, job relatedness, present earnings, or job satisfaction than those who make no such moves. That does not argue well for indiscriminate mobility among vocational graduates.

Non-occupational Measure Intercorrelations

The method used for obtaining intercorrelations among the non-occupational measures was the same as described for the occupational measures. Table 38 presents the intercorrelation coefficients in sets of three, one for each year of graduation group. Those significant at the five percent or better level of confidence are marked with an asterisk. The same standards of interpretation were applied as described for the occupational measures. Based on those standards, the following relationships were considered established:

Table 38. INTERCORRELATIONS OF NON-OCCUPATIONAL MEASURE SCHOOL MEANS FOR EACH YEAR OF GRADUATION GROUP (VOCATIONAL GRADUATES ONLY)

| Derived Measure Correlations Based On School Means | | Year of Graduation | NON-OCCUPATIONAL MEASURES | | | | | | | |
|--|--------------------------|--------------------|---------------------------|-----------------------|------------------------|--------------------|--------------------------|----------------------|------------------------|-----------------------|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | College Education | Non-college Education | Conversation Interests | Leisure Activities | Organization Affiliation | High School Attitude | Claimed H. S. Learning | Ordinal Day of Return |
| 1 | College education | 1962 | - | -.05 | .02 | .13 | .06 | -.03 | .14 | .05 |
| | | 1958 | - | -.15 | .10 | .09 | .26* | .09 | .04 | .14 |
| | | 1953 | - | -.12 | .28* | .46* | .27* | .18 | .03 | .12 |
| 2 | Non-college education | 1962 | 100 | - | -.04 | -.03 | .18 | -.10 | -.02 | .08 |
| | | 1958 | 100 | - | .14 | .22* | -.00 | -.03 | -.14 | -.12 |
| | | 1953 | 90 | - | -.16 | -.31* | .22* | .03 | .15 | .12 |
| 3 | Conversation interests | 1962 | 100 | 100 | - | .64* | .54* | .01 | .32* | -.03 |
| | | 1958 | 100 | 100 | - | .61* | .45* | .28* | .15 | .13 |
| | | 1953 | 90 | 89 | - | .45* | .11 | -.02 | .06 | .09 |
| 4 | Leisure activities | 1962 | 100 | 100 | 100 | - | .52 | .03 | .16 | -.03 |
| | | 1958 | 100 | 100 | 100 | - | .44* | .27* | .13 | .17 |
| | | 1953 | 91 | 90 | 90 | - | .30* | .31* | .21* | .02 |
| 5 | Organization affiliation | 1962 | 100 | 100 | 100 | 100 | - | -.06 | .17 | -.26 |
| | | 1958 | 100 | 100 | 100 | 100 | - | .24* | -.03 | .02 |
| | | 1953 | 91 | 90 | 90 | 91 | - | .26* | .03 | -.00 |
| 6 | High school attitude | 1962 | 100 | 100 | 100 | 100 | 100 | - | .17 | -.19 |
| | | 1958 | 100 | 100 | 100 | 100 | 100 | - | .20* | -.02 |
| | | 1953 | 91 | 90 | 90 | 91 | 91 | - | .19 | .05 |
| 7 | Claimed H. S. learning | 1962 | 100 | 100 | 100 | 100 | 100 | 100 | - | -.16 |
| | | 1958 | 100 | 100 | 100 | 100 | 100 | 100 | - | -.13 |
| | | 1953 | 89 | .88 | 88 | 89 | 89 | 89 | - | -.16 |
| 8 | Ordinal day of return | 1962 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | - |
| | | 1958 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | - |
| | | 1953 | 89 | 88 | 88 | 89 | 89 | 89 | 88 | - |

* Significant at 5 percent or better level of confidence

1. College education index - organization affiliation (1-5). The correlations are .06, .26 and .27 respectively for 1962, 1958 and 1953 graduates, the latter two coefficients being significant. The conclusion is that the two variables are related, i.e. schools that have greater mean college education index scores tend to have higher mean organization affiliation scores. The interpretation in terms of the graduate is, the more college education accumulated, the more he is likely to be a participant in community and other organizations. The correlations indicate a low-level relationship.
2. Conversational interests - leisure activities (3-4). The coefficients are .64, .61 and .45 for the graduates of 1962, 1958 and 1953 respectively. The two variables are significantly and substantially related, i.e. schools with higher mean conversational interest scores tend to have higher mean leisure activity scores. Apparently, the greater the graduate's active range of conversational interests, the greater his active range of leisure activities.
3. Conversational interests - organization affiliation (3-5). The coefficients are .54, .45 and .11 for 1962, 1958 and 1953 graduates respectively, the first two being significant. The two variables are related, i.e. schools with higher mean conversational interest scores tend to have higher mean organization affiliation scores. The interpretation in terms of the graduate is, the greater his active range of conversational topics, the greater his active involvement in community organizations.
4. Leisure activities - organization affiliation (4-5). The correlation coefficients are .52, .44 and .30, all significant, for the graduates of 1962, 1958 and 1953 respectively. The two variables are moderately related, i.e. schools with higher mean leisure activity scores tend to have higher mean organization affiliation scores. The interpretation in terms of the individual graduate is, the greater his active range of leisure activities, the

more active is he likely to be as a participant in community and other organizations.

5. Leisure activities - high school attitude (4-6). The coefficients are .03, .27 and .31 respectively for the graduates of 1962, 1958 and 1953. The last two correlations are significant at the five percent or better level of confidence. The conclusion is that the two variables are related, i.e. schools with higher mean leisure activity scores tend to have higher mean attitude-toward-former-school scores. Apparently, the greater the graduate's active range of leisure activities, the more favorable is his overall attitude toward his former high school.
6. Organization affiliation - high school attitude (5-6). The coefficients are .06, .24 and .26 respectively for the graduates of 1962, 1958 and 1953. The two variables are slightly but significantly related, i.e. schools with higher mean organization affiliation scores tend to have higher mean attitude-toward-former-school scores. Thus, graduates who report greater membership and active participation in community organizations also tend to have a more favorable overall attitude toward their former high school.

The above relationships do not imply a cause-effect relationship. They are the result of common factors, such as interests and motivations, which underlie the behaviors that are correlated.

The lack of relationships between some of the variables is also of interest. The non-college education index, for example, is unrelated to any other measure by the interpretation standard adopted. Similarly, acknowledged high school learning is unrelated to any other measure, including attitude-toward-former-high school. Most interesting is the lack of relationship between amount of college education and such measures as active range of conversational interests and leisure activities. The range restriction of the college education measure is undoubtedly a responsible factor. A very small minority of vocational graduates completes a college education.

Occupational and Non-occupational Measure Correlations

The method used for obtaining correlations between occupational and non-occupational measures was the same as that described earlier. Table 38-A presents the correlation coefficients in sets of three, one for each year of graduation group. Those significant at the five percent or better level of confidence are marked with an asterisk. The same standards for interpretation were applied as were described earlier in this section. Based upon those standards, the following relationships were considered established:

1. Related placement - acknowledged high school learning (1-7). The coefficients are .37, .30 and .29, all significant, for the graduates of 1962, 1958 and 1953 respectively. Thus, schools that have higher mean related placement scores also tend to have higher mean acknowledged high school learning scores. Apparently, graduates who have high related placement scores tend to acknowledge more learning of trade skills in high school.
2. Employment security - leisure activities (3-4). The correlations are -.24, -.24 and -.03 respectively for the graduates of 1962, 1958 and 1953. The first two coefficients are significant, thus, establishing an inverse relationship between the variables, i.e. schools with higher mean employment security scores tend to have lower mean leisure activity scores. Why this is so is not clear. Possibly those with more unemployment periods have been more active in the leisure activities listed on the questionnaire.
3. Employment security - ordinal day of return (3-8). The coefficients are -.23, -.23 and -.08 respectively for the graduates of 1962, 1958 and 1953. The first two coefficients are significant, thus, establishing an inverse relationship between the variables, i.e. schools with higher mean employment security scores tend to

Table 38-A. CORRELATIONS BETWEEN OCCUPATIONAL AND NON-OCCUPATIONAL MEASURE SCHOOL MEANS FOR EACH YEAR OF GRADUATION GROUP (VOCATIONAL GRADUATES ONLY)

| Non-occupational Measures \ Occupational Measures | | Year of Graduation | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|----------------------|--------------------|-------------------|-----------------------|------------------------|--------------------|--------------------------|----------------------|------------------------|-----------------------|
| | | | College Education | Non-college Education | Conversation Interests | Leisure Activities | Organization Affiliation | High School Attitude | Claimed H. S. Learning | Ordinal Day of Return |
| 1 | General placement | 1962 | .10 | .02 | .09 | .16 | .19* | .06 | -.49* | .00 |
| | | 1958 | -.10 | -.19* | -.20* | -.45* | -.26* | -.01 | -.07 | -.04 |
| | | 1953 | .31* | -.11 | .06 | .30 | -.04 | .06 | -.05 | -.05 |
| 2 | Related placement | 1962 | -.16 | -.06 | -.27* | -.23* | -.04 | .09 | .37* | .24* |
| | | 1958 | .09 | .06 | -.05 | -.04 | -.02 | .14 | .30* | .10 |
| | | 1953 | -.35* | .16 | -.09 | -.19 | -.06 | .00 | .29* | -.20 |
| 3 | Employment security | 1962 | -.19* | .01 | -.13 | -.24* | -.12 | .04 | .34* | .23* |
| | | 1958 | -.06 | .04 | .15 | -.24* | .33* | .18 | .14 | -.23* |
| | | 1953 | -.16 | .06 | -.25* | -.05 | -.03 | .06 | .07 | -.08 |
| 4 | Earnings progression | 1962 | .22* | -.00 | -.04 | -.04* | .08 | -.03 | .09 | .19* |
| | | 1958 | .03 | -.04 | -.23* | -.38* | -.05 | -.41* | -.22* | .17 |
| | | 1953 | .02* | .27* | -.07 | -.25* | .00* | .14* | -.02 | .13 |
| 5 | Job relatedness | 1962 | -.21* | .07 | -.08 | -.11 | .07 | .14 | .37* | -.35* |
| | | 1958 | -.06 | -.05 | -.28* | -.37* | -.10 | .03 | .28* | -.20* |
| | | 1953 | -.21* | .19 | -.18 | -.06 | -.00 | .10 | .39* | -.25* |
| 6 | Job satisfaction | 1962 | -.16 | .14 | -.16 | -.22* | .03 | .28* | .25* | -.28* |
| | | 1958 | -.07 | -.07 | -.23* | -.19* | -.00 | -.07 | .12 | .00 |
| | | 1953 | .09 | -.04 | .12 | .33* | .19 | .36* | .30* | .06 |
| 7 | Job stability | 1962 | -.26* | .08 | -.06 | -.18 | -.01 | .14 | .02 | -.22* |
| | | 1958 | -.16 | -.04 | -.09 | -.00 | .04 | .13 | -.06 | .25* |
| | | 1953 | -.27* | -.09 | .05 | -.05 | .17 | .11 | -.25* | .18 |
| 8 | Job mobility | 1962 | -.06 | -.09 | -.01 | -.12 | -.17 | .15 | .03 | .27* |
| | | 1958 | .15 | -.08 | .08 | -.14 | .03 | .03 | .24* | .11 |
| | | 1953 | -.18 | .06 | -.08 | .08 | .14 | .12 | .07 | .02 |
| 9 | Initial earnings | 1962 | .09 | .10 | -.14 | -.17 | .07 | .05 | .02 | -.13 |
| | | 1958 | .29* | .11 | -.14 | .07 | .12 | .02 | -.16 | .11 |
| | | 1953 | .29* | -.01 | .30* | .31* | .05 | -.12 | .05 | .27* |
| 10 | Present earnings | 1962 | .22* | .08 | -.13 | -.22* | .08 | -.03 | .16 | -.07 |
| | | 1958 | .22* | .00 | -.20* | -.14 | .13 | -.18 | -.04 | .07 |
| | | 1953 | -.10 | .20 | -.03 | .02 | .23* | .18 | .09 | .00 |

* Significant at 5 percent or better level of confidence

have lower mean ordinal day of questionnaire return scores. Apparently, graduates with relatively high employment security were quicker to return their questionnaire than those with low employment security scores. While the relationships are of low-level, they do suggest that those who did not return a questionnaire may as a group have less employment security than those who did.

4. Earnings progression - leisure activities (4-4). The coefficients are $-.27$, $-.24$ and $-.02$ respectively for the graduates of 1962, 1958 and 1953. The first two coefficients are significant, thereby, establishing an inverse relationship between the two variables, i.e. schools with higher mean leisure activity scores tend to have lower earnings progression scores. Graduates with high leisure activity scores tend to report lower earnings progression scores. The reason for the inverse relationship is not clear. Perhaps, in some way, a wide range of active leisure activities is incompatible with higher rates of earnings progression.
5. Job relatedness - college education index (5-1). The correlations are $-.21$, $-.06$ and $-.21$ for 1962, 1958 and 1953 graduates respectively. The first and last coefficients are significant, thereby, establishing an inverse relationship between the two variables, i.e. schools with higher mean college education scores tend to have lower mean job relatedness scores. The greater the amount of post-high school college education, the less likely is the graduate to work in the trade studied in high school. The relationship stands to reason. It would be higher undoubtedly if more of the graduates had attended and completed a college education.
6. Job relatedness - acknowledged high school learning (5-7). The correlations are $.37$, $.28$ and $.39$, all significant, for the graduates of 1962, 1958 and 1953 respectively. The two variables

are related, i.e. schools with higher mean job relatedness scores tend to have higher mean acknowledged high school learning scores. The interpretation in terms of the graduate is, the more his jobs have been related to the trade studied in high school, the more he credits his former school with providing him with the trade skills required by his present job.

7. Job relatedness - ordinal day of return (5-8). The coefficients are $-.35$, $-.20$ and $-.25$, all significant, for the graduates of 1962, 1958 and 1953 respectively, thereby, establishing an inverse relationship between the two variables. Schools having high mean scores tend to have lower mean ordinal day of return scores. The relationship suggests that those who did not return questionnaires may have a lower job relatedness score as a group than those who did. The correlations indicate it may be worthwhile to correct the study sample for non-response.
8. Job satisfaction - leisure activities (6-4). The coefficients are $-.22$, $-.19$ and $.33$, all significant, for the graduates of 1962, 1958 and 1953. The lack of consistency in the sign of the three coefficients makes an interpretation difficult. The two negative correlations mean that schools with higher mean job satisfaction scores tend to have lower mean leisure activity scores, i.e. the higher the graduate's job satisfaction, the lower his range of active leisure activities. The relationship is contradicted by the positive correlation for 1953 graduates. It is possible that the nature of the relationship could change with increased years out of school.
9. Job satisfaction - high school attitude (6-6). The correlations are $.25$, $-.01$, and $.36$ respectively for 1962, 1958 and 1953 graduates. The first and last coefficients are significant. The conclusion is that the two variables are related, i.e. schools with higher mean job satisfaction scores tend to have higher mean attitude-toward-former-school scores. Thus, the greater the graduate's

reported job satisfaction, the more favorable is his overall attitude toward his former high school.

10. Job satisfaction - acknowledged high school learning (6-7).

The correlations are .25, .12 and .30 respectively for the graduates of 1962, 1958 and 1953. The first and last coefficients are significant, thereby, establishing the relationship between the two variables. Schools with higher mean job satisfaction scores tend to have higher mean acknowledged learning scores, i.e. the graduates with higher reported job satisfaction tended to give more credit to their high schools for their trade skill learning.

11. Job stability - college education index (7-1). The coefficients are -.26, -.16 and -.27 respectively for the graduates of 1962, 1958 and 1953. The first and last coefficients are significant, thereby, establishing an inverse relationship between the two variables. Schools with higher mean college education index scores tend to have lower mean job stability scores. The implication is that graduates with more college education have a smaller average time per employer than those with little or no college education. The relationship makes sense when one realizes that those who attend college often do so part-time, and change their jobs upon completion. They also are more inclined to change employers because of greater employment opportunity.

12. Initial earnings - college education index (9-1). The coefficients are .09, .29 and .29 respectively for the 1962, 1958 and 1953 graduates. The last two coefficients are significant, thereby, establishing the not-unexpected relationship between the two variables. Schools with higher mean college education index scores tend to have higher mean initial earnings scores. Stated another way, the more college education the vocational graduate has accumulated, the higher his first full-time job initial earnings. The low correlations are attributable to the many graduates who have had their first full-time job before they have started or completed college.

13. Present earnings - college education index (10-1). The correlation coefficients are .22, .22 and -.10 for 1962, 1958 and 1953 graduates respectively. The significance of the first two coefficients establishes the not-unexpected relationship between the two variables. Schools with higher mean college education index scores tend to have higher mean present earnings scores. Interpreted in terms of the graduates, the relationship indicates the greater the amount of college education, the higher present earnings.

Thus, of a possible eighty relationships between occupational and non-occupational measures, only thirteen relationships were established. Only eight of these have a bearing on the use of non-occupational measures as evaluative tools. And four of the latter are inverse relationships with occupational measures of clear-cut merit, i.e. employment security, earnings progression, job relatedness and job satisfaction. It is clear that the non-occupational measures, excluding ordinal day of questionnaire return which was never intended as a potential evaluative tool, will have to stand on their own merits as potential measures for evaluating vocational education. Some, such as post-high school college level education, are incompatible with occupational measures now established as useful for evaluation purposes, i.e. related placement performance and job relatedness. The incompatibility should not be overlooked by educators who are inclined to stress both occupational and educational objectives.

4

FACTORS RELATED TO VOCATIONAL COURSE SELECTION

- | | |
|--|----|
| <input type="checkbox"/> The Problem of Course Selection | 1 |
| <input type="checkbox"/> Analysis by Graduating Class | 3 |
| <input type="checkbox"/> Analysis by Type of School | 9 |
| <input type="checkbox"/> Analysis by Enrollment Size | 13 |
| <input type="checkbox"/> Analysis by Type of Graduate | 17 |
| <input type="checkbox"/> Analysis by Race of Graduate | 21 |

| | |
|--|----|
| <input type="checkbox"/> The Problem of Course Selection | 1 |
| <input type="checkbox"/> Analysis by Graduating Class | 3 |
| <input type="checkbox"/> Analysis by Type of School | 9 |
| <input type="checkbox"/> Analysis by Enrollment Size | 13 |
| <input type="checkbox"/> Analysis by Type of Graduate | 17 |
| <input type="checkbox"/> Analysis by Race of Graduate | 21 |

CHAPTER 4 SUMMARY

Factors Influencing Course Selections

1. Sources of influence. The rank order of sources reported by graduates to have influenced the vocational course selected in high school is: (1) job opportunity (43%), (2) parents (28%), (3) friend of same age (22%), (4) books and magazines (17%), (5) school teachers (15%), and (6) school counselor (12%).
2. Year of graduation. The rank order of the top six sources of influence on course selection was essentially the same for 1953, 1958, and 1962 graduates. The influence of parents, friends, and part-time jobs on course selection is decreasing; while the influence of job opportunities, teachers, books and magazines, and counselors is increasing.
3. Placement in trade. Graduates who were influenced to select the course taken in high school by friends were less likely to work in the trade studied than those influenced by parents, teachers, or counselors.
4. Type of school. Graduates of vocational and comprehensive schools differ in terms of the percentages that acknowledge different sources of influence over high school course selection. Comprehensive high school graduates were more frequently influenced by friends, counselors and teachers; and less frequently influenced by parents and books and magazines.
5. Enrollment of school. Books and magazines, school counselors, part-time jobs and course graduates increase in frequency of acknowledged sources of course selection influence with increased school enrollment. The influence of teachers, friends, and principals decreases with increased enrollment.
6. Race of graduate. Negro graduates acknowledge the influence of job opportunity, friends, books and magazines, teachers, and counselors more frequently than do white graduates. The latter acknowledge the influence of parents more than do Negro graduates. The latter seem to be less influenced by traditional family sources of influence; e.g., parents, relatives, siblings, and family friends.
7. Type of graduates. Academic graduates have a substantially different pattern of course selection influences than do vocational graduates. Parents and counselors seem to have been a much greater influence in those who selected an academic course than on those who selected a vocational course.

THE PROBLEM OF COURSE SELECTION

The problem of choosing a trade confronts all who elect the vocational program in high school. For many, the choice must be made quite early. Of the one hundred schools surveyed, nineteen had four-year vocational programs, forty-seven had three-year programs, and thirty-four had two year programs. Thus, most students must make their trade choice at the start or end of their first year in high school.

The problem of choosing a vocation is usually not an easy matter. For many, the choice is based upon a combination of little real knowledge of the chosen vocation, much misinformation and high hopes, and pressures from parents, relatives and others interested in influencing the choice. Understandably, the process of choosing a vocation can be a cause of conflict and concern to many students.

How well the student makes his trade choice may be the source of two problems that concern the vocational educator. One is the problem of the high school dropout, a problem no less severe among vocational course students than among academic students. The other is the problem of the large percentage of vocational course graduates who do not follow the trade studied in high school.

The student who comes to realize that the trade he has selected is not what he is suited for, whether for reasons of ability or interest, is under considerable pressure to continue in the course selected. Schools tend to discourage switching from one course to another. Many parents are inclined to do the same. Even where these pressures are not present, there may be a reluctance to change to another course because change means leaving old classmates, starting all over again, admitting defeat, or other deterrents. For many who realize they have made the wrong choice, there is no solution but to continue in the course chosen until they graduate. After that, they can always go into something else. So they may reason, and so many do. For others, the answer may be to drop out of school at the first opportunity. For them, it is too late to change and impossible to continue.

These possibilities point up the importance of the vocational course selection problem. Choices that are incompatible with interests, aptitudes and abilities may add to the school dropout problem or result in trade training that is never put to use. More needs to be known about how students are influenced to choose a trade in a vocational program.

The graduates surveyed were asked to consider a list of possible sources which may have influenced their choice of a specific vocational course, and mark all that did influence their choice. They were also asked to indicate the most important source of influence on their choice. This chapter is concerned with the analysis of their responses.

The data, it should be pointed out, are what graduates recall about how they were influenced to choose their vocational course. Recalled influences are not necessarily the real influences that operated at the time. Nevertheless, the correspondence between recalled and actual influences is probably substantial.

ANALYSIS BY GRADUATING CLASS

Rank Order of Influence Sources

The sources of influence on vocational course selection are shown ranked in Table 39 according to frequency of endorsement by the three graduating classes combined. The top six sources of influence are (1) job opportunity, (2) parents, (3) friends of the same age, (4) books and magazines, (5) school teachers, and (6) school counselors.

About 43 percent of the graduates checked job opportunity as a factor that influenced their course selection. This suggests considerable concern with getting a job after graduation. The job opportunity factor must be understood as the students perception of job opportunity, based on what information has come to him. It does not necessarily correspond to actual job opportunity. Nor does it correspond to what the job opportunity will be when he graduates. The dominance of this factor, however, does indicate a receptivity for trade career information, and a practical orientation.

Parents were the second most frequently acknowledged source of influence (28.6 percent). That parents would be a major source of influence is not unexpected. The percentage is significant also in what it tells about the absence of parental influence on so important a matter as career choice. More than 70 percent of the graduates, in effect, indicated their parents were not a source of influence.

Friends of the same age ranked third with 21.6 percent, only seven percent less frequently mentioned than parents. This points up once again the influence of peers on decisions by high school youth. Books and magazines were acknowledged as a source of influence by only 17.5 percent of the graduates. This may be because reading is not yet developed as a personal tool or because of lack of accessibility to relevant reading material.

The relatively small influence of school personnel is striking. Only 15.1 percent reported a school teacher as a source of influence. Counselors

were reported as course selection influence by 12.3 percent of the graduates. Principals were acknowledged by 2.6 percent. The lack of reported influence by school personnel cannot be explained by lack of opportunity to provide guidance. In eighty-one of the one hundred schools surveyed, students had at least one year of high school before they were required to make a choice. Why school personnel have such little influence is a question worth asking. This research does not provide the answers.

Graduates were also instructed to indicate which one factor, of whatever number were acknowledged as having had some influence on their trade choice, was the most important influence. The results are shown in Table 40.

Table 39. CLASS YEAR COMPARISON: SOURCES ACKNOWLEDGED BY GRADUATES TO HAVE INFLUENCED TYPE OF VOCATIONAL COURSE SELECTED *

| Sources of Influence in Course Selection | YEAR OF GRADUATION | | | | | | | | |
|---|--------------------|------|------|------|------|------|----------|------|---|
| | 1953 | | 1958 | | 1962 | | Combined | | |
| | N | % | N | % | N | % | N | % | |
| Job opportunities | 417 | 36.3 | 697 | 42.5 | 1167 | 47.2 | 2290 | 43.4 | ▲ |
| Parents | 328 | 28.6 | 440 | 26.8 | 732 | 29.6 | 1504 | 28.5 | |
| Friend your age | 242 | 21.1 | 333 | 20.3 | 561 | 22.7 | 1139 | 21.6 | |
| Books and magazines | 159 | 13.9 | 256 | 15.6 | 508 | 20.6 | 923 | 17.5 | ▲ |
| School teacher | 143 | 12.5 | 232 | 14.2 | 422 | 17.1 | 799 | 15.1 | ▲ |
| School counselor | 90 | 7.8 | 175 | 10.7 | 381 | 15.4 | 649 | 12.3 | ▲ |
| Relative | 111 | 9.7 | 162 | 9.9 | 287 | 11.6 | 561 | 10.6 | |
| Part-time job | 131 | 11.4 | 153 | 9.3 | 243 | 9.8 | 529 | 10.0 | |
| Brother or sister | 86 | 7.5 | 133 | 8.1 | 201 | 8.1 | 421 | 8.0 | |
| Course graduate | 47 | 4.1 | 93 | 5.7 | 182 | 7.4 | 323 | 6.1 | ▲ |
| Neighbor (adult) | 53 | 4.6 | 70 | 4.3 | 116 | 4.7 | 240 | 4.5 | |
| School principal | 27 | 2.4 | 30 | 1.8 | 76 | 3.1 | 135 | 2.6 | |
| Other than above | 224 | 19.6 | 292 | 17.8 | 476 | 19.3 | 995 | 18.9 | |

* The arrowhead indicates the direction of a consistent trend.

The rank order of the factors designated as most important is essentially the same as the rank order obtained previously. The top six factors were: (1) job opportunity (26.8 percent), (2) parents (14.4 percent), (3) friend of same age (9.8 percent), (4) school teacher (6.3 percent), (5) school counselor (5.7 percent), and (6) books and magazines (4.5 percent). Only 13 percent of the graduates acknowledged school personnel as the "most important influence." What is not clear is the possible indirect influence of school personnel, i.e. discussing job opportunities, suggesting literature to be read, advising parents about career opportunities, and so on.

Table 40. CLASS YEAR COMPARISON: MOST IMPORTANT SOURCE OF INFLUENCE ON TYPE OF VOCATIONAL COURSE SELECTED AS RECALLED BY GRADUATES *

| Most Important Influence in Course Selection | YEAR OF GRADUATION | | | | | | | | |
|---|--------------------|------|------|------|------|------|----------|------|---|
| | 1953 | | 1958 | | 1962 | | Combined | | |
| | N | % | N | % | N | % | N | % | |
| Job opportunities | 168 | 19.9 | 339 | 28.9 | 466 | 29.1 | 973 | 26.8 | ▲ |
| Parents | 160 | 19.0 | 161 | 13.7 | 200 | 12.5 | 524 | 14.4 | ▼ |
| Friend your age | 93 | 11.0 | 116 | 9.9 | 146 | 9.1 | 357 | 9.8 | ▼ |
| School teacher | 43 | 5.1 | 80 | 6.8 | 104 | 6.5 | 227 | 6.3 | |
| School counselor | 34 | 4.0 | 61 | 5.2 | 110 | 6.9 | 205 | 5.7 | ▲ |
| Books and magazines | 31 | 3.7 | 44 | 3.7 | 88 | 5.5 | 163 | 4.5 | |
| Brother or sister | 40 | 4.7 | 46 | 3.9 | 75 | 4.7 | 161 | 4.4 | |
| Relative | 38 | 4.5 | 57 | 4.9 | 62 | 3.9 | 158 | 4.4 | |
| Part-time job | 52 | 6.2 | 54 | 4.6 | 48 | 3.0 | 154 | 4.2 | ▼ |
| Course graduate | 9 | 1.1 | 21 | 1.8 | 33 | 2.1 | 63 | 1.7 | ▲ |
| Neighbor (adult) | 15 | 1.8 | 14 | 1.2 | 22 | 1.4 | 51 | 1.4 | |
| School principal | 10 | 1.2 | 9 | 0.8 | 18 | 1.1 | 38 | 1.0 | |
| Other than above | 150 | 17.8 | 172 | 14.7 | 231 | 29.1 | 554 | 15.3 | |

* The arrowhead indicates the direction of a consistent trend.

What is clear is that relatively few graduates recall school personnel as having had a direct influence on their trade choice.

Tables 39 and 40 contain the category "other than above." Of the substantial percentage of graduates that checked this category, many wrote, in effect, that they regarded themselves as the main source of influence. Apparently, they interpreted the question as excluding the idea that they made the decision, and felt compelled to assert themselves. Others that checked this category mentioned such sources of influence as hobbies, ministers, friends of the family and childhood ambitions. The percentages were negligible for each of these kinds of miscellaneous influences.

Several interesting trends are revealed in Table 39. An arrow upward indicates a consistent increase in percentages reported from 1953 to 1962. An arrow downward indicates a consistent decrease in percentages reported. The influence of perceived job opportunity increased from 36.3 percent for the 1953 graduates to 42.5 percent for the 1958 graduates to 47.2 percent for the 1962 graduates, a total gain of 11 percent. This may be a reflection of an increasing awareness among high school youth of difficulty in finding jobs after high school. The increasing youth unemployment and underemployment has been well publicized in recent years. Schools have probably passed this information along to their students. The trend implies an increasing receptivity of students to information about job opportunity. It should be of interest to school personnel.

Another significant trend is the increasing influence of books and magazines, from 13.9 percent for 1953 graduates to 15.6 percent for 1958 graduates to 20.6 percent for 1962 graduates. The reasons for the increasing influence of reading matter would be interesting to establish. Perhaps the trend reflects a greater availability of guidance literature in the schools in recent years. Perhaps school personnel are more active in recommending reading material to aid career choice. Whatever the reasons, the trend should cause more importance to be attached to the kind of literature that is being read.

A third significant trend is the increasing influence of school personnel. The percentage acknowledging school teachers as a source of influence increased

from 12.5 percent for 1953 graduates to 14.5 percent for 1958 graduates to 17.1 percent for 1962 graduates, a slow but steady gain. Similarly, the percentage acknowledging school counselors increased for the same groups from 7.8 percent to 10.7 percent to 15.4 percent.

Lastly, the influence of course graduates shows a slight but consistent increase from 4.1 percent for 1953 graduates to 7.4 percent for 1962 graduates.

The percentages acknowledging different factors as the most important source of influence confirm some of the above-mentioned trends, and also reveal some new ones. The role of parents, as a "most important source of influence" is declining, as evidenced by a drop from 19.0 percent for 1953 graduates to 12.5 percent for the 1962 graduates. The influence of friend of the same age is also declining. The drop was from 11.0 percent for 1953 graduates to 9.1 percent for 1962 graduates; the drop is more suggestive than impressive.

The trends in both tables suggest an overall pattern of decreasing influence of the traditional close sources of influence, i.e. parents, relatives, friends and part-time jobs, and increasing influence of more "authoritative" sources of information, i.e. job opportunity, teachers, counselors, reading matter, and even recent graduates.

Are the trends in the right direction? On the surface, it would appear so. The answer, however, is not a matter for opinion. It remains to be established whether the more "authoritative" sources of influence are more effective than the traditional sources. Do they result in less switching of courses, fewer dropouts, and more placement of graduates in the trade studied? The present study does not have the data for an adequate assessment of the trends. A probe was made in that direction to illustrate one approach. The question was raised, how do graduates who claim the parents as the most important source of influence on trade choice compare in terms of (1) related placement and (2) job relatedness with those who claimed teachers, counselors, and friends as the most important influence? The results are shown in Table 41.

The graduates who claimed their parents as the most important influence did just as well in terms of placement in the trade or a highly related trade and just as well in overall job relatedness of work to trade studied as those whose choice was mainly influenced by teachers. Both of these groups did better in related placement and job relatedness than the group influenced mainly by friends of the same age. The last group showed the poorest performance on the criterion measures. The majority of those influenced mainly by their peers went into jobs unrelated or slightly related to the trade studied.

Table 41. RELATED PLACEMENT AND JOB RELATEDNESS MEASURES FOR GRADUATES WHO REPORTED PARENTS, TEACHER, COUNSELOR, OR FRIENDS AS THE MOST IMPORTANT INFLUENCE ON TYPE OF VOCATIONAL COURSE SELECTED

| Acknowledged As Most Important Influences | Year of Graduation | Related Placement | | | Job Relatedness | | |
|---|--------------------|-------------------|------|------|-----------------|-----|------|
| | | N | M | S.D. | N | M | S.D. |
| Parents | 1953 | 123 | 48.2 | 30.6 | 123 | 2.3 | 1.0 |
| | 1958 | 118 | 40.2 | 29.0 | 121 | 2.3 | 1.0 |
| | 1962 | 132 | 48.8 | 33.0 | 133 | 2.4 | 1.2 |
| | Combined | 376 | 45.7 | 31.2 | 380 | 2.3 | 1.1 |
| Teacher | 1953 | 36 | 44.0 | 33.4 | 36 | 2.2 | 1.0 |
| | 1958 | 55 | 44.5 | 36.8 | 56 | 2.4 | 1.2 |
| | 1962 | 67 | 46.6 | 32.4 | 67 | 2.6 | 1.1 |
| | Combined | 158 | 45.3 | 34.2 | 159 | 2.4 | 1.1 |
| Counselor | 1953 | 28 | 51.5 | 33.1 | 29 | 2.4 | 1.0 |
| | 1958 | 41 | 35.1 | 31.5 | 41 | 2.4 | 1.1 |
| | 1962 | 54 | 34.8 | 26.9 | 54 | 2.1 | 1.2 |
| | Combined | 123 | 38.7 | 30.8 | 124 | 2.3 | 1.1 |
| Friend your age | 1953 | 67 | 38.5 | 31.7 | 67 | 2.0 | 1.0 |
| | 1958 | 81 | 27.2 | 27.6 | 81 | 2.0 | 1.0 |
| | 1962 | 118 | 34.3 | 28.0 | 118 | 2.0 | 1.1 |
| | Combined | 267 | 33.2 | 29.2 | 267 | 2.0 | 1.0 |

ANALYSIS BY TYPE OF SCHOOL

Do the sources of influence on course selection acknowledged by vocational school graduates differ significantly from those acknowledged by the comprehensive school vocational course graduates? If so, what are the differences? The questions have a bearing on the vocational versus comprehensive school issue.

Table 42 shows the data for all acknowledged sources of influence. In terms of rank order of the top six factors, there is no significant difference between the two types of schools. However, there are significant differences between schools in the percentages acknowledging some of the factors.

Table 42. TYPE OF SCHOOL COMPARISON: SOURCES ACKNOWLEDGED BY GRADUATES TO HAVE INFLUENCED TYPE OF VOCATIONAL COURSE SELECTED

| Sources of Influence in Course Selection | TYPE OF SCHOOL | | | |
|---|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| Job opportunities | 1328 | 42.8 | 962 | 44.2 |
| Parents | 956 | 30.8 | 548 | 25.2 |
| Friend your age | 626 | 20.2 | 513 | 23.6 |
| Books and magazines | 560 | 18.1 | 363 | 16.7 |
| School teacher | 420 | 13.5 | 379 | 17.4 |
| School counselor | 344 | 11.1 | 305 | 14.0 |
| Relative | 357 | 11.5 | 204 | 9.4 |
| Part-time job | 244 | 7.9 | 285 | 13.1 |
| Brother or sister | 222 | 7.2 | 199 | 9.1 |
| Course graduate | 142 | 4.6 | 181 | 8.3 |
| Neighbor (adult) | 149 | 4.8 | 91 | 4.2 |
| School principal | 98 | 3.2 | 37 | 1.7 |
| Other than above | 605 | 19.6 | 390 | 18.0 |

Greater percentages of comprehensive than vocational school graduates reported being influenced by friends of same age (23.6 percent vs. 20.2 percent), school teachers (17.4 percent vs. 13.5 percent), school counselors (14.0 percent vs. 11.1 percent), part-time jobs (13.1 percent vs. 7.9 percent), and recent course graduates (8.3 percent vs. 4.6 percent). More vocational course graduates reported being influenced by parents (30.8 percent vs. 25.2 percent), books and magazines (18.1 percent vs. 16.7 percent), and relative (11.5 percent vs. 9.4 percent).

Table 43 compares the two types of schools in terms of factors acknowledged to be the most important influence in course selection.

Table 43. TYPE OF SCHOOL COMPARISON: SOURCES REPORTED AS THE MOST IMPORTANT INFLUENCE ON VOCATIONAL COURSE SELECTED

| Most Important Influence in Course Selection | TYPE OF SCHOOL | | | |
|---|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| Job opportunities | 564 | 26.0 | 409 | 28.0 |
| Parents | 365 | 16.8 | 159 | 10.9 |
| Friend your age | 202 | 9.3 | 155 | 10.6 |
| School teacher | 135 | 6.2 | 92 | 6.3 |
| School counselor | 101 | 4.7 | 104 | 7.1 |
| Books and magazines | 105 | 4.8 | 58 | 4.0 |
| Brother or sister | 89 | 4.1 | 72 | 4.9 |
| Relative | 105 | 4.8 | 53 | 3.6 |
| Part-time job | 71 | 3.3 | 83 | 5.7 |
| Course graduate | 26 | 1.2 | 37 | 2.5 |
| Neighbor (adult) | 38 | 1.8 | 13 | 0.9 |
| School principal | 26 | 1.2 | 12 | 0.8 |
| Other than above | 341 | 15.7 | 213 | 14.6 |

In terms of factors acknowledged as the most important source of influence, job opportunity was mentioned more frequently by comprehensive school graduates (28.0 percent vs. 26.0 percent), as was the school counselor (7.1 percent vs. 4.7 percent). Graduates of vocational schools acknowledged parents more frequently as a major source of influence (16.8 percent vs. 10.9 percent).

Notwithstanding the significant differences, the differences are minor compared with the similarities. The top six sources of influence rank the same in both types of schools.

ANALYSIS BY SCHOOL ENROLLMENT

Do the sources of influence on vocational course selection vary significantly with school enrollment? For example, do teachers have a greater influence on the student's selection of a course in a small school than in a large school?

Table 44 shows how graduates of schools in three enrollment categories, i.e. less than 500, between 500 and 1500, and more than 1500, reported the sources that influenced their vocational course choice. With a minor exception, the rank order of the top six sources of influence is the same in all enrollment categories.

Table 44. ENROLLMENT COMPARISON: SOURCES ACKNOWLEDGED BY GRADUATES TO HAVE INFLUENCED TYPE OF VOCATIONAL COURSE SELECTED *

| Sources of Influence in Course Selection | SCHOOL ENROLLMENT | | | | | |
|---|-------------------|------|------------|------|--------|--------|
| | < 500 | | 500 - 1500 | | > 1500 | |
| | N | % | N | % | N | % |
| Job opportunities | 748 | 43.1 | 847 | 42.2 | 695 | 45.1 |
| Parents | 508 | 29.2 | 572 | 26.8 | 424 | 27.5 |
| Friend your age | 360 | 20.7 | 449 | 22.5 | 330 | 21.4 |
| Books and magazines | 270 | 15.5 | 366 | 18.3 | 287 | 18.6 ▲ |
| School teacher | 228 | 13.1 | 333 | 16.7 | 238 | 15.4 |
| School counselor | 179 | 10.3 | 233 | 11.7 | 237 | 15.4 ▲ |
| Relative | 184 | 10.6 | 228 | 11.4 | 149 | 9.7 |
| Part-time job | 161 | 9.3 | 203 | 10.2 | 165 | 10.7 ▲ |
| Brother or sister | 140 | 8.1 | 157 | 7.9 | 124 | 8.0 |
| Course graduate | 87 | 5.0 | 130 | 6.5 | 106 | 6.9 ▲ |
| Neighbor (adult) | 84 | 4.8 | 98 | 4.9 | 58 | 3.8 |
| School principal | 67 | 3.9 | 48 | 2.4 | 20 | 1.3 ▼ |
| Other than above | 309 | 17.8 | 379 | 19.0 | 307 | 20.0 |

* The arrowhead indicates the direction of a consistent trend.

Arrows point out the direction of the few consistent trends that exist. Books and magazines, school counselors, and course graduates increase in frequency of acknowledgment as a source of influence as school enrollment increases. The influence of the school principal declines as enrollment increases. The small school does not seem to have any advantage from the standpoint of teacher or counselor influence. On the contrary, the influence of teachers and counselors on vocational course selection is least in the small schools.

Table 45 shows the effect of school enrollment in terms of factors reported as the most important source of influence on type of course selected. Only two significant trends are indicated. The influence of parents, as the most important source of influence, declines as enrollment increases.

Table 45. ENROLLMENT COMPARISON: SOURCES REPORTED AS THE MOST IMPORTANT COURSE SELECTION INFLUENCE *

| Most Important Influence in Course Selection | SCHOOL ENROLLMENT | | | | | |
|---|-------------------|------|------------|------|--------|--------|
| | < 500 | | 500 - 1500 | | > 1500 | |
| | N | % | N | % | N | % |
| Job opportunities | 331 | 27.4 | 347 | 25.4 | 295 | 28.1 |
| Parents | 201 | 16.6 | 201 | 14.7 | 122 | 11.6 ▼ |
| Friend your age | 120 | 9.9 | 135 | 9.9 | 102 | 9.7 |
| School teacher | 74 | 6.1 | 99 | 7.2 | 54 | 5.1 ▼ |
| School counselor | 52 | 4.3 | 69 | 5.0 | 84 | 8.0 ▲ |
| Books and magazines | 50 | 4.1 | 64 | 4.7 | 49 | 4.7 |
| Brother or sister | 48 | 4.0 | 68 | 5.0 | 45 | 4.3 |
| Relative | 49 | 4.1 | 68 | 5.0 | 41 | 3.9 |
| Part-time job | 54 | 4.5 | 55 | 4.0 | 45 | 4.3 |
| Course graduate | 15 | 1.2 | 25 | 1.8 | 23 | 2.2 |
| Neighbor (adult) | 23 | 1.9 | 18 | 1.3 | 10 | 1.0 |
| School principal | 17 | 1.4 | 16 | 1.2 | 5 | 0.5 ▼ |
| Other than above | 175 | 14.5 | 203 | 14.8 | 176 | 16.7 |

* The arrowhead indicates the direction of a consistent trend.

This may be because the very large enrollment schools are usually located in major metropolitan areas, and the influence of parents in such areas may be less than in smaller urban areas. The influence of school counselors, as the most important source of influence, increases as enrollment increases. The latter trend may be a reflection of more counseling capability in larger schools. The influence of teachers shows a slight decrease in schools with enrollments greater than 1500.

ANALYSIS BY TYPE OF GRADUATE

Do academic course graduates report the same pattern of course selection influences as do vocational course graduates? If not, how do they differ? The answers may provide further insight into the reason why so many students reject a vocational course in favor of the academic course, yet do not go on to college.

Table 46 compares the course selection influence factors reported by both types of graduates. The differences are impressive. The basic rank order of importance reported by academic graduates differs substantially from the rank order found among vocational graduates.

Table 46. TYPE OF GRADUATE COMPARISON: SOURCES ACKNOWLEDGED BY GRADUATES TO HAVE INFLUENCED TYPE OF COURSE SELECTED

| Sources of Influence in Course Selection | TYPE OF GRADUATE | | | |
|---|------------------|------|----------|------|
| | Vocational | | Academic | |
| | N | % | N | % |
| Job opportunities | 2290 | 43.4 | 654 | 37.6 |
| Parents | 1504 | 28.5 | 751 | 43.2 |
| Friend your age | 1139 | 21.6 | 379 | 21.8 |
| Books and magazines | 923 | 17.5 | 259 | 14.9 |
| School teacher | 799 | 15.1 | 413 | 23.7 |
| School counselor | 649 | 12.3 | 539 | 31.0 |
| Relative | 561 | 10.6 | 146 | 8.4 |
| Part-time job | 529 | 10.0 | 88 | 5.1 |
| Brother or sister | 421 | 8.0 | 221 | 12.7 |
| Course graduate | 323 | 6.1 | 104 | 6.0 |
| Neighbor (adult) | 240 | 4.5 | 62 | 3.6 |
| School principal | 135 | 2.6 | 54 | 3.1 |
| Other than above | 995 | 18.9 | 267 | 15.4 |

For the two types of graduates, the rank orders of the six most frequently reported sources of influence are listed below:

VOCATIONAL

1. Job opportunity
2. Parents
3. Friend same age
4. Books and magazines
5. School teacher
6. School counselor

ACADEMIC

1. Parents
2. Job opportunity
3. School counselor
4. School teacher
5. Friend same age
6. Books and magazines

Whereas, 43.4 percent of the vocational graduates acknowledged job opportunity as a source of influence on the selection of their course, only 37.6 percent of the academic graduates did so. Parents were reported as a source of course selection influence by 28.5 percent of the vocational graduates versus 43.2 percent of the academic graduates. The percentages reporting friends of the same age as an influence were about the same. The major difference was the influence of school personnel. Counselors were reported as an influence by 12.3 percent of the vocationals versus 31.0 percent of academics. School teachers were reported as an influence by 15.1 percent of the vocationals versus 23.7 percent of the academics. The two types of graduates also differed significantly on the reported influence of books and magazines. More of the vocational graduates reported their course selection was influenced by books and magazines than did the academic graduates.

Table 47 shows how the two types of graduates acknowledged the factors as the "most important source of influence." Parents (24.8 percent), job opportunities (17.7 percent) and school counselors (16.1 percent) are the dominant pattern of influence in course selection for academic graduates. Parents, as the most important influence, are twice the factor for academics than for vocationals.

What does it mean from the standpoint of vocational education? It means that counselors and teachers, combined with parents, are a strong force for

influencing students to select the academic course in comprehensive high schools. In the same schools, however, school personnel are a much less frequent source of influence when it comes to guiding would-be vocational students in the selection of their trade. This may be a reflection of a strong academic orientation of counselors and teachers in comprehensive schools.

Table 47. TYPE OF GRADUATE COMPARISON: SOURCES REPORTED AS THE MOST IMPORTANT COURSE SELECTION INFLUENCE

| Most Important Influence in Course Selection | TYPE OF GRADUATE | | | |
|---|------------------|------|----------|------|
| | Vocational | | Academic | |
| | N | % | N | % |
| Job opportunities | 973 | 26.8 | 217 | 17.7 |
| Parents | 524 | 14.4 | 303 | 24.8 |
| Friend your age | 357 | 9.8 | 92 | 7.5 |
| School teacher | 227 | 6.3 | 88 | 7.2 |
| School counselor | 205 | 5.7 | 197 | 16.1 |
| Books and magazines | 163 | 4.5 | 41 | 3.3 |
| Brother or sister | 161 | 4.4 | 51 | 4.2 |
| Relative | 158 | 4.4 | 26 | 2.1 |
| Part-time job | 154 | 4.2 | 27 | 2.2 |
| Course graduate | 63 | 1.7 | 18 | 1.5 |
| Neighbor (adult) | 51 | 1.4 | 7 | 0.6 |
| School principal | 38 | 1.0 | 3 | 0.2 |
| Other than above | 554 | 15.3 | 154 | 12.6 |

Table 48 shows the results of a special analysis which compares vocational with academic graduates from comprehensive high schools only. The data do not change any of the generalizations made earlier. If anything, parents are less of an influence on the course selection of vocational graduates from comprehensive schools than of vocational graduates from vocational schools.

Table 48. TYPE OF GRADUATE COMPARISON: SOURCES ACKNOWLEDGED BY GRADUATES FROM COMPREHENSIVE SCHOOLS TO HAVE INFLUENCED TYPE OF COURSE SELECTED

| Sources of Influence in Course Selection | TYPE OF GRADUATE | | | |
|---|------------------|------|----------|------|
| | Vocational | | Academic | |
| | N | % | N | % |
| Job opportunities | 962 | 44.2 | 654 | 37.6 |
| Parents | 548 | 25.2 | 751 | 43.2 |
| Friend your age | 513 | 23.6 | 379 | 21.8 |
| Books and magazines | 363 | 16.7 | 259 | 14.9 |
| School teacher | 379 | 17.4 | 413 | 23.7 |
| School counselor | 305 | 14.0 | 539 | 31.0 |
| Relative | 204 | 9.4 | 146 | 8.4 |
| Part-time job | 285 | 13.1 | 88 | 5.1 |
| Brother or sister | 199 | 9.1 | 221 | 12.7 |
| Course graduate | 181 | 8.3 | 104 | 6.0 |
| Neighbor (adult) | 91 | 4.2 | 62 | 3.6 |
| School principal | 37 | 1.7 | 54 | 3.1 |
| Other than above | 390 | 14.0 | 267 | 15.4 |

ANALYSIS BY RACE OF GRADUATE

Do Negroes differ significantly from whites in terms of the sources of influence on the type of vocational course selected? If so, what are the differences? Significant differences should be of interest to school counselors who have the problem of guiding students of both races.

Table 49 shows the percentages of white and Negro graduates who reported each of the listed factors as an influence on the type of vocational course selected.

Table 49. RACE COMPARISON: SOURCES ACKNOWLEDGED BY GRADUATES TO HAVE INFLUENCED TYPE OF VOCATIONAL COURSE SELECTED

| Sources of Influence in Course Selection | RACE OF GRADUATE | | | | | |
|---|------------------|------|-------|------|-------|------|
| | White | | Negro | | Other | |
| | N | % | N | % | N | % |
| Job opportunities | 2026 | 42.9 | 173 | 51.2 | 3 | 15.8 |
| Parents | 1391 | 28.9 | 77 | 22.8 | 3 | 15.8 |
| Friend your age | 1028 | 21.4 | 90 | 26.6 | 4 | 21.1 |
| Books and magazines | 815 | 17.0 | 93 | 27.5 | 1 | 5.3 |
| School teacher | 690 | 14.4 | 82 | 24.3 | 6 | 31.6 |
| School counselor | 576 | 12.0 | 55 | 16.3 | 3 | 15.8 |
| Relative | 520 | 10.8 | 25 | 7.4 | 2 | 10.5 |
| Part-time job | 486 | 10.1 | 35 | 10.4 | 1 | 5.3 |
| Brother or sister | 392 | 8.2 | 20 | 5.9 | 1 | 5.3 |
| Course graduate | 293 | 6.1 | 21 | 6.2 | 1 | 5.3 |
| Neighbor (adult) | 217 | 4.5 | 17 | 5.0 | 0 | 0.0 |
| School principal | 124 | 2.6 | 9 | 2.7 | 0 | 0.0 |
| Other than above | 921 | 19.2 | 45 | 13.4 | 5 | 26.4 |

There are both changes in the rank order of the top six factors and the percentages acknowledging each factor.

WHITE GRADUATES

1. Job opportunity (42.9%)
2. Parents (28.9%)
3. Friend your age (21.4%)
4. Books and magazines (17.0%)
5. School teacher (14.4%)
6. School counselor (12.0%)

NEGRO GRADUATES

1. Job opportunity (51.2%)
2. Books and magazines (27.5%)
3. Friend your age (26.6%)
4. School teacher (24.3%)
5. Parents (22.8%)
6. School counselor (16.3%)

The pattern differences are confirmed in Table 50 which shows how graduates of both races reported what were the most important influences on the type of vocational course selected.

These results suggest that the Negro is turning away from traditional family sources of influence, such as parents, relatives and siblings toward non-family sources of influence, such as teachers, counselors, books and magazines, friends, and above all, his interpretation of future job opportunity. Perhaps the Negro perceives non-family sources as more authoritative. In his strivings to improve his status in life, he may be unconsciously rejecting his family as a source of guidance in favor of more authoritative sources. That may be because the more highly motivated Negro is acutely aware of the discrepancy between what he wants to achieve and what his family has achieved. Consequently, he looks to non-family sources for guidance. Regardless of the interpretation of why, he does appear to be more readily influenced by non-family sources. This should be of interest to school teachers and counselors.

Table 50. RACE COMPARISON: SOURCES REPORTED BY GRADUATES AS THE MOST IMPORTANT INFLUENCE ON VOCATIONAL COURSE SELECTION

| Most Important Influence in Course Selection | RACE OF GRADUATE | | | | | |
|---|------------------|------|-------|------|-------|------|
| | White | | Negro | | Other | |
| | N | % | N | % | N | % |
| Job opportunities | 879 | 26.2 | 68 | 36.4 | 2 | 11.1 |
| Parents | 496 | 14.8 | 15 | 8.0 | 2 | 11.1 |
| Friend your age | 327 | 9.8 | 24 | 12.8 | 1 | 5.6 |
| School teacher | 202 | 6.0 | 15 | 8.0 | 5 | 27.8 |
| School counselor | 189 | 5.6 | 13 | 7.0 | 1 | 5.6 |
| Books and magazines | 150 | 4.5 | 11 | 5.9 | 0 | 0.0 |
| Brother or sister | 153 | 4.6 | 5 | 2.7 | 1 | 5.6 |
| Relative | 145 | 4.3 | 7 | 3.7 | 1 | 5.6 |
| Part-time job | 143 | 4.3 | 8 | 4.3 | 1 | 5.6 |
| Course graduate | 61 | 1.8 | 1 | 0.5 | 0 | 0.0 |
| Neighbor (adult) | 48 | 1.4 | 2 | 1.1 | 0 | 0.0 |
| School principal | 36 | 1.1 | 1 | 0.5 | 0 | 0.0 |
| Other than above | 520 | 15.5 | 17 | 9.1 | 4 | 22.2 |

5

THE FIRST FULL-TIME POST GRADUATION JOB

| | |
|--|----|
| <input type="checkbox"/> The Significance of the First Job | 1 |
| <input type="checkbox"/> Time Required to Get First Job | 3 |
| <input type="checkbox"/> Relatedness of the First Job to Trade Studied | 13 |
| <input type="checkbox"/> Reasons For Not Getting First Job in Trade | 25 |
| <input type="checkbox"/> Graduates Opinion of Preparation For Trade | 31 |
| <input type="checkbox"/> Methods Used to Get First Job | 35 |

CHAPTER 5 SUMMARY

Time Required to Get First Job

1. Year of graduation. The 1953, 1958, and 1962 graduates required respectively 1.3, 2.3, and 1.7 months to get their first job. Time required is related to general level of unemployment.
2. Type of school. Comprehensive school vocational graduates took slightly longer to get jobs than vocational school graduates.
3. Enrollment of school. Time to get first job is unrelated to enrollment of graduates' school.
4. Race of graduate. Negro graduates take about twice as long to get their first job as white graduates.
5. Type of program. Academic course graduates require on an average one month longer to find their first full-time job than vocational course graduates.
6. Regional differences. There are definite regional differences in time required to get the first job.

Relatedness of First Job to Trade Studied

7. Year of graduation. The percentage of graduates whose first job was in the same trade studied was 32.6, 27.6, and 29.6 per cent respectively for 1953, 1958, and 1962 graduates. The relatedness of first job to trade studied correlates inversely with the U.S. unemployment rate.
8. Type of school. Vocational schools have a consistently higher related job placement performance than comprehensive schools.
9. Enrollment of school. Related job placement performance is inversely related to school enrollment. Small enrollment schools do slightly better.
10. Race of graduate. Negro graduates are much less likely to find their first job in the trade for which trained or a highly related trade than white graduates.
11. Regional differences. There are definite regional differences in related job placement performance.

(Continued in Appendix B)

THE SIGNIFICANCE OF THE FIRST JOB

If the graduate's first job is not in the trade studied or a highly related trade, the chances are high that he will never enter the trade or a highly related trade. But, if his first job is in the trade or a highly related trade, the odds are great that he will stay with the trade or allied trade. Therein lies the significance of the first full-time job after graduation. The first job, as was pointed out in Chapter 3, is a harbinger of jobs to come.

The present chapter is concerned with the following basic questions about the first job:

1. How long does it take the graduate to get his first full-time job?
2. How is his first job related to the trade studied in high school?
3. To what extent do school and other sources help him find his first job?
4. If his first job is in the trade, what is his opinion of how well his trade education prepared him for the job?
5. If his first job is not in the trade studied, what reasons does he give?

These and related questions are explored in terms of basic variables, i.e. year of graduation, type of school, school enrollment, race of graduate, and where applicable, the type of graduate.

THE TIME REQUIRED TO GET THE FIRST JOB

Trend in General Placement

The general placement measure indicates the time in months required to get the first full-time job. It does not take into account the relatedness of the job to training.

Table 51 shows the number, percentage, and cumulative percentage of graduates who found their first full-time job in eleven categories ranging from immediately after graduation to nine months or longer.

Table 51. GENERAL PLACEMENT: FREQUENCY DISTRIBUTION FOR VOCATIONAL COURSE GRADUATES BY CLASS YEAR (BASED ON CASES THAT WENT DIRECTLY TO WORK)

| General Placement | YEAR OF GRADUATION | | | | | | | | | | | |
|-------------------|--------------------|------|-------|-------|------|-------|-------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| C.I. | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| 9.0 > | 23 | 2.4 | 100.0 | 66 | 5.5 | 100.0 | 64 | 3.5 | 100.0 | 154 | 3.9 | 100.0 |
| 8.0 | 5 | 0.6 | 97.6 | 18 | 1.5 | 94.5 | 21 | 1.2 | 96.5 | 45 | 1.1 | 96.1 |
| 7.0 | 4 | 0.4 | 97.0 | 21 | 1.8 | 93.0 | 11 | 0.6 | 95.3 | 37 | 1.0 | 95.0 |
| 6.0 | 9 | 0.9 | 96.6 | 34 | 2.9 | 91.2 | 33 | 1.8 | 94.7 | 76 | 1.9 | 94.0 |
| 5.0 | 9 | 1.0 | 95.7 | 24 | 2.0 | 88.3 | 34 | 1.9 | 92.9 | 67 | 1.7 | 92.1 |
| 4.0 | 22 | 2.3 | 94.7 | 52 | 4.3 | 86.3 | 75 | 4.2 | 91.0 | 149 | 3.7 | 90.4 |
| 3.0 | 45 | 4.8 | 92.4 | 97 | 8.2 | 82.0 | 146 | 8.1 | 86.8 | 290 | 7.4 | 86.7 |
| 2.0 | 68 | 7.2 | 87.6 | 120 | 10.0 | 73.8 | 176 | 9.7 | 78.7 | 364 | 9.1 | 79.3 |
| 1.0 | 201 | 21.2 | 80.4 | 232 | 19.5 | 63.8 | 347 | 19.2 | 69.0 | 783 | 19.8 | 70.2 |
| 0.5 | 141 | 14.9 | 59.2 | 141 | 11.8 | 44.3 | 251 | 13.9 | 49.8 | 538 | 13.6 | 50.4 |
| 0.1 | 419 | 44.3 | 44.3 | 388 | 32.5 | 32.5 | 649 | 35.9 | 35.9 | 1457 | 36.8 | 36.8 |
| Number | 946 | | | 1,193 | | | 1,807 | | | 3,960 | | |
| Mean | 1.3 | | | 2.3 | | | 1.7 | | | 1.8 | | |
| Median | 0.5 | | | 1.0 | | | 1.0 | | | 0.5 | | |
| S.D. | 2.6 | | | 4.0 | | | 2.8 | | | 3.2 | | |

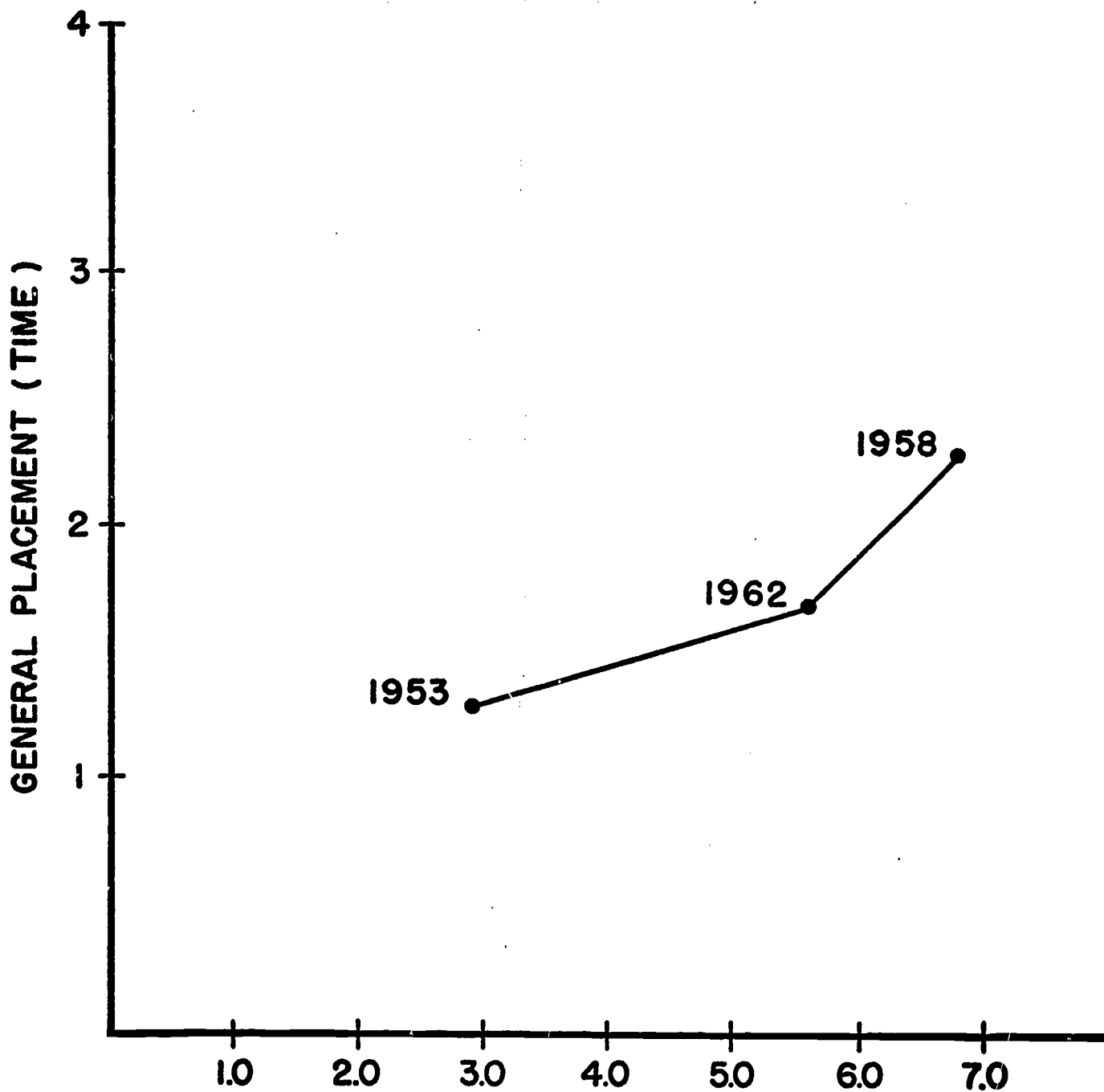
The results of combining the graduates of 1953, 1958, and 1962 indicate that 70.2 percent of the graduates found their first job within one month after graduation. The mean time for all graduates, excluding those who went into military service or continued full time in school, is 1.8 months; the median is .5 of a month. Apparently, most graduates are able to find full-time employment soon after graduation.

Does the time required to get the first job vary with the year of graduation? Are schools improving in their ability to reduce the time required to place graduates? The data in Table 51 suggests two answers. For one, the level of the economy at the time of graduation appears to be a factor influencing time required to obtain a job. The mean and median times required to get a job in 1953, a year the economy was in boom proportion, were 1.3 months and .5 of a month respectively. In contrast, the equivalent values for 1958, a recession year, were 2.3 months and 1.0 month. In 1962, with the economy out of the recession and heading toward the longest peace-time upward trend in history, the time to get a full-time job dropped to a mean of 1.7 months and a median of .5 of a month.

The relationship between the economy, measured in terms of unemployment rate, admittedly an imperfect measure because it does not describe precisely the employment opportunity for young people, and general placement is shown in Figure 5. It suggests, as one might expect, that a school's ability to place graduates promptly into full-time jobs is, in part, limited by the level of economy that prevails in the region served by the school.

The data also suggest that it is getting more difficult to place graduates, that more time is required to find jobs. Whereas 80 percent of the 1953 graduates who looked for jobs found them within one month after graduation, only 69 percent of the 1962 graduates found their job within one month. The point is not conclusive. The difference may be wholly attributable to the difference in the general economy level between 1953 and 1962.

Figure 5. RELATIONSHIP BETWEEN ANNUAL U.S. RATE OF UNEMPLOYMENT AND GENERAL PLACEMENT MEASURE FOR 1953, 1958, AND 1962 GRADUATES



U. S. UNEMPLOYMENT RATE
(Source: Bureau of Labor Statistics)

General Placement by Type of School

How do the vocational course graduates from comprehensive schools compare with those from vocational schools in terms of general placement? The comparison data is shown in Table 52. Those who graduated from vocational schools

require slightly less time to find a job than those who graduate from comprehensive schools. The differences, however, are not substantial. Moreover, one cannot conclude that the differences between the two types of schools are the result of differences in degree of effort or methods used to place graduates. Other variables, unrelated to school placement efforts, such as characteristics of graduates or employment opportunity for trades offered, may be responsible. The relationship between school placement efforts and general placement performance will be explored in a later study report.

Table 52. GENERAL PLACEMENT: COMPARISON OF COMPREHENSIVE AND VOCATIONAL SCHOOLS (BASED ON CASES THAT WENT DIRECTLY TO WORK)

| Year of Graduation | Type of School | General Placement | | |
|--------------------|-------------------------|-------------------|-----|------|
| | | N | M | S.D. |
| 1953 | Vocational | 591 | 1.1 | 2.4 |
| | Comprehensive | 355 | 1.5 | 3.0 |
| 1958 | Vocational | 692 | 2.3 | 4.1 |
| | Comprehensive | 501 | 2.3 | 4.0 |
| 1962 | Vocational | 1,086 | 1.5 | 2.7 |
| | Comprehensive | 721 | 1.9 | 2.9 |
| Combined | Vocational | 2,381 | 1.7 | 3.1 |
| | Comprehensive | 1,579 | 2.0 | 3.3 |

General Placement by Enrollment

Is general placement related to school enrollment? Do large enrollment schools, for example, have a lower general placement time than medium or small enrollment schools?

Table 53 shows by graduating class the differences in general placement performance for three enrollment categories, i.e. less than 500, between 500 and 1500, and greater than 1500. The data suggest that the graduates from large enrollment schools require slightly less time in months to obtain a job than graduates from medium and small enrollment schools. There is also a suggestion that the small schools do slightly better than the medium enrollment schools. From a practical standpoint, the differences are negligible. The size of the school in terms of total enrollment does not appear to be a major factor in the placement of graduates into full-time jobs.

Table 53. GENERAL PLACEMENT: COMPARISON OF SCHOOL
TOTAL ENROLLMENT CATEGORIES

| Year of Graduation | School Enrollment | General Placement | | |
|--------------------|--------------------|-------------------|-----|------|
| | | N | M | S.D. |
| 1953 | < 500 | 349 | 1.2 | 2.3 |
| | 500-1500 | 340 | 1.4 | 3.1 |
| | >1500 | 257 | 1.2 | 2.3 |
| 1958 | < 500 | 398 | 2.4 | 4.2 |
| | 500-1500 | 475 | 2.3 | 4.1 |
| | >1500 | 320 | 2.1 | 3.7 |
| 1962 | < 500 | 606 | 1.6 | 2.8 |
| | 500-1500 | 654 | 1.9 | 3.1 |
| | >1500 | 547 | 1.6 | 2.4 |
| Combined | < 500 | 1,355 | 1.7 | 3.2 |
| | 500-1500 | 1,478 | 1.9 | 3.5 |
| | >1500 | 1,127 | 1.6 | 2.8 |

General Placement by Type of Graduate

How do the vocational course graduates compare with academic course graduates in terms of time required to get a full-time job? Table 54 provides the comparison data for all vocational course graduates who went directly to work versus all academic course graduates who went directly to work, i.e. excluded

are those who continued full-time in school or who went into military service. It takes the academic graduate, for the combined groups, 3.1 months to find his first full-time job, compared with 1.8 months for the vocational graduate. Moreover, the difference is greatest in the recession year of 1958, indicating that the academic course graduate who looks for a job after high school is particularly at a disadvantage during a down turn in the economy.

Table 54. GENERAL PLACEMENT: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES (BASED ON CASES THAT WENT DIRECTLY TO WORK)

| Year of Graduation | Type of Graduate | General Placement | | |
|--------------------|----------------------|-------------------|-----|------|
| | | N | M | S.D. |
| 1953 | Vocational | 946 | 1.3 | 2.6 |
| | Academic | 175 | 2.6 | 4.8 |
| 1958 | Vocational | 1193 | 2.3 | 4.0 |
| | Academic | 207 | 4.0 | 5.7 |
| 1962 | Vocational | 1807 | 1.7 | 2.8 |
| | Academic | 256 | 2.8 | 4.3 |
| Combined | Vocational | 3960 | 1.8 | 3.2 |
| | Academic | 638 | 3.1 | 5.0 |

Table 55 presents a more equitable comparison, vocational versus academic course graduates from the same comprehensive schools. The general conclusion is unchanged. It takes academic course graduates a mean of 1 to 1.7 months longer than vocational course graduates to get the first full-time job, depending upon the economy level.

Table 55. GENERAL PLACEMENT: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES FROM THE SAME COMPREHENSIVE SCHOOLS

| Year of Graduation | Type of Graduate | General Placement | | |
|--------------------|----------------------|-------------------|-----|------|
| | | N | M | S.D. |
| 1953 | Vocational | 355 | 1.5 | 3.0 |
| | Academic | 175 | 2.6 | 4.8 |
| 1958 | Vocational | 501 | 2.3 | 4.0 |
| | Academic | 207 | 4.0 | 5.7 |
| 1962 | Vocational | 721 | 1.9 | 2.9 |
| | Academic | 256 | 2.8 | 4.3 |
| Combined | Vocational | 1579 | 2.0 | 3.3 |
| | Academic | 638 | 3.1 | 5.0 |

General Placement by Race

How does the Negro graduate compare with the white in terms of the general placement measure? Does it take him longer to find full-time employment?

The comparison data are shown in Table 50. For each graduating class, the Negro graduate requires longer to find a job than the white. Considering all graduates, it takes the Negro twice as long to find a job, the mean being 1.6 months for the white graduates and 3.0 months for Negro graduates.

When Negroes and whites who graduated from the same high schools are compared, the difference in time required to get a job is still there. It takes the Negro almost twice as long to get a job, even when he has graduated from the same school. Equality of education does not necessarily mean equality of employment opportunity.

Table 56. GENERAL PLACEMENT: COMPARISON OF RACE OF GRADUATES

| Year of Graduation | Race of Graduate | General Placement | | |
|--------------------|------------------|-------------------|-----|------|
| | | N | M | S.D. |
| 1953 | White | 907 | 1.2 | 2.6 |
| | Negro | 28 | 1.6 | 2.2 |
| | Other | 3 | 0.7 | 0.2 |
| 1958 | White | 1,081 | 2.2 | 3.8 |
| | Negro | 83 | 3.4 | 4.8 |
| | Other | 5 | 7.0 | 9.3 |
| 1962 | White | 1,626 | 1.6 | 2.5 |
| | Negro | 132 | 3.1 | 4.5 |
| | Other | 5 | 3.5 | 6.3 |
| Combined | White | 3,627 | 1.7 | 3.0 |
| | Negro | 244 | 3.0 | 4.4 |
| | Other | 13 | 4.2 | 7.4 |

General Placement by Region

How do the geographic regions of the United States compare in terms of general placement performance? Are some regions consistently better than others from the standpoint of time required by graduates to get full-time jobs? Regional differences may reflect regional economy level differences. Should that be the case, the general placement performance of schools is better compared with regional standards than with a national standard.

The regional comparison data are shown in Table 57. Clearly, there are marked regional differences for each of the three graduating class years. For example, in 1953 the mean time required to get a job in New England was .8 of a month; in the Great Lakes area, it was 1.6 months; and in the Pacific area, it was 2.5 months. It cannot be concluded that these differences are solely the result of regional differences in economy level. However, there is indirect evidence that economy level differences do account for a degree

Table 57. GENERAL PLACEMENT: COMPARISON OF EIGHT GEOGRAPHIC REGIONS

| Year of Graduation | Geographic Region | General Placement | | |
|--------------------|---------------------------|-------------------|-----|------|
| | | N | M | S.D. |
| 1953 | New England | 184 | 0.8 | 1.6 |
| | Mideast | 309 | 1.0 | 2.3 |
| | Great Lakes | 106 | 1.6 | 3.7 |
| | Plains | 88 | 1.2 | 2.3 |
| | Southeast | 179 | 1.7 | 2.7 |
| | Southwest | 30 | 1.5 | 2.3 |
| | Rocky Mountains | 12 | 1.4 | 2.4 |
| | Pacific | 38 | 2.5 | 4.6 |
| 1958 | New England | 209 | 1.6 | 2.5 |
| | Mideast | 360 | 2.4 | 3.8 |
| | Great Lakes | 156 | 2.7 | 4.5 |
| | Plains | 93 | 2.1 | 3.0 |
| | Southeast | 271 | 2.5 | 4.7 |
| | Southwest | 58 | 2.4 | 4.7 |
| | Rocky Mountains | 15 | 1.0 | 1.7 |
| | Pacific | 31 | 3.0 | 6.7 |
| 1962 | New England | 293 | 0.9 | 2.0 |
| | Mideast | 482 | 1.7 | 2.8 |
| | Great Lakes | 294 | 2.0 | 2.9 |
| | Plains | 164 | 2.0 | 3.1 |
| | Southeast | 396 | 2.0 | 2.9 |
| | Southwest | 88 | 1.9 | 3.0 |
| | Rocky Mountains | 19 | 1.1 | 1.6 |
| | Pacific | 71 | 1.4 | 1.5 |
| Combined | New England | 687 | 1.1 | 2.1 |
| | Mideast | 1155 | 1.7 | 3.1 |
| | Great Lakes | 560 | 2.1 | 3.6 |
| | Plains | 345 | 1.8 | 2.9 |
| | Southeast | 851 | 2.1 | 3.6 |
| | Southwest | 176 | 2.0 | 3.6 |
| | Rocky Mountains | 46 | 1.2 | 1.9 |
| | Pacific | 140 | 2.0 | 4.2 |

of the regional differences in general placement. With but one exception, the regional mean times required to get a full-time job increased substantially in 1958, a recession year. The exception, the Rocky Mountains area, can be attributed to the small number of cases that comprise the regional mean. In 1962, the regional mean times show a significant drop, a reflection of a higher economy level.

The regional differences suggest that graduate follow-up studies based upon regions or smaller units can be very misleading when generalized to the nation as a whole. It remains to be seen whether the other derived measures will show equally pronounced regional differences.

RELATEDNESS OF FIRST JOB TO TRADE STUDIED

Trend in Related Placement

The related placement measure combines the time required to get the first full-time job with how related the job is to the trade studied in high school. The equation is discussed in Chapter 3. To facilitate interpretation of the measure, Table 58 shows what the scores would be for each relatedness category for jobs obtained in four months or less. A graduate who gets a job in the same trade immediately upon graduation would have the maximal score of 100. If he got a job in a completely unrelated trade immediately upon graduation, he would have a score of 25.

Table 58. GUIDE FOR INTERPRETATION OF RELATED PLACEMENT MEASURE

| | | Relatedness of First Job to Trade | | | |
|-------------------------|----|-----------------------------------|----------------|------------------|----------------------|
| | | Same Trade | Highly Related | Slightly Related | Completely Unrelated |
| Months to Get First Job | 0 | 100 | 75 | 50 | 25 |
| | .5 | 67 | 50 | 33 | 17 |
| | 1 | 50 | 38 | 25 | 12 |
| | 2 | 40 | 30 | 20 | 10 |
| | 3 | 36 | 27 | 18 | 9 |
| | 4 | 33 | 25 | 17 | 8 |

With that background, Table 59 can be interpreted more readily. It shows the frequency, percentage, and cumulative percentage distribution of the related placement scores for the three graduating classes separately and combined. There is no consistent trend in the mean and median values by graduating class year. The measure appears to be related to the level of the economy. The median drops sharply from 40 in 1953, a boom economy year, to 25 in 1958, a recession year, and increases to 33 in 1962, when the economy was again at a fairly high level as measured by unemployment rate. The data establish that the graduate's likelihood of getting a job in the same trade studied or a highly related trade is influenced by the economy level.

Table 59. RELATED PLACEMENT: FREQUENCY DISTRIBUTION FOR VOCATIONAL COURSE GRADUATES BY CLASS YEAR (BASED ON CASES THAT WENT DIRECTLY TO WORK)

| Related Placement | YEAR OF GRADUATION | | | | | | | | | | | |
|-------------------|--------------------|------|-------|-------|------|-------|-------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| C.I. | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| 91-100 | 173 | 18.9 | 18.9 | 132 | 11.7 | 11.7 | 234 | 14.0 | 14.0 | 540 | 14.5 | 14.5 |
| 81- 90 | 0 | 0.0 | 18.9 | 0 | 0.0 | 11.7 | 0 | 0.0 | 14.0 | 0 | 0.0 | 14.5 |
| 71- 80 | 87 | 9.5 | 28.4 | 80 | 7.1 | 18.8 | 144 | 8.6 | 22.6 | 311 | 8.3 | 22.8 |
| 61- 70 | 47 | 5.2 | 33.6 | 43 | 3.8 | 22.6 | 71 | 4.3 | 26.9 | 161 | 4.4 | 27.2 |
| 51- 60 | 0 | 0.0 | 33.6 | 0 | 0.0 | 22.6 | 0 | 0.0 | 26.9 | 0 | 0.0 | 27.2 |
| 41- 50 | 144 | 15.7 | 49.3 | 112 | 10.0 | 32.6 | 228 | 13.6 | 40.5 | 488 | 13.1 | 40.3 |
| 31- 40 | 61 | 6.7 | 56.0 | 114 | 10.1 | 42.7 | 193 | 11.5 | 52.0 | 370 | 9.9 | 50.2 |
| 21- 30 | 150 | 16.3 | 72.3 | 216 | 19.2 | 61.9 | 266 | 15.9 | 67.9 | 633 | 17.0 | 67.2 |
| 11- 20 | 158 | 17.3 | 89.6 | 230 | 20.4 | 82.3 | 285 | 17.1 | 85.0 | 675 | 18.1 | 85.3 |
| 1- 10 | 95 | 10.4 | 100.0 | 199 | 17.7 | 100.0 | 251 | 15.0 | 100.0 | 547 | 14.7 | 100.0 |
| Number | 915 | | | 1,126 | | | 1,672 | | | 3,725 | | |
| Mean | 47.4 | | | 37.8 | | | 42.2 | | | 42.1 | | |
| Median | 40 | | | 25 | | | 33 | | | 31 | | |
| S.D. | 32.3 | | | 29.8 | | | 30.7 | | | 31.0 | | |

Figure 6 shows the relationship between the related placement means for the three graduating classes and the United States rate of unemployment in those years. The measure very clearly is effected by the general unemployment rate which is a reflection of the economy level.

Figure 6. RELATIONSHIP BETWEEN RELATED PLACEMENT MEASURE AND U.S. RATE OF UNEMPLOYMENT FOR THE YEARS 1953, 1958, AND 1962

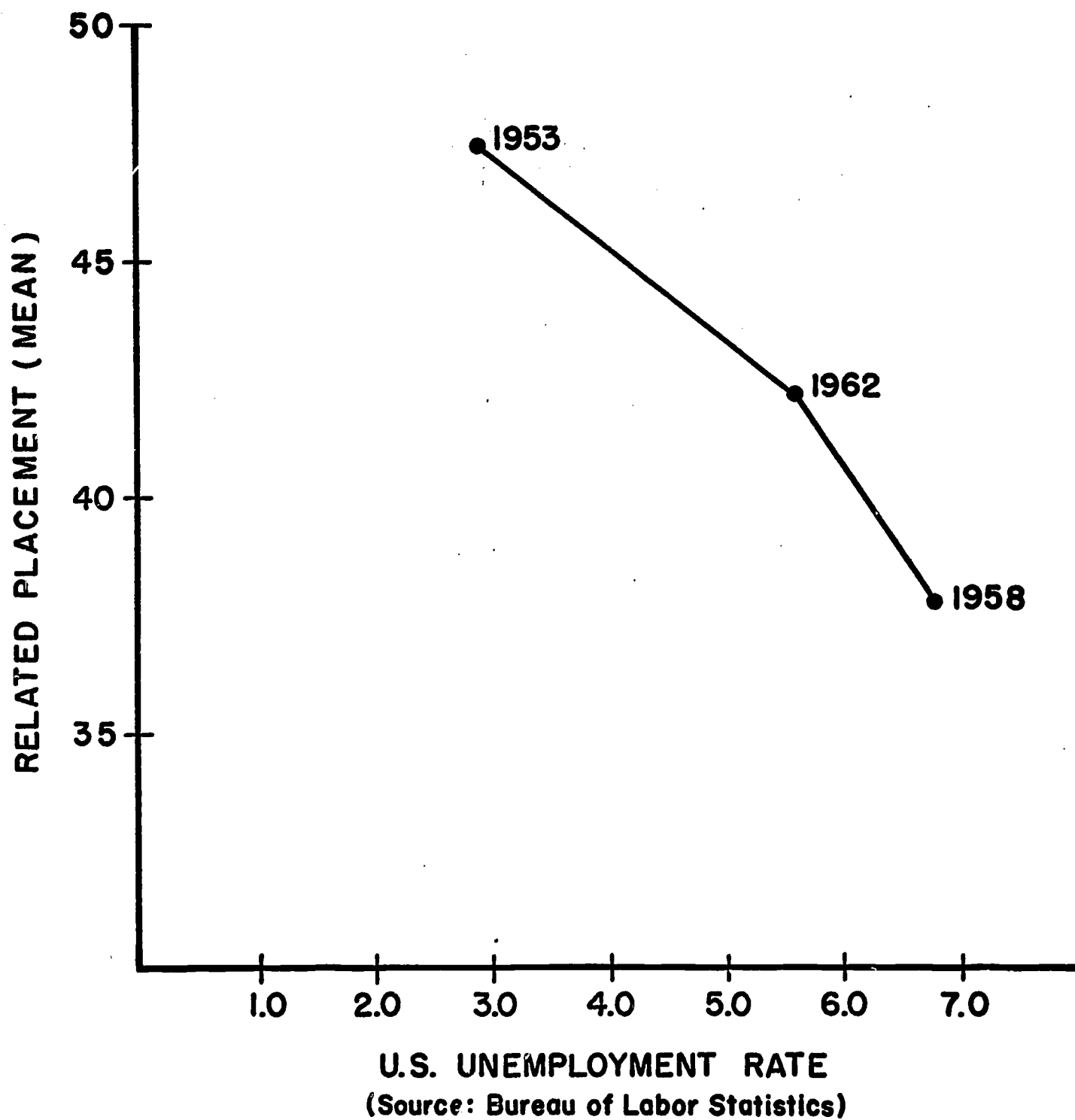


Table 60 shows the relatedness of the first job to the trade studied more directly in the form of the number and percent of graduates in each relatedness category. In 1953, 50.8 percent of the graduates went into the same or a highly related trade. In 1958, the recession year, the percentage dropped 44.2, and in 1962, with a substantially higher level of economy, the percentage increased to 49.4, almost back to the 1953 level. Even in the best year, less than one-third of the graduates go into the same trade studied in high school. In every year, a greater percentage go into a completely unrelated trade than go into the trade studied. In a later section, the reasons given by graduates for not going into the trade studied will be analyzed.

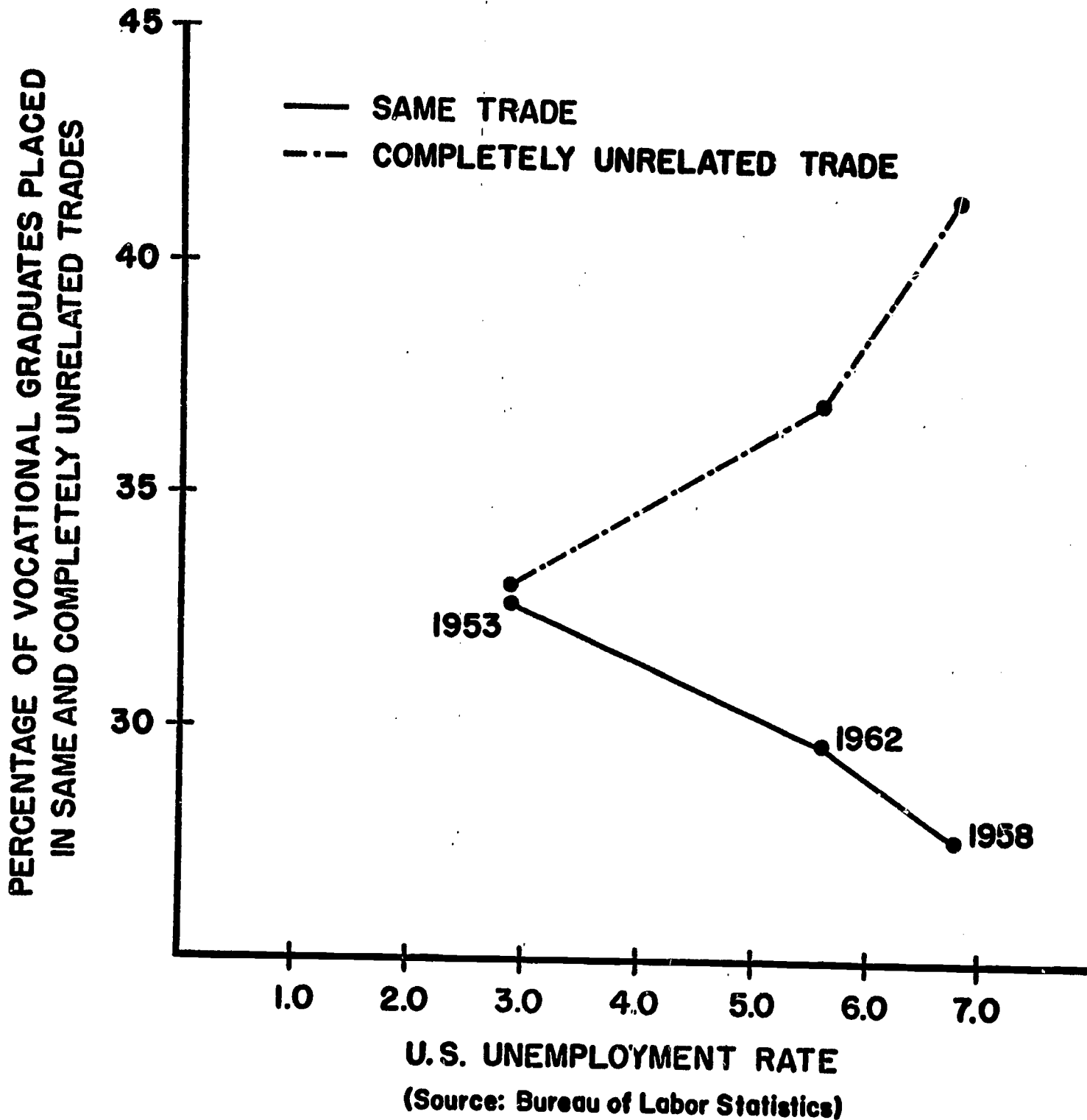
Table 60. TREND IN NUMBER AND PERCENTAGE OF VOCATIONAL GRADUATES PLACED IN FOUR CATEGORIES OF RELATIONSHIP BETWEEN TRADE STUDIED AND FIRST FULL-TIME JOB *

| Relation of First Job to Trade Studied in High School | YEAR OF GRADUATION | | | | | | | |
|---|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Same trade | 301 | 32.6 | 313 | 27.6 | 498 | 29.6 | 1118 | 29.8 |
| Highly related trade | 168 | 18.2 | 189 | 16.6 | 333 | 19.8 | 691 | 18.4 |
| Slightly related trade | 150 | 16.3 | 164 | 14.4 | 229 | 13.6 | 544 | 14.5 |
| Completely unrelated trade | 303 | 32.9 | 470 | 41.4 | 625 | 37.1 | 1402 | 37.3 |

* Based on usable data from questionnaire item 14.

The relationship between the percentage of graduates who go into the trade studied and the United States rate of unemployment is shown in Figure 7. As the rate of unemployment increases, the percentage who go into the trade studied decreases. The broken line shows the percentage who went into a completely unrelated trade. It increases sharply as rate of unemployment increases, indicating that decreases in the level of economy divert substantial numbers of graduates from the trade studied to completely unrelated trades. Most of those so diverted never enter the trade. They tend to stay in work wholly unrelated to what they studied in high school.

Figure 7. RELATIONSHIP BETWEEN U.S. RATE OF UNEMPLOYMENT AND PERCENTAGE OF GRADUATES PLACED IN TRADE STUDIED AND IN COMPLETELY UNRELATED TRADES



It should be pointed out that the relatedness of the first job to the trade studied is reported by the graduate. It represents his judgment. However, an opportunity to check his judgment was available. He was asked to write the title of his position, occupation or trade on the questionnaire.

Titles were compared with ratings of relatedness. With few exceptions, those who claimed their first job was in the same trade studied in high school identified their job by a title in agreement with the title of the course taken. Also, those who claimed their first job was completely unrelated to the trade studied in high school listed titles that overwhelmingly confirmed their ratings of "completely unrelated." It was concluded that the graduates were capable of judging the relatedness between their first job and the trade studied, at least at the extreme anchor points.

Related Placement by Type of School

How do comprehensive high schools compare with vocational high schools in terms of related placement performance? Table 61 provides the data.

Table 61. RELATED PLACEMENT: COMPARISON OF COMPREHENSIVE AND VOCATIONAL SCHOOLS

| Year of Graduation | Type of School | Related Placement | | |
|--------------------|-------------------------|-------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 575 | 51.6 | 32.4 |
| | Comprehensive | 340 | 40.3 | 30.9 |
| 1958 | Vocational | 656 | 40.1 | 30.8 |
| | Comprehensive | 470 | 34.5 | 28.1 |
| 1962 | Vocational | 1,010 | 45.6 | 30.8 |
| | Comprehensive | 622 | 37.2 | 29.6 |
| Combined | Vocational | 2,252 | 45.5 | 31.5 |
| | Comprehensive | 1,473 | 37.0 | 29.5 |

For each of the three graduating classes, the vocational schools outperformed the comprehensive schools in related placement performance. The differences are both significant and substantial. The performance of both types of schools decreased in the recession year of 1958, and increased when the economy was at a higher level in 1962. The comprehensive schools decreased from 40.3 in 1953 to 34.5 in 1958, a drop of 5.8, whereas the vocational schools dropped from 51.6 in 1953 to 40.1 in 1958, a decrease of 11.1. The apparent greater resistance of the comprehensive school to economy effects has no significance. It is attributable to an initially lower placement performance.

The comparison of the two types of schools in terms of percentage of graduates placed into each relatedness category is shown in Table 62. Over all years, the vocational schools placed 33.6 percent of their graduates who went directly to work into the trade studied, whereas the comprehensive schools placed only 23.9 percent into the trade studied. The schools also differ at the other extreme. Of the vocational school graduates, 33.1 percent got their

Table 62. COMPARISON BY TYPE OF SCHOOL: NUMBER AND PERCENTAGE OF GRADUATES PLACED IN FOUR CATEGORIES OF RELATIONSHIP BETWEEN TRADE STUDIED AND FIRST FULL-TIME JOB

| Relation of First Job to Trade Training | TYPE OF SCHOOL | | | |
|--|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| Same trade | 763 | 33.6 | 355 | 23.9 |
| Highly related trade | 447 | 19.7 | 244 | 16.5 |
| Slightly related trade | 311 | 13.7 | 233 | 15.7 |
| Completely unrelated trade . . . | 751 | 33.1 | 651 | 43.9 |

first job in a trade completely unrelated to the trade they studied in high school, whereas almost 44 percent of the comprehensive school graduates went into completely unrelated trades. Clearly, the vocational schools do a better

job of placing their graduates into the trade or highly related trades. A later analysis will shed more light on the reasons for the difference.

Related Placement by Enrollment

Does the size of the school's enrollment have any relationship with placement performance? Do small enrollment schools, for example, do a better job of placing their graduates into the trade than large enrollment schools? Table 63 provides the data. For the combined years, it appears that related placement performance is inversely related to total school enrollment. Schools with an enrollment less than 500 do better as a group than those in the larger enrollment categories. The differences, however, are not substantial.

Table 63. RELATED PLACEMENT: COMPARISON OF SCHOOL TOTAL ENROLLMENT CATEGORIES

| Year of Graduation | School Enrollment | Related Placement | | |
|--------------------|----------------------|-------------------|------|------|
| | | N | M | S.D. |
| 1953 | < 500 | 336 | 48.8 | 31.4 |
| | 500 - 1500 | 330 | 47.9 | 33.4 |
| | > 1500 | 249 | 44.9 | 31.9 |
| 1958 | < 500 | 368 | 38.1 | 29.9 |
| | 500 - 1500 | 454 | 38.4 | 30.6 |
| | > 1500 | 304 | 36.3 | 28.4 |
| 1962 | < 500 | 561 | 45.3 | 31.1 |
| | 500 - 1500 | 608 | 39.9 | 30.1 |
| | > 1500 | 503 | 41.6 | 30.6 |
| Combined | < 500 | 1,267 | 44.1 | 31.1 |
| | 500 - 1500 | 1,400 | 41.3 | 31.3 |
| | > 1500 | 1,058 | 40.9 | 30.4 |

The influence of school enrollment upon the relatedness of first job to trade studied is further shown in Table 64. Schools with an enrollment less than 500 had a greater percentage of graduates enter the trade for which trained (34.5 percent) and a smaller percentage of graduates enter completely unrelated trades (34.3 percent) than did the higher enrollment schools. A later report will compare small, medium and large enrollment school in terms of what they do to place graduates. That analysis may help explain the differences in related placement performance.

Table 64. COMPARISON BY ENROLLMENT: NUMBER AND PERCENTAGE OF GRADUATES PLACED IN FOUR CATEGORIES OF RELATIONSHIP BETWEEN TRADE STUDIED AND FIRST FULL-TIME JOB

| Relation of First Job To Trade Training | SCHOOL ENROLLMENT | | | | | |
|--|-------------------|------|------------|------|--------|------|
| | < 500 | | 500 - 1500 | | > 1500 | |
| | N | % | N | % | N | % |
| Same trade | 441 | 34.5 | 389 | 27.5 | 288 | 27.1 |
| Highly related trade | 230 | 18.0 | 271 | 19.2 | 190 | 17.9 |
| Slightly related trade | 169 | 13.2 | 200 | 14.2 | 175 | 16.5 |
| Completely unrelated trade | 439 | 34.3 | 553 | 39.1 | 410 | 38.6 |

Related Placement and Race

Is the race of the vocational graduate a factor in related placement? Are Negro graduates as likely to be placed in the trade as white graduates? Table 65 provides the data. For every graduating class, the related placement of Negroes is significantly and substantially lower than that of white graduates. The Negro is clearly at a disadvantage. The factor has tremendous importance for current efforts to elevate the status of the Negro through vocational education. If he is not placed in the trades for which he is trained or at least highly related trades, the incentive to improve his status by education is weakened.

Table 65. RELATED PLACEMENT: COMPARISON BY RACE OF VOCATIONAL GRADUATES

| Year of Graduation | Race of Graduate | Related Placement | | |
|--------------------|------------------|-------------------|------|------|
| | | N | M | S.D. |
| 1953 | White | 880 | 48.0 | 32.4 |
| | Negro | 25 | 30.4 | 25.4 |
| | Other | 3 | 28.0 | 15.6 |
| 1958 | White | 1031 | 38.6 | 30.2 |
| | Negro | 71 | 26.0 | 21.0 |
| | Other | 4 | 29.8 | 27.0 |
| 1962 | White | 1507 | 43.5 | 30.9 |
| | Negro | 123 | 27.6 | 23.7 |
| | Other | 4 | 58.2 | 42.2 |
| Combined | White | 3429 | 43.2 | 31.3 |
| | Negro | 220 | 27.4 | 23.1 |
| | Other | 11 | 39.6 | 34.3 |

The difference in related placement between Negro and white graduates is more dramatically shown in Table 66. Over all years, only 17.3 percent of the Negro graduates were placed in the trade studied. Almost 58 percent were placed in completely unrelated trades. Comparable figures for white graduates are 30.6 percent placed in the trade, and 36 percent placed in completely unrelated trades. There is no disputing the disadvantage of the Negro graduate. A small minority find work in the trade studied.

Table 66. COMPARISON BY RACE OF GRADUATE: NUMBER AND PERCENTAGE OF GRADUATES PLACED IN FOUR CATEGORIES OF RELATIONSHIP BETWEEN TRADE STUDIED AND FIRST FULL-TIME JOB

| Relation of First Job to Trade Training | RACE OF GRADUATE | | | | | |
|--|------------------|------|-------|------|-------|------|
| | White | | Negro | | Other | |
| | N | % | N | % | N | % |
| Same trade | 1058 | 30.6 | 39 | 17.3 | 3 | 27.3 |
| Highly related trade | 640 | 18.5 | 36 | 15.9 | 1 | 9.1 |
| Slightly related trade | 514 | 14.9 | 21 | 9.3 | 1 | 9.1 |
| Completely unrelated trade . . . | 1241 | 35.9 | 130 | 57.5 | 6 | 54.5 |

Related Placement by Region

An earlier section indicated significant regional differences in general placement, the time required to find a full-time job after graduation. That prompts a question about regional differences in related placement. Are some regions consistently better than others in terms of placing their graduates in the trades for which trained? Table 67 provides the data. There are consistent regional differences. Placement related to the trade studied is highest in the New England region and lowest in the Pacific region for the combined years. New England is consistently higher than the other regions.

Undoubtedly, the regional differences are partially attributable to differences in the level of economy that prevails. However, direct support for this assumption is lacking. Rate of employment figures are not available by region for the three years concerned.

The regional differences again point out the fallacy of projecting regional survey results to the country as a whole. The North Atlantic State follow-up studies have consistently reported a higher percentage of placement of graduates in the trade or related trade than has been reported in this study. Regional differences are a partial answer to the apparent discrepancy.

Table 67. RELATED PLACEMENT: COMPARISON OF EIGHT GEOGRAPHIC REGIONS

| Year of Graduation | Geographic Region | Related Placement | | |
|--------------------|---------------------------|-------------------|------|------|
| | | N | M | S.D. |
| 1953 | New England | 181 | 58.2 | 31.2 |
| | Mideast | 296 | 48.3 | 33.0 |
| | Great Lakes | 101 | 44.5 | 30.4 |
| | Plains | 86 | 46.6 | 30.9 |
| | Southeast | 171 | 39.3 | 30.3 |
| | Southwest | 30 | 46.1 | 35.1 |
| | Rocky Mountains | 12 | 45.3 | 33.7 |
| | Pacific | 38 | 37.5 | 31.0 |
| 1958 | New England | 202 | 44.8 | 31.4 |
| | Mideast | 340 | 38.4 | 30.6 |
| | Great Lakes | 148 | 34.5 | 29.5 |
| | Plains | 88 | 32.6 | 26.9 |
| | Southeast | 253 | 34.2 | 27.8 |
| | Southwest | 54 | 40.8 | 31.5 |
| | Rocky Mountains | 14 | 46.9 | 27.3 |
| | Pacific | 27 | 33.6 | 24.9 |
| 1962 | New England | 278 | 57.1 | 31.4 |
| | Mideast | 446 | 41.5 | 30.6 |
| | Great Lakes | 273 | 38.9 | 29.6 |
| | Plains | 141 | 36.4 | 28.6 |
| | Southeast | 369 | 37.7 | 28.8 |
| | Southwest | 80 | 40.7 | 30.5 |
| | Rocky Mountains | 18 | 46.8 | 33.5 |
| | Pacific | 67 | 36.4 | 26.4 |
| Combined | New England | 662 | 53.6 | 31.8 |
| | Mideast | 1,085 | 42.4 | 31.4 |
| | Great Lakes | 526 | 38.9 | 30.0 |
| | Plains | 315 | 38.1 | 29.3 |
| | Southeast | 797 | 36.8 | 28.8 |
| | Southwest | 164 | 41.7 | 31.8 |
| | Rocky Mountains | 44 | 46.4 | 31.7 |
| | Pacific | 132 | 36.1 | 27.6 |

REASONS FOR NOT GETTING FIRST JOB IN TRADE

The majority of vocational course graduates do not enter the trade for which trained in high school. For all years combined, 51.8 percent of the direct to work graduates went into a trade slightly related or completely unrelated to the trade studied. What were their reasons for not getting a job in the trade?

The graduates were asked to list reasons for not getting the first full-time job in the trade. Two of the listed reasons, i.e. learned new trade by continuing in school and learned new trade in military service, do not apply to the present analysis which deals only with those who went directly from school to full-time employment. These two answer categories have been eliminated from the tables presented in this section.

Analysis by Year of Graduation

What are the reasons given by graduates for not getting their first job in the trade? What is their relative weight in terms of percentages? Are there any significant trends in the reasons given? Table 68 presents the data.

For the combined graduates, 35.6 percent indicated they did not get a job in the trade because no job was available. This 35.6 percent is an estimated 18.4 percent of all vocational course graduates who went directly to work. (The estimate was arrived at by taking 35.6 percent of the total whose first job was in a slightly related or completely unrelated trade, and expressing the result as a percentage of the total who went directly to work. The procedure provides a correction for the approximately four hundred cases who failed to indicate a reason for not getting a job in the trade). What significance can be attached to the 18.4 percent value? It suggests that schools are sending a substantial number of graduates into communities that do not have jobs in the trades being taught in the schools. This may or may not be considered a problem by the vocational educator.

Table 68. REASONS FOR NON-PLACEMENT IN TRADE BY YEAR OF GRADUATION

| Reason Given For Not Getting First Job in Trade Studied | YEAR OF GRADUATION | | | | | | | |
|--|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| No job available in trade | 107 | 28.8 | 204 | 39.4 | 243 | 36.4 | 554 | 35.6 |
| Decided I liked other work better | 104 | 28.0 | 127 | 24.6 | 175 | 26.2 | 406 | 26.1 |
| Not accepted as apprentice . . . | 44 | 11.9 | 52 | 10.0 | 65 | 9.7 | 161 | 10.4 |
| Insufficient pay | 13 | 3.5 | 10 | 1.9 | 11 | 1.6 | 34 | 2.2 |
| Other than above | 103 | 27.7 | 124 | 24.1 | 173 | 25.9 | 400 | 25.8 |

Approximately 26 percent of the graduates whose first job was in slightly related or completely unrelated trades gave as the reason for not getting a job in the trade that they preferred other work. By the same procedure described previously, this 26 percent comes to 13.5 percent of all graduates who went direct to work. Are these graduates who happened to find an unrelated job in their search for work, and then decided that they preferred the unrelated work to work in the trade? Or, are they graduates who even before graduation had decided they did not want to work in the trade studied? The distinction is important. Unfortunately, the data is of no help in regard to the interpretation. More research needs to be done on this important point.

Approximately 10 percent gave as their reason for not getting a job in the trade that they were not accepted as an apprentice. This amounts to 5.4 percent of the total graduates that went directly to work. To what extent the percentage constitutes a problem is something the vocational educators must decide.

What are the trends in the reasons given? The percentage who indicated they did not get a job in the trade increased from 28.8 percent in 1953, a high employment year, to 39.4 percent in 1958, a recession year. This confirms independently the interpretation given earlier to the relationship between related placement and level of unemployment. What is disturbing is the continued high percentage of 1962 graduates in slightly related or completely unrelated

trades who said they did not get a job in the trade studied because there were no trade jobs available; 36.4 percent! The 1962 economy level was closer to the 1953 economy level than this percentage value would imply.

The percentage of graduates who prefer other work to trade work is fairly constant. The percentage of graduates who claim they were not accepted into apprenticeship programs shows a slight, almost negligible, decrease. The trend does not warrant the attachment of any significance.

Analysis by Type of School

How do graduates of vocational and comprehensive schools compare in terms of reasons given for not getting the first job in the trade? Table 69 presents the data.

Table 69. REASONS FOR NON-PLACEMENT IN TRADE BY TYPE OF SCHOOL

| Reason Given for Not Getting First Job in Trade Studied | TYPE OF SCHOOL | | | |
|--|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| No job available in trade | 298 | 35.7 | 257 | 35.4 |
| Decided I liked other work better | 215 | 25.8 | 191 | 26.3 |
| Not accepted as apprentice | 91 | 10.9 | 70 | 9.7 |
| Insufficient pay | 21 | 2.5 | 13 | 1.8 |
| Other than above | 209 | 25.1 | 194 | 26.7 |

Clearly there are no significant differences in the reasons given by the graduates of both type of schools for not getting a job in the trade.

Analysis by School Enrollment

How do graduates from small, medium and large enrollment schools, as defined by this study, compare on terms of the reasons given for not getting their first job in the trade? Table 70 presents the data.

Table 70. REASONS FOR NON-PLACEMENT IN TRADE BY SCHOOL ENROLLMENT

| Reason Given For Not Getting First Job in Trade Studied | SCHOOL ENROLLMENT | | | | | |
|--|-------------------|------|------------|------|--------|------|
| | < 500 | | 500 - 1500 | | > 1500 | |
| | N | % | N | % | N | % |
| No job available in trade | 180 | 37.1 | 227 | 37.3 | 148 | 31.8 |
| Decided I liked other work better | 120 | 24.7 | 159 | 26.2 | 127 | 27.3 |
| Not accepted as apprentice | 54 | 11.1 | 47 | 7.7 | 60 | 12.9 |
| Insufficient pay | 12 | 2.5 | 18 | 3.0 | 4 | 0.8 |
| Other than above | 119 | 24.6 | 157 | 25.8 | 127 | 27.2 |

Fewer of the graduates from schools with enrollments above 1500 gave the reason, no job available in the trade, for not getting a job in the trade. This may be because such schools are located in major metropolitan areas where trade job opportunities are greater. A later analysis will show that the percentage of graduates from large enrollment schools who acknowledge school assistance in getting a job was actually less than from medium and small enrollment schools. It would appear, then, that the large enrollment schools, because of their location, have an employment opportunity advantage.

The percentage of graduates who preferred to work in a trade other than the one studied increased from 24.7 percent for small enrollment schools to 26.2 percent for medium enrollment schools to 27.3 percent for large enrollment schools. The increase is small but consistent. Interpretation is difficult. It may be that more graduates are attracted to other trades because of the greater and more diverse employment opportunity in the major metropolitan

areas. It cannot be concluded that large schools turn out more graduates who have made up their minds in advance not to enter the trades.

Analysis by Race of Graduate

How do white and Negro graduates compare in terms of reasons given for not getting a job in the trade? Table 71 provides the data. Despite the relatively small number of Negro graduates, the analysis indicates important differences.

Table 71. REASONS FOR NON-PLACEMENT IN TRADE BY RACE OF GRADUATE

| Reason Given For Not Getting First Job in Trade Studied | RACE OF GRADUATE | | | | | |
|--|------------------|------|-------|------|-------|------|
| | White | | Negro | | Other | |
| | N | % | N | % | N | % |
| No job available in trade | 492 | 35.0 | 52 | 41.6 | 1 | 25.0 |
| Decided I liked other work better | 375 | 26.7 | 23 | 18.4 | 1 | 25.0 |
| Not accepted as apprentice | 131 | 9.3 | 27 | 21.6 | 1 | 25.0 |
| Insufficient pay | 34 | 2.4 | 0 | 0.0 | 0 | 0.0 |
| Other than above | 372 | 26.5 | 23 | 18.4 | 1 | 25.0 |

A larger percentage of Negro graduates reported no job was available in the trade (41.6 percent versus 35 percent for white graduates). A smaller percent of Negro graduates reported they liked other work better than the trade studied (18.4 percent versus 26.7 percent for white graduates). A substantially larger percentage of Negro than white graduates reported they obtained no job in the trade because they were not accepted as an apprentice (21.6 percent versus 9.3 percent for white graduates). These facts suggest, as was pointed out earlier, that the Negro graduate is at a decided disadvantage in terms of placement in the trade. His much less acceptance by local apprenticeship programs may change with time, but currently it is still an obstacle to his aspiration to work in the trade studied.

GRADUATES OPINION OF PREPARATION FOR TRADE

Graduates who went directly to work in the same trade studied or a highly related trade were asked to express their general opinion of how well their vocational course prepared them for their first job. A generally favorable reaction can be anticipated when opinions of this kind are requested.

Analysis by Year of Graduation

Do the graduates from the three years of graduation differ significantly in their opinions of how well their vocational course prepared them for their first job in the trade or a highly related trade? Is there a trend? Table 72 provides the data.

**Table 72. GRADUATE'S OPINION OF HIS PREPARATION
FOR TRADE BY YEAR OF GRADUATION**

| How Well Did Vocational Course Prepare You For Job in Trade? | YEAR OF GRADUATION | | | | | | | |
|---|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Exceptionally well prepared | 236 | 52.9 | 222 | 48.9 | 383 | 49.7 | 841 | 50.4 |
| Well prepared on the whole | 191 | 42.8 | 211 | 46.5 | 365 | 47.4 | 767 | 45.9 |
| Poorly prepared | 19 | 4.3 | 21 | 4.6 | 22 | 2.9 | 62 | 3.7 |
| Weighted Mean | 2.49 | | 2.44 | | 2.47 | | 2.47 | |

The combined graduates have a very favorable opinion of the vocational course they took. Over 50 percent indicated they were exceptionally well prepared and almost 46 percent claimed they were, on the whole, well prepared.

There are no substantial differences between the three graduating classes. The three categories were weighted 3, 2 and 1 respectively to obtain a weighted average of 2.5 for 1953 graduates, 2.4 for 1958 graduates and 2.5 for 1962 graduates. The values indicate the lack of a decreasing or increasing trend.

Analysis by Type of School

Do graduates from vocational and comprehensive schools differ in their opinion of how well their vocational course has prepared them for the trade? Table 73 presents the data.

Table 73. GRADUATES OPINION OF HIS PREPARATION FOR TRADE BY TYPE OF SCHOOL

| How Well Did Vocational Course Prepare You For Job in Trade? | TYPE OF SCHOOL | | | |
|--|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| Exceptionally well prepared | 567 | 49.7 | 279 | 52.0 |
| Well prepared on the whole | 530 | 46.5 | 238 | 44.4 |
| Poorly prepared | 43 | 3.8 | 19 | 3.6 |
| Weighted Mean | 2.46 | | 2.48 | |

The percentages suggest that graduates of comprehensive schools have about the same opinion of their former vocational course as graduates of vocational schools. The weighted average was 2.46 for comprehensive school graduates versus 2.48 for vocational school graduates, indicating no significant difference between the two types of schools.

Analysis by School Enrollment

Do graduates from small, medium and large enrollment schools, as defined by this study, differ significantly in their opinions of how well their vocational course prepared them for their first job in the trade or a highly related trade? The data is shown in Table 74.

Table 74. GRADUATE'S OPINION OF HIS PREPARATION FOR THE TRADE BY SCHOOL ENROLLMENT

| How Well Did Vocational Course Prepare You For Job in Trade? | SCHOOL ENROLLMENT | | | | | |
|--|-------------------|------|------------|------|--------|------|
| | < 500 | | 500 - 1500 | | > 1500 | |
| | N | % | N | % | N | % |
| Exceptionally well prepared | 311 | 49.9 | 314 | 50.9 | 221 | 50.7 |
| Well prepared on the whole | 288 | 46.2 | 280 | 45.4 | 200 | 45.9 |
| Poorly prepared | 24 | 3.9 | 23 | 3.7 | 15 | 3.4 |
| Weighted Mean | 2.46 | | 2.47 | | 2.47 | |

School enrollment is not a factor related to the opinion of graduates on how well their vocational course prepared them for the trade. The weighted averages for the three enrollment categories are clearly not different.

Analysis by Race of Graduate

The relatively small number of Negro graduates that went directly to work in the trade studied or a highly related trade made this analysis inadvisable.

METHODS USED TO GET FIRST JOB

The survey questionnaire listed a number of common means graduates use to find their first full-time job. Those surveyed were asked to mark with a check all that they used to get their first job. The results are given in the following sections for the graduates who went directly to work after graduation from high school.

Trends in Methods Used

Table 75 indicates the number and percentage of graduates who checked each method used to help them get their first job. Many checked a combination of methods.

Table 75. METHODS USED TO GET FIRST FULL-TIME JOB
BY YEAR OF GRADUATION *

| Means Used to Get First Full-time Job After Graduation | YEAR OF GRADUATION | | | | | | | |
|---|--------------------|------|------|------|------|------|----------|------------------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Answering want-ad | 74 | 7.8 | 90 | 7.7 | 126 | 7.2 | 290 | 7.5 |
| Private employment agency | 6 | 0.6 | 26 | 2.2 | 37 | 2.1 | 69 | 1.8 |
| State employment agency | 28 | 3.0 | 59 | 5.0 | 115 | 6.5 | 203 | 5.2 [▲] |
| Help of school teacher | 162 | 17.2 | 181 | 15.5 | 352 | 20.0 | 696 | 17.9 |
| Help of school counselor | 44 | 4.7 | 44 | 3.8 | 118 | 6.7 | 206 | 5.3 |
| Help of school principal | 26 | 2.8 | 27 | 2.3 | 76 | 4.3 | 130 | 3.3 |
| Help of school placement service | 121 | 12.8 | 87 | 7.4 | 161 | 9.2 | 371 | 9.6 |
| Help of relative or friend | 345 | 36.6 | 471 | 40.4 | 661 | 37.6 | 1485 | 38.2 |
| Through school coop program | 105 | 11.1 | 94 | 8.0 | 150 | 8.5 | 350 | 9.0 |
| Other than above | 206 | 21.9 | 302 | 25.9 | 347 | 19.7 | 857 | 22.1 |

* The arrowhead indicates the direction of a consistent trend.

For the combined years, the rank order of methods acknowledged was (1) friend or relative (38.2 percent), (2) school teacher (17.9 percent), (3) school placement service (9.6 percent), (4) school cooperative program (9.0 percent), (5) answering a want-ad (7.5 percent), (6) school counselor (5.3 percent), (7) state employment agency (5.2 percent), (8) school principal (3.3 percent), and (9) private employment agency (1.8 percent).

The endorsement of all sources of school help came to 45.1 percent for the combined years. Even though this is not a percentage of the graduates, it is an impressive acknowledgment of school assistance in finding employment.

The only consistent trend is the increased use of state employment services to find jobs. The increase is slight, from 3.0 percent in 1953 to 5.0 percent in 1958 to 6.5 percent in 1962. The lack of consistent trends is probably the result of the recession year of 1958. All of the school sources of help showed a drop in percentage acknowledged from 1953 to 1958, and rose again in 1962. Teachers, counselors and principals received acknowledgment from a greater percentage of 1962 graduates than from 1953 graduates. The increases, however, are not substantial. The individual vocational teacher stands out as the principle source of school assistance in finding jobs for graduates.

Methods Used by Type of School

How do vocational and comprehensive schools compare in terms of methods used by their graduates to obtain the first full-time job? Table 76 provides the data.

The percentage of vocational school graduates acknowledging school sources of employment assistance is greater for every source than the percentage of comprehensive graduates acknowledging such sources. Total acknowledgment of school sources is 52.6 percent for vocational school graduates versus 33.7 percent for comprehensive school graduates. The results indicate that vocational schools are more active on behalf of their graduates than comprehensive schools. That may be the reason why vocational schools have a superior

performance in terms of both the general and related placement measures. They place a greater percentage of their graduates in jobs related to the trades studied.

Table 76. METHODS USED TO GET FIRST FULL-TIME JOB
BY TYPE OF SCHOOL

| Means Used to Get First Full-time Job After Graduation | TYPE OF SCHOOL | | | |
|---|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| Answering want-ad | 185 | 7.9 | 105 | 6.8 |
| Private employment agency | 41 | 1.7 | 28 | 1.8 |
| State employment agency | 123 | 5.2 | 80 | 5.2 |
| Help of school teacher | 446 | 19.0 | 250 | 16.2 |
| Help of school counselor | 151 | 6.4 | 55 | 3.6 |
| Help of school principal | 110 | 4.7 | 20 | 1.3 |
| Help of school placement service | 293 | 12.5 | 78 | 5.1 |
| Help or relative or friend | 794 | 33.9 | 691 | 44.9 |
| Through school coop program | 235 | 10.0 | 115 | 7.5 |
| Other than above | 484 | 20.6 | 373 | 24.2 |

Therein lies a reasonable implication. If placement in the trade studied or a highly related trade is to be the goal, more vigorous activity upon the part of school sources to assist placement of graduates in the trade may be the best means.

Methods Used by Type of Graduate

A comparison of how academic and vocational course graduates get their first job after high school is shown in Table 77. There is a striking difference in the degree to which the two types of graduates acknowledge the

help of school sources. Academic graduates, if one accepts the correctness of their answers, receive virtually no assistance from school sources, such as teachers, counselors, placement services, and principals, in finding jobs.

Table 77. METHODS USED TO GET FIRST FULL-TIME JOB
BY TYPE OF GRADUATE

| Means Used to Get First Full-time Job After Graduation | TYPE OF GRADUATE | | | |
|---|------------------|------|----------|------|
| | Vocational | | Academic | |
| | N | % | N | % |
| Answering want-ad | 290 | 7.5 | 27 | 5.6 |
| Private employment agency | 69 | 1.8 | 18 | 3.8 |
| State employment agency | 203 | 5.2 | 36 | 7.5 |
| Help of school teacher | 696 | 17.9 | 9 | 1.9 |
| Help of school counselor | 206 | 5.3 | 3 | 0.6 |
| Help of school principal | 130 | 3.3 | 4 | 0.8 |
| Help of school placement service | 371 | 9.6 | 6 | 1.2 |
| Help of relative or friend | 1485 | 38.2 | 251 | 52.5 |
| Through school coop program | 350 | 9.0 | 6 | 1.2 |
| Other than above | 857 | 22.1 | 133 | 27.8 |

Indeed, they receive less help than vocational graduates from the same schools acknowledged in Table 76. Perhaps this is because those close to vocational students have for many years felt a responsibility to assist graduates in finding jobs whereas those close to academic students have felt little or no such responsibility. The difference in assistance given to the two types of graduates probably accounts for the fact that it takes academic graduates who seek work after graduation twice as long on an average to find a full-time job as it does the vocational graduates. The lack of assistance at the end of four years is in striking contrast to the teacher and counselor influence on academic course selection at the start of the four years.

The academic graduate who seeks employment after graduation relies mainly on the help of friends and relatives. At least, 52.5 percent of those surveyed so report.

Methods Used by School Enrollment

Does the size of a school's enrollment have any influence on the methods used by its vocational graduates in finding their first full-time job? For example, do graduates from small enrollment schools get more help from school personnel in finding jobs than graduates of large enrollment schools? Table 78 provides the data.

Table 78. METHODS USED TO GET FIRST FULL-TIME JOB
BY TOTAL SCHOOL ENROLLMENT

| Means Used to Get First Full-time Job After Graduation | SCHOOL ENROLLMENT | | | | | |
|---|-------------------|------|------------|------|--------|------|
| | < 500 | | 500 - 1500 | | > 1500 | |
| | N | % | N | % | N | % |
| Answering want-ad | 110 | 8.3 | 110 | 7.5 | 70 | 6.4 |
| Private employment agency | 16 | 1.2 | 35 | 2.4 | 18 | 1.6 |
| State employment agency | 64 | 4.8 | 82 | 5.6 | 57 | 5.2 |
| Help of school teacher | 249 | 18.9 | 245 | 16.8 | 202 | 18.3 |
| Help of school counselor | 49 | 3.7 | 120 | 8.2 | 37 | 3.4 |
| Help of school principal | 80 | 6.1 | 34 | 2.3 | 16 | 1.4 |
| Help of school placement service | 129 | 9.8 | 154 | 10.5 | 88 | 8.0 |
| Help of relative or friend | 502 | 38.0 | 537 | 36.8 | 446 | 40.5 |
| Through school coop program | 97 | 7.3 | 167 | 11.4 | 86 | 7.8 |
| Other than above | 282 | 21.4 | 308 | 21.1 | 267 | 24.2 |



The schools with enrollments between 500 and 1500 were acknowledged more frequently as a source of job-finding help to their graduates; 49.2 percent for such schools, 45.8 percent for schools with enrollments less than 500, and 39.3 percent for schools with enrollments above 1500. The values were obtained by summing the percent acknowledging such school source of help. The school counselors and cooperative programs are more frequently reported as a source of help in 500 to 1500 enrollment schools.

Help from the school principal decreases as school enrollment increases. Also, reliance on want-ads decreases slightly as school enrollment increases. This may be because graduates from very large schools reported greater help from relatives and friends than graduates from smaller enrollment schools.

Overall, the differences between schools in the three enrollment category are less impressive than the similarities. In all categories, the most frequently acknowledged source of help was "friends or relatives"; next came school teachers, followed by school placement service and school cooperative programs in that order.

Methods Used by Race of Graduate

Is the race of the graduate a variable that influences the means used by graduates to get their first full-time job? Are school personnel, for example, acknowledged as a job-finding help as frequently by Negro graduates as by white graduates? Table 79 provides the data.

The rank order of the top six methods of getting a job for the Negro graduate is (1) friend or relative (50.2 percent), (2) school teacher (16.3 percent), (3) state employment agency (8.4 percent), (4) answering want-ads (6.7 percent), (5) private employment agency (5.8 percent), and (6) school counselor (5.8 percent).

The rank order of the top six methods of getting a job for the white graduate is (1) friend or relative (37.4 percent), (2) school teacher (17.9 percent), (3) school placement service (9.9 percent), (4) school cooperative program (9.5

percent), (5) answering want-ads (7.6 percent), and (6) school counselor (5.2 percent).

Compared with the white graduate, the Negro graduate apparently makes greater use of state employment agencies and friends or relatives. The Negro graduate receives less help from all school sources combined than does the white graduate. The difference is greatest for school placement services and school cooperative programs. Since several schools from which Negroes graduated were all-Negro schools, it may be that placement services and cooperative programs were lacking in these schools. The alternative interpretation is that these potential sources of assistance were available but not effective for the Negro graduate.

Table 79. METHODS USED TO GET FIRST FULL-TIME JOB
BY RACE OF GRADUATE

| Means Used to Get First Full-time Job After Graduation | RACE OF GRADUATE | | | | | |
|---|------------------|------|-------|------|-------|------|
| | White | | Negro | | Other | |
| | N | % | N | % | N | % |
| Answering want-ad | 269 | 7.6 | 16 | 6.7 | 1 | 7.7 |
| Private employment agency | 54 | 1.5 | 14 | 5.8 | 0 | 0.0 |
| State employment agency | 178 | 5.0 | 20 | 8.4 | 1 | 7.7 |
| Help of school teacher | 637 | 17.9 | 39 | 16.3 | 4 | 30.8 |
| Help of school counselor | 187 | 5.2 | 14 | 5.8 | 1 | 7.7 |
| Help of school principal | 124 | 3.5 | 5 | 2.1 | 0 | 0.0 |
| Help of school placement service | 352 | 9.9 | 10 | 4.2 | 1 | 7.7 |
| Help of relative or friend | 1332 | 37.4 | 120 | 50.2 | 5 | 38.5 |
| Through school coop program | 338 | 9.5 | 5 | 2.1 | 1 | 7.7 |
| Other than above | 793 | 22.3 | 42 | 17.6 | 2 | 15.4 |

6

EQUIPMENT, MATERIALS AND METHODS COMPARED

- The School-Industry Comparability Problem **1**
- Comparability Analysis By Year **3**
- Comparability Analysis By Type of School **7**
- Comparability Analysis By Enrollment **11**

CHAPTER 6 SUMMARY

The Comparability Problem

1. School versus industry. How comparable are tools and equipment, job methods and materials used in vocational shops to those used in school? If not comparable, how much new learning or relearning is required?

Comparability Analysis by Year

2. Tools and equipment. Less than 10 per cent of graduates reported that tools and equipment used on their first jobs in the trade were very much different from those used in school. The majority that did so required less than three months to learn what was different.
3. Work methods. Fully one-third of the graduates reported that the work methods used on their first jobs in the trade were very much different than those used in school. Seventy-five per cent of those that did required less than three months to learn what was different.
4. Work materials. About 16 per cent reported that the job materials used on their first job in the trade were very much different from those used in school. Seventy-three per cent of these reported it required less than three months to learn what was different.

Comparability Analysis by School

5. Tools, equipment, methods, and materials. There is no difference between vocational and comprehensive schools in terms of comparability of tools and equipment, methods and materials used in the schools and those used on their first jobs in the trade. The time required to learn what is very much different is the same for both types of schools.

Comparability Analysis by Enrollment

6. Tools, equipment, methods, and materials. There is no difference between small, medium, and large enrollment schools in terms of comparability of tools, equipment, methods and materials used in the schools and those used by graduates on their first jobs in the trade. The time required to learn what was very much different essentially was the same for all enrollment categories.

(Continued in Appendix B)

THE SCHOOL-INDUSTRY COMPARABILITY PROBLEM

How comparable are the tools and equipment, the job methods, and the materials used in school vocational shops to those used in industry? There is no broad based answer to this question, based upon actual surveys. There is, however, much opinion. A substantial number of shop instructors interviewed during the course of the present survey expressed the opinion that their shop tools and equipment were obsolescent if not obsolete, that their shop materials were inexpensive substitutes for what was normally used in the trade, and that their work methods were in many instances necessarily different from the methods used in the trade. It was generally felt that the lack of comparability was a disadvantage for the graduate, who would have much to relearn if he entered the trade. Some went so far as to claim that the lack of acceptance of graduates by the trade was because graduates were inadequately prepared on antiquated equipment, job methods not employed in the trade, and makeshift or substitute work materials. *

There appear to be two issues in the comparability problem: (1) Are the tools and equipment, the work methods, and the materials used in the vocational shops substantially different from what are used in the trades? Some shops report substantial differences. Others regard the differences as minor. Still others feel their equipment, methods and materials are comparable in all essential respects to the best used in the trade. (2) Does the graduate who learns the trade on equipment, methods, and materials that are very much different from that used in the trade suffer a significant relearning handicap when he enters the trade? Again, there are differences of opinion among instructors. Some feel the relearning problem is considerable, and causes skepticism about the adequacy of vocational education. Others feel

* This phase of the survey will be covered in a separate report dealing with data derived from the schools.

the problem is there, but not seriously so. Still others feel the problem is more theoretical than real, that there will always be relearning and new learning no matter what equipment, methods, and materials are used in the vocational schools. The differences of opinion are undoubtedly, in part, because with different trades the comparability problem has different implications for retraining.

The graduates surveyed were asked to compare separately the (1) tools and equipment, (2) work methods, and (3) work materials used on their first full-time job with the equivalent used in their high school vocational course. The three answer categories were: "identical or almost so," "little real difference," and "very much different." Those who checked "very much different" were asked to indicate approximately how long it took them to learn or relearn what was so very much different. The six answer categories were: "only a few weeks," "less than three months," "about three to six months," "about six months to a year," and "more than a year." It was assumed that the graduates were capable of comparing school with job equipment, methods, and materials, and could estimate how much time was required to learn what was "very much different," where that was the case.

The data presented in this chapter are based upon only those whose first full-time job was in the same trade studied in high school.

COMPARABILITY ANALYSIS BY YEAR

Tools and Equipment

Table 80 indicates how graduates whose first job was in the same trade studied in high school compared tools and equipment on that job with what was used in high school.

Table 80 . TOOLS AND EQUIPMENT: COMPARABILITY ANALYSIS AND TIME REQUIRED TO LEARN WHAT WAS VERY MUCH DIFFERENT BY YEAR OF GRADUATION

| Tools and Equipment: How Did They Compare with Those Used in School? | YEAR OF GRADUATION | | | | | | | |
|--|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Identical or almost so | 155 | 49.8 | 182 | 52.8 | 265 | 56.7 | 604 | 53.5 |
| Little real difference | 122 | 39.2 | 132 | 38.3 | 161 | 34.5 | 418 | 37.0 |
| Very much different | 34 | 11.0 | 31 | 8.9 | 41 | 8.8 | 107 | 9.5 |
| If Very Much Different, How Long Did It Take to Learn? | | | | | | | | |
| Only about a few weeks | 13 | 39.4 | 10 | 37.0 | 3 | 43.6 | 41 | 41.0 |
| Less than three months | 6 | 18.2 | 5 | 18.5 | 17 | 23.1 | 20 | 20.0 |
| About three to six months | 8 | 24.2 | 6 | 22.2 | 9 | 7.7 | 17 | 17.0 |
| About six months to a year | 0 | 0.0 | 3 | 11.1 | 3 | 12.8 | 8 | 8.0 |
| More than a year | 6 | 18.2 | 3 | 11.1 | 5 | 12.8 | 14 | 14.0 |

For the combined years, only 9.5 percent of the graduates reported very much difference in tools and equipment; 37.0 percent reported little real difference and 53.5 percent reported essentially no difference. The percentages

would no doubt vary among the trades. Nevertheless, if the graduates are acceptable as judges, the conclusion must be that there is no serious lack of comparability in terms of tools and equipment.

Of those who reported very much difference, 41.0 percent indicated that it took only a few weeks to learn what even was very much different. An additional 20 percent indicated that relearning or new learning required less than three months. Only 3.5 percent of all graduates whose first job was in the trade studied, required more than six months to learn what was very much different. Thus, even where there is a lack of comparability, the relearning or new learning problem from the standpoint of numbers appears to be negligible.

Not only is the tool and equipment comparability problem negligible, but the trend is toward even greater comparability. Almost 57 percent of the 1962 graduates reported tools and equipment the same or essentially the same against 50 percent of the 1953 graduates.

Work Methods

It can be expected that there will be considerable difference in work methods used in school with methods used in the trade. The competitive facts of life, with emphasis on productive output and quality, would necessarily make for differences. Table 81 indicates how the graduates compared the methods.

Fully one-third of the graduates reported there was very much difference in work methods in school and on the job; 49.1 percent reported little real difference, and 28.4 percent reported no difference. In work methods, then, there appears to be a substantial, albeit perhaps necessary, lack of comparability. How much of a problem does the lack of comparability represent?

Of those who reported very much difference in work methods, 43.1 percent reported it took them only a few weeks to learn whatever was very much different. An additional 26.6 percent claimed it took them less than three months, and 11.9 percent claimed it required from three to six months. Only 18.3 percent claimed it required more than six months of relearning or new learning.

Table 81. WORK METHODS: COMPARABILITY ANALYSIS AND TIME REQUIRED TO LEARN WHAT WAS VERY MUCH DIFFERENT BY YEAR OF GRADUATION

| Work Methods: How Did They Compare with Those Used in School? | YEAR OF GRADUATION | | | | | | | |
|---|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Identical or almost so | 83 | 26.5 | 87 | 25.6 | 149 | 32.1 | 319 | 28.4 |
| Little real difference | 159 | 50.8 | 166 | 48.8 | 221 | 47.6 | 551 | 49.1 |
| Very much different | 71 | 22.7 | 87 | 25.6 | 94 | 20.3 | 253 | 22.5 |
| If Very Much Different, How Long Did It Take to Learn? | | | | | | | | |
| Only about a few weeks | 29 | 43.3 | 27 | 36.5 | 37 | 48.7 | 94 | 43.1 |
| Less than three months | 14 | 20.9 | 24 | 32.4 | 20 | 26.3 | 58 | 26.6 |
| About three to six months | 9 | 13.4 | 7 | 9.5 | 10 | 13.2 | 26 | 11.9 |
| About six months to a year | 6 | 9.0 | 5 | 6.8 | 5 | 6.6 | 16 | 7.3 |
| More than a year | 9 | 13.4 | 11 | 14.9 | 4 | 5.3 | 24 | 11.0 |

That 18.3 percent represents 3.5 percent of the total number of graduates whose first job was in the trade studied. One can conclude that the lack of comparability in work methods reported by one-third of the graduates does not constitute a serious relearning problem. Apparently the basics have been learned well enough so as to permit method differences to be relatively quickly overcome.

Work Materials

Table 82 indicates how graduates compared the materials used on their first job in the trade with the materials used in school. For the combined years, only 16.1 percent claimed the materials used on the job were very much different from those used in school; 38.1 percent said there was little real difference, and

45.8 percent indicated there was no difference. As in the case of tools and equipment and work methods, the trend is toward even greater comparability. Over the three graduating class years, the percentage of graduates reporting no difference has increased consistently, and the percentage reporting very much difference has decreased. Thus, what appears a minor problem from a quantitative viewpoint is becoming even more so.

Of those who reported very much difference in work materials for the combined graduates, 51.3 percent indicated that it took only a few weeks to learn whatever was very much different. An additional 22.1 percent claimed it took less than three months. Less than 14 percent claimed the lack of comparability required more than six months of additional learning. That 14 percent represents less than 3 percent of those whose first job was in the trade studied.

Table 82. WORK MATERIALS: COMPARABILITY ANALYSIS AND TIME REQUIRED TO LEARN WHAT WAS VERY MUCH DIFFERENT BY YEAR OF GRADUATION

| Work Materials: How Did They Compare with Those Used in School? | YEAR OF GRADUATION | | | | | | | |
|---|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Identical or almost so | 130 | 42.5 | 152 | 45.0 | 227 | 49.1 | 509 | 45.8 |
| Little real difference | 124 | 40.5 | 128 | 37.9 | 168 | 36.4 | 424 | 38.1 |
| Very much different | 52 | 17.0 | 58 | 17.1 | 67 | 14.5 | 179 | 16.1 |
| If Very Much Different, How Long Did It Take to Learn? | | | | | | | | |
| Only about a few weeks | 25 | 52.1 | 23 | 47.9 | 31 | 55.4 | 79 | 51.3 |
| Less than three months | 8 | 16.7 | 10 | 20.8 | 14 | 25.0 | 34 | 22.1 |
| About three to six months | 7 | 14.6 | 6 | 12.5 | 5 | 8.9 | 18 | 11.7 |
| About six months to a year | 3 | 6.3 | 2 | 4.2 | 1 | 1.8 | 6 | 3.9 |
| More than a year | 5 | 10.4 | 7 | 14.6 | 5 | 8.9 | 17 | 11.0 |

COMPARABILITY ANALYSIS BY TYPE OF SCHOOL

How do vocational schools compare with comprehensive schools in terms of (1) comparability of equipment, methods and materials used on the graduates' first job and those used in school, and (2) the time required by graduates to relearn where there is a lack of comparability?

To simplify the comparison, a weight average comparability score was calculated for each of the three items of comparison as follows: (1) A weight of 3, 2 and 1 was assigned respectively to the categories of "identical or almost so," "little real difference," and "very much different." (2) The number of cases in each category was multiplied by the category weight. (3) The sum of the products was divided by the total number of cases. The same procedure was applied to the second portion of the data, the time required to learn whatever was very much different. Weights of 1 through 5 were assigned to the answer categories, the greater weight going to the "more than a year" category. Both percentage and weighted average data are presented.

Tools and Equipment

Table 83 presents the data for the two types of schools in terms of percentage responses for tools and equipment. There does not appear to be a significant difference in tool and equipment comparability for the two types of schools. The comparability score, described earlier, was 2.4 for vocational schools and 2.4 for comprehensive schools.

Of those who reported very much difference in tools and equipment used in the school and used on the first job, the percentages for time required to relearn suggest there is no difference between the two types of schools. The weighted average time required score was again 2.4 for vocational schools and 2.4 for comprehensive, indicating no difference.

Table 83. TOOLS AND EQUIPMENT: COMPARABILITY ANALYSIS AND TIME REQUIRED TO LEARN WHAT WAS VERY MUCH DIFFERENT BY TYPE OF SCHOOL

| Tools and Equipment: How Did They Compare with Those Used in School? | TYPE OF SCHOOL | | | |
|--|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| Identical or almost so | 427 | 55.1 | 177 | 50.0 |
| Little real difference | 269 | 34.7 | 149 | 42.1 |
| Very much different | 79 | 10.2 | 28 | 7.9 |
| Weighted Mean . . . | 2.45 | | 2.42 | |
| If Very Much Different, How Long Did It Take to Learn? | | | | |
| Only about a few weeks | 31 | 40.8 | 10 | 41.7 |
| Less than three months | 16 | 21.1 | 4 | 16.7 |
| About three to six months | 12 | 15.8 | 5 | 20.8 |
| About six months to a year | 7 | 9.2 | 1 | 4.2 |
| More than a year | 10 | 13.2 | 4 | 16.7 |
| Weighted Mean | 2.36 | | 2.38 | |

Work Methods

Table 84 presents the data for the two types of schools in terms of work methods. There does not appear to be any significant difference in work method comparability as reported by the graduates of the two types of schools. The work method comparability score for vocational schools was 2.1; for comprehensive schools, 2.1.

Of those who reported very much difference in work methods, the time required to learn what was different was the same for both types of schools. The weighted average time required score was 2.1 for vocational schools, and 2.1 for comprehensive schools.

Table 84. WORK METHODS: COMPARABILITY ANALYSIS AND TIME REQUIRED TO LEARN WHAT WAS VERY MUCH DIFFERENT BY TYPE OF SCHOOL

| Work Methods: How Did They Compare with Those Used in School? | TYPE OF SCHOOL | | | |
|---|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| Identical or almost so | 218 | 28.4 | 101 | 28.5 |
| Little real difference | 368 | 47.9 | 183 | 51.5 |
| Very much different | 182 | 23.7 | 71 | 20.0 |
| Weighted Mean | 2.05 | | 2.08 | |
| If Very Much Different, How Long Did It Take to Learn? | | | | |
| Only about a few weeks | 62 | 39.2 | 32 | 53.3 |
| Less than three months | 47 | 29.7 | 11 | 18.3 |
| About three to six months | 21 | 13.3 | 5 | 8.3 |
| About six months to a year | 11 | 7.0 | 5 | 8.3 |
| More than a year | 17 | 10.8 | 7 | 11.7 |
| Weighted Mean | 2.09 | | 2.07 | |

Work Materials

Table 85 presents the data for the two types of schools in terms of work materials. Again, there does not appear to be any significant difference in work material comparability as reported by the graduates of vocational and comprehensive schools. The comparability score for vocational schools was 2.3 versus 2.3 for comprehensive schools.

Of those who reported very much difference in work materials used in school and used on the first job, the percentages for time required to re-learn, over all categories, suggest no difference between the two types of schools. The conclusion is confirmed by the weighted average time required

Table 85. WORK MATERIALS: COMPARABILITY ANALYSIS AND TIME REQUIRED TO LEARN WHAT WAS VERY MUCH DIFFERENT BY TYPE OF SCHOOL

| Work Materials: How Did They Compare with Those Used in School? | TYPE OF SCHOOL | | | |
|---|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| Identical or almost so | 356 | 46.6 | 153 | 40.0 |
| Little real difference | 282 | 36.9 | 142 | 40.8 |
| Very much different | 126 | 16.5 | 53 | 19.2 |
| Weighted Mean | 2.30 | | 2.29 | |
| If Very Much Different, How Long Did It Take to Learn? | | | | |
| Only about a few weeks | 51 | 47.7 | 28 | 59.6 |
| Less than three months | 27 | 25.2 | 7 | 14.9 |
| About three to six months | 11 | 10.3 | 7 | 14.9 |
| About six months to a year | 5 | 4.7 | 1 | 2.1 |
| More than a year | 13 | 12.1 | 4 | 8.5 |
| Weighted Mean | 2.08 | | 1.86 | |

to learn what was different. It was 2.0 for the vocational schools and 1.9 for the comprehensive schools.

Thus, the comparability of tools and equipment, work methods, and work materials reported by graduates of vocational schools is no different from that reported by graduates of comprehensive schools. Furthermore, where substantial lack of comparability is reported, the graduates of both types of schools take about the same time to learn whatever is very much different in equipment, methods and materials.

COMPARABILITY ANALYSIS BY ENROLLMENT

Does the size of the school enrollment make a difference in (1) comparability of equipment, methods and materials used on the graduate's first job and those used in school, and (2) the time required to relearn where there is a lack of comparability? To simplify the comparison of schools with enrollments less than 500, between 500 and 1500, and more than 1500, weighted average comparability scores and time required to relearn scores were calculated for each enrollment category for tools and equipment, work methods and work materials. The results are shown in Table 86.

Table 86. COMPARISON OF SCHOOL ENROLLMENT CATEGORIES IN TERMS OF WEIGHTED AVERAGE SCORES OF COMPARABILITY OF EQUIPMENT, METHODS AND MATERIALS AND OF TIME REQUIRED TO LEARN WHAT WAS VERY MUCH DIFFERENT

| Comparability Between School Use and First Job Use | School Enrollment | | |
|--|-------------------|----------|-------|
| | < 500 | 500-1500 | >1500 |
| Tools and equipment | 2.5 | 2.4 | 2.4 |
| Work methods | 2.1 | 2.1 | 2.0 |
| Work materials | 2.3 | 2.3 | 2.3 |
| Time Required to Learn What Was Very Much Different | | | |
| Tools and equipment | 2.5 | 2.2 | 2.3 |
| Work methods | 2.2 | 2.2 | 2.1 |
| Work materials | 2.2 | 1.9 | 1.9 |



There are no significant differences between graduates of large, medium, and small enrollment schools, as defined in this study, in terms of mean equipment, methods, and materials comparability scores, and mean time required to relearn what was "very much different." The conclusion is that school enrollment is not a variable influencing school-job comparability of equipment, methods, and materials, and time required to relearn what is found to be "very much different" by a small minority of graduates.

* * * * *

The comparability analysis by the race of graduates is not reported because too few Negro graduates obtained their first job in the same trade studied to warrant the analysis.

* * * * *

The data presented in this chapter suggest that differences between school and job equipment, methods, and materials are not looked upon as "very much different" by the vast majority of vocational school graduates, and the small minority that does report considerable differences required relatively little time to learn what is substantially different. These generalizations do not argue against the need in individual schools for more modern equipment, improvements in trade-oriented work methods, and greater use of the types of materials used in the trades. They do raise a question about a massive effort to re-equip vocational shops across the country on the grounds that graduates are inadequately prepared for the trades because of obsolescent equipment, antiquated work methods, and substitute materials. The facts are to the contrary.

7

ASSESSMENT OF SKILL ORIGINS AND REQUIREMENTS

- | | |
|--|----|
| <input type="checkbox"/> Introduction to the Assessment Problem | 1 |
| <input type="checkbox"/> The Importance of Basic Trade Skills | 3 |
| <input type="checkbox"/> Amount of Skill Learned in High School | 11 |
| <input type="checkbox"/> Analysis of Acknowledged Learning Measure | 19 |
| <input type="checkbox"/> Where Most Was Learned About Skills | 25 |
| <input type="checkbox"/> Need for More Training in Basic Skills | 33 |

CHAPTER 7 SUMMARY

Introduction to the Assessment Problem

1. Alternative methods of assessment. Four alternatives for assessing how much trade skills vocational graduates have learned in high school are briefly discussed. They include test measurement of trade skills, opinions of shop instructors, opinions of employers, and opinions of graduates. The latter was the only practical alternative for the study.

Importance of Basic Trade Skills

2. Year of graduation. The importance attached to different basic trade skills changes with years of experience in the trade. In general, the importance rating of trade skills increases with trade experience. The three skills rated to be most important by all graduates are manual job skills, practical job knowledge, and theoretical job knowledge. Skills related to supervisory responsibilities increased in importance with trade experience.
3. Type of school. There is no significant difference in the importance ratings attached to basic trade skills between graduates of vocational and comprehensive schools.
4. School enrollment. In general, the importance attached to basic trade skills is unrelated to the enrollment of the schools from which the graduates came.

Amount of Skill Learned in High School

5. Year of graduation. The amount of basic trade skills acknowledged by graduates to have been learned in high school decreases with years out of school. Graduates of all years do acknowledge having learned a very substantial amount of trade skills in high school. The three skills learned most in high school are mathematical, manual, and theoretical job skills. The three skills learned least in high school are supervisory, clerical, and personal relations skills.
6. Type of school. There is no significant difference between vocational and comprehensive school graduates in terms of the amount of basic trade skills they claim they have learned in high school.
7. School enrollment. The larger the enrollment of the graduates' former high school, the less graduates acknowledge learning of basic trade skills in high school. Alternative interpretations are offered.

(Continued in Appendix B)

INTRODUCTION TO THE ASSESSMENT PROBLEM

A comprehensive assessment of the vocational education process would be incomplete if it by-passed the knotty problem of determining the degree to which the schools provide the knowledges and skills required by the trades taught. In principle, there are several approaches to the assessment problem. A brief discussion of the alternatives will set the stage for what follows.

Measurement of Trade Skills

Perhaps the ideal approach would be to have standardized instruments for measuring how much of required trade knowledges and skills were acquired by graduates by the end of their formal trade training. With appropriate norms, such trade examinations, whether of a paper and pencil type or a performance type or even a combination, would be used to compare the effectiveness of trade training among schools. Unfortunately, there were no such instruments. And even had there been some, their use would have been beyond the capability of the present survey.

Opinions of School Personnel

Shop instructors, because of their familiarity with trade knowledge and skill requirements and acquaintance with how much of these requirements they are able to impart to their students in the time available, could be the basis of evaluating how much students learn of what is required. Ratings of graduates in terms of the major dimensions of trade knowledge and skill requirements could be obtained from instructors. Such ratings would undoubtedly be useful for obtaining a generalized picture of acquired knowledges and skills. The principal disadvantage is that such ratings are to a large extent self-ratings. There might be an understandably strong leaning in the direction of claiming a satisfactory amount of acquired trade skill for one's own students.

Opinions of Employers

A third approach would be to solicit the opinions of employers or, better yet, supervisors of graduates who work in the trade. Supervisors should know at least generally the trade knowledge and skill requirements. Given an instrument for assessing the trade knowledge and skills demonstrated by recent graduates, supervisors could undoubtedly be a basis for obtaining a picture of how much the graduate has learned. The practical problems associated with contacting employers and obtaining assessments of recent graduates from supervisors made this approach unsuitable for the present survey.

Opinions of Graduates

A fourth approach to the problem of assessing how much vocational course graduates have learned of required trade skills and knowledges is to ask the graduates currently working in the trades studied or highly related trades. This approach too has some serious limitations. The graduate is asked to recall, in effect, the state of his trade skill acquisition at the time he left high school. In the present survey, recall means an assessment of trade knowledges and skills as far back as eleven years ago for the class of 1953.

Moreover, if graduates are asked to assess the vocational knowledges and skills they acquired in high school at the time of graduation, they must do so without the benefit of trade experience. This, too, is a disadvantage.

Practical considerations determined that the survey would solicit the opinions of graduates about vocational knowledges and skills acquired in high school despite the aforementioned disadvantages. The graduates were asked four questions with respect to nine basic skill areas: (1) How important is the skill for your present job? (2) How much of the skill was learned in high school? (3) Where did you learn most about the skill? (4) Do you feel the need for more training in this skill area?

* * * * *

The analyses which follow concern the answers to the above four questions as they are related to such basic variables as year of graduation, type of school attended, and enrollment of school attended.

THE IMPORTANCE OF BASIC TRADE SKILLS

Introduction

The graduates were asked to rate the importance of nine basic knowledges and skills for their present job. The nine skill categories were:

1. Manual job skills
2. Practical job knowlege
3. Theoretical job knowlege
4. Mathematical skills
5. Communication skills
6. Reading and interpretive skills
7. Clerical skills
8. Personal relations skills
9. Supervisory skills

The nine categories are defined on the questionnaire exhibits shown in Chapter 1. The rating categories were: (1) of no real importance, (2) of slight importance, (3) of considerable importance, and (4) of critical importance.

The ratings were intended to shed light on what was regarded as important in the different trades; whether judgments of importance varied with years of experience in the trades; whether graduates of vocational and comprehensive schools differed in importance ratings; and whether graduates of small, medium and large enrollment schools differed in such ratings. The analysis of the rated importance of the aforementioned skills by the individual trades has been omitted because of a decision to drop the trades as an independent variable for reason of insufficient budget. Additional funding may yet make analysis by trades possible.

Analysis by Year of Graduation

Do graduates with varying years of experience in the trades differ in the importance they attach to the basic skills? Which skills, if any, show the greatest differences? Which skills are relatively unaffected, in judged importance, by increased years of experience in the trades? Lastly, what is the relative importance of the skills for all graduates? Table 87 presents the data.

Table 87. IMPORTANCE OF BASIC SKILLS: MEAN RATINGS BY YEAR OF GRADUATION
(Based on graduates in the trade or in highly related trades)

| Trade Knowledge or Skill Rated by Graduates * | YEAR OF GRADUATION | | | | | | | | | | | |
|--|--------------------|-------------|----------|----------|-------------|----------|----------|-------------|----------|----------|-------------|----------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| Manual job skills | 357 | 3.4 | .72 | 526 | 3.3 | .80 | 703 | 3.3 | .83 | 1592 | 3.4 | .79 |
| Practical job knowledge | 350 | 3.4 | .63 | 513 | 3.3 | .72 | 674 | 3.3 | .72 | 1543 | 3.3 | .70 |
| Theoretical job knowledge | 346 | 3.4 | .68 | 502 | 3.3 | .75 | 650 | 3.3 | .76 | 1503 | 3.3 | .74 |
| Mathematical skills | 352 | 3.1 | .90 | 507 | 3.0 | .92 | 667 | 2.9 | .99 | 1532 | 3.0 | .95 |
| Communication skills | 352 | 3.0 | .93 | 505 | 2.9 | .99 | 666 | 2.8 | 1.01 | 1528 | 2.9 | .99 |
| Reading & interpretive skills | 348 | 3.4 | .84 | 511 | 3.3 | .91 | 667 | 3.2 | .96 | 1531 | 3.3 | .92 |
| Clerical skills | 349 | 2.5 | 1.06 | 509 | 2.4 | 1.02 | 655 | 2.2 | 1.05 | 1519 | 2.4 | 1.05 |
| Personal relations skills | 347 | 3.1 | .92 | 507 | 3.1 | .92 | 669 | 2.9 | .96 | 1529 | 3.0 | .94 |
| Supervisory skills | 347 | 3.0 | .98 | 504 | 2.8 | 1.01 | 654 | 2.5 | 1.02 | 1511 | 2.7 | 1.03 |
| IMPORTANCE INDEX | 9 | 3.14 | - | 9 | 3.04 | - | 9 | 2.93 | - | 9 | 3.03 | - |

* 4 = Of critical importance; 3 = Of considerable importance; 2 = Of slight importance
1 = Of no real importance

The importance index, which is simply the mean of the mean ratings given the individual skills, increases from 2.93 for 1962 graduates to 3.04 for 1958 graduates, and further to 3.14 for 1953 graduates. The trend establishes that, in general, the importance that vocational graduates attach to these basic skills increases with increased years of experience in the trade. The reason for the increased importance attached to the skills probably has to do with the greater responsibilities that the older graduates have on their jobs.

There is, for example, a substantial difference in the importance that 1953 and 1962 graduates attached to supervisory skills. This is probably because the former have greater need for such skills as a result of broader responsibilities. They have more likely reached positions where supervisory responsibilities are involved.

The changes in importance attached to individual skills with increased years of experience in the trade are of interest. Manual job skills, practical job knowledge and theoretical job knowledge show relatively little increase in rated importance. That is partly because the rated importance of these skills and knowledge areas are very high within two years after graduation. The two skills that show the greatest gain in rated importance are supervisory skills and clerical skills. Undoubtedly, this is a reflection of an increase in supervisory and clerical responsibilities with increased years in the trade. Communication skills, reading and interpretive skills, mathematical skills and personal relation skills also show a consistent increase in rated importance with increased years in the trade.

The relatively small differences in the rated importance of some of the skill areas between the 1953, 1958 and 1962 graduates should not be interpreted to mean that the differences would be small for all trades. For some trades, the need for mathematical skills does not necessarily increase with years of trade experience. Indeed, for some trades, there is relatively little need for mathematical skills. Commercial cooking and tailoring are examples. The trends reflected in Table 87 reflect to some extent the flattening effect when individual trade trends cancel out each other as a result of being combined. Of more practical significance to the educator, would be trends of importance ratings in terms of specific trades. The data are available, but unanalyzed on data tapes.

Independent of the experience factor, what is the relative importance of the basic skills, for all trades combined? The skills are listed below in rank order of mean rated importance for the combined year of graduation groups.

1. Manual job skills 3.4
2. Practical job knowledge 3.3
3. Theoretical job knowledge 3.3

- 4. Reading-interpretive skills . . . 3.3
- 5. Mathematical skills 3.0
- 6. Personal relations skills . . . 3.0
- 7. Communication skills 2.7
- 8. Supervisory skills 2.7
- 9. Clerical skills 2.4

Manual job skills were rated the most important. The 3.4 mean rating is almost midway between "of critical importance" and "of considerable importance." The range of the three mean ratings obtained for this skill from the three year of graduation groups was from 3.3 to 3.4. Clearly, manual job skills are rated of very high importance by graduates from two to eleven years in the trade studied or highly related trades. The same is true for practical job knowledge. These findings have a bearing on current thinking, already widespread, that manual job skills and specific trade-related practical knowledge should be de-emphasized in favor of more generalized training. In view of the importance attached to manual skills and practical job knowledge by those in the trades, should such skills be de-emphasized in basic vocational training? What problems will arise in employer acceptance of vocational graduates if practical job knowledge and manual skills are de-emphasized?

It is interesting to see that theoretical job knowledge has as high an importance rating as practical job knowledge. The graduate is already aware of the importance of basic trade principles and concepts. However, this too may be at variance with the thinking that persons should be trained generally, for a family of related trades rather than for specific trades. Will the graduate of such generalized training have sufficient theoretical job knowledge for a specific trade? If not, where is he expected to get such theoretical knowledge?

The importance of reading and interpretive skills, mathematical skills, and personal relations skills is acknowledged. All have a mean rating of 3.0 or more, indicating they are regarded as of considerable importance. A later section will indicate to what extent the schools are providing these skills, in the opinion of graduates.

Of least importance, relatively, are communication skills, supervisory skills and clerical skills. The latter two in particular grow in importance with increasing years in the trade. However, they do not reach the importance attached to manual job skills and practical job knowledge by the 1962, 1958 or 1953 graduates. This is wholly consistent with the relatively little emphasis that schools put on these skill areas during the high school period.

Table 88 presents the number and percentage of graduates in each response category for the basic skills. The data is the basis for the mean ratings presented in Table 87.

The percentage values confirm the growth of the importance of the skills with experience. Whereas, 20.3 percent of 1962 graduates claimed supervisory skills were "of critical importance," 36 percent of the 1953 graduates so rated the skill, a gain of 16 percent. Comparable gains were 10 percent for personal relations skills, 8 percent for clerical skills, 8 percent for interpretive skills, and 7 percent for communication skills. There is no question but that as experience in the trades increase, the need for such skills increases.

Analysis by Type of School

How do graduates of vocational and comprehensive schools compare in terms of the importance ratings given to the basic skills? Table 89 presents the data.

There is no overall difference in the skill ratings of importance by the graduates of the two types of schools. Differences between individual items are not significant. Had there been substantial or significant differences, a plausible interpretation would be that the higher the rating of importance, the greater the felt need for greater skill. This would have reflected on the adequacy of the underlying training. No such interpretation is necessary.

**Table 88. IMPORTANCE OF BASIC SKILLS: PERCENTAGE BY
RESPONSE CATEGORY BY YEAR OF GRADUATION**
(Based on graduates in the trade or in highly related trades)

| Knowledge or Skill Rated By Graduates In Same or Highly Related Trade | Year of Graduation | IMPORTANCE OF SKILL RATING | | | | | | | |
|--|-----------------------|----------------------------|------|-------------------------|------|-----------------------|------|---------------------------|------|
| | | Of No Real Importance | | Of Slight Importance | | Of Much Importance | | Of Critical Importance | |
| | | N | % | N | % | N | % | N | % |
| Manual job skills | 1953 | 11 | 3.1 | 15 | 4.2 | 142 | 39.8 | 189 | 52.9 |
| | 1958 | 23 | 4.4 | 38 | 7.2 | 198 | 37.6 | 267 | 50.8 |
| | 1962 | 37 | 5.3 | 53 | 7.5 | 263 | 37.4 | 350 | 49.8 |
| | Combined | 71 | 4.5 | 107 | 6.7 | 604 | 37.9 | 810 | 50.9 |
| Practical job knowledge | 1953 | 4 | 1.1 | 15 | 4.3 | 160 | 45.7 | 171 | 48.9 |
| | 1958 | 10 | 1.9 | 46 | 9.0 | 216 | 42.1 | 241 | 47.0 |
| | 1962 | 16 | 2.4 | 53 | 7.9 | 310 | 46.0 | 295 | 43.8 |
| | Combined | 30 | 1.9 | 114 | 7.4 | 692 | 44.8 | 707 | 45.8 |
| Theoretical job knowledge | 1953 | 7 | 2.0 | 20 | 5.8 | 158 | 45.7 | 161 | 46.5 |
| | 1958 | 13 | 2.6 | 50 | 10.0 | 219 | 43.6 | 220 | 43.8 |
| | 1962 | 19 | 2.9 | 66 | 10.2 | 292 | 44.9 | 273 | 42.0 |
| | Combined | 39 | 2.6 | 137 | 9.1 | 673 | 44.8 | 654 | 43.5 |
| Mathematical skills | 1953 | 18 | 5.1 | 76 | 21.6 | 121 | 34.4 | 137 | 38.9 |
| | 1958 | 41 | 8.1 | 102 | 20.1 | 196 | 38.6 | 168 | 33.1 |
| | 1962 | 66 | 9.9 | 156 | 23.4 | 209 | 31.3 | 236 | 35.4 |
| | Combined | 126 | 8.2 | 335 | 21.9 | 529 | 34.5 | 542 | 35.4 |
| Communication skills | 1953 | 25 | 7.1 | 73 | 20.7 | 121 | 34.4 | 133 | 37.8 |
| | 1958 | 54 | 10.7 | 103 | 20.4 | 173 | 34.2 | 175 | 34.6 |
| | 1962 | 89 | 13.4 | 136 | 20.4 | 237 | 35.6 | 204 | 30.6 |
| | Combined | 170 | 11.1 | 312 | 20.4 | 534 | 34.9 | 512 | 33.5 |
| Reading and interpre- tive skills | 1953 | 18 | 5.2 | 28 | 8.0 | 95 | 27.3 | 207 | 59.5 |
| | 1958 | 37 | 7.2 | 43 | 8.4 | 146 | 28.6 | 285 | 55.8 |
| | 1962 | 54 | 8.1 | 93 | 13.9 | 179 | 26.8 | 341 | 51.1 |
| | Combined | 109 | 7.1 | 165 | 10.8 | 424 | 27.7 | 833 | 54.4 |
| Clerical skills | 1953 | 73 | 20.9 | 103 | 29.5 | 93 | 26.6 | 80 | 22.9 |
| | 1958 | 109 | 21.4 | 179 | 35.2 | 125 | 24.6 | 96 | 18.9 |
| | 1962 | 208 | 31.8 | 196 | 29.9 | 154 | 23.5 | 97 | 14.8 |
| | Combined | 391 | 25.7 | 478 | 31.5 | 377 | 24.8 | 273 | 18.0 |
| Personal relations skills | 1953 | 21 | 6.1 | 63 | 18.2 | 113 | 32.6 | 150 | 43.3 |
| | 1958 | 40 | 7.9 | 79 | 15.6 | 192 | 37.9 | 196 | 38.7 |
| | 1962 | 68 | 10.2 | 127 | 19.0 | 250 | 37.4 | 224 | 33.5 |
| | Combined | 129 | 8.4 | 270 | 17.7 | 557 | 36.4 | 573 | 37.5 |
| Supervisory skills | 1953 | 37 | 10.7 | 63 | 18.2 | 122 | 35.2 | 125 | 36.0 |
| | 1958 | 68 | 13.5 | 110 | 21.8 | 173 | 34.3 | 153 | 30.4 |
| | 1962 | 129 | 19.7 | 181 | 27.7 | 211 | 32.2 | 133 | 20.3 |
| | Combined | 234 | 15.5 | 355 | 23.5 | 510 | 33.8 | 412 | 27.3 |

Table 89. IMPORTANCE OF BASIC SKILLS: COMPARISON OF COMPREHENSIVE AND VOCATIONAL SCHOOLS IN TERMS OF MEAN RATINGS

(Based on graduates in the trade or in highly related trades)

| Trade Knowledge or Skill Rated By Graduates * | TYPE OF SCHOOL | | | | | |
|--|----------------|-----|------|---------------|-----|------|
| | Vocational | | | Comprehensive | | |
| | N | M | S.D. | N | M | S.D. |
| Manual job skills | 1042 | 3.4 | .78 | 550 | 3.3 | .81 |
| Practical job knowledge | 1013 | 3.4 | .70 | 530 | 3.3 | .71 |
| Theoretical job knowledge | 988 | 3.3 | .74 | 515 | 3.2 | .74 |
| Mathematical skills | 1000 | 2.9 | .96 | 532 | 3.0 | .94 |
| Communication skills | 998 | 2.9 | .97 | 530 | 2.8 | 1.02 |
| Reading and interpretive skills | 1002 | 3.3 | .91 | 529 | 3.2 | .95 |
| Clerical skills | 996 | 2.3 | 1.05 | 523 | 2.4 | 1.04 |
| Personal relations skills | 999 | 3.0 | .93 | 530 | 3.0 | .96 |
| Supervisory skills | 985 | 2.7 | 1.02 | 526 | 2.7 | 1.03 |

* 4 = Of critical importance; 3 = Of considerable importance

2 = Of slight importance; 1 = Of no real importance

Analysis by School Enrollment

How do graduates of small, medium and large enrollment schools, as herein defined, compare in terms of the importance attached to the basic skills? The question was raised on the hypotheses that differences in importance ratings may reflect differences in felt need for additional skill, and thereby indirectly reflect upon the adequacy of past training. Table 90 provides the data.

There is only one consistent trend among the importance ratings of the basic skill areas. The graduates of large enrollment schools attach less importance to communication skills than do the graduates of medium and small enrollment schools. Application of the previously mentioned hypotheses would suggest that graduates of small enrollment school feel a greater need for communication skills (because they attach more importance to such skills), and therefore,

Table 90. IMPORTANCE OF BASIC SKILLS: COMPARISON OF TOTAL SCHOOL ENROLLMENT CATEGORIES IN TERMS OF MEAN RATINGS

(Based on graduates in the trade or in highly related trades)

| Trade Knowledge or Skill Rated By Graduates * | SCHOOL ENROLLMENT | | | | | | | | |
|--|-------------------|-----|------|----------|-----|------|--------|-----|------|
| | < 500 | | | 500-1500 | | | > 1500 | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| Manual job skills | 600 | 3.4 | .76 | 551 | 3.3 | .84 | 441 | 3.4 | .78 |
| Practical job knowledge | 582 | 3.4 | .68 | 532 | 3.3 | .70 | 429 | 3.3 | .72 |
| Theoretical job knowledge | 567 | 3.4 | .70 | 520 | 3.3 | .76 | 416 | 3.3 | .75 |
| Mathematical skills | 578 | 3.0 | .94 | 524 | 3.0 | .96 | 430 | 3.0 | .95 |
| Communication skills | 577 | 3.0 | .96 | 524 | 2.9 | 1.00 | 427 | 2.8 | 1.00 |
| Reading & Interpretive skills | 579 | 3.3 | .90 | 524 | 3.3 | .95 | 428 | 3.2 | .92 |
| Clerical skills | 573 | 2.4 | 1.06 | 524 | 2.3 | 1.02 | 422 | 2.3 | 1.06 |
| Personal relations skills | 576 | 3.1 | .92 | 526 | 3.0 | .93 | 427 | 3.0 | .98 |
| Supervisory skills | 567 | 2.8 | 1.01 | 519 | 2.7 | 1.05 | 425 | 2.7 | 1.02 |

* 4 = Of critical importance; 3 = Of considerable importance; 2 = Of slight importance; 1 = Of no real importance

received less adequate training in this skill area than did graduates from medium or large enrollment schools.

The importance ratings of other skill areas appear to be unrelated to school enrollment. The enrollment of the school attended has no influence on the rated importance of skills.

AMOUNT OF SKILL LEARNED IN HIGH SCHOOL

Introduction

The same nine basic knowledges and skills discussed earlier were rated by the graduates in terms of how much they learned about each in high school. The categories for the rating were: (1) almost nothing, (2) some but not much, (3) a large amount, and (4) almost all. For analysis purposes, the ratings were assigned values of 1, 2, 3, and 4 respectively to obtain mean ratings.

It should be pointed out once again that the graduates of 1962, 1958 and 1953 were asked to assess how much of each skill was learned in high school two, six and eleven years respectively after graduation. Clearly, the method of assessing what has been learned in high school about these basic skills leaves much to be desired. There was no practical alternative.

Despite their admitted limitations, such ratings may suggest areas of training weakness, particularly if the findings corroborate in part what is already known or suspected to be the case.

Analysis by Year of Graduation

Do the graduates of 1953, 1958 and 1962 differ in terms of the overall amount of trade knowledges and skills that, in their opinion, they have learned in high school? Are there trends in the mean ratings of amount of skill learned in high school among the individual skills? Table 91 provides the data.

The amount learned index, which is simply a mean of the individual mean ratings, increases from 2.49 for the 1953 graduates to 2.55 for the 1958 graduates to 2.69 for 1962 graduates. The trend raises a problem of interpretation. One interpretation is that the 1962 graduates learned more of the basic skills than those of 1958 or 1953. A second interpretation is

**Table 91. AMOUNT OF SKILL LEARNED IN HIGH SCHOOL: RATINGS
BY YEAR OF GRADUATION**
(Based on graduates in the trade or in highly related trades)

| Trade Knowledge or Skill Rated As To The Amount Learned In High School * | YEAR OF GRADUATION | | | | | | | | | | | |
|--|--------------------|-------------|----------|----------|-------------|----------|----------|-------------|----------|----------|-------------|----------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| ▲ Manual job skills | 357 | 2.8 | .76 | 519 | 2.9 | .72 | 695 | 3.0 | .76 | 1577 | 2.9 | .75 |
| Practical job knowledge | 351 | 2.6 | .74 | 508 | 2.6 | .74 | 670 | 2.8 | .77 | 1535 | 2.7 | .76 |
| ▲ Theoretical job knowledge | 346 | 2.8 | .79 | 492 | 2.9 | .79 | 646 | 3.0 | .81 | 1489 | 2.9 | .80 |
| ▲ Mathematical skills | 348 | 3.0 | .86 | 499 | 3.1 | .86 | 653 | 3.2 | .86 | 1506 | 3.1 | .86 |
| Communication skills | 349 | 2.8 | .81 | 495 | 2.8 | .84 | 650 | 2.8 | .90 | 1499 | 2.8 | .86 |
| Reading & interpretive skills | 347 | 2.8 | .83 | 499 | 2.8 | .88 | 656 | 2.9 | .92 | 1507 | 2.8 | .89 |
| Clerical skills | 344 | 1.9 | .90 | 495 | 1.9 | .86 | 643 | 2.2 | .97 | 1488 | 2.0 | .93 |
| ▲ Personal relations skills | 339 | 2.0 | .87 | 496 | 2.2 | .89 | 653 | 2.3 | .92 | 1494 | 2.2 | .91 |
| ▲ Supervisory skills | 338 | 1.7 | .82 | 491 | 1.8 | .82 | 635 | 2.0 | .92 | 1470 | 1.9 | .88 |
| AMOUNT LEARNED INDEX | 9 | 2.49 | - | 9 | 2.55 | - | 9 | 2.69 | - | 9 | 2.59 | - |

* 4 = Almost all; 3 = Large amount; 2 = Some but not much; 1 = Almost nothing

that the more recent graduates are more generous in the learning they attribute to their former high schools. A third interpretation is that the older graduates have learned more of these skills since leaving high school, and therefore, attribute less learning of the skills to their former high schools. No conclusive interpretation can be made.

The skills marked with upward pointing arrows are those which show a con-
sistent trend of higher mean ratings for 1953, 1958 and 1962 respectively. They include manual job skills, theoretical job knowledge, mathematical skills, personal relations skills, and supervisory skills. All skills, with the exception of communication skills, have higher amount learned ratings from the 1962 graduates than from the 1953 graduates. A conclusive interpretation is not possible.

One point is conclusive. Graduates do feel that they have learned a fair amount of these skills in high school. The skills are listed below in rank order of the mean rating of amount learned in high school. The mean ratings are based upon the combined graduates.

1. Mathematical skills 3.1
2. Manual job skills 2.9

| | |
|--|-----|
| 3. Theoretical job knowledge | 2.9 |
| 4. Communication skills | 2.8 |
| 5. Reading and interpretive skills | 2.8 |
| 6. Practical job knowledge | 2.7 |
| 7. Personal relations skills | 2.2 |
| 8. Clerical skills | 2.0 |
| 9. Supervisory skills | 1.9 |

All but three of the basic skills have mean amount-learned-in-high school ratings of 2.7 or more. A rating of 3.0 is the equivalent of having learned, in the graduate's opinion, a "large amount" in high school. Mathematical skills, manual job skills and theoretical job knowledge head the list in that order. Personal relations skills, clerical skills, and supervisory skills were rated 2.2 and lower, indicating some but not much of these skills were learned in high school. This is understandable. Relative to the other basic skills, schools do not put much emphasis on the latter skills. It is interesting to note that practical job knowledge ranked fourth from the bottom with a mean rating of 2.7. This suggests a large amount of practical job knowledge is learned after graduation on the job.

The mean ratings of the amount of each skill learned in high school support the technique of using graduate opinions to assess how much of skills are learned in high school. The ratings are consistent, in a relative way, with what should be the case based upon what is known about what schools emphasize.

Table 92 presents the percentage of graduates by skill and response category. The differences between the graduating class years are most noticeable in the extreme categories, particularly the "almost all" category.

Some of the combined percentages are revealing. Seventy-nine percent of the 1962 graduates claimed they learned a "large amount" or "almost all" of their manual job skills in school. Comparable percentages for the other basic skills are:

| | |
|--|------|
| 1. Practical job knowledge | 68.8 |
| 2. Theoretical job knowledge | 75.4 |
| 3. Mathematical skills | 78.6 |

Table 92. AMOUNT OF SKILL LEARNED IN HIGH SCHOOL: PERCENTAGE BY RESPONSE CATEGORY BY YEAR OF GRADUATION
(Based on graduates in the trade or in highly related trades)

| Knowledge or Skill Rated By Graduates In Same or Highly Related Trade | Year of Graduation | AMOUNT OF SKILL LEARNED IN HIGH SCHOOL | | | | | | | |
|---|--------------------|--|------|--------------------|------|--------------|------|------------|------|
| | | Almost Nothing | | Some, But Not Much | | Large Amount | | Almost All | |
| | | N | % | N | % | N | % | N | % |
| Manual job skills | 1953 | 20 | 5.6 | 90 | 25.2 | 191 | 54.9 | 51 | 14.3 |
| | 1958 | 20 | 3.8 | 114 | 22.0 | 299 | 57.6 | 86 | 16.6 |
| | 1962 | 31 | 4.5 | 114 | 16.4 | 386 | 55.5 | 164 | 23.6 |
| | Combined | 71 | 4.5 | 318 | 20.2 | 885 | 56.1 | 303 | 19.2 |
| Practical job knowledge | 1953 | 29 | 8.3 | 121 | 34.5 | 176 | 50.1 | 25 | 7.1 |
| | 1958 | 29 | 5.7 | 179 | 35.2 | 250 | 49.2 | 50 | 9.8 |
| | 1962 | 39 | 5.8 | 170 | 25.4 | 360 | 53.7 | 101 | 15.1 |
| | Combined | 97 | 6.3 | 470 | 30.6 | 791 | 51.5 | 177 | 11.5 |
| Theoretical job knowledge | 1953 | 21 | 6.1 | 75 | 21.7 | 186 | 53.8 | 64 | 18.5 |
| | 1958 | 22 | 4.5 | 121 | 24.6 | 242 | 49.2 | 107 | 21.7 |
| | 1962 | 29 | 4.5 | 130 | 20.1 | 308 | 47.7 | 179 | 27.7 |
| | Combined | 72 | 4.8 | 327 | 22.0 | 739 | 49.6 | 351 | 23.6 |
| Mathematical skills | 1953 | 16 | 4.6 | 75 | 21.6 | 137 | 39.4 | 120 | 34.5 |
| | 1958 | 19 | 3.8 | 101 | 20.2 | 179 | 35.9 | 200 | 40.1 |
| | 1962 | 29 | 4.4 | 111 | 17.0 | 246 | 37.7 | 267 | 40.9 |
| | Combined | 66 | 4.4 | 287 | 19.0 | 565 | 37.5 | 588 | 39.0 |
| Communication skills | 1953 | 19 | 5.4 | 100 | 28.6 | 162 | 46.4 | 68 | 19.5 |
| | 1958 | 54 | 6.9 | 146 | 29.5 | 218 | 44.0 | 97 | 19.6 |
| | 1962 | 54 | 8.3 | 156 | 24.0 | 274 | 42.2 | 166 | 25.5 |
| | Combined | 108 | 7.2 | 403 | 26.9 | 655 | 43.7 | 333 | 22.2 |
| Reading and interpretive skills | 1953 | 21 | 6.0 | 95 | 27.4 | 159 | 45.8 | 72 | 20.7 |
| | 1958 | 37 | 7.4 | 138 | 27.6 | 208 | 41.7 | 116 | 23.2 |
| | 1962 | 62 | 9.4 | 138 | 21.0 | 272 | 41.5 | 184 | 28.0 |
| | Combined | 120 | 8.0 | 372 | 24.7 | 640 | 42.5 | 375 | 24.9 |
| Clerical skills | 1953 | 130 | 37.8 | 138 | 40.1 | 51 | 14.8 | 25 | 7.3 |
| | 1958 | 172 | 34.7 | 222 | 44.8 | 70 | 14.1 | 31 | 6.3 |
| | 1962 | 190 | 20.5 | 225 | 35.0 | 160 | 24.9 | 68 | 10.6 |
| | Combined | 493 | 33.1 | 585 | 39.3 | 285 | 19.2 | 125 | 8.4 |
| Personal relations skills | 1953 | 111 | 32.7 | 126 | 37.2 | 87 | 25.7 | 15 | 4.4 |
| | 1958 | 127 | 25.6 | 190 | 38.3 | 144 | 29.0 | 35 | 7.1 |
| | 1962 | 150 | 23.0 | 233 | 35.7 | 208 | 31.9 | 62 | 9.5 |
| | Combined | 388 | 26.0 | 550 | 36.8 | 444 | 29.7 | 112 | 7.5 |
| Supervisory skills | 1953 | 177 | 52.4 | 109 | 32.2 | 40 | 11.8 | 12 | 3.6 |
| | 1958 | 204 | 41.5 | 190 | 38.7 | 81 | 16.5 | 16 | 3.3 |
| | 1962 | 211 | 33.2 | 230 | 36.2 | 148 | 23.3 | 46 | 7.2 |
| | Combined | 593 | 40.4 | 531 | 36.1 | 271 | 18.4 | 71 | 5.1 |

- 4. Communication skills 67.7
- 5. Reading-interpretive skills 69.9
- 6. Clerical skills 35.4
- 7. Personal relations skills 41.4
- 8. Supervisory skills 30.5

The above percentages are a reflection of how much of the skills present two years after graduation from high school are attributable to what was learned in high school.

Analysis by Type of School

How do the graduates of vocational and comprehensive schools compare in terms of the amount of the basic skills that they claim they learned in high school? Differences would presumably reflect school differences in effectiveness of training in the skills. Table 93 presents the data.

Table 93. AMOUNT OF SKILL LEARNED IN HIGH SCHOOL: COMPARISON OF COMPREHENSIVE AND VOCATIONAL SCHOOLS IN TERMS OF MEAN RATINGS (Based on graduates in the trade or in highly related trades)

| Trade Knowledge or Skill Rated As To Amount Learned In High School * | TYPE OF SCHOOL | | | | | |
|--|----------------|-----|------|---------------|-----|------|
| | Vocational | | | Comprehensive | | |
| | N | M | S.D. | N | M | S.D. |
| Manual job skills | 1033 | 2.9 | .75 | 544 | 2.8 | .74 |
| Practical job knowledge | 1005 | 2.7 | .76 | 530 | 2.7 | .75 |
| Theoretical job knowledge | 978 | 3.0 | .80 | 511 | 2.8 | .79 |
| Mathematical skills | 986 | 3.1 | .86 | 520 | 3.1 | .87 |
| Communication skills | 984 | 2.8 | .85 | 515 | 2.8 | .88 |
| Reading and interpretive skills | 988 | 2.9 | .90 | 519 | 2.8 | .87 |
| Clerical skills | 979 | 2.0 | .93 | 509 | 2.0 | .92 |
| Personal relations skills | 976 | 2.2 | .89 | 518 | 2.2 | .94 |
| Supervisory skills | 960 | 1.8 | .86 | 510 | 2.0 | .91 |

* 4 = Almost all; 3 = Large amount; 2 = Some, but not much;
1 = Almost nothing

It does not appear that there is a significant overall difference in the amount of skills that vocational and comprehensive graduates claim they have learned in school. Of the individual skill differences, there is a suggestion that vocational school graduates learn more of theoretical job knowledge than comprehensive school graduates. The difference, however, is not impressive.

Analysis by School Enrollment

How do the graduates of small, medium and large enrollment schools, as defined in this study, compare in terms of the amount of the basic skills attributed to high school learning? Substantial differences would presumably reflect school differences in the effectiveness of training the trades. Table 94 presents the data.

Table 94. AMOUNT OF SKILL LEARNED IN HIGH SCHOOL: COMPARISON OF TOTAL SCHOOL ENROLLMENT CATEGORIES IN TERMS OF MEAN RATINGS (Based on graduates in the trade or in highly related trades)

| Trade Knowledge or Skill Rated As To Amount Learned In High School * | SCHOOL ENROLLMENT | | | | | | | | |
|--|-------------------|-----|------|----------|-----|------|--------|-----|-------|
| | < 500 | | | 500-1500 | | | > 1500 | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| Manual job skills | 594 | 3.0 | .77 | 546 | 2.9 | .76 | 437 | 2.8 | .71 ▼ |
| Practical job knowledge | 579 | 2.8 | .76 | 529 | 2.7 | .74 | 427 | 2.6 | .77 ▼ |
| Theoretical job knowledge | 561 | 3.0 | .80 | 518 | 2.9 | .78 | 410 | 2.8 | .82 ▼ |
| Mathematical skills | 568 | 3.2 | .82 | 517 | 3.1 | .86 | 421 | 3.0 | .91 ▼ |
| Communication skills | 565 | 2.8 | .84 | 516 | 2.9 | .83 | 418 | 2.7 | .92 |
| Reading & interpretive skills | 571 | 2.9 | .88 | 515 | 2.8 | .90 | 421 | 2.8 | .88 |
| Clerical skills | 568 | 2.1 | .94 | 508 | 2.0 | .92 | 412 | 1.9 | .91 ▼ |
| Personal relations skills | 562 | 2.2 | .88 | 514 | 2.2 | .90 | 418 | 2.1 | .94 |
| Supervisory skills | 552 | 1.9 | .89 | 503 | 1.9 | .88 | 415 | 1.8 | .88 |

* 4 = Almost all; 3 = Large amount; 2 = Some, but not much; 1 = Almost nothing

The downward pointing arrows at the right of the table indicate a consistent trend: the larger the school enrollment, the less graduates attribute learning of the skill to the school. Even where the trend is not consistent, the mean ratings for the small enrollment schools are without exception greater than those for the large enrollment schools.

The question is: Why? One interpretation is that the ratings suggest that students learn more about these skills in small enrollment schools than in large enrollment schools. There is also another interpretation. Students in small enrollment schools may have greater feelings of loyalty toward their schools than those from the very large schools because of their closer associations with school personnel, particularly instructors, and therefore, may be more generous in the learning they attribute to their schools. Chapter 8 provides data to rule out the latter interpretation. There is no significant difference in the overall attitude that graduates from small, medium and large schools have toward their former schools. If anything, there are indications that small school graduates have less favorable attitudes toward their former schools. Thus, the first interpretation seems more plausible, i.e. the larger the school enrollment, the less graduates have learned of the basic skills. It should be pointed out, however, that the differences are not substantial.

ANALYSIS OF ACKNOWLEDGED LEARNING MEASURE

Introduction

The two preceding sections analyzed the variables, rated importance of skills and rated amount of skills learned in high school. In Chapter 3, a derived measure was introduced that is the product of these two variables. The measure is acknowledged high school learning.

The measure is the mean of the products obtained by multiplying the rated amount of each skill learned in high school with its rated importance for the graduate's present job in the trade or a highly related trade. The measure reflects how much of the basic skills were learned in high school, when each skill is weighted by its importance rating. As such, it is a refinement of the assessment of how much of basic skills are learned in high school that was presented in the preceding section.

The measure is such that a maximum score of 16 means a graduate rated each skill of critical importance (4) and claimed he learned almost all of each skill (4) in high school. A minimum score of 1 means a graduate rated each skill of no importance for his present job (1) and claimed he learned nothing (1) of each skill in high school. Obviously, neither extreme score is probable or credible.

Because the measure is the interaction product of two equally weighted variables, it can not be interpreted in terms of the original rating categories. The higher the score, the more of the basic skills were learned in high school and regarded important for the graduate's present job. Up to the point where an extremely high score may call into question the credibility of the ratings, the higher the score on this measure, the better it reflects on the graduate's high school vocational education.

Analysis by Year of Graduation

How do the graduates of 1953, 1958, and 1962 compare in terms of the measure? Is there a significant trend? If so, what is the interpretation thereof? Table 95 shows a frequency, percentage and cumulative percentage distribution of the measure, for graduating classes of 1953, 1958, and 1962 separately and for all classes combined, together with mean and median values.

Table 95. ACKNOWLEDGED HIGH SCHOOL LEARNING: FREQUENCY DISTRIBUTION FOR VOCATIONAL GRADUATES BY YEAR OF GRADUATION

(Based on graduates in the trade or in highly related trades)

| High School Learning | YEAR OF GRADUATION | | | | | | | | | | | |
|----------------------|--------------------|------|-------|------|------|-------|------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| C.I. | N | M | C% | N | M | C% | N | M | C% | N | M | C% |
| > 15.0 | 2 | 0.6 | 100.0 | 2 | 0.4 | 100.0 | 4 | 0.6 | 100.0 | 8 | 0.5 | 100.0 |
| 13.6-15.0 | 6 | 1.7 | 99.4 | 2 | 0.4 | 99.6 | 15 | 2.2 | 99.4 | 23 | 1.5 | 99.5 |
| 12.1-13.5 | 8 | 2.3 | 97.7 | 14 | 2.7 | 99.2 | 27 | 3.9 | 97.2 | 49 | 3.1 | 98.0 |
| 10.6-12.0 | 38 | 10.8 | 95.4 | 58 | 11.3 | 96.5 | 73 | 10.6 | 93.3 | 170 | 10.9 | 94.9 |
| 9.1-10.5 | 57 | 16.3 | 84.6 | 91 | 17.6 | 85.2 | 119 | 17.3 | 82.7 | 270 | 17.3 | 84.0 |
| 7.6- 9.0 | 88 | 25.1 | 68.3 | 137 | 26.6 | 67.6 | 191 | 27.8 | 65.4 | 417 | 26.8 | 66.7 |
| 6.1- 7.5 | 93 | 26.6 | 43.2 | 119 | 23.1 | 41.0 | 135 | 19.7 | 37.6 | 347 | 22.3 | 39.9 |
| 4.6- 6.0 | 40 | 11.4 | 16.6 | 72 | 14.0 | 17.9 | 84 | 12.2 | 17.9 | 197 | 12.6 | 17.6 |
| 3.1- 4.5 | 15 | 4.3 | 5.2 | 14 | 2.7 | 3.9 | 29 | 4.2 | 5.7 | 58 | 3.7 | 5.0 |
| 1.6- 3.0 | 3 | 0.9 | 0.9 | 6 | 1.2 | 1.2 | 6 | 0.9 | 1.5 | 15 | 1.0 | 1.3 |
| 1.0- 1.5 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 4 | 0.6 | 0.6 | 4 | 0.3 | 0.3 |
| Number | 350 | | | 515 | | | 687 | | | 1558 | | |
| Mean | 8.2 | | | 8.1 | | | 8.3 | | | 8.2 | | |
| Median | 8.0 | | | 8.1 | | | 8.2 | | | 8.1 | | |
| S.D. | 2.29 | | | 2.2 | | | 2.5 | | | 2.36 | | |

The mean values of the measure are 8.2, 8.1 and 8.3 respectively for 1953, 1958 and 1962 graduates. Thus, the measure shows no trend. This is explainable. The importance of skill ratings increased with years out of school.

The ratings of amount of skill learned in high school showed the opposite trend, i.e. claimed high school learning decreased with years out of school. The two trends cancelled each other out in the derived measure.

Proper application of the measure for trend analysis calls for deriving the measure from ratings from different year-of-graduation groups at the same time after graduation for each group. Thus, if the classes of 1953, 1958, and 1962 had provided their ratings two years after graduation, there would have been a basis for trend analysis uncomplicated by differential periods out of school. The study design made this type of analysis impossible.

Analysis by Type of School

How do comprehensive and vocational school graduates compare in terms of the acknowledged learning measure? Table 96 provides the comparison data for each year of graduation group.

Table 96. ACKNOWLEDGED HIGH SCHOOL LEARNING: COMPARISON OF COMPREHENSIVE AND VOCATIONAL SCHOOLS
(Based on graduates in the trade or in highly related trades)

| Year of Graduation | Type of School | High School Learning | | |
|--------------------|-------------------------|----------------------|-----|------|
| | | N | M | S.D. |
| 1953 | Vocational | 232 | 8.3 | 2.4 |
| | Comprehensive | 118 | 7.9 | 2.1 |
| 1958 | Vocational | 327 | 8.1 | 2.2 |
| | Comprehensive | 188 | 8.1 | 2.1 |
| 1962 | Vocational | 452 | 8.4 | 2.4 |
| | Comprehensive | 235 | 8.2 | 2.6 |
| Combined | Vocational | 1017 | 8.3 | 2.4 |
| | Comprehensive | 541 | 8.1 | 2.4 |

The 1953 and 1962 vocational school graduates have slightly higher mean scores on the measure than the comprehensive school vocational graduates. For the 1958 graduates, there is no difference between the graduates of the two types of schools. The prudent conclusion is that there is no difference between the two types of schools in terms of the amount of basic skills reported by graduates to have been learned in high school, when the skills are weighted by importance for present jobs in the trade or highly related trades.

Analysis by School Enrollment

How do graduates from small, medium and large enrollment schools compare in terms of the acknowledged learning measure, which takes into account the rated importance of the skill attributed to high school learning? Table 97 provides the data.

Table 97. ACKNOWLEDGED HIGH SCHOOL LEARNING: COMPARISON OF TOTAL SCHOOL ENROLLMENT CATEGORIES
(Based on graduates in the trade or in highly related trades)

| Year of Graduation | School Enrollment | High School Learning | | |
|--------------------|----------------------|----------------------|-----|------|
| | | N | M | S.D. |
| 1953 | < 500 | 138 | 8.6 | 2.2 |
| | 500 - 1500 | 119 | 8.2 | 2.2 |
| | > 1500 | 93 | 7.5 | 2.3 |
| 1958 | < 500 | 187 | 8.4 | 2.2 |
| | 500 - 1500 | 189 | 8.1 | 2.2 |
| | > 1500 | 139 | 7.8 | 2.2 |
| 1962 | < 500 | 261 | 8.4 | 2.5 |
| | 500 - 1500 | 226 | 8.4 | 2.5 |
| | > 1500 | 30 | 8.0 | 2.5 |
| Combined | < 500 | 588 | 8.4 | 2.3 |
| | 500 - 1500 | 537 | 8.3 | 2.3 |
| | > 1500 | 433 | 7.9 | 2.4 |

For each of the year of graduation groups, the graduates from small enrollment schools have a higher mean score on the measure than the graduates of medium or large enrollment schools. While the differences are not substantial between the year of graduation groups, they do suggest a definite trend: the larger the enrollment of the school, the less the amount of basic skill learning acknowledged by graduates, when the amount of acknowledged skill learning has been weighted for importance to present job in the trade or highly related trades. A plausible interpretation is that more of basic trade skills are learned in small enrollment schools than medium and large enrollment schools. The differences, however, are not substantial, and do not warrant much of an issue.

WHERE MOST WAS LEARNED ABOUT SKILLS

Introduction

The analyses presented in the preceding two sections were essentially efforts to assess how much of the basic trade skills graduates learned in high school. The analyses presented in this section have the same objective. The difference is largely a matter of how the questions were put to the graduates. The earlier analyses were based upon the graduate's rating of how much of each basic skill was learned in high school. The analyses in this section are based upon asking the graduate where he learned most about each basic skill - in school, on-the-job, in an apprenticeship program, or in a school cooperative program? Since most schools surveyed did not have cooperative programs or formal relation with apprenticeship program, it can be expected that these two sources of trade learning will be acknowledged much less frequently. The issue is whether they learned most of a specific skill in school or on the job. The data should serve to confirm some of the earlier findings reported in this chapter.

Analysis by Year of Graduation

In terms of percentages, how do the graduates split in their acknowledgements of where they learned most about the basic skills? Are there significant differences between the year of graduation groups? Table 98 provides the data.

The percentages of graduates who reported that they learned the most in school cooperative programs and apprenticeship programs are relatively small for reasons explained earlier. The main comparison is between learning most in the high school trade course or on the job. Several general statements can be made on the basis of the data shown in Table 98.

1. The percentage of graduates who report that the job was the source of learning most about the skills increases with increased job experience. This is to be expected because of increased opportunity to learn more on the job. This is no reflection on the schools.

Table 98. WHERE MOST WAS LEARNED ABOUT SKILL: PERCENTAGES BY RESPONSE CATEGORY BY YEAR OF GRADUATION

(Based on graduates in the trade or in highly related trades)

| Knowledge or Skill Rated By Graduates In Same or Highly Related Trade | Year of Graduation | WHERE MOST WAS LEARNED ABOUT SKILL | | | | | | | | | |
|---|--------------------|------------------------------------|-----|---------------------|------|--------------------|------|----------------|------|-----------|------|
| | | H. S. Co-op Program | | H. S. Shop or Class | | Apprentice Program | | On Regular Job | | Elsewhere | |
| | | N | % | N | % | N | % | N | % | N | % |
| Manual job skills | 1953 | 12 | 3.8 | 114 | 36.1 | 49 | 15.5 | 130 | 41.1 | 11 | 3.5 |
| | 1958 | 14 | 2.9 | 198 | 41.5 | 70 | 14.6 | 181 | 37.9 | 15 | 3.1 |
| | 1962 | 33 | 5.0 | 345 | 52.5 | 56 | 8.5 | 201 | 30.6 | 22 | 3.3 |
| | Combined | 59 | 4.1 | 659 | 54.3 | 175 | 12.0 | 514 | 35.3 | 48 | 3.3 |
| Practical job knowledge | 1953 | 8 | 2.5 | 71 | 22.0 | 41 | 12.7 | 189 | 58.7 | 13 | 4.0 |
| | 1958 | 22 | 4.5 | 121 | 25.0 | 60 | 12.4 | 262 | 54.1 | 19 | 3.9 |
| | 1962 | 33 | 5.2 | 253 | 40.1 | 47 | 7.4 | 286 | 45.3 | 12 | 1.9 |
| | Combined | 63 | 4.4 | 449 | 31.1 | 149 | 10.3 | 737 | 51.1 | 44 | 3.1 |
| Theoretical job knowledge | 1953 | 13 | 4.1 | 132 | 41.8 | 33 | 10.4 | 118 | 37.3 | 20 | 6.3 |
| | 1958 | 18 | 3.9 | 222 | 48.0 | 56 | 12.1 | 142 | 30.7 | 24 | 5.2 |
| | 1962 | 23 | 3.7 | 375 | 59.9 | 41 | 6.5 | 170 | 27.2 | 17 | 2.7 |
| | Combined | 54 | 3.8 | 732 | 52.0 | 130 | 9.2 | 431 | 30.6 | 61 | 4.3 |
| Mathematical skills | 1953 | 18 | 5.6 | 193 | 60.3 | 30 | 9.4 | 45 | 14.1 | 34 | 10.6 |
| | 1958 | 39 | 8.2 | 312 | 65.3 | 34 | 7.1 | 50 | 10.5 | 43 | 9.0 |
| | 1962 | 37 | 5.9 | 483 | 77.0 | 18 | 2.9 | 63 | 9.9 | 27 | 4.3 |
| | Combined | 94 | 6.6 | 992 | 69.4 | 83 | 5.8 | 157 | 11.0 | 104 | 7.3 |
| Communication skills | 1953 | 12 | 3.8 | 155 | 48.4 | 23 | 7.2 | 92 | 28.8 | 38 | 11.9 |
| | 1958 | 21 | 4.5 | 244 | 52.6 | 27 | 5.8 | 117 | 25.2 | 55 | 11.8 |
| | 1962 | 32 | 5.2 | 408 | 65.7 | 37 | 6.0 | 114 | 18.4 | 30 | 4.8 |
| | Combined | 65 | 4.6 | 811 | 57.5 | 87 | 6.2 | 324 | 23.0 | 123 | 8.7 |
| Reading and interpretive skills | 1953 | 14 | 4.6 | 138 | 45.1 | 29 | 9.5 | 104 | 34.0 | 21 | 6.9 |
| | 1958 | 25 | 5.3 | 219 | 46.8 | 45 | 9.6 | 145 | 31.0 | 34 | 3.3 |
| | 1962 | 27 | 4.4 | 388 | 62.9 | 37 | 6.0 | 143 | 23.2 | 22 | 3.6 |
| | Combined | 66 | 4.7 | 748 | 53.6 | 111 | 8.0 | 393 | 28.2 | 77 | 5.5 |
| Clerical skills | 1953 | 7 | 2.2 | 86 | 27.2 | 11 | 3.5 | 160 | 50.6 | 52 | 16.5 |
| | 1958 | 17 | 3.6 | 138 | 29.4 | 28 | 6.0 | 227 | 48.3 | 60 | 12.8 |
| | 1962 | 44 | 7.4 | 290 | 48.5 | 19 | 3.2 | 188 | 31.4 | 57 | 9.5 |
| | Combined | 68 | 4.9 | 517 | 37.3 | 58 | 4.2 | 575 | 41.5 | 169 | 12.2 |
| Personal relations skills | 1953 | 14 | 4.5 | 42 | 13.6 | 6 | 1.9 | 200 | 64.7 | 47 | 15.2 |
| | 1958 | 22 | 4.7 | 75 | 16.0 | 26 | 5.6 | 268 | 57.4 | 76 | 16.3 |
| | 1962 | 23 | 3.8 | 183 | 30.2 | 24 | 4.0 | 303 | 50.1 | 72 | 11.9 |
| | Combined | 60 | 4.3 | 302 | 21.8 | 57 | 4.1 | 771 | 55.7 | 195 | 14.1 |
| Supervisory skills | 1953 | 4 | 1.3 | 33 | 10.6 | 9 | 2.9 | 218 | 69.9 | 48 | 15.4 |
| | 1958 | 9 | 1.9 | 65 | 13.9 | 24 | 5.2 | 287 | 61.6 | 81 | 17.4 |
| | 1962 | 22 | 3.8 | 206 | 35.5 | 25 | 4.3 | 261 | 45.0 | 66 | 11.4 |
| | Combined | 36 | 2.6 | 306 | 22.5 | 58 | 4.3 | 768 | 56.3 | 195 | 14.3 |

2. Some skills are mostly acquired in school. They include manual job skills, theoretical job knowledge, mathematical skills, communication skills, and reading and interpretive skills.
3. Other skills are mostly acquired on the job. They include practical job knowledge, clerical skills, personal relations skills, and supervisory skills.
4. Mathematical skills, if not acquired in school, are not likely to be developed to any substantial degree on the job.

Analysis by Type of School

How do the graduates of comprehensive and vocational schools compare in terms of where they claim to have learned most about each basic skill? Table 99 presents the data.

The percentages show a consistent difference in all but two skill areas that favors the vocational schools. A greater percentage of vocational school graduates claimed they learned most about the following skills in school than did comprehensive graduates:

1. Manual job skills (49.2 vs. 37.5 percent)
2. Practical job knowledge (32.2 vs. 29.0 percent)
3. Theoretical job knowledge (55.0 vs. 46.4 percent)
4. Mathematical skills (73.7 vs. 60.9 percent)
5. Communication skills (59.7 vs. 53.0 percent)
6. Interpretive skills (56.7 vs. 47.7 percent)
7. Clerical skills (38.8 vs. 33.9 percent)

The two skill areas that favored the comprehensive schools were:

8. Personal relations skills (24.0 vs. 20.6 percent)
9. Supervisory skills (23.0 vs. 22.1 percent)

**Table 99. WHERE MOST WAS LEARNED ABOUT SKILL: COMPARISON OF
COMPREHENSIVE AND VOCATIONAL SCHOOLS IN TERMS OF
PERCENTAGES BY RESPONSE CATEGORY
(Based on graduates in the trade or in highly related trades)**

| Knowledge or Skill Rated By Graduates In Same or Highly Related Trade | Type of School | WHERE MOST WAS LEARNED ABOUT SKILL | | | | | | | | | |
|--|-------------------|------------------------------------|-----|------------------------|------|-----------------------|------|-------------------|------|-----------|------|
| | | H. S. Co-op Program | | H. S. Shop or Class | | Apprentice Program | | On Regular Job | | Elsewhere | |
| | | N | % | N | % | N | % | N | % | N | % |
| Manual job skills | Vocational | 36 | 3.7 | 475 | 49.2 | 89 | 9.2 | 338 | 35.0 | 27 | 2.8 |
| | Comprehensive | 23 | 4.7 | 183 | 37.5 | 86 | 17.6 | 175 | 35.9 | 21 | 4.3 |
| Practical job knowledge | Vocational | 35 | 3.7 | 305 | 32.2 | 86 | 9.1 | 492 | 52.0 | 29 | 3.1 |
| | Comprehensive | 28 | 5.7 | 143 | 29.0 | 63 | 12.3 | 244 | 49.5 | 15 | 3.0 |
| Theoretical job knowledge | Vocational | 29 | 3.1 | 509 | 55.0 | 74 | 8.0 | 273 | 29.5 | 40 | 4.3 |
| | Comprehensive | 25 | 5.2 | 223 | 46.4 | 56 | 11.6 | 156 | 32.4 | 21 | 4.4 |
| Mathematical skills | Vocational | 47 | 5.0 | 692 | 73.7 | 46 | 4.9 | 90 | 9.6 | 64 | 6.8 |
| | Comprehensive | 47 | 9.6 | 298 | 60.9 | 37 | 7.6 | 67 | 13.7 | 40 | 8.2 |
| Communication skills | Vocational | 39 | 4.2 | 556 | 59.7 | 43 | 4.6 | 206 | 22.1 | 87 | 9.3 |
| | Comprehensive | 26 | 5.5 | 253 | 53.0 | 44 | 9.2 | 118 | 24.7 | 36 | 7.5 |
| Reading and interpre- tive skills | Vocational | 36 | 3.9 | 518 | 56.7 | 62 | 6.8 | 247 | 27.1 | 50 | 5.5 |
| | Comprehensive | 30 | 6.2 | 229 | 47.7 | 49 | 10.2 | 145 | 30.2 | 27 | 5.6 |
| Clerical skills | Vocational | 39 | 4.2 | 357 | 38.8 | 29 | 3.2 | 384 | 41.8 | 110 | 12.0 |
| | Comprehensive | 29 | 6.2 | 158 | 33.9 | 29 | 6.2 | 191 | 41.0 | 59 | 12.7 |
| Personal relations skills | Vocational | 34 | 3.8 | 186 | 20.6 | 26 | 2.9 | 536 | 59.2 | 123 | 13.6 |
| | Comprehensive | 26 | 5.4 | 115 | 24.0 | 31 | 6.5 | 235 | 49.1 | 72 | 15.0 |
| Supervisory skills | Vocational | 20 | 2.2 | 197 | 22.1 | 29 | 3.2 | 523 | 58.6 | 123 | 13.8 |
| | Comprehensive | 16 | 3.4 | 108 | 23.0 | 29 | 6.2 | 245 | 52.1 | 72 | 15.3 |

The differences are small, compared with the differences that favored the vocational schools. Two interpretations can be made of these differences: (1) There is more learning of the basic skills in vocational than comprehensive high schools, (2) The differences reflect a difference in attitude toward former schools rather than differences in school learning of basic skills. Chapter 8 presents data to show that vocational school graduates do not have substantially more favorable attitudes toward their former schools than do comprehensive school graduates. Also, the nature of the differences for individual skills suggest considerable discrimination and response to the specific skill rather than a generalized response as would be the case if the differences were essentially a matter of attitude. The conclusion, therefore, is that vocational school graduates learn more of the basic skills in school than do comprehensive school graduates. The all-important question of why this might be so is not answered. A future report will be concerned with the problem.

Analysis by School Enrollment

How do graduates of small, medium and large schools compare in terms of where they claim to have learned most about each basic skill? Table 100 presents the data.

Of those who claimed to have learned most in school, the percentages favor the small enrollment school. From small (< 500) to large (> 1,500) enrollment schools, the percentage of graduates claiming they learned most in school decreases for the following skills:

1. Manual job skills (49.8 to 38 percent)
2. Practical job knowledge (34.4 to 28 percent)
3. Theoretical job knowledge (55.2 to 47 percent)
4. Mathematical skills (74.0 to 66.4 percent)
5. Communication skills (59.2 to 54.2 percent)
6. Interpretive skills (58.4 to 52.6 percent)
7. Clerical skills (40.3 to 36.1 percent)

Table 100. WHERE MOST WAS LEARNED ABOUT SKILL: COMPARISON OF TOTAL SCHOOL ENROLLMENT CATEGORIES IN TERMS OF PERCENTAGES BY RESPONSE CATEGORY
(Based on graduates in the trade or in highly related trades)

| Knowledge or Skill Rated By Graduates In Same or Highly Related Trade | School Enrollment | WHERE MOST WAS LEARNED ABOUT SKILL | | | | | | | | | |
|--|----------------------|------------------------------------|-----|------------------------|------|-----------------------|------|-------------------|------|-----------|------|
| | | H. S. CO-op Program | | H. S. Shop or Class | | Apprentice Program | | On Regular Job | | Elsewhere | |
| | | N | % | N | % | N | % | N | % | N | % |
| Manual job skills | < 500 | 22 | 3.9 | 278 | 49.8 | 49 | 8.8 | 192 | 34.4 | 17 | 3.0 |
| | 500-1500 | 22 | 4.4 | 231 | 45.7 | 58 | 11.5 | 179 | 35.4 | 15 | 3.0 |
| | > 1500 | 15 | 3.8 | 148 | 38.0 | 68 | 17.5 | 143 | 36.8 | 15 | 3.8 |
| Practical job knowledge | < 500 | 23 | 4.2 | 187 | 34.4 | 40 | 7.4 | 275 | 50.6 | 19 | 3.5 |
| | 500-1500 | 23 | 4.7 | 147 | 29.8 | 59 | 12.0 | 250 | 50.7 | 14 | 2.8 |
| | > 1500 | 17 | 4.2 | 112 | 27.9 | 50 | 12.4 | 212 | 52.7 | 11 | 2.7 |
| Theoretical job knowledge | < 500 | 13 | 2.4 | 295 | 55.2 | 45 | 8.4 | 159 | 29.8 | 22 | 4.1 |
| | 500-1500 | 25 | 5.2 | 253 | 52.3 | 39 | 8.1 | 142 | 29.3 | 25 | 5.2 |
| | > 1500 | 16 | 4.1 | 182 | 47.0 | 46 | 11.9 | 129 | 33.3 | 14 | 3.6 |
| Mathematical skills | < 500 | 17 | 3.1 | 401 | 74.0 | 29 | 5.4 | 58 | 10.7 | 37 | 6.8 |
| | 500-1500 | 44 | 9.0 | 325 | 66.5 | 24 | 4.9 | 58 | 11.9 | 38 | 7.8 |
| | > 1500 | 33 | 8.3 | 263 | 66.4 | 30 | 7.6 | 41 | 10.4 | 29 | 7.3 |
| Communication skills | < 500 | 20 | 3.7 | 316 | 59.2 | 29 | 5.4 | 117 | 21.9 | 52 | 9.7 |
| | 500-1500 | 26 | 5.3 | 284 | 58.1 | 28 | 5.7 | 117 | 23.9 | 34 | 7.0 |
| | > 1500 | 19 | 4.9 | 208 | 54.2 | 30 | 7.8 | 90 | 23.4 | 34 | 9.6 |
| Reading and interpre- tive skills | < 500 | 18 | 3.4 | 310 | 58.4 | 38 | 7.1 | 129 | 24.3 | 36 | 6.8 |
| | 500-1500 | 27 | 5.7 | 232 | 48.8 | 40 | 8.4 | 152 | 32.0 | 24 | 5.1 |
| | > 1500 | 21 | 5.4 | 203 | 52.6 | 33 | 8.5 | 112 | 29.0 | 17 | 4.4 |
| Clerical skills | < 500 | 20 | 3.7 | 216 | 40.3 | 26 | 4.8 | 214 | 39.9 | 60 | 11.2 |
| | 500-1500 | 30 | 6.4 | 163 | 34.6 | 12 | 2.5 | 200 | 42.5 | 66 | 14.0 |
| | > 1500 | 18 | 4.8 | 136 | 36.1 | 20 | 5.3 | 160 | 42.4 | 43 | 11.4 |
| Personal relations skills | < 500 | 15 | 2.9 | 109 | 20.8 | 16 | 3.1 | 313 | 59.7 | 71 | 13.5 |
| | 500-1500 | 29 | 6.1 | 109 | 22.8 | 23 | 4.8 | 257 | 53.6 | 61 | 12.7 |
| | > 1500 | 16 | 4.2 | 82 | 21.6 | 18 | 4.7 | 201 | 52.9 | 63 | 16.6 |
| Supervisory skills | < 500 | 13 | 2.5 | 123 | 23.8 | 22 | 4.2 | 288 | 55.7 | 71 | 13.7 |
| | 500-1500 | 15 | 3.2 | 100 | 21.5 | 19 | 4.1 | 265 | 57.0 | 66 | 14.2 |
| | > 1500 | 8 | 2.1 | 81 | 21.4 | 17 | 4.5 | 215 | 56.7 | 58 | 15.3 |

The question is: Why? One interpretation is that more of these skills are indeed being learned in small enrollment schools than in medium or in large enrollment schools. Another interpretation is that graduates from small enrollment schools are more generously inclined to their former schools than those from medium or large schools. But, if that is so, one would expect them to have a more favorable overall attitude toward their former schools. Chapter 8 presents data that shows graduates from small enrollment schools are more, not less, critical of their former schools than those from medium and large enrollment schools. The first interpretation seems, therefore, to be more reasonable. The conclusion is consistent with the findings reported in the two preceding sections.

NEED FOR MORE TRAINING IN BASIC SKILLS

Introduction

Vocational education has never claimed to turn out graduates at or even near the peak of their learning about the trade. The assumption has been that vocational education would provide the trade fundamentals, that is, the foundation of trade knowledge and skills upon which graduates would build via additional apprenticeship and/or on-the-job training. It would be interesting to know what percentage of the graduates feel the need for additional training and experience in the trade. The fact that a substantial percentage of graduates presently in the trade or a highly related trade feel the need for additional training is not necessarily a reflection on how well they were trained in high school. It is probably a better interpretation to conclude that the expressed need for additional training is a reflection of experience in the trade since leaving high school. In that sense, a substantial percentage of graduates who feel the need for further training is a healthy sign of awareness of the need for self-development in their chosen occupation.

Analysis by Year of Graduation

What percentage of graduates presently in the trade or a highly related trade feel the need for additional training in the basic skill and knowledge areas? Do some particular skills or knowledges stand out? Does the experience of the graduate in terms of years in the trade have any influence on felt needs for additional training? Table 101 provides the data.

Based on the combined graduates, the rank order of the skills in terms of felt need for additional training is as follows:

| | <u>Percent</u> |
|----------------------------------|----------------|
| 1. Supervisory skills | 66.6 |
| 2. Mathematical skills | 64.2 |

3. Reading and interpretive skills 63.9
4. Practical job knowledge 61.3
5. Communication skills 61.0
6. Manual job skills 59.8
7. Theoretical job knowledge 58.6
8. Personal relations skills 58.2
9. Clerical skills 48.9

For all but one of the basic skill areas, the majority of graduates report the need (or is it desire?) for additional training. The need for training in supervisory skills tops the list. This undoubtedly reflects increasing responsibility with years of experience in the trade. The need for further training in mathematical and reading-interpretive skills is also high on the list. We know from the preceding sections that these two skills are mainly developed in school. At the bottom of the list, and far removed from those above, is clerical skills. Only 49 percent of the graduates who responded felt the need for additional training in clerical skills.

Table 101. NEED FOR ADDITIONAL SKILL TRAINING: PERCENTAGES REPORTING SUCH NEED BY YEAR OF GRADUATION
(Based on graduates in the trade or in highly related trades)

| Skill and Knowledge Areas For Which Graduates Reported Need For Additional Training | YEAR OF GRADUATION | | | | | | | |
|---|--------------------|------|------|------|------|------|----------|--------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Manual job skills | 205 | 58.7 | 282 | 55.5 | 429 | 63.4 | 920 | 59.8 |
| Practical job knowledge | 205 | 61.2 | 284 | 57.7 | 411 | 64.0 | 903 | 61.3 |
| Theoretical job knowledge | 202 | 60.7 | 261 | 55.5 | 370 | 59.7 | 836 | 58.6 |
| Mathematical skills | 222 | 65.5 | 313 | 64.7 | 405 | 63.5 | 941 | 64.2 A |
| Communication skills | 227 | 67.6 | 285 | 60.2 | 368 | 58.1 | 881 | 61.0 A |
| Reading and interpretive skills | 210 | 63.1 | 301 | 62.7 | 412 | 65.1 | 926 | 63.9 |
| Clerical skills | 176 | 53.2 | 244 | 50.7 | 277 | 45.0 | 699 | 48.9 A |
| Personal relations skills | 210 | 64.4 | 279 | 58.7 | 341 | 54.3 | 834 | 58.2 A |
| Supervisory skills | 236 | 72.6 | 298 | 64.8 | 389 | 64.1 | 936 | 66.6 A |

The basic skills which are marked with an upward pointing arrow are those that show a consistent trend of a greater percentage reporting the need for more training with increased years out of school. For example, the percentage who report a need for more personal relations skill training increases 54.3 percent of 1962 graduates to 58.7 for 1958 graduates to 64.4 for 1953 graduates. On the other hand, the need for training in some skill areas declines with increased years out of school. A greater percentage of 1962 graduates than 1958 or 1953 graduates report the need for more training to develop manual skills and practical job knowledge. This is as one might expect.

The large percentages of graduates in all year of graduation groups that feel the need or desire for more training, particularly in such areas as supervisory skills, personal relations skills and communications skills which are not emphasized by high schools, indicates a large, potential receptive audience for the right kind of post-high school adult education. Where such education is geared to fulfilling specific skill needs, rather than trade training, the response should be there among past graduates and others in similar trades.

Analysis by Type of School

How do graduates from vocational and academic schools compare in terms of percentages that feel the need for additional training in trade skills? Since it is improbable that the on-the-job experiences of such graduates would be essentially different, any differences in felt need for additional training may reflect variation in school training. Table 102 provides the data.

There are no significant differences between vocational and comprehensive school graduates in terms of expressed need for additional training in manual job skills, practical job knowledge, theoretical job knowledge, communication skills, personal relations skills, and supervisory skills.

A slightly greater percentage of comprehensive school graduates claim the need for more training in mathematical, reading, and clerical skills. It suggests, albeit not convincingly, that these are areas of training weakness in some comprehensive schools. Additional evidence would be desirable before much were made of this.

Table 102. NEED FOR ADDITIONAL SKILL TRAINING: COMPARISON OF COMPREHENSIVE AND VOCATIONAL SCHOOLS IN TERMS OF PERCENTAGES REPORTING TRAINING NEEDS
(Based on graduates in the trade or in highly related trades)

| Skill and Knowledge Areas For Which Graduates Reported Need For Additional Training | TYPE OF SCHOOL | | | |
|---|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| Manual job skills | 600 | 59.4 | 320 | 60.7 |
| Practical job knowledge | 592 | 61.2 | 311 | 61.7 |
| Theoretical job knowledge | 544 | 58.1 | 291 | 59.5 |
| Mathematical skills | 609 | 63.4 | 331 | 65.9 |
| Communication skills | 584 | 61.7 | 296 | 59.7 |
| Reading and interpretive skills | 598 | 62.6 | 328 | 66.5 |
| Clerical skills | 437 | 46.6 | 261 | 53.0 |
| Personal relations skills | 538 | 57.5 | 296 | 59.8 |
| Supervisory skills | 613 | 66.6 | 322 | 66.5 |

Analysis by School Enrollment

How do graduates from small, medium and large enrollment schools compare in terms of acknowledged need for additional training in the basic skill and knowledge areas? Table 103 provides the data.

With but one exception, the response shows a smaller percentage of medium enrollment school graduates reporting a need for more training than graduates of small and large enrollment schools. While the differences for any one skill are not substantial, the consistency of the pattern suggests that graduates from small and large enrollment schools, over all skills, feel a greater need for additional training than those from medium enrollment schools. A plausible interpretation is lacking.

Table 103. NEED FOR ADDITIONAL SKILL TRAINING: COMPARISON OF TOTAL SCHOOL ENROLLMENT CATEGORIES IN TERMS OF PERCENTAGES REPORTING TRAINING NEEDS
(Based on graduates in the trade or in highly related trades)

| Skill and Knowledge Areas For Which Graduates Reported Need For Additional Training | SCHOOL ENROLLMENT | | | | | |
|---|-------------------|------|------------|------|--------|------|
| | < 500 | | 500 - 1500 | | > 1500 | |
| | N | % | N | % | N | % |
| Manual job skills | 365 | 62.7 | 300 | 56.3 | 254 | 60.3 |
| Practical job knowledge | 346 | 62.4 | 302 | 58.5 | 254 | 63.5 |
| Theoretical job knowledge | 327 | 60.6 | 281 | 56.5 | 227 | 58.7 |
| Mathematical skills | 381 | 68.2 | 311 | 62.0 | 248 | 61.8 |
| Communication skills | 349 | 63.6 | 313 | 63.6 | 217 | 54.1 |
| Reading and interpretive skills | 366 | 66.1 | 315 | 63.4 | 244 | 61.6 |
| Clerical skills | 277 | 50.7 | 232 | 47.3 | 188 | 48.1 |
| Personal relations skills | 326 | 60.0 | 281 | 56.8 | 227 | 57.9 |
| Supervisory skills | 368 | 69.2 | 312 | 64.7 | 254 | 65. |

Analysis by Type of Trade

How do the graduates from the top ten vocational courses, in terms of graduate representation in the study, report their needs for additional training? The question was raised for exploratory purposes to establish the existence of differences by trade. Table 104 provides the number and percentages of graduates by trade who reported a need for additional training.

Definite trade differences exist in the need for additional training in the basic knowledge and skill areas. More than 75 percent of those in carpentry or a highly related trade, for example, reported a need for more training in practical job knowledge, mathematical skills, and reading and interpretive skills. Auto mechanics, in a service trade, report a greater need for personal relations skills than do the other trades. Almost 77 percent of the machinists report the need for additional training in mathematics. Eighty percent of those in welding trades report a need for more training in interpretive skills, such

as blueprint reading. Electronic technicians are high in the need for theoretical trade knowledge and supervisory skills.

The highlights are listed primarily to illustrate the fact of trade differences. What these data verify is the need to follow up graduates in the trades to establish more precisely the training needs generated by experience in the trade. A systematic playback of such information would help the vocational educator in curriculum development and planning.

Table 104. NEED FOR ADDITIONAL SKILL TRAINING: COMPARISON OF TOP TEN TRADES IN TERMS OF PERCENTAGES REPORTING TRAINING NEEDS
(Based on graduates in the trade or in highly related trades)

| The Ten Trades With Greatest Number of Graduates In Survey Sample | NUMBER AND PERCENT CLAIMING NEED FOR ADDITIONAL TRAINING | | | | | | | | | |
|---|--|-------------------|-------------------------|---------------------|----------------------|---------------------------------|-----------------|--------------------------|--------------------|---------------------------|
| | | Manual Job Skills | Practical Job Knowledge | Mathematical Skills | Communication Skills | Reading and Interpretive Skills | Clerical Skills | Personal Relation Skills | Supervisory Skills | Theoretical Job Knowledge |
| Auto mechanics | % | 65.2 | 61.3 | 54.7 | 55.9 | 55.3 | 59.0 | 67.7 | 63.9 | 53.6 |
| | N | 135 | 119 | 104 | 104 | 105 | 108 | 126 | 117 | 97 |
| Carpentry | % | 64.7 | 76.6 | 75.0 | 72.3 | 83.7 | 51.1 | 66.7 | 68.1 | 63.0 |
| | N | 33 | 36 | 36 | 34 | 41 | 23 | 32 | 32 | 29 |
| Drafting | % | 41.1 | 52.5 | 69.4 | 60.3 | 47.9 | 51.2 | 66.7 | 63.8 | 51.7 |
| | N | 51 | 64 | 86 | 73 | 58 | 63 | 80 | 74 | 60 |
| Electrician | % | 62.3 | 61.4 | 61.0 | 64.9 | 72.9 | 48.4 | 57.5 | 71.2 | 66.7 |
| | N | 99 | 94 | 94 | 100 | 113 | 75 | 88 | 109 | 102 |
| Machinist | % | 63.9 | 66.6 | 76.7 | 63.0 | 65.6 | 38.5 | 50.7 | 65.4 | 62.5 |
| | N | 209 | 211 | 243 | 196 | 204 | 119 | 155 | 193 | 193 |
| Mill and cabinetry | % | 52.9 | 67.1 | 68.1 | 63.9 | 75.4 | 62.9 | 65.2 | 71.0 | 55.1 |
| | N | 37 | 47 | 49 | 46 | 52 | 44 | 45 | 49 | 38 |
| Printing | % | 67.1 | 64.7 | 45.0 | 55.1 | 57.4 | 48.0 | 58.9 | 63.7 | 52.3 |
| | N | 96 | 88 | 59 | 70 | 74 | 61 | 73 | 79 | 67 |
| Sheet metal | % | 65.5 | 63.5 | 61.5 | 69.2 | 74.0 | 46.9 | 49.0 | 67.3 | 64.0 |
| | N | 36 | 33 | 32 | 36 | 37 | 23 | 25 | 35 | 32 |
| Welding | % | 49.1 | 50.0 | 25.0 | 63.3 | 80.0 | 50.0 | 48.0 | 62.0 | 54.2 |
| | N | 27 | 29 | 31 | 31 | 40 | 16 | 24 | 31 | 26 |
| Electronic Technician | % | 52.2 | 46.7 | 68.9 | 43.2 | 43.5 | 35.6 | 65.9 | 73.9 | 71.1 |
| | N | 24 | 21 | 31 | 19 | 20 | 16 | 29 | 34 | 32 |

8

GRADUATE'S RATINGS OF SCHOOL CHARACTERISTICS

Graduate Attitudes Toward Former Schools

1

CHAPTER 8 SUMMARY

Attitudes Toward Former Schools

1. Attitude measure. Graduates were asked to rate ten school factors either poor, satisfactory, good, or excellent as applied to their former high school. The mean of the ten ratings constitutes an attitude-toward-former-school index.
2. Use of measure. The obtained attitude index was used primarily to determine the relationship between attitude toward the former high schools and performance on occupational and non-occupational measures.
3. Year of graduation. As defined, the favorability of attitude toward former schools declines slightly with increased years out of school. However, even after 11 years out of school, graduates have a highly favorable general opinion of their former schools.
4. Individual factor ratings. The three factors rated most highly by former graduates were (1) quality of shop instruction, (2) community reputation of school, and (3) condition of shop facilities. The three factors rated least favorably were (1) school placement services, (2) quality of vocational counseling, and (3) teacher interest in student problems. No factor received a mean rating of less than "satisfactory."
5. Type of school. There is no significant difference between graduates of vocational and comprehensive schools in favorableness of attitude toward former schools. There are some differences in terms of individual rated factors; e.g., vocational school graduates rated school placement services higher than comprehensive school graduates.
6. School enrollment. Graduates of small, medium, and large enrollment schools have about the same over-all attitude (highly favorable) toward their former schools. Graduates from small enrollment schools rated their schools lower on condition of shop facilities, condition of school, extra-curricular activities, and community reputation; but higher on placement services than medium and large enrollment school graduates.
7. Race of graduates. There is no significant difference between Negro and white graduates in over-all attitude toward former schools. Negro graduates rated placement services lower than did white graduates.
8. Academic versus vocational graduates. There is no significant difference between academic and vocational graduates in over-all attitude toward former high schools.
9. Individual school differences. The mean attitude scores of schools, based upon ratings of graduates, fall within a fairly narrow range. Even so, some schools received consistently higher mean attitude scores from their graduating classes than did others.

GRADUATE ATTITUDES TOWARD FORMER SCHOOLS

Introduction

The graduates were asked to rate ten factors about their former high school in categories of poor, satisfactory, good, and excellent. The ten factors rated by vocational graduates were:

1. Quality of instruction from shop instructors
2. Quality of instruction from academic teachers
3. Condition of shop facilities and equipment
4. General physical condition of school
5. Vocational counseling given students
6. Help given to students in finding jobs
7. Opportunity for extracurricular activities
8. Interest shown by teachers in student problems
9. Reputation of the school in the community
10. Strictness of school in maintaining discipline

The ratings were obtained primarily to provide the basis for an over attitude-toward-former-school score for each graduate. The score was the mean of the individual ratings. It was assumed that a diverse array of school factors would provide the graduates an opportunity to express indirectly a generalized attitude toward their former high schools. In Chapter 3 it was shown that the measure had a significant, albeit low, correlation with only one of the occupational measures, job satisfaction, indicating that graduates with a higher degree of job satisfaction tended to have a more favorable opinion of their former school. No cause-effect relationship is applied. It was also shown that the measure correlated with range of active leisure activities and degree of community organization affiliation. Apparently, the measure reflects personal characteristics more than it does school characteristics, although significant differences in mean attitude scores do exist between schools.

The present chapter is concerned with whether the measure is related to such basic variables as year of graduation, type of school attended, enrollment of school attended, and race of the graduates. While the ten factors rated were primarily a means to an end, i.e., the basis of a general attitude measure, they are individually of interest in terms of how graduates rated each. Comment upon the individual factor ratings is made where appropriate.

Analysis by Year of Graduation

What are the overall attitudes toward their former schools, as defined by this study, of the graduates of 1953, 1958, and 1962? Table 105 presents the data.

Table 105. ATTITUDE TOWARD FORMER HIGH SCHOOL: FREQUENCY DISTRIBUTION FOR VOCATIONAL GRADUATES BY YEAR OF GRADUATION

| Attitude Toward School | YEAR OF GRADUATION | | | | | | | | | | | |
|------------------------|--------------------|------|-------|------|------|-------|------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| C.I. | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| 4 | 18 | 1.7 | 100.0 | 27 | 1.8 | 100.0 | 37 | 2.0 | 100.0 | 82 | 1.9 | 100.0 |
| 3.7-3.9 | 61 | 5.6 | 98.3 | 80 | 5.5 | 98.2 | 153 | 8.5 | 98.0 | 294 | 6.7 | 98.1 |
| 3.4-3.6 | 138 | 12.8 | 92.7 | 188 | 12.8 | 92.7 | 295 | 16.3 | 89.5 | 623 | 14.3 | 91.4 |
| 3.1-3.3 | 182 | 16.9 | 79.9 | 289 | 19.7 | 79.9 | 399 | 22.1 | 73.2 | 873 | 20.0 | 77.1 |
| 2.8-3.0 | 221 | 20.5 | 63.0 | 312 | 21.2 | 60.2 | 364 | 20.1 | 51.1 | 900 | 20.6 | 57.1 |
| 2.5-2.7 | 180 | 16.7 | 42.5 | 249 | 16.9 | 39.0 | 263 | 14.6 | 31.0 | 693 | 15.9 | 36.5 |
| 2.2-2.4 | 135 | 12.5 | 25.8 | 188 | 12.8 | 22.1 | 171 | 9.4 | 16.4 | 494 | 11.3 | 20.6 |
| 1.9-2.1 | 88 | 8.2 | 13.3 | 87 | 6.0 | 9.3 | 88 | 4.9 | 7.0 | 265 | 6.1 | 9.3 |
| 1.6-1.8 | 38 | 3.5 | 5.1 | 37 | 2.5 | 3.3 | 31 | 1.7 | 2.1 | 107 | 2.4 | 3.2 |
| 1.3-1.5 | 15 | 1.4 | 1.6 | 10 | 0.7 | 0.8 | 5 | 0.3 | 0.4 | 31 | 0.7 | 0.8 |
| 1.0-1.2 | 2 | 0.2 | 0.2 | 2 | 0.1 | 0.1 | 2 | 0.1 | 0.1 | 6 | 0.1 | 0.1 |
| Number | 1078 | | | 1469 | | | 1808 | | | 4368 | | |
| Mean | 2.8 | | | 2.9 | | | 3.0 | | | 2.9 | | |
| Median | 2.9 | | | 2.9 | | | 3.0 | | | 3.0 | | |
| S.D. | 0.58 | | | 0.54 | | | 0.53 | | | 0.55 | | |

In general, vocational course graduates seem to have a high regard for their former schools. The mean values are 2.8, 2.9, and 3.0 for the graduates of 1953, 1958, and 1962 respectively. Thus, the more recent graduates have a slightly more favorable attitude toward their former schools. Two interpretations are possible: (1) the more recent graduates rated their schools more generously because of an unknown factor, possibly school loyalty, which diminishes with years out of school, or (2) the schools have undergone changes which are reflected in more favorable ratings from the more recent graduates. The first interpretation is more prudent.

The differences between the year of graduation groups are slight in any case, and do not warrant special efforts to control for such differences in other analyses influenced by attitude toward former schools. Nevertheless, it should be kept in mind that recent graduates appear to be a little more generous in their ratings of school characteristics.

The mean ratings for each of the ten rated factors are given in Table 106 for the graduating classes separately and combined.

Table 106. ATTITUDE INDEXES AND MEAN RATINGS OF THE RELATED HIGH SCHOOL FACTORS BY YEAR OF GRADUATION

| Factors of Former High Schools Rated By Graduates * | YEAR OF GRADUATION | | | | | | | | | | | |
|---|--------------------|-----|------|------|-----|------|------|-----|------|----------|-----|--------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| Quality of shop instruction | 1141 | 3.2 | .82 | 1628 | 3.3 | .80 | 2445 | 3.4 | .76 | 5233 | 3.3 | .79 ▲ |
| Quality of academic instruction | 1120 | 2.9 | .78 | 1594 | 2.9 | .76 | 2379 | 3.0 | .74 | 5111 | 3.0 | .76 |
| Condition of shop facilities | 1139 | 2.9 | .92 | 1619 | 3.0 | .90 | 2439 | 3.0 | .89 | 5215 | 3.0 | .91 |
| Condition of school | 1138 | 2.8 | .87 | 1612 | 2.9 | .89 | 2440 | 3.0 | .88 | 5208 | 2.9 | .89 ▲ |
| Vocational counseling | 1124 | 2.5 | 1.06 | 1607 | 2.6 | 1.01 | 2411 | 2.8 | .98 | 5161 | 2.6 | 1.02 ▲ |
| Placement services | 1059 | 2.5 | 1.12 | 1540 | 2.4 | 1.09 | 2332 | 2.7 | 1.07 | 4948 | 2.6 | 1.10 |
| Extracurricular activities | 1114 | 2.7 | .93 | 1576 | 2.8 | .90 | 2390 | 2.9 | .89 | 5098 | 2.8 | .91 ▲ |
| Teacher's interest in students | 1097 | 2.7 | .90 | 1572 | 2.8 | .90 | 2362 | 2.9 | .90 | 5050 | 2.8 | .91 ▲ |
| Reputation in community | 1100 | 3.1 | .87 | 1581 | 3.1 | .89 | 2381 | 3.2 | .85 | 5080 | 3.1 | .87 |
| Strictness of discipline | 1105 | 2.9 | .86 | 1589 | 3.0 | .85 | 2390 | 3.0 | .83 | 5103 | 3.0 | .85 |
| HIGH SCHOOL ATTITUDE INDEX | 1078 | 2.8 | .55 | 1469 | 2.9 | .54 | 1808 | 3.0 | .53 | 4368 | 3.0 | .55 |

* 4 = Excellent; 3 = Good; 2 = Satisfactory; and 1 = Poor

Based upon the mean ratings obtained from the combined graduates, the ten factors ranked as follows:

| | |
|---|-----|
| 1. Quality of shop instruction | 3.3 |
| 2. Reputation of school | 3.1 |
| 3. Quality of academic instruction | 3.0 |
| 4. Condition of shop facilities | 3.0 |
| 5. Strictness of school discipline | 3.0 |
| 6. General condition of school | 2.9 |
| 7. Opportunity for extracurricular activities | 2.8 |
| 8. Teacher interest in student problems | 2.8 |
| 9. Quality of vocational counseling | 2.6 |
| 10. Help given graduates to find jobs | 2.6 |

None of the factors received a mean rating of less than "satisfactory." Quality of instruction, condition of facilities, strictness of school discipline, and reputation of school had mean ratings between "good" and "excellent." The quality of vocational counseling and help given graduates to find jobs received the least favorable ratings. It is interesting to note that the 1958 recession year graduates gave placement services a lower rating than both 1953 and 1962 graduates. The correspondence between mean ratings of placement services and placement performance suggests that differences between mean ratings do reflect differences in factors rated. One can conclude that the relatively low ratings given to vocational counseling, placement services, teacher interest in student problems, and opportunity for extracurricular activities do reflect a greater degree of dissatisfaction with these factors, and a greater need for improvement.

The upward-pointing arrows in Table 106 indicate a consistently higher mean rating with recency of graduation. Without exception, the mean ratings yielded by 1962 graduates are greater than those from 1953 graduates.

Without exception, each of the ten factors was rated higher by 1962 graduates than by 1953 graduates. The upward-pointing arrows in Table 106 indicate five factors with consistently higher mean ratings from more recent graduates. Unfortunately, as was pointed out earlier, the data cannot be interpreted unequivocally as reflecting changes in schools rather than changes in graduates.

Otherwise, one would be tempted to conclude that higher mean ratings from more recent graduates reflect improvements in the factors noted. Improvements have undoubtedly been made, but the methodology of obtaining the data does not permit such a conclusion.

Table 107. RESPONSE PERCENTAGES, BY YEAR OF GRADUATION, TO THE TEN SCHOOL FACTORS RATED BY VOCATIONAL GRADUATES

| Factors of Former High Schools Rated By Graduates | Year of Graduation | RATING GIVEN TO ITEM | | | | | | | |
|---|--------------------|----------------------|------|--------------|------|------|------|-----------|------|
| | | Poor | | Satisfactory | | Good | | Excellent | |
| | | N | % | N | % | N | % | N | % |
| Quality of instruction from shop instructors. | 1953 | 42 | 3.7 | 160 | 14.0 | 451 | 39.5 | 488 | 42.8 |
| | 1958 | 52 | 3.2 | 210 | 12.9 | 611 | 37.5 | 755 | 46.4 |
| | 1962 | 65 | 2.7 | 231 | 9.4 | 843 | 34.5 | 1306 | 53.4 |
| Quality of instruction from academic teachers. | 1953 | 53 | 4.7 | 225 | 20.1 | 589 | 52.6 | 253 | 22.6 |
| | 1958 | 66 | 4.1 | 326 | 20.5 | 859 | 53.9 | 343 | 21.5 |
| | 1962 | 67 | 2.8 | 431 | 18.1 | 1292 | 54.3 | 589 | 24.8 |
| Condition of shop facilities and equipment. | 1953 | 94 | 8.3 | 256 | 22.5 | 453 | 39.8 | 336 | 29.5 |
| | 1958 | 119 | 7.4 | 319 | 19.7 | 649 | 40.1 | 532 | 32.9 |
| | 1962 | 160 | 6.6 | 411 | 16.9 | 959 | 39.3 | 909 | 37.3 |
| General physical condition of school. | 1953 | 108 | 9.5 | 279 | 24.5 | 529 | 46.5 | 222 | 19.5 |
| | 1958 | 130 | 8.1 | 308 | 19.1 | 713 | 44.2 | 461 | 28.6 |
| | 1962 | 168 | 6.9 | 405 | 16.6 | 1054 | 43.2 | 813 | 33.3 |
| Vocational counseling given to students. | 1953 | 267 | 23.8 | 292 | 26.0 | 344 | 30.6 | 221 | 19.7 |
| | 1958 | 289 | 12.0 | 421 | 26.2 | 567 | 35.3 | 330 | 20.5 |
| | 1962 | 317 | 13.1 | 556 | 23.1 | 898 | 37.2 | 640 | 26.5 |
| Help given students to find jobs. | 1953 | 277 | 26.2 | 259 | 24.5 | 265 | 25.9 | 258 | 24.4 |
| | 1958 | 404 | 26.2 | 392 | 25.5 | 419 | 27.2 | 325 | 21.1 |
| | 1962 | 438 | 18.8 | 547 | 23.5 | 698 | 29.9 | 649 | 27.8 |
| Opportunity for extracurricular activities. | 1953 | 131 | 11.8 | 304 | 27.3 | 446 | 40.0 | 233 | 20.9 |
| | 1958 | 156 | 9.9 | 389 | 24.7 | 687 | 43.6 | 344 | 21.8 |
| | 1962 | 172 | 7.2 | 509 | 21.3 | 1010 | 42.3 | 699 | 29.2 |
| Teacher's interest in student problems. | 1953 | 108 | 9.8 | 339 | 30.9 | 424 | 38.7 | 226 | 20.6 |
| | 1958 | 142 | 9.0 | 451 | 28.7 | 623 | 39.6 | 356 | 22.6 |
| | 1962 | 177 | 7.5 | 524 | 22.2 | 955 | 40.4 | 706 | 29.9 |
| School's reputation in the community. | 1953 | 67 | 6.1 | 168 | 15.3 | 449 | 40.8 | 416 | 37.8 |
| | 1958 | 102 | 6.5 | 241 | 15.2 | 601 | 38.0 | 637 | 40.3 |
| | 1962 | 115 | 4.8 | 350 | 14.7 | 941 | 39.5 | 975 | 40.9 |
| School's strictness in maintaining discipline. | 1953 | 82 | 7.4 | 234 | 21.2 | 515 | 46.6 | 274 | 24.8 |
| | 1958 | 97 | 6.1 | 315 | 19.8 | 719 | 45.2 | 458 | 28.8 |
| | 1962 | 114 | 4.8 | 423 | 17.7 | 1095 | 45.8 | 758 | 31.7 |

Table 107 provides the percentages by response category for each of the factors rated. In all but three factors, i.e. instruction by academic teachers, help given to students to find jobs, and reputation of the school in the community, the percentages of "excellent" responses increase with recency of graduation and the percentages of "poor" responses decrease. The sharp differences at the extremes are obliterated by the failure of the two middle categories, satisfactory and good, to differentiate by year of graduation. The trends in the extreme categories, however, confirm the interpretation that recency of graduation is a variable influencing ratings of school factors, and therefore the general attitude toward the school.

Analysis by Type of School

Do the graduates of vocational and comprehensive schools differ in terms of the attitude-toward-school measure? Do they differ in terms of the mean ratings given the individual items that comprise the attitude measure? Table 108 presents the data.

The high school attitude indexes are not significantly different for any of the graduating classes. This suggests that graduates of vocational and comprehensive schools are not different in terms of overall attitude toward former schools.

The graduates of the two types of schools differ in only two of the factors that comprise the attitude measure: placement services and reputation of the school in the community. Vocational school graduates rate the placement services of their schools higher than do comprehensive school graduates. This is consistent with the better placement performance of vocational schools discussed in Chapter 5. However, they rate the community reputation of their schools less than do the comprehensive school graduates. They are probably reflecting differences in community attitudes toward the two types of schools.

Table 109 provides the percentages by response category for the graduates of both types of schools. The factors which show the greatest differences in the extreme ratings are: (1) help given to students to find jobs, (2) opportunity for extracurricular activities, and (3) reputation of school in community.

Table 108. ATTITUDE INDEXES AND MEAN RATINGS OF THE RELATED HIGH SCHOOL FACTORS BY TYPE OF SCHOOL

| Factors of Former High Schools Rated By Graduates * | TYPE OF SCHOOL | | | | | | |
|---|----------------|------|------|---------------|------|------|-----|
| | Vocational | | | Comprehensive | | | |
| | N | M | S.D. | N | M | S.D. | |
| Quality of shop instruction | 3073 | 3.3 | .78 | 2160 | 3.3 | .81 | |
| Quality of academic instruction | 3011 | 3.0 | .78 | 2100 | 3.0 | .73 | |
| Condition of shop facilities | 3067 | 3.0 | .92 | 2148 | 3.0 | .89 | |
| Condition of school | 3058 | 2.9 | .93 | 2150 | 3.0 | .82 | |
| Vocational counseling | 3036 | 2.6 | 1.01 | 2125 | 2.7 | 1.02 | |
| Placement services | 2914 | 2.7 | 1.09 | 2034 | 2.4 | 1.08 | |
| Extracurricular activities | 2993 | 2.8 | .92 | 2105 | 2.9 | .87 | |
| Teacher's interest in students | 2969 | 2.9 | .91 | 2081 | 2.8 | .91 | |
| Reputation in the community | 2980 | 3.0 | .91 | 2100 | 3.3 | .79 | |
| Strictness of discipline | 2997 | 3.0 | .87 | 2106 | 3.0 | .82 | |
| HIGH SCHOOL ATTITUDE INDEX | | | | | | | |
| Year of Graduation | 1953 | 663 | 2.82 | .58 | 415 | 2.85 | .57 |
| | 1958 | 843 | 2.84 | .55 | 626 | 2.94 | .52 |
| | 1962 | 1078 | 2.99 | .54 | 730 | 2.96 | .52 |
| | Combined | 2595 | 3.00 | .56 | 1773 | 2.95 | .55 |

* 4 = Excellent; 3 = Good; 2 = Satisfactory; and 1 = Poor

Analysis by School Enrollment

Do the graduates of small, medium and large enrollment schools differ in terms of the attitude-toward-school measure? Do they differ in terms of the mean ratings given the individual items that comprise the attitude measure? Table 110 provides the data.

The high school attitude indexes for the three enrollment categories are not significantly different for any of the graduating classes, although the

Table 109. RESPONSE PERCENTAGES, BY TYPE OF SCHOOL, TO THE TEN SCHOOL FACTORS RATED BY VOCATIONAL GRADUATES

| Factors of Former High Schools Rated By Graduates | Type of School | RATING GIVEN TO ITEM | | | | | | | |
|---|----------------|----------------------|------|--------------|------|------|------|-----------|------|
| | | Poor | | Satisfactory | | Good | | Excellent | |
| | | N | % | N | % | N | % | N | % |
| Quality of instruction from shop instructors. | Vocational | 88 | 2.9 | 344 | 11.2 | 1142 | 37.2 | 1499 | 48.8 |
| | Comprehensive | 72 | 3.3 | 260 | 12.0 | 768 | 35.6 | 1060 | 49.1 |
| Quality of instruction from academic teachers. | Vocational | 120 | 4.0 | 608 | 20.2 | 1559 | 51.8 | 724 | 24.0 |
| | Comprehensive | 68 | 3.2 | 377 | 18.0 | 1190 | 56.7 | 465 | 22.1 |
| Condition of shop facilities and equipment. | Vocational | 239 | 7.8 | 593 | 19.3 | 1193 | 38.9 | 1042 | 34.0 |
| | Comprehensive | 140 | 6.5 | 394 | 18.3 | 872 | 40.6 | 742 | 34.5 |
| General physical condition of school. | Vocational | 302 | 9.9 | 632 | 20.7 | 1291 | 42.2 | 833 | 27.2 |
| | Comprehensive | 107 | 5.0 | 363 | 16.9 | 1011 | 47.0 | 669 | 31.1 |
| Vocational counseling given to students. | Vocational | 512 | 16.9 | 769 | 25.3 | 1065 | 35.1 | 690 | 22.7 |
| | Comprehensive | 364 | 17.1 | 501 | 23.6 | 755 | 35.5 | 505 | 23.8 |
| Help given students to find jobs. | Vocational | 573 | 19.7 | 664 | 22.8 | 834 | 28.6 | 843 | 28.9 |
| | Comprehensive | 551 | 27.1 | 537 | 26.4 | 551 | 27.1 | 395 | 19.4 |
| Opportunity for extra-curricular activities. | Vocational | 329 | 11.0 | 744 | 24.9 | 1255 | 41.9 | 665 | 22.2 |
| | Comprehensive | 133 | 6.3 | 463 | 22.0 | 897 | 42.6 | 612 | 29.1 |
| Teacher's interest in student problems. | Vocational | 236 | 7.9 | 757 | 25.5 | 1174 | 39.5 | 802 | 27.0 |
| | Comprehensive | 194 | 9.3 | 560 | 26.9 | 833 | 40.0 | 494 | 23.7 |
| School's reputation in the community. | Vocational | 220 | 7.4 | 511 | 17.1 | 1173 | 39.4 | 1076 | 36.1 |
| | Comprehensive | 66 | 3.1 | 252 | 12.0 | 823 | 39.2 | 959 | 45.7 |
| School's strictness in maintaining discipline. | Vocational | 194 | 6.5 | 579 | 19.3 | 1324 | 44.2 | 900 | 30.0 |
| | Comprehensive | 102 | 4.8 | 399 | 18.9 | 1010 | 48.0 | 595 | 28.3 |

measure is consistently lower for the small enrollment schools, suggesting a somewhat less favorable attitude by graduates from small enrollment schools. Nevertheless, the data suggest that size of school enrollment is not a variable influencing the general attitude graduates have toward their former schools.

Table 110. ATTITUDE INDEXES AND MEAN RATINGS OF THE RELATED HIGH SCHOOL FACTORS BY SIZE OF SCHOOL

| Factors of Former High Schools Rated By Graduates * | SIZE OF SCHOOL ENROLLMENT | | | | | | | | | |
|---|---------------------------|------|------|----------|------|------|--------|------|------|-----|
| | < 500 | | | 500-1500 | | | > 1500 | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Quality of shop instruction | 1732 | 3.3 | .81 | 1982 | 3.3 | .79 | 1519 | 3.3 | .78 | |
| Quality of academic instruction | 1680 | 3.0 | .76 | 1935 | 3.0 | .75 | 1496 | 2.9 | .75 | |
| Condition of shop facilities | 1720 | 2.8 | .93 | 1973 | 3.0 | .88 | 1522 | 3.1 | .89 | |
| Condition of school | 1716 | 2.8 | .90 | 1970 | 2.9 | .91 | 1522 | 3.1 | .80 | |
| Vocational counseling | 1705 | 2.6 | 1.02 | 1950 | 2.7 | 1.02 | 1506 | 2.6 | 1.01 | |
| Placement services | 1681 | 2.6 | 1.10 | 1796 | 2.6 | 1.10 | 1471 | 2.5 | 1.08 | |
| Extracurricular activities | 1696 | 2.6 | .93 | 1896 | 2.9 | .88 | 1506 | 2.9 | .87 | |
| Teacher's interest in students | 1710 | 2.9 | .92 | 1833 | 2.8 | .90 | 1507 | 2.8 | .90 | |
| Reputation in community | 1716 | 3.0 | .90 | 1841 | 3.2 | .85 | 1523 | 3.2 | .83 | |
| Strictness of discipline | 1734 | 3.0 | .88 | 1845 | 3.0 | .83 | 1524 | 2.9 | .83 | |
| HIGH SCHOOL ATTITUDE INDEX | | | | | | | | | | |
| Year of Graduation | 1953 | 390 | 2.76 | .58 | 404 | 2.90 | .58 | 284 | 2.82 | .56 |
| | 1958 | 483 | 2.81 | .59 | 580 | 2.92 | .59 | 406 | 2.92 | .58 |
| | 1962 | 610 | 2.92 | .54 | 653 | 3.04 | .53 | 545 | 3.02 | .52 |
| | Combined | 1485 | 2.85 | .57 | 1646 | 2.96 | .54 | 1237 | 2.94 | .53 |

* 4 = Excellent; 3 = Good; 2 = Satisfactory; and 1 = Poor

Some of the individual rated school factors do reflect enrollment differences. The mean ratings of shop facilities, general school condition, and opportunity for extracurricular activities increases with increased school enrollment,

Table 111. RESPONSE PERCENTAGES, BY SCHOOL ENROLLMENT CATEGORIES,
TO THE TEN SCHOOL FACTORS RATED BY VOCATIONAL GRADUATES

| Factors of Former High Schools Rated By Graduates | School Enrollment | RATING GIVEN TO ITEM | | | | | | | |
|---|-------------------|----------------------|------|--------------|------|------|------|-----------|------|
| | | Poor | | Satisfactory | | Good | | Excellent | |
| | | N | % | N | % | N | % | N | % |
| Quality of instruction from shop instructors. | < 500 | 57 | 3.3 | 220 | 12.7 | 645 | 37.2 | 810 | 46.8 |
| | 500-1500 | 62 | 3.1 | 207 | 10.4 | 709 | 35.8 | 1004 | 50.7 |
| | >1500 | 41 | 2.7 | 177 | 11.7 | 556 | 36.6 | 745 | 49.0 |
| Quality of instruction from academic teachers. | < 500 | 62 | 3.7 | 343 | 20.4 | 887 | 52.8 | 338 | 23.1 |
| | 500-1500 | 67 | 3.5 | 345 | 17.8 | 1045 | 54.0 | 478 | 24.7 |
| | >1500 | 59 | 3.9 | 297 | 19.9 | 817 | 54.6 | 323 | 21.6 |
| Condition of shop facilities and equipment. | < 500 | 161 | 9.4 | 410 | 23.8 | 686 | 39.9 | 463 | 26.9 |
| | 500-1500 | 119 | 6.0 | 355 | 18.0 | 800 | 40.5 | 699 | 35.4 |
| | > 1500 | 99 | 6.5 | 222 | 14.6 | 579 | 38.0 | 622 | 40.5 |
| General physical condition of school. | < 500 | 175 | 10.2 | 407 | 23.7 | 775 | 45.2 | 359 | 20.9 |
| | 500-1500 | 171 | 8.7 | 378 | 19.2 | 830 | 42.1 | 591 | 30.0 |
| | >1500 | 63 | 4.1 | 210 | 13.8 | 697 | 45.8 | 552 | 36.3 |
| Vocational counseling given to students. | < 500 | 297 | 17.4 | 430 | 25.2 | 596 | 35.0 | 382 | 22.4 |
| | 500-1500 | 330 | 16.9 | 459 | 23.5 | 688 | 35.3 | 473 | 24.3 |
| | > 1500 | 249 | 16.5 | 381 | 25.3 | 536 | 35.6 | 340 | 22.6 |
| Help given students to find jobs. | < 500 | 368 | 21.9 | 394 | 23.4 | 478 | 28.4 | 441 | 26.2 |
| | 500-1500 | 400 | 22.3 | 424 | 23.6 | 497 | 27.7 | 475 | 26.4 |
| | > 1500 | 356 | 24.2 | 383 | 26.0 | 410 | 27.9 | 322 | 21.9 |
| Opportunity for extracurricular activities. | < 500 | 229 | 13.5 | 475 | 28.0 | 687 | 40.5 | 305 | 18.0 |
| | 500-1500 | 138 | 7.3 | 408 | 21.5 | 814 | 42.9 | 536 | 28.3 |
| | >1500 | 95 | 6.3 | 324 | 21.5 | 651 | 43.2 | 436 | 29.0 |
| Teacher's interest in student problems. | < 500 | 139 | 8.1 | 419 | 24.5 | 655 | 38.3 | 497 | 29.1 |
| | 500-1500 | 146 | 8.0 | 487 | 26.6 | 729 | 39.8 | 471 | 25.7 |
| | >1500 | 145 | 9.6 | 411 | 27.3 | 623 | 41.3 | 328 | 21.8 |
| School's reputation in the community. | < 500 | 130 | 7.6 | 316 | 18.4 | 702 | 40.9 | 568 | 33.1 |
| | 500-1500 | 86 | 4.7 | 249 | 13.5 | 682 | 37.0 | 824 | 44.8 |
| | >1500 | 70 | 4.6 | 198 | 13.0 | 612 | 40.2 | 643 | 42.2 |
| School's strictness in maintaining discipline. | < 500 | 113 | 6.5 | 340 | 19.6 | 744 | 42.9 | 537 | 31.0 |
| | 500-1500 | 98 | 5.3 | 315 | 17.1 | 861 | 46.7 | 571 | 30.9 |
| | >1500 | 85 | 5.6 | 323 | 21.2 | 729 | 47.8 | 387 | 25.4 |

as did reputation of school in community.

Table III provides the percentages for each response category for each of the factors rated. When the percentages in the two extreme categories are considered, the factors rated higher with larger enrollment are: (1) condition of shop facilities and equipment, (2) physical condition of school, and (3) opportunity for extracurricular activity. The factors that are rated higher with smaller enrollment are: (1) help given to students to find job, and (2) interest shown by teachers in students.

Analysis by Race of Graduate

Do Negro and white graduates differ in terms of the attitude-toward-school measure? Do they differ in terms of the mean ratings given the individual items that comprise the attitude measure? Table 112 provides the data.

Table 112. ATTITUDE INDEXES AND MEAN RATINGS OF THE RELATED HIGH SCHOOL FACTORS BY RACE OF GRADUATE

| Factors of Former High Schools Rated By Graduates * | RACE OF GRADUATE | | | | | | | | | |
|---|------------------|------|------|-------|-----|------|-------|-----|------|-----|
| | White | | | Negro | | | Other | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Quality of shop instruction | 4777 | 3.3 | .79 | 339 | 3.3 | .82 | 19 | 3.1 | .79 | |
| Quality of academic instruction | 4685 | 3.0 | .76 | 317 | 3.0 | .73 | 19 | 2.9 | .91 | |
| Condition of shop facilities | 4769 | 3.0 | .91 | 330 | 2.9 | .88 | 19 | 3.2 | .87 | |
| Condition of school | 4760 | 2.9 | .89 | 333 | 3.2 | .84 | 19 | 3.1 | .72 | |
| Vocational counseling | 4721 | 2.6 | 1.02 | 329 | 2.8 | .96 | 19 | 2.6 | 1.04 | |
| Placement services | 4512 | 2.6 | 1.10 | 326 | 2.4 | 1.04 | 17 | 2.2 | .98 | |
| Extracurricular activities | 4657 | 2.8 | .91 | 327 | 2.8 | .94 | 17 | 2.8 | .75 | |
| Teacher's interest in students | 4608 | 2.8 | .91 | 327 | 2.9 | .91 | 19 | 2.8 | .83 | |
| Reputation in the community | 4634 | 3.1 | .87 | 332 | 3.3 | .86 | 19 | 2.9 | 1.07 | |
| Strictness of discipline | 4654 | 3.0 | .85 | 333 | 3.2 | .80 | 19 | 2.8 | .93 | |
| HIGH SCHOOL ATTITUDE INDEX | | | | | | | | | | |
| Year of Graduation | 1953 | 1030 | 2.83 | .58 | 38 | 2.82 | .65 | 3 | 3.00 | .43 |
| | 1958 | 1348 | 2.87 | .54 | 91 | 3.11 | .47 | 4 | 2.42 | .61 |
| | 1962 | 1635 | 3.00 | .53 | 127 | 2.98 | .54 | 4 | 3.18 | .26 |
| | Combined | 4025 | 2.91 | .55 | 257 | 3.00 | .54 | 11 | 2.86 | .56 |

* 4 = Excellent; 3 = Good; 2 = Satisfactory; and 1 = Poor

The differences between the high school attitude indexes for white and Negro graduates are not significant for any of the graduating classes. The conclusion is that white and Negro graduates do not differ significantly in overall attitude toward former high schools.

Negro graduates rated the following factors slightly higher than white graduates: general condition of school, vocational counseling, reputation of school in community, and strictness of discipline. They rated placement services lower than did the white graduates. The latter is understandable, in view of the greater difficulty in placing Negroes in the trades.

The comparison of white and Negro ratings does not take into account the possibility that ratings from Negroes who attended segregated schools may be different from those who attended non-segregated schools. It is therefore impossible to say to what extent white and Negro graduates rated the same schools or different schools. The total number of Negro graduates was considered too small to warrant a more refined analysis, particularly in view of the attitudinal nature of the data.

Table 113 provides the response category percentages for each factor rated by the two races. A comparison of the percentages in the extreme categories, i.e. "excellent" and "poor," indicates that Negroes rated the following factors higher than white graduates: general condition of school, counseling given to students, teacher interest in students, school reputation in community and strictness in maintaining discipline. They rated school placement services lower than did white graduates. These ratings are more understandable when one realizes that many of the Negro graduates came from all-Negro schools or predominantly Negro schools.

The results of the analysis by race of graduate are particularly interesting because they fail to reveal a substantially lower opinion of school factors by Negro graduates. On the contrary, with some exceptions, the tendency is toward more favorable ratings from Negro graduates.

Table 113. RESPONSE PERCENTAGES, BY RACE OF GRADUATE, TO THE TEN SCHOOL FACTORS RATED BY VOCATIONAL GRADUATES

| Factors of Former High Schools Rated By Graduates | Race of Graduate | RATING GIVEN TO ITEM | | | | | | | |
|---|------------------|----------------------|------|--------------|------|------|------|-----------|------|
| | | Poor | | Satisfactory | | Good | | Excellent | |
| | | N | % | N | % | N | % | N | % |
| Quality of instruction from shop instructors | White | 140 | 2.9 | 544 | 11.6 | 1743 | 36.5 | 2340 | 49.0 |
| | Negro | 14 | 4.1 | 37 | 10.9 | 122 | 36.0 | 166 | 49.0 |
| | Other | 0 | 0.0 | 5 | 26.3 | 7 | 36.8 | 7 | 36.8 |
| Quality of instruction from academic teachers | White | 173 | 3.7 | 918 | 19.6 | 2510 | 53.6 | 1084 | 23.1 |
| | Negro | 11 | 3.5 | 46 | 14.5 | 182 | 57.4 | 78 | 24.6 |
| | Other | 2 | 10.5 | 3 | 15.8 | 9 | 47.4 | 5 | 26.3 |
| Condition of shop facilities and equipment | White | 347 | 7.3 | 896 | 18.8 | 1881 | 39.4 | 1645 | 34.5 |
| | Negro | 24 | 7.3 | 67 | 20.3 | 143 | 43.3 | 96 | 29.1 |
| | Other | 1 | 5.3 | 3 | 15.8 | 7 | 36.8 | 8 | 42.1 |
| General physical condition of school | White | 382 | 8.0 | 947 | 19.9 | 2100 | 44.1 | 1331 | 28.0 |
| | Negro | 18 | 5.4 | 38 | 11.4 | 139 | 41.7 | 138 | 41.4 |
| | Other | 1 | 5.3 | 1 | 5.3 | 12 | 63.2 | 5 | 26.3 |
| Vocational counseling given to students | White | 815 | 17.3 | 1175 | 24.9 | 1641 | 34.8 | 1090 | 23.1 |
| | Negro | 41 | 12.5 | 73 | 22.2 | 131 | 39.8 | 84 | 25.5 |
| | Other | 4 | 21.1 | 4 | 21.1 | 7 | 36.8 | 4 | 21.1 |
| Help given students to find jobs | White | 1016 | 22.5 | 1078 | 23.9 | 1257 | 27.9 | 1161 | 25.7 |
| | Negro | 83 | 25.5 | 93 | 28.5 | 94 | 28.8 | 56 | 17.2 |
| | Other | 5 | 29.4 | 6 | 35.3 | 4 | 23.5 | 2 | 11.8 |
| Opportunity for extracurricular activities | White | 424 | 9.1 | 1092 | 23.4 | 1977 | 42.5 | 1164 | 25.0 |
| | Negro | 31 | 9.5 | 81 | 24.8 | 124 | 37.9 | 91 | 27.8 |
| | Other | 1 | 5.9 | 5 | 29.4 | 9 | 52.9 | 2 | 11.8 |
| Teacher's interest in student problems | White | 398 | 8.6 | 1214 | 26.3 | 1828 | 39.7 | 1168 | 25.3 |
| | Negro | 24 | 7.3 | 73 | 22.3 | 129 | 39.4 | 101 | 30.9 |
| | Other | 1 | 5.3 | 6 | 31.6 | 8 | 42.1 | 4 | 21.1 |
| School's reputation in the community | White | 260 | 5.6 | 711 | 15.3 | 1831 | 39.5 | 1832 | 39.5 |
| | Negro | 16 | 4.8 | 41 | 12.3 | 114 | 34.3 | 161 | 48.5 |
| | Other | 3 | 15.8 | 3 | 15.8 | 6 | 31.6 | 7 | 36.8 |
| School's strictness in maintaining discipline | White | 276 | 5.9 | 911 | 19.6 | 2135 | 45.9 | 1332 | 28.6 |
| | Negro | 13 | 3.9 | 43 | 12.9 | 147 | 44.1 | 130 | 39.0 |
| | Other | 2 | 10.5 | 4 | 21.1 | 8 | 42.1 | 5 | 26.3 |

Analysis by Type of Graduate

Do vocational and academic graduates differ in terms of the attitude-toward-school measure? Do they differ in terms of the mean ratings of those items in common that comprised the attitude measure. * Table 114 presents the data.

Table 114. ATTITUDE INDEXES AND MEAN RATINGS OF THE RELATED HIGH SCHOOL FACTORS BY TYPE OF GRADUATE
(Compares vocational and academic course graduates from comprehensive schools.)

| Factors of Former High Schools Rated By Graduates * | Type of Graduate | | | | | | |
|---|------------------|----------|-------------|----------|----------|-------------|-----|
| | Vocational | | | Academic | | | |
| | N | M | S.D. | N | M | S.D. | |
| Quality of academic instruction | 2100 | 3.0 | .73 | 1738 | 3.0 | .75 | |
| Physical condition of school | 2150 | 3.0 | .82 | 1756 | 2.9 | .93 | |
| Student counseling | 2125 | 2.7 | 1.02 | 1740 | 2.5 | 1.02 | |
| Placement services | 2034 | 2.4 | 1.08 | 1588 | 2.2 | .99 | |
| Extracurricular activities | 2105 | 2.9 | .87 | 1746 | 3.2 | .80 | |
| Teacher's interest in students | 2081 | 2.8 | .91 | 1739 | 2.6 | .90 | |
| Reputation in community | 2100 | 3.3 | .79 | 1749 | 3.2 | .81 | |
| Strictness of discipline | 2106 | 3.0 | .82 | 1756 | 2.9 | .85 | |
| Quality of school library | — | — | — | — | — | — | |
| Condition of facilities & equipment | — | — | — | — | — | — | |
| HIGH SCHOOL ATTITUDE INDEX | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 415 | 2.85 | .57 | 393 | 2.72 | .55 |
| | 1958 | 626 | 2.94 | .52 | 440 | 2.80 | .54 |
| | 1962 | 730 | 2.96 | .52 | 341 | 2.89 | .56 |
| | Combined | 1773 | 2.95 | .55 | 1174 | 2.80 | .55 |

* 4 = Excellent; 3 = Good; 2 = Satisfactory; and 1 = Poor

* Two of the ten items differed for academic graduates. They are the last two items in Table 114. No comparison data are shown.

The high school attitude indexes are slightly but consistently higher for the vocational course graduates. The individual differences, however, are not significant. The prudent conclusion is that the two types of graduates do not differ in terms of overall attitude toward their former schools. Both have a relatively high opinion of their former schools.

The mean ratings given the common school factors indicate that academic graduates rate opportunity for extracurricular activities higher. The shop load of the vocational course students makes this understandable. The vocational graduates, in turn, rate student counseling, placement services, and teacher interest in students higher. Both are reacting to the same schools; the analysis includes only the vocationals from the same comprehensive schools from which the academic graduates came.

Analysis by Individual School

To what extent are there school differences in the attitude-toward-school index? Table 115 shows frequency, percentage, and cumulative percentage distributions of the mean attitude scores for schools, based upon the attitude scores of graduates of 1953, 1958, and 1962.

The range of school mean attitude scores decreases with recency of graduation. For 1953 graduates, the school means range between 1.9 and 3.6, whereas for 1962 graduates, the means range from 2.5 to 3.6. For all years of graduation groups, most schools fall into a narrow range of 2.5 to 3.3.

In Chapter 3, it was shown that the differences between schools had an appreciable degree of stability. Some schools received consistently higher mean attitude scores, based upon ratings from their graduates, than other schools. The distribution of school means shown in Table 115 indicates that the school mean differences are not great. Nevertheless, the stable differences in school means on this measure raise the question of why.

The attitude measure correlates significantly with only one occupational measure, job satisfaction. It suggests that the differences in mean school attitude scores are more likely the result of differences between schools than

Table 115. ATTITUDE TOWARD FORMER HIGH SCHOOL: FREQUENCY
DISTRIBUTION OF SCHOOL MEANS BY YEAR OF GRADUATION

| Class Intervals For School Means of Attitude Index | YEAR OF GRADUATION | | | | | | | | |
|--|--------------------|------|-------|------|------|-------|------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | % | C% | N | % | C% | N | % | C% |
| 3.7-3.9 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 |
| 3.4-3.6 | 3 | 3.3 | 100.0 | 2 | 1.1 | 100.0 | 4 | 4.0 | 100.0 |
| 3.1-3.3 | 21 | 23.1 | 96.7 | 26 | 26.0 | 98.0 | 35 | 35.0 | 96.0 |
| 2.8-3.0 | 38 | 41.7 | 73.6 | 46 | 46.0 | 72.0 | 47 | 47.0 | 61.0 |
| 2.5-2.7 | 23 | 25.3 | 31.9 | 22 | 22.0 | 26.0 | 13 | 13.0 | 14.0 |
| 2.2-2.4 | 3 | 3.3 | 6.6 | 3 | 3.0 | 4.0 | 1 | 1.0 | 1.0 |
| 1.9-2.1 | 3 | 3.3 | 3.3 | 0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 |
| 1.6-1.8 | 0 | 0.0 | 0.0 | 1 | 1.0 | 1.0 | 0 | 0.0 | 0.0 |
| 1.3-1.5 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| 1.0-1.2 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 |
| Number of Schools | 91 | | | 100 | | | 100 | | |
| TOTAL MEAN | 2.8 | | | 2.9 | | | 3.0 | | |

of the post-graduation experiences of the graduates. Most likely, the determinants of the measure are the very kinds of factors upon which the measure is based, e.g. adequacy of shop facilities, instruction, placement services, vocational guidance, and other factors rated.

The relationship between school variables and ratings by graduates will be reported in a subsequent volume.

9

THEIR POST HIGH SCHOOL OCCUPATIONAL HISTORY

| | |
|---|----|
| <input type="checkbox"/> Chapter Background Information | 1 |
| <input type="checkbox"/> Employment Security Analysis | 3 |
| <input type="checkbox"/> Employment Stability Analysis | 11 |
| <input type="checkbox"/> Number of Jobs Held Analysis | 19 |
| <input type="checkbox"/> Job Satisfaction Analysis | 25 |
| <input type="checkbox"/> Job Relatedness Analysis | 33 |
| <input type="checkbox"/> Initial Earnings Analysis | 39 |
| <input type="checkbox"/> Present Earnings Analysis | 47 |
| <input type="checkbox"/> Earnings Progression Analysis | 55 |

CHAPTER 9 SUMMARY

Analysis of Employment Security

1. Year of graduation. Employment security is expressed as the per cent of employable time in months that has been spent in full-time employment. For all graduates, the median per cent of employment security is 95, indicating a high degree of employment security among vocational graduates.
2. Type of school. There is no significant difference between graduates of vocational and comprehensive schools in terms of employment security.
3. School enrollment. There is no significant difference in employment security between the graduates of small, medium, and large enrollment schools.
4. Race of graduate. Negro vocational graduates have significantly less employment security than white vocational graduates.
5. Academic graduates. When equated for college education, the vocational graduates have significantly greater employment security than the academic graduates, within the period covered by the survey.

Analysis of Employment Stability

6. Year of graduation. Employment stability is expressed as the average duration in months of employment per job held. The average duration was 46.5, 26.1, and 12.6 months respectively for the graduates of 1953, 1958, and 1962.
7. Type of school. There is no significant difference in employment stability, as defined, between graduates of vocational and comprehensive schools.
8. School enrollment. There is no significant difference in employment stability between graduates of small, medium, and large enrollment schools.
9. Race of graduate. Negro graduates have slightly less employment stability, as defined, than white vocational graduates.
10. Academic graduates. Vocational graduates have significantly greater employment stability than academic graduates.

(Continued in Appendix B)

CHAPTER BACKGROUND INFORMATION

Chapter 3 introduced ten measures, each of which describes a salient aspect of the graduates' occupational history since leaving high school. The ten measures are:

1. General placement
2. Related placement
3. Employment security
4. Employment stability
5. Job relatedness
6. Job satisfaction
7. Employment mobility
8. Earnings progression
9. Initial hourly earnings
10. Present hourly earnings

Reliability and stability estimates were reported for each measure in Chapter 3. In addition, the intercorrelations among the measures were reported.

Two of the measures, general placement and related placement, were analyzed further in Chapter 5 in terms of such basic variables as year of graduation, type of school attended, enrollment of school attended, race of graduate, and where appropriate, the type of graduate, i.e. vocational or academic. The balance of the measures, with the exception of employment mobility, are analyzed in this chapter in terms of the same variables.

A clarification is in order about the data used in this chapter. The data reported in the tables are based upon graduates who had six months or more of employable time between graduation from high school and June, 1964, the cut-off point for the survey. Those with less than six months of employable time, about 217 cases, were eliminated because their performance on some of the occupational measures was markedly different from that of the bulk of the graduates. Their

inclusion into the data would have distorted mean values of the measures.

An example will illustrate the point. Among the 1962 graduates, a considerable number entered military service or full-time, post-high school education within a few months after graduation. Most of these made apparently little effort to find employment in the several month interval between high school and the service or continued full-time education. They were predominantly cases of zero employed time over the few months of employable time available to them. It would be a distortion of the employment security measure, for example, to include such cases. It is a reasonable conclusion to assume they were not looking for employment because they anticipated being in school or in the service within a few months after graduation. On the basis of this reasoning, the decision was made to include only those cases with six months or more of employable time in the analyses that comprise this chapter.

The above rule eliminated mainly some of the 1962 graduates, and a very few of the 1958 graduates who, because of a combination of military service and full-time school, did not have the minimum of six months of employable time as of June, 1964. No 1953 graduates were eliminated.

ANALYSIS OF EMPLOYMENT SECURITY

Introduction

To what extent are vocational graduates fully employed over their period of employable time? The measure of employment security was developed to describe that aspect of the graduate's employment history. The measure indicates what percentage of the graduate's total employable time since leaving high school was spent employed. Excluded from employable time are months of military service, full-time school attendance, and incapacitation because of hospitalization. Included in employed time are part-time jobs held during periods when no full-time jobs were held. The part-time job durations were equated to equivalent full-time months. For example, a part-time job of six months duration at twenty hours per week was transformed to three months of full-time employment. Thus, the employment security measure describes how much full-time employment or its equivalent a graduate has experienced since leaving high school, expressed as a percentage of total time in months available for employment.

Analysis by Year of Graduation

By year of graduation, what is the mean and median percentage of employment security for the graduates of 1953, 1958 and 1962? What is the frequency distribution? Table 116 provides the data.

The mean percentage of employment security is 92.7, 87.3 and 84.0 respectively for the graduates of 1953, 1958 and 1962. Comparable median values are 98, 95, and 92 respectively for 1953, 1958 and 1962 graduates. The skewed nature of the distribution of scores indicate the median values are a better measure of central tendency.

The data indicate that vocational graduates have a substantial degree of employment security. Eighty-one percent of the 1953 graduates enjoyed 91 percent or better employment security. Sixty-three percent of the 1958 graduates,

Table 116. EMPLOYMENT SECURITY: FREQUENCY DISTRIBUTIONS FOR VOCATIONAL COURSE GRADUATES BY YEAR OF GRADUATION

| Employment Security | YEAR OF GRADUATION | | | | | | | | | Combined | | |
|---------------------|--------------------|------|-------|-------|------|-------|-------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | | | |
| C.I. | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| 91-100 | 828 | 80.7 | 80.7 | 896 | 63.1 | 63.1 | 970 | 57.0 | 57.0 | 2703 | 64.1 | 64.1 |
| 81- 90 | 96 | 9.3 | 90.0 | 241 | 17.0 | 80.1 | 264 | 15.5 | 72.5 | 605 | 14.7 | 78.8 |
| 71- 80 | 43 | 4.2 | 94.2 | 124 | 8.7 | 88.8 | 165 | 9.7 | 82.2 | 332 | 7.7 | 86.5 |
| 61- 70 | 21 | 2.0 | 96.2 | 50 | 3.5 | 92.3 | 90 | 5.3 | 87.5 | 161 | 4.6 | 91.1 |
| 51- 60 | 11 | 1.1 | 97.3 | 23 | 1.6 | 93.9 | 51 | 3.0 | 90.5 | 85 | 2.2 | 93.3 |
| 41- 50 | 6 | 0.6 | 97.9 | 17 | 1.2 | 95.1 | 48 | 2.8 | 93.3 | 71 | 1.7 | 95.0 |
| 31- 40 | 3 | 0.3 | 98.2 | 16 | 1.1 | 96.2 | 25 | 1.5 | 94.8 | 44 | 1.1 | 96.1 |
| 21- 30 | 1 | 0.1 | 98.3 | 12 | 0.9 | 97.1 | 23 | 1.3 | 96.1 | 36 | 0.9 | 97.0 |
| 11- 20 | 0 | 0.0 | 98.3 | 9 | 0.6 | 97.7 | 10 | 0.6 | 96.7 | 19 | 0.5 | 97.5 |
| 1- 10 | 3 | 0.3 | 98.6 | 3 | 0.2 | 97.9 | 6 | 0.4 | 97.1 | 12 | 0.3 | 97.8 |
| 0 | 14 | 1.4 | 100.0 | 30 | 2.1 | 100.0 | 49 | 2.9 | 100.0 | 93 | 2.2 | 100.0 |
| Number | 1026 | | | 1421 | | | 1701 | | | 4161 | | |
| Mean | 92.67 | | | 87.30 | | | 84.0 | | | 89.30 | | |
| Median | 98 | | | 95 | | | 92 | | | 95 | | |
| S.D. | 15.46 | | | 20.21 | | | 23.18 | | | 20.73 | | |

who left school in a period of economic recession which lasted for much of their employable time period, had 91 percent or better employment security. Their median employment security was 95 percent. While there are no absolute benchmarks to indicate what is good, fair or poor employment security, it would seem that the data testify to a high degree of employment security among vocational graduates. The employment security mean and median values would undoubtedly be substantially greater if the unemployed period prior the first full-time job were eliminated from the measure.

The mean employment security values for 1953, 1958 and 1962 graduates incorrectly suggest that employment security is increasingly a problem. The

trend is an artifact attributable to the nature of the measure rather than a change in the basic economic conditions influencing employment security. The measure includes the period of unemployment that precedes the graduate's first full-time job. That period is, by the nature of the measure, increasingly a greater proportion of total employable time for 1953, 1958 and 1962 graduates. In other words, the measure penalizes the more recent graduates, and generates a meaningless trend. One cannot correctly compare the graduates of 1953, 1958 and 1962 on the measure as calculated. The comparison would be equitable only if employment security were calculated for, say, the first two years after graduation for the three groups.

Chapter 5 showed that general placement and related placement were influenced by the economy level at the time of graduation. More than likely, the employment security measure is similarly influenced. A modified use of the measure, as previously described, would be required to demonstrate the relationship. The problem will be pursued in a later report.

Analysis by Type of School

How do vocational graduates of comprehensive and vocational schools compare in terms of employment security? Table 117 provides the data for each graduating class and for all graduating classes combined.

The slight differences are in employment security between graduates of comprehensive and vocational schools are not significant. Employment security appears to be unrelated to the type of school, i.e. comprehensive or vocational, attended by the graduates. The slight difference in favor of the vocational schools may possibly be a reflection of their better performance in placing graduates into jobs. If the measure were corrected for pre-first job unemployment, those differences would undoubtedly disappear. It is interesting to see that for the recession year graduates of 1958, there was no difference in the placement performance of the two types of schools. There is also no difference in the employment security between the 1958 graduates of the two schools.

Table 117. EMPLOYMENT SECURITY: COMPARISON OF VOCATIONAL AND COMPREHENSIVE SCHOOL GRADUATES

| Year of Graduation | Type of School | Employment Security | | |
|--------------------|-------------------------|---------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 622 | 93.6 | 12.9 |
| | Comprehensive | 404 | 91.2 | 18.6 |
| 1958 | Vocational | 808 | 87.2 | 19.5 |
| | Comprehensive | 613 | 87.5 | 21.1 |
| 1962 | Vocational | 1015 | 85.2 | 22.4 |
| | Comprehensive | 686 | 82.2 | 24.2 |
| Combined | Vocational | 2456 | 88.0 | 19.7 |
| | Comprehensive | 1705 | 86.3 | 22.1 |

Analysis by School Enrollment

Do vocational graduates of small, medium and large enrollment schools, as defined by this study, differ significantly in post-graduation employment security? Table 118 provides the data.

There is no consistent trend relating employment security to the enrollment of the former school. The conclusion is that school enrollment is unrelated to the employment security experienced by graduates within eleven years after graduation. Whatever the advantages of the small or large enrollment schools may be, they do not include greater employment security for graduates.

Table 118. EMPLOYMENT SECURITY: COMPARISON OF SMALL, MEDIUM AND LARGE ENROLLMENT SCHOOL GRADUATES

| Year of Graduation | School Enrollment | Employment Security | | |
|--------------------|----------------------|---------------------|------|------|
| | | N | M | S.D. |
| 1953 | < 500 | 358 | 92.5 | 16.6 |
| | 500 - 1500 | 386 | 93.4 | 12.6 |
| | > 1500 | 282 | 92.0 | 17.3 |
| 1958 | < 500 | 457 | 86.0 | 21.2 |
| | 500 - 1500 | 561 | 88.0 | 18.8 |
| | > 1500 | 403 | 87.8 | 20.8 |
| 1962 | < 500 | 570 | 85.4 | 22.1 |
| | 500 - 1500 | 615 | 83.1 | 23.2 |
| | > 1500 | 516 | 83.4 | 24.2 |
| Combined | < 500 | 1387 | 87.4 | 20.7 |
| | 500 - 1500 | 1571 | 87.5 | 19.8 |
| | > 1500 | 1203 | 86.9 | 21.9 |

Analysis by Race of Graduates

How do white and Negro vocational graduates compare in terms of employment security? Table 119 provides the data.

It is clear that the Negro vocational course graduate experiences substantially less employment security than the white graduate. This is so for each of the three graduating classes. For the combined graduates, white graduates were employed 88 percent of their employable time, whereas Negro graduates were employed only 78.8 percent of their employable time. Much of the difference is attributable to the longer time required by the Negro graduate to find his first full-time job. Data on the latter were presented in Chapter 5. Negro graduates required almost three times as long as white graduates to find their first full-time job. Even then, a relatively small percent found jobs in the trade studied or highly related trades.

Table 119. EMPLOYMENT SECURITY: COMPARISON OF GRADUATES BY RACE

| Year of Graduation | Race of Graduate | Employment Security | | |
|--------------------|------------------|---------------------|------|------|
| | | N | M | S.D. |
| 1953 | White | 981 | 93.0 | 15.2 |
| | Negro | 33 | 84.6 | 19.6 |
| | Other | 3 | 89.7 | 13.2 |
| 1958 | White | 1302 | 87.9 | 19.3 |
| | Negro | 86 | 81.7 | 26.3 |
| | Other | 4 | 82.0 | 21.9 |
| 1962 | White | 1535 | 84.9 | 22.4 |
| | Negro | 120 | 75.0 | 27.5 |
| | Other | 5 | 61.6 | 41.3 |
| Combined | White | 3830 | 88.0 | 20.0 |
| | Negro | 240 | 78.8 | 26.4 |
| | Other | 12 | 75.4 | 32.6 |

Analysis by Type of Graduate

How do vocational and academic course graduates compare in terms of employment security? Table 120 provides the data for the two types of graduates, without consideration for the amount of post-high school education obtained. It must be remembered that a majority of the academic graduates have some college education, and many have completed four years of college.

For each of the year of graduation groups, the vocational course graduates experience greater employment security than the academic course graduates. For the combined graduates, the vocational course graduates were employed 87.3 per cent of their employable time, whereas the academic graduates were employed 83.2 percent of their employable time. The difference is greatest for the 1962 graduates, and least for the 1953 graduates. This suggests that a substantial amount of the employment security difference is the result of the greater difficulty that academic graduates have in finding the first full-time job.

Table 120. EMPLOYMENT SECURITY: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES

| Year of Graduation | Type of Graduate | Employment Security | | |
|--------------------|----------------------|---------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 1026 | 92.7 | 15.5 |
| | Academic | 364 | 90.1 | 17.0 |
| 1958 | Vocational | 1421 | 87.3 | 20.2 |
| | Academic | 410 | 82.7 | 24.3 |
| 1962 | Vocational | 1701 | 84.0 | 23.2 |
| | Academic | 324 | 76.2 | 30.2 |
| Combined | Vocational | 4161 | 87.3 | 20.7 |
| | Academic | 1098 | 83.2 | 24.8 |

How do vocational and academic graduates who have had no college education compare in terms of employment security? Table 121 provides the data.

Vocational graduates without any college education experience significantly greater employment security than academic graduates without a college education. The difference in employment security is slightly greater than when the two types of graduates are compared without regard for post-high school education. For the combined year of graduation groups, the vocational course graduates were employed 88.0 percent of their employable time, whereas the non-college, academic graduates were employed 82.1 percent of their employable time.

While much of the difference is attributable to the greater difficulty that academic graduates have in finding a job after high school, it also reflects greater unemployment during the total employable time period. The

Table 121. EMPLOYMENT SECURITY: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES (Based on graduates with no college education who have \geq 6 months employable time.)

| Year of Graduation | Type of Graduate | Employment Security | | |
|--------------------|----------------------|---------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 819 | 93.5 | 14.4 |
| | Academic | 149 | 89.6 | 20.0 |
| 1958 | Vocational | 1188 | 88.0 | 19.5 |
| | Academic | 212 | 83.2 | 21.4 |
| 1962 | Vocational | 1528 | 85.0 | 22.1 |
| | Academic | 230 | 76.2 | 29.0 |
| Combined | Vocational | 3548 | 88.0 | 19.9 |
| | Academic | 591 | 82.1 | 24.9 |

average duration of jobs held by vocational graduates is significantly greater than the duration of jobs held by academic graduates. Since some amount of between job unemployment is a reasonable expectation, it can be concluded that the difference in employment security experienced by the two types of graduates is not wholly the result of differences in time required to find the first job. Academic graduates without a college education take longer than comparable vocational graduates to find their first full-time job, and have more between job unemployment, with the net result that they have less employment security. Whether this continues to be the case after the first eleven years of employment is undetermined.

ANALYSIS OF EMPLOYMENT STABILITY

Introduction

To what extent are vocational graduates stably employed in the sense of continued employment with relatively few, or even one, employer? The measure of employment stability developed to describe this aspect of the vocational graduate's employment history was the average duration in months of employment per full-time employer. The graduate's score on the measure is obtained by dividing his total months of full-time equivalent employment since graduation by the number of full-time jobs (employers) held during this period. The number of full-time jobs held is analyzed separately in the next section of this chapter.

The employment stability measure, as defined above, was shown in Chapter 3 to be significantly related to employment security, i.e. the greater the average duration per job, the greater employment security; and to job relatedness, i.e. the more the jobs held were related to the trade studied, the greater the duration of the jobs held. The measure proved to be unrelated to job satisfaction and earnings progression as defined in this study.

The reliability estimates reported for the measure in Chapter 3 were low but statistically significant at the five percent level of confidence. Stability estimates were not significant, indicating that differences in the measure between schools were not stable over the years covered by the survey. These findings forced the conclusion that the measure was of questionable value for evaluative purposes. The present section continues the analysis of the measure in terms of the basic study variables.

Analysis by Year of Graduation

By year of graduation, what is the mean and median duration per full-time job held by vocational graduates? Table 122 shows a frequency distribution of the number, percent and cumulative percent of graduates in class

Table 122. EMPLOYMENT STABILITY: FREQUENCY DISTRIBUTIONS FOR VOCATIONAL COURSE GRADUATES BY YEAR OF GRADUATION

| Job Stability | YEAR OF GRADUATION | | | | | | | | | | | |
|---------------|--------------------|------|-------|-------|------|-------|-------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| C.I. | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| 136-150 | 3 | 0.3 | 0.3 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 3 | 0.1 | 0.1 |
| 121-135 | 78 | 7.5 | 7.8 | 1 | 0.1 | 0.1 | 0 | 0.0 | 0.0 | 79 | 1.9 | 2.0 |
| 106-120 | 49 | 4.7 | 12.5 | 0 | 0.0 | 0.1 | 0 | 0.0 | 0.0 | 50 | 1.2 | 3.2 |
| 91-105 | 22 | 2.1 | 14.6 | 0 | 0.0 | 0.1 | 0 | 0.0 | 0.0 | 24 | 0.6 | 3.8 |
| 76- 90 | 21 | 2.0 | 16.6 | 2 | 0.1 | 0.2 | 0 | 0.0 | 0.0 | 23 | 0.5 | 4.3 |
| 61- 75 | 91 | 8.8 | 25.4 | 144 | 10.2 | 10.4 | 0 | 0.0 | 0.0 | 235 | 5.7 | 10.0 |
| 46- 60 | 93 | 9.0 | 34.4 | 69 | 4.9 | 15.3 | 0 | 0.0 | 0.0 | 162 | 3.9 | 13.9 |
| 31- 45 | 235 | 22.6 | 57.0 | 220 | 15.5 | 30.8 | 9 | 0.5 | 0.5 | 469 | 11.3 | 25.2 |
| 16- 30 | 325 | 31.3 | 88.3 | 464 | 32.8 | 63.6 | 522 | 31.0 | 31.5 | 1315 | 31.6 | 56.8 |
| 0- 15 | 121 | 11.7 | 100.0 | 516 | 36.4 | 100.0 | 1154 | 68.5 | 100.0 | 1792 | 43.2 | 100.0 |
| Number | 1038 | | | 1416 | | | 1685 | | | 4152 | | |
| Mean | 46.52 | | | 26.12 | | | 12.57 | | | 25.78 | | |
| Median | 34 | | | 21 | | | 11 | | | 18 | | |
| S.D. | 34.93 | | | 19.10 | | | 7.45 | | | 25.20 | | |

intervals of fifteen month job durations. Mean and median job duration values are also given.

The small number of cases in each year of graduation group that appear to have a job duration in excess of what would be the maximum if only one job were held from immediately after graduation to the June, 1964 cut-off date are cases that for a period, held two jobs, the second job usually being a part-time job. The small number of such cases did not make it worthwhile to parcel out employed time accumulated by second jobs.

The average duration per full-time jobs was 12.8, 26.1 and 46.5 months respectively for 1962, 1958 and 1953 graduates. These values suggest that the 1953 graduates, with a possible 132 months of employable time, have held on an average only one job more than the 1962 graduates, with a possible 24

months of employable time. Apparently, vocational graduates do not change employers frequently. The changes tend to come in the early years after graduation.

Analysis by Type of School

Do vocational graduates of comprehensive and vocational schools differ significantly in employment stability? The question is raised because there may be something about either type of school that predisposes graduates to greater employment stability. Table 123 provides the data.

Table 123. EMPLOYMENT STABILITY: COMPARISON OF VOCATIONAL AND COMPREHENSIVE SCHOOL GRADUATES

| Year of Graduation | Type of School | Job Stability | | |
|--------------------|-------------------------|---------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 632 | 44.4 | 32.8 |
| | Comprehensive | 406 | 49.9 | 37.8 |
| 1958 | Vocational | 810 | 26.2 | 19.8 |
| | Comprehensive | 607 | 25.9 | 18.0 |
| 1962 | Vocational | 1005 | 12.6 | 7.6 |
| | Comprehensive | 680 | 12.4 | 7.2 |
| Combined | Vocational | 2458 | 25.4 | 24.4 |
| | Comprehensive | 1695 | 26.3 | 26.3 |

For the three graduating classes, there is no consistent difference favoring one or the other type of schools. The differences are not significant. The conclusion is that the type of school attended is unrelated to future employment stability, as herein defined.

Analysis by School Enrollment

Do vocational graduates of small, medium and large enrollment schools, as defined in this study, differ in terms of employment stability? The existence of a relationship between school enrollment and employment stability would raise the further question of why. Table 124 provides the data.

Table 124. EMPLOYMENT STABILITY: COMPARISON OF SMALL, MEDIUM AND LARGE ENROLLMENT SCHOOL GRADUATES

| Year of Graduation | School Enrollment | Job Stability | | |
|--------------------|----------------------|---------------|------|------|
| | | N | M | S.D. |
| 1953 | < 500 | 360 | 43.5 | 33.6 |
| | 500 - 1500 | 398 | 46.2 | 33.1 |
| | > 1500 | 280 | 50.9 | 38.5 |
| 1958 | < 500 | 455 | 24.7 | 18.4 |
| | 500 - 1500 | 566 | 26.4 | 19.8 |
| | > 1500 | 396 | 27.2 | 18.8 |
| 1962 | < 500 | 565 | 13.2 | 7.8 |
| | 500 - 1500 | 609 | 12.0 | 7.1 |
| | > 1500 | 511 | 12.5 | 7.4 |
| Combined | < 500 | 1382 | 24.9 | 24.8 |
| | 500 - 1500 | 1582 | 26.0 | 25.0 |
| | > 1500 | 1189 | 26.5 | 26.7 |

For the graduates of 1953 and 1958, mean employment stability increases with increased enrollment. The differences, however, are slight, and do not appear for the 1962 graduates. The prudent conclusion is that school enrollment is only slightly, if at all, related to employment stability of graduates. It may be that more of the small enrollment schools are located in areas of relative economic instability, causing graduates to change employers more frequently. The magnitude of the differences in employment stability hardly warrant further speculation as to why.

Analysis by Race of Graduate

How do white and Negro vocational graduates compare in terms of employment stability? It has been said that Negroes are the last to be hired and the first to be laid off in the ups and downs of the economic cycle. If that is so, it should be reflected in the employment stability comparison. Table 125 provides the data.

Table 125. EMPLOYMENT STABILITY: COMPARISON OF GRADUATES BY RACE

| Year of Graduation | Race of Graduate | Job Stability | | |
|--------------------|------------------|---------------|------|------|
| | | N | M | S.D. |
| 1953 | White | 990 | 46.7 | 35.1 |
| | Negro | 36 | 39.2 | 27.9 |
| | Other | 3 | 59.7 | 51.2 |
| 1958 | White | 1301 | 26.2 | 19.2 |
| | Negro | 85 | 24.0 | 17.1 |
| | Other | 4 | 26.8 | 25.8 |
| 1962 | White | 1524 | 12.6 | 7.5 |
| | Negro | 118 | 11.2 | 6.6 |
| | Other | 5 | 19.0 | 12.0 |
| Combined | White | 3827 | 26.2 | 25.5 |
| | Negro | 240 | 20.0 | 18.5 |
| | Other | 12 | 31.8 | 34.8 |

In each of the three year of graduation groups, the mean employment stability for Negro graduates is less than for white graduates. For all years combined, the mean job duration of white graduates is 26.2 months versus 20.0 for Negro graduates. The conclusion is that Negro graduates enjoy less employment stability than white graduates. The differences, however, are not substantial. For example, for the 1962 graduates, the mean job duration for white graduates was

only 1.5 months greater than that for Negro graduates; and for 1958 graduates, the mean job duration was only 2.2 months greater for white graduates. Thus, the Negro has less employment stability, but not much less.

Analysis by Type of Graduate

How do vocational and academic course graduates compare in terms of average duration of full-time jobs? Table 126 provides the data for the two types of graduates. The two groups are not equated in terms of amount of post-high school college and non-college education.

Table 126. EMPLOYMENT STABILITY: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES

| Year of Graduation | Type of Graduate | Job Stability | | |
|--------------------|----------------------|---------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 1038 | 46.5 | 34.9 |
| | Academic | 374 | 37.0 | 28.7 |
| 1958 | Vocational | 1416 | 26.1 | 19.1 |
| | Academic | 400 | 20.3 | 15.4 |
| 1962 | Vocational | 1685 | 12.6 | 7.4 |
| | Academic | 301 | 11.2 | 6.9 |
| Combined | Vocational | 4153 | 25.8 | 25.2 |
| | Academic | 1075 | 23.6 | 22.3 |

For each year of graduation groups, the mean full-time job duration is greater for vocational than for academic graduates. As defined, vocational graduates experience greater employment stability. The difference in employment stability increases with number of years out of school, being 1.4, 5.3,

and 9.5 months respectively for 1962, 1958 and 1953 graduates.

How do the two types of graduates compare in employment stability when neither group has any college education? Table 127 provides the data.

Table 127. EMPLOYMENT STABILITY: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES (Based on graduates with no college education who have \geq 6 months employable time.)

| Year of Graduation | Type of Graduate | Employment Stability | | |
|--------------------|----------------------|----------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 826 | 49.2 | 35.8 |
| | Academic | 150 | 45.1 | 35.8 |
| 1958 | Vocational | 1189 | 27.2 | 19.7 |
| | Academic | 210 | 24.1 | 17.6 |
| 1962 | Vocational | 1524 | 12.9 | 7.5 |
| | Academic | 219 | 11.7 | 7.2 |
| Combined | Vocational | 3552 | 26.2 | 25.6 |
| | Academic | 579 | 24.8 | 25.2 |

Vocational graduates still have a greater mean job duration than academic graduates. However, the differences are less. They are 1.2, 3.1, and 4.1 months respectively for 1962, 1958 and 1953 graduates. This suggests that, within the period of years studied, average job duration is less for those with a college education than those with no college, whether they be vocational or academic graduates. A possible explanation is that those with a college education may be more inclined to "explore" different employers before settling down to a career advancement. Whatever the explanation, vocational graduates appear to stay longer with their employers than do academic graduates.

ANALYSIS OF NUMBER OF JOBS HELD

Introduction

The preceding section was concerned with employment stability defined in terms of average duration of job (employer). Employment stability may be alternatively defined as the number of jobs held, where a job is further defined as an association with an employer rather than with a position title held. Thus, a graduate who has had full-time employment with two employers since graduation has had, by this definition, two jobs.

Because it may be of general interest to know the number of full-time jobs vocational graduates have had in a maximum of two, six and eleven years of employable time, depending upon year of graduation, the variable has been subjected to the same analysis as the occupational derived measures. The two variables, average duration of jobs held and number of full-time jobs held, are as one would expect highly correlated. The findings of the analyses in this section should correspond with the analyses of the preceding section.

Analysis by Year of Graduation

By year of graduation groups, what are the mean and median number of full-time jobs held by vocational graduates? Table 128 shows a frequency distribution of the number, percentage and cumulative percentage of graduates in each number of jobs category. It also give the mean and median values.

The mean number of full-time jobs held by 1962, 1958 and 1953 graduates are respectively 1.96, 2.48 and 3.08. In eleven years, the average graduate has held only three full-time jobs. Indeed, 65.8 percent of the 1953 graduates have held three or fewer full-time jobs. On the whole, vocational graduates do not do much moving from employer to employer.

Table 128. NUMBER OF JOBS HELD: FREQUENCY DISTRIBUTIONS
FOR VOCATIONAL COURSE GRADUATES BY YEAR OF GRADUATION

| No. Full- Time Jobs | YEAR OF GRADUATION | | | | | | | | | | | |
|------------------------|--------------------|------|-------|------|------|-------|------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | C.I. | N | % | C% | N | % | C% | N | % | C% | N | % |
| 10 | 10 | 0.9 | 100.0 | 6 | 0.4 | 100.0 | 1 | 0.1 | 100.0 | 17 | 0.4 | 100.0 |
| 9 | 6 | 0.5 | 99.1 | 3 | 0.2 | 99.6 | 1 | 0.1 | 99.9 | 10 | 0.2 | 99.6 |
| 8 | 15 | 1.4 | 98.6 | 2 | 0.1 | 99.4 | 0 | 0.0 | 99.8 | 17 | 0.4 | 99.4 |
| 7 | 25 | 2.2 | 97.2 | 8 | 0.5 | 99.3 | 4 | 0.2 | 99.8 | 37 | 0.9 | 99.0 |
| 6 | 58 | 5.2 | 95.0 | 39 | 2.6 | 98.8 | 18 | 1.0 | 99.6 | 115 | 2.6 | 98.1 |
| 5 | 99 | 8.9 | 89.8 | 96 | 6.4 | 96.2 | 41 | 2.3 | 98.6 | 237 | 5.4 | 95.5 |
| 4 | 168 | 15.1 | 80.9 | 158 | 10.6 | 89.8 | 100 | 5.7 | 96.3 | 427 | 9.7 | 90.1 |
| 3 | 234 | 21.0 | 65.8 | 293 | 19.7 | 79.2 | 269 | 15.2 | 90.6 | 798 | 18.2 | 80.4 |
| 2 | 263 | 23.6 | 44.8 | 423 | 28.4 | 59.5 | 557 | 31.6 | 75.4 | 1245 | 28.4 | 62.2 |
| 1 | 236 | 21.2 | 21.2 | 463 | 31.1 | 31.1 | 773 | 43.8 | 43.8 | 1479 | 33.8 | 33.8 |
| Number | 1114 | | | 1491 | | | 1764 | | | 4382 | | |
| Mean | 3.08 | | | 2.48 | | | 1.96 | | | 2.42 | | |
| Median | 3 | | | 2 | | | 2 | | | 2 | | |
| S.D. | 1.84 | | | 1.50 | | | 1.14 | | | 1.53 | | |

Analysis by Type of School

How do vocational graduates of comprehensive and vocational schools compare in terms of the mean number of full-time jobs held since graduation? Table 129 provides the data.

There are no significant differences in the mean number of full-time jobs held by the graduates of the two types of schools. Whatever differences may characterize vocational education in the two types of schools, they are not reflected in the number of full-time jobs held by graduates from two to eleven years out of school.

Table 129. NUMBER OF JOBS HELD: COMPARISON OF VOCATIONAL AND COMPREHENSIVE SCHOOL GRADUATES

| Year of Graduation | Type of School | No. of Full-Time Jobs | | |
|--------------------|-------------------------|-----------------------|-----|------|
| | | N | M | S.D. |
| 1953 | Vocational | 689 | 3.2 | 1.8 |
| | Comprehensive | 425 | 3.0 | 1.9 |
| 1958 | Vocational | 858 | 2.4 | 1.4 |
| | Comprehensive | 634 | 2.6 | 1.6 |
| 1962 | Vocational | 1050 | 2.0 | 1.2 |
| | Comprehensive | 714 | 1.9 | 1.1 |
| Combined | Vocational | 2608 | 2.4 | 1.5 |
| | Comprehensive | 1775 | 2.4 | 1.6 |

Analysis by School Enrollment

Do vocational graduates of small, medium and large enrollment schools, as defined in this study, differ in terms of number of full-time jobs held over comparable time periods? Table 130 provides the data.

The differences in mean number of jobs held are not significant in any of the year of graduation groups. The conclusion is that size of school enrollment is unrelated to the number of jobs held by graduates within periods from two to eleven years after graduation.

Analysis by Race of Graduates

How do white and Negro graduates compare in terms of the mean number of full-time jobs held over comparable time periods? Table 131 provides the data.

Table 130. NUMBER OF JOBS HELD: COMPARISON OF SMALL, MEDIUM, AND LARGE ENROLLMENT SCHOOL GRADUATES

| Year of Graduation | School Enrollment | No. of Full-Time Jobs | | |
|--------------------|----------------------|-----------------------|-----|------|
| | | N | M | S.D. |
| 1953 | < 500 | 401 | 3.2 | 1.8 |
| | 500 - 1500 | 419 | 2.9 | 1.7 |
| | > 1500 | 294 | 3.1 | 2.0 |
| 1958 | < 500 | 491 | 2.4 | 1.4 |
| | 500 - 1500 | 589 | 2.5 | 1.6 |
| | > 1500 | 412 | 2.5 | 1.5 |
| 1962 | < 500 | 594 | 2.0 | 1.2 |
| | 500 - 1500 | 637 | 2.2 | 1.2 |
| | > 1500 | 533 | 1.9 | 1.1 |
| Combined | < 500 | 1488 | 2.5 | 1.5 |
| | 500 - 1500 | 1654 | 2.4 | 1.5 |
| | > 1500 | 1241 | 2.4 | 1.6 |

Table 131. NUMBER OF JOBS HELD: COMPARISON OF GRADUATES BY RACE

| Year of Graduation | Race of Graduate | No. of Full-Time Jobs | | |
|--------------------|------------------|-----------------------|-----|------|
| | | N | M | S.D. |
| 1953 | White | 1063 | 3.1 | 1.9 |
| | Negro | 39 | 2.5 | 1.3 |
| | Other | 3 | 2.7 | 1.7 |
| 1958 | White | 1364 | 2.5 | 1.5 |
| | Negro | 92 | 2.6 | 1.4 |
| | Other | 4 | 2.8 | 1.5 |
| 1962 | White | 1589 | 2.0 | 1.2 |
| | Negro | 129 | 2.0 | 1.1 |
| | Other | 5 | 1.4 | .5 |
| Combined | White | 4028 | 2.4 | 1.6 |
| | Negro | 261 | 2.3 | 1.3 |
| | Other | 12 | 2.2 | 1.4 |

For all graduates combined, the mean number of jobs held by Negro and white graduates are 2.36 and 2.44 respectively. The difference is not statistically significant. Differences by year of graduation groups are similarly lacking in significance. The conclusion is that race of vocational graduates is unrelated to the number of full-time jobs held within a given period of years. The reason Negro graduates had a substantially smaller average duration per job held, as indicated in the preceding section on employment stability, is that he had a smaller amount of total employed time than the white graduate. It is clear that whether the Negro has more or less employment stability depends upon how the concept is defined. Defined as average duration per job, he has less employment stability. Defined as the number of jobs held, there is no difference in employment stability between the two races.

Analysis by Type of Graduate

How do vocational and academic course graduates compare in terms of number of full-time jobs held within periods of two to eleven years after graduation? Table 132 provides the data for graduates who have no college education.

Table 132. NUMBER OF JOBS HELD: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES WHO HAVE HAD NO COLLEGE EDUCATION

| Year of Graduation | Type of Graduate | Number of Jobs | | |
|--------------------|----------------------|----------------|-----|------|
| | | N | M | S.D. |
| 1953 | Vocational | 889 | 3.1 | 1.9 |
| | Academic | 164 | 2.9 | 1.8 |
| 1958 | Vocational | 1260 | 2.5 | 1.5 |
| | Academic | 238 | 2.3 | 1.3 |
| 1962 | Vocational | 1596 | 2.0 | 1.2 |
| | Academic | 226 | 2.0 | 1.2 |
| Combined | Vocational | 3758 | 2.4 | 1.5 |
| | Academic | 628 | 2.3 | 1.4 |

The differences in mean number of jobs held are not significant in any of the year of graduation categories. Apparently, academic course graduates are no more inclined to move from employer to employer than are vocational graduates. The number of full-time jobs that a high school graduate holds in his first eleven years of work is unrelated to the type of school attended, the enrollment of the school attended, the race of the graduate, or even the type of program he took in school. It is probably related to personal characteristics of the graduate.

In the preceding section on employment stability, academic graduates were reported to have a smaller average duration per job held, and therefore, less employment stability than vocational graduates. This is not at variance with the finding that there is no difference in number of jobs held by the two types of graduates. The apparent contradiction results from the finding that academic graduates have less total employed time than vocational graduates. That would give them a smaller average duration per job, if there is no difference in the number of jobs held.

ANALYSIS OF JOB SATISFACTION

Introduction

To what extent are vocational graduates satisfied with the jobs they have held since leaving high school? The measure of job satisfaction used to describe the satisfaction dimension of the graduate's occupational history was derived as follows: For each job held, the graduate was asked to rate his general satisfaction with the job in terms of four categories, i.e. very satisfied, satisfied, dissatisfied or very dissatisfied. The categories were weighted 4, 3, 2 and 1 respectively. The graduate's job satisfaction score was the mean of the separate job satisfaction ratings. Thus, a score of 4 indicates the graduate reported himself to be "very satisfied" with all jobs held, whereas a score of 1 would indicate he was "very dissatisfied" with all jobs held.

In Chapter 3, the reliability and stability of the job satisfaction measure were established. It was also shown that the measure correlated significantly with job relatedness, i.e. the more the jobs held by a graduate were related to the trade studied, the greater the job satisfaction reported. The measure also correlated significantly with present earnings at the time of the survey, i.e. the greater the hourly earnings, the greater the job satisfaction reported. It proved to be unrelated to employment security, employment stability, earnings progression and job mobility.

The present section continues the analysis of the measure in terms of the basic study variables.

Analysis by Year of Graduation

How are the job satisfaction scores distributed within each year of graduation group? What is the mean and median job satisfaction score for each year of graduation group? Table 133 provides the data.

Table 133. JOB SATISFACTION: FREQUENCY DISTRIBUTIONS FOR VOCATIONAL COURSE GRADUATES BY YEAR OF GRADUATION

| Job Satisfac- tion C.I. | YEAR OF GRADUATION | | | | | | | | | | | |
|-------------------------------|--------------------|------|-------|------|------|-------|------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| 4.0 | 230 | 20.8 | 20.8 | 320 | 21.7 | 21.7 | 416 | 23.9 | 23.9 | 969 | 22.3 | 22.3 |
| 3.7-3.9 | 54 | 4.9 | 25.7 | 49 | 3.3 | 25.0 | 35 | 2.0 | 25.9 | 134 | 3.2 | 25.5 |
| 3.4-3.6 | 127 | 11.5 | 37.2 | 151 | 10.2 | 35.2 | 141 | 8.1 | 34.0 | 419 | 9.8 | 35.3 |
| 3.1-3.3 | 131 | 11.8 | 49.0 | 117 | 7.9 | 43.1 | 68 | 3.9 | 37.9 | 318 | 7.3 | 42.6 |
| 2.8-3.0 | 358 | 32.3 | 81.3 | 490 | 33.3 | 76.4 | 597 | 34.2 | 72.1 | 1449 | 33.4 | 76.0 |
| 2.5-2.7 | 105 | 9.5 | 90.8 | 152 | 10.3 | 86.7 | 191 | 11.0 | 83.1 | 448 | 10.3 | 86.3 |
| 2.2-2.4 | 32 | 2.9 | 93.7 | 51 | 3.5 | 90.2 | 55 | 3.1 | 86.2 | 139 | 3.2 | 89.5 |
| 1.9-2.1 | 49 | 4.4 | 98.1 | 112 | 7.6 | 97.8 | 160 | 9.2 | 95.4 | 322 | 7.4 | 96.9 |
| 1.6-1.8 | 5 | 0.4 | 98.5 | 5 | 0.3 | 98.1 | 10 | 0.6 | 96.0 | 20 | 0.5 | 97.4 |
| 1.3-1.5 | 4 | 0.4 | 98.9 | 7 | 0.5 | 98.6 | 23 | 1.3 | 97.3 | 34 | 0.8 | 98.2 |
| 1.0-1.2 | 12 | 1.1 | 100.0 | 19 | 1.3 | 100.0 | 47 | 2.7 | 100.0 | 79 | 1.8 | 100.0 |
| Number | 1107 | | | 1473 | | | 1743 | | | 4336 | | |
| Mean | 3.19 | | | 3.13 | | | 3.06 | | | 3.12 | | |
| Median | 3.0 | | | 3.0 | | | 3.0 | | | 2.9 | | |
| S.D. | .61 | | | .66 | | | .74 | | | .68 | | |

The mean job satisfaction scores for 1953, 1958 and 1962 graduates are 3.19, 3.13 and 3.06 respectively. The scores indicate widespread satisfaction with jobs held in each of the year of graduation groups. This is further indicated by the percentage of graduates with job satisfaction scores of 2.8 or higher. Those percentages are 81.3, 76.4 and 72.1 for the graduates of 1953, 1958 and 1962 respectively. It can be concluded that the great majority of vocational graduates report considerable satisfaction with the jobs they have held. This does not mean that a more analytic approach to the job satisfaction of vocational graduates would not reveal areas of dissatisfaction. It does indicate an overall satisfaction with jobs held.

Analysis by Type of School

How do vocational graduates of comprehensive and vocational schools compare in terms of reported job satisfaction? Table 134 provides the data.

Table 134. JOB SATISFACTION: COMPARISON OF VOCATIONAL AND COMPREHENSIVE SCHOOL GRADUATES

| Year of Graduation | Type of School | Job Satisfaction | | |
|--------------------|-------------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 684 | 3.19 | .58 |
| | Comprehensive | 423 | 3.19 | .65 |
| 1958 | Vocational | 847 | 3.16 | .64 |
| | Comprehensive | 627 | 3.09 | .68 |
| 1962 | Vocational | 1039 | 3.09 | .73 |
| | Comprehensive | 704 | 3.02 | .76 |
| Combined | Vocational | 2581 | 3.14 | .66 |
| | Comprehensive | 1756 | 3.08 | .71 |

For each of the year of graduation groups, the difference in reported job satisfaction between the graduates of the two types of schools is not significant. The conclusion is that the type of school attended, i.e. comprehensive or vocational has no bearing on job satisfaction experienced from two to eleven years after graduation.

Analysis by School Enrollment

Do graduates of small, medium and large enrollment schools, as defined by this study, differ significantly in reported job satisfaction? Table 135 provides the data.

Table 135. JOB SATISFACTION: COMPARISON OF SMALL,
MEDIUM AND LARGE ENROLLMENT SCHOOL GRADUATES

| Year of Graduation | School Enrollment | Job Satisfaction | | |
|--------------------|----------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | < 500 | 400 | 3.17 | .55 |
| | 500 - 1500 | 415 | 3.18 | .65 |
| | > 1500 | 292 | 3.22 | .62 |
| 1958 | < 500 | 485 | 3.16 | .63 |
| | 500 - 1500 | 583 | 3.11 | .66 |
| | > 1500 | 406 | 3.11 | .68 |
| 1962 | < 500 | 587 | 3.08 | .77 |
| | 500 - 1500 | 630 | 3.00 | .71 |
| | > 1500 | 526 | 3.10 | .73 |
| Combined | < 500 | 1474 | 3.13 | .67 |
| | 500 - 1500 | 1637 | 3.09 | .68 |
| | > 1500 | 1226 | 3.13 | .69 |

Within each year of graduation group, the mean job satisfaction ratings for the three enrollment categories are not significantly different. The conclusion is that the enrollment of the school attended is unrelated to job satisfaction experienced from two to eleven years after graduation.

Analysis by Race of Graduate

How do white and Negro graduates compare in terms of reported job satisfaction? Table 136 provides the data.

For each year of graduation group, the mean job satisfaction reported by Negro graduates is less than that reported by white graduates. While the differences are not great, their consistency forces the conclusion that Negro vocational graduates tend to experience less job satisfaction than white graduates. The conclusion is internally consistent with the finding that job

Table 136. JOB SATISFACTION: COMPARISON OF GRADUATES BY RACE

| Year of Graduation | Race of Graduate | Job Satisfaction | | |
|--------------------|------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | White | 1056 | 3.20 | .60 |
| | Negro | 39 | 2.95 | .89 |
| | Other | 3 | 3.03 | .68 |
| 1958 | White | 1351 | 3.15 | .64 |
| | Negro | 90 | 2.84 | .80 |
| | Other | 4 | 3.00 | .44 |
| 1962 | White | 1570 | 3.09 | .72 |
| | Negro | 128 | 2.69 | .84 |
| | Other | 5 | 3.10 | .49 |
| Combined | White | 3989 | 3.14 | .67 |
| | Negro | 258 | 2.78 | .84 |
| | Other | 12 | 3.05 | .53 |

satisfaction correlates positively with job relatedness, and that a smaller percentage of Negroes than whites enter the trade for which trained. The satisfaction that comes from working in the trade studied is mainly denied to the Negro graduate.

Analysis by Type of Graduate

How do vocational and academic course graduates compare in terms of reported job satisfaction. Table 137 provides the data.

Within each of the year of graduation group, the difference in mean job satisfaction between vocational and academic graduates is not significant. The conclusion is that the type of program, i.e. vocational or academic, taken in high school is unrelated to job satisfaction up to eleven years after graduation.

**Table 137. JOB SATISFACTION: COMPARISON OF
VOCATIONAL AND ACADEMIC GRADUATES**

| Year of Graduation | Type of Graduate | Job Satisfaction | | |
|--------------------|----------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 1107 | 3.19 | .61 |
| | Academic | 385 | 3.19 | .64 |
| 1958 | Vocational | 1473 | 3.13 | .66 |
| | Academic | 421 | 3.07 | .71 |
| 1962 | Vocational | 1743 | 3.06 | .74 |
| | Academic | 301 | 2.92 | .78 |
| Combined | Vocational | 4336 | 3.12 | .68 |
| | Academic | 1107 | 3.07 | .72 |

Table 138 shows a comparison of vocational and academic course graduates, who have not attended college, in terms of job satisfaction reported. Within each year of graduation group, vocational graduates have a higher, but not significantly higher mean job satisfaction rating. The consistency of the difference suggests vocational graduates experience slightly more job satisfaction than academic graduates who have had no college education. The differences are too small, however, to make much about them.

Table 138. JOB SATISFACTION: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES (Based on graduates with no college education who have \geq 6 months employable time.)

| Year of Graduation | Type of Graduate | Job Satisfaction | | |
|--------------------|----------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 884 | 3.20 | 5.8 |
| | Academic | 160 | 3.00 | 6.7 |
| 1958 | Vocational | 1244 | 3.12 | 6.4 |
| | Academic | 232 | 3.03 | 6.9 |
| 1962 | Vocational | 1575 | 3.07 | 7.3 |
| | Academic | 223 | 2.92 | 7.6 |
| Combined | Vocational | 3716 | 3.12 | 6.7 |
| | Academic | 615 | 2.98 | 7.1 |

ANALYSIS OF JOB RELATEDNESS

Introduction

To what extent do vocational graduates hold jobs related to the trade studied within periods of two, six and eleven years after graduation? The measure of job relatedness that was developed to describe this dimension of the vocational graduate's occupational history was derived as follows: For each job reported, the graduate was asked to rate its relation to the trade studied, i.e. same trade, highly related trade, slightly related trade, or completely unrelated trade. The relatedness categories were weighted 4, 3, 2 and 1 respectively. The graduate's job relatedness score was the mean of such ratings. Thus, a score of 4 indicates that all jobs held by the graduate were in the trade studied, whereas a score of 1 indicates all jobs held were in a trade completely unrelated to the trade studied.

In Chapter 3, the reliability and stability of the measure were established. The measure was also shown to be significantly correlated with related placement, i.e. the more related the first job is to the trade studied, the more related all jobs held are to the trade studied; with employment security, i.e. the more related all jobs held are to the trade studied, the greater is employment security; with employment stability, i.e. the more related all jobs held are to the trade studied, the greater the average duration in months per job held; with job satisfaction, the more related all jobs held are to the trade studied, the greater the satisfaction reported for the jobs held; and with present earnings, i.e. the more related all jobs held are to the trade studied, the higher hourly earnings at the end of two, six and eleven years after graduation. It is these relationships that testify for the importance of the job relatedness concept.

The present section continues the analyses of the measure in terms of the basic study variables.

Analysis by Year of Graduation

Within each year of graduation group, how is the job relatedness measure distributed? What are the mean and median relatedness scores? Table 139 provides the data.

Table 139. JOB RELATEDNESS: FREQUENCY DISTRIBUTIONS FOR VOCATIONAL COURSE GRADUATES BY YEAR OF GRADUATION

| Job Relatedness C.I. | YEAR OF GRADUATION | | | | | | | | | Combined | | |
|-------------------------|--------------------|------|-------|------|------|-------|------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | N | % | C% |
| | N | % | C% | N | % | C% | N | % | C% | | | |
| 4.0 | 148 | 13.4 | 13.4 | 212 | 14.4 | 14.4 | 343 | 19.8 | 19.8 | 707 | 16.3 | 16.3 |
| 3.7-3.9 | 14 | 1.3 | 14.7 | 15 | 1.0 | 15.4 | 11 | 0.6 | 20.4 | 40 | 0.9 | 17.2 |
| 3.4-3.6 | 33 | 3.0 | 17.7 | 28 | 1.9 | 17.3 | 35 | 2.0 | 22.4 | 97 | 2.2 | 19.4 |
| 3.1-3.3 | 28 | 2.5 | 20.2 | 32 | 2.2 | 19.5 | 14 | 0.8 | 23.2 | 74 | 1.7 | 21.1 |
| 2.8-3.0 | 139 | 12.5 | 32.7 | 202 | 13.7 | 33.2 | 270 | 15.6 | 38.8 | 612 | 14.2 | 35.3 |
| 2.5-2.7 | 93 | 8.4 | 41.1 | 97 | 6.6 | 39.8 | 115 | 6.6 | 45.4 | 305 | 7.0 | 42.3 |
| 2.2-2.4 | 56 | 5.1 | 46.2 | 47 | 3.2 | 43.0 | 48 | 2.8 | 48.2 | 151 | 3.5 | 45.8 |
| 1.9-2.1 | 168 | 15.2 | 61.4 | 225 | 15.3 | 58.3 | 245 | 14.1 | 62.3 | 639 | 14.8 | 60.6 |
| 1.6-1.8 | 82 | 7.4 | 68.8 | 76 | 5.2 | 63.5 | 65 | 3.7 | 66.0 | 224 | 7.9 | 65.8 |
| 1.3-1.5 | 94 | 8.5 | 77.3 | 132 | 8.9 | 72.4 | 115 | 6.6 | 72.6 | 342 | 7.9 | 73.7 |
| 1.0-1.2 | 251 | 22.7 | 100.0 | 407 | 27.6 | 100.0 | 475 | 27.4 | 100.0 | 1137 | 26.3 | 100.0 |
| Number | 1106 | | | 1473 | | | 1736 | | | 4328 | | |
| Mean | 2.3 | | | 2.2 | | | 2.3 | | | 2.3 | | |
| Median | 2.0 | | | 2.0 | | | 2.0 | | | 1.9 | | |
| S.D. | 1.01 | | | 1.05 | | | 1.11 | | | 1.07 | | |

The mean job relatedness is 2.3, 2.2 and 2.3 respectively for the graduates of 1953, 1958 and 1962. Thus, the average relationship between jobs held and trades studied in high school is only a little better than "slightly related." This is in agreement with the earlier finding that only about 30 percent of the graduates obtain their first job in the trade studied, and of those whose first job is not in the trade studied, very few ever enter the trade in later years.

The percentage distributions indicate that, for the 1953, 1958 and 1962 graduates respectively, only 13.4, 14.4 and 19.8 percent of the graduates have held all of their full-time jobs in the trade studied. The figures indicate that even those who start out in the trade studied in high school do not necessarily stay with the trade. On the other hand, about one-third of the 1953 graduates have relatedness scores that indicate all work has been in the same or highly related trade. The comparable proportions for 1958 and 1962 graduates are somewhat greater. That is because the latter graduates have had fewer years in which to move out of the trade studied or highly related trades.

The overall conclusion is that the great majority of vocational course graduates do not work in the trade studied. Moreover, the majority does not work in either the trade studied or highly related trades. Most jobs held are in slightly related or completely unrelated trades, where relatedness is judged by the graduates. The conclusion is in contradiction to the findings generally reported by graduate follow-up studies. Perhaps that is because so few follow-up studies have been concerned with jobs beyond the first job after graduation.

Analysis by Type of School

How do vocational graduates of comprehensive and vocational schools compare in terms of the job relatedness measure? Table 140 provides the data.

For the 1953, 1958 and 1962 graduates, those who attended vocational schools have a greater mean job relatedness score than those who attended comprehensive schools. While the differences are not substantial, they are consistent, and suggest that vocational school graduates are more likely to work in the trade studied or highly related trades than comprehensive school graduates. The conclusion is consistent with the finding, reported in Chapter 5, that vocational schools do a better job of placing their graduates in the same trade studied or highly related trades.

Table 140. JOB RELATEDNESS: COMPARISON OF VOCATIONAL AND COMPREHENSIVE SCHOOL GRADUATES

| Year of Graduation | Type of School | Job Relatedness | | |
|--------------------|-------------------------|-----------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 685 | 2.35 | 1.01 |
| | Comprehensive | 421 | 2.10 | 1.01 |
| 1958 | Vocational | 846 | 2.31 | 1.06 |
| | Comprehensive | 628 | 2.06 | 1.03 |
| 1962 | Vocational | 1035 | 2.45 | 1.12 |
| | Comprehensive | 701 | 2.14 | 1.07 |
| Combined | Vocational | 2577 | 2.38 | 1.07 |
| | Comprehensive | 1752 | 2.10 | 1.04 |

Analysis by School Enrollment

Do the graduates of small, medium and large enrollment schools differ significantly in terms of the relatedness of jobs held to trades studied in high school? Table 141 provides the data.

The three year of graduation groups show no consistent trend relating school enrollment to job relatedness, although the graduates from schools with enrollments less than 500 have slightly but consistently higher mean job relatedness scores. This may be a reflection of the possibility that small enrollment schools are located in communities where there is less diversity and growth of job opportunity to attract graduates away from the trades studied. Whatever the explanation, the data do not make a strong case for the interpretation that school enrollment has a bearing on the likelihood that graduates will enter the trades studied or highly related trades.

Table 141. JOB RELATEDNESS: COMPARISON OF SMALL,
MEDIUM AND LARGE ENROLLMENT SCHOOL GRADUATES

| Year of Graduation | School Enrollment | Job Relatedness | | |
|--------------------|----------------------|-----------------|------|------|
| | | N | M | S.D. |
| 1953 | < 500 | 401 | 2.28 | .96 |
| | 500 - 1500 | 415 | 2.26 | 1.05 |
| | > 1500 | 290 | 2.22 | 1.03 |
| 1958 | < 500 | 483 | 2.29 | 1.08 |
| | 500 - 1500 | 584 | 2.16 | 1.03 |
| | > 1500 | 407 | 2.16 | 1.04 |
| 1962 | < 500 | 584 | 2.47 | 1.16 |
| | 500 - 1500 | 629 | 2.23 | 1.09 |
| | > 1500 | 523 | 2.28 | 1.07 |
| Combined | < 500 | 1470 | 2.36 | 1.08 |
| | 500 - 1500 | 1637 | 2.21 | 1.06 |
| | > 1500 | 1222 | 2.23 | 1.05 |

Analysis by Race of Graduate

How do white and Negro graduates compare in terms of the relatedness of jobs held to trades studied? Table 142 provides the data.

Within each year of graduation group, the Negro graduates have a substantially lower mean job relatedness score than white graduates. Since both races study essentially the same trades and attend, with some exceptions, the same schools, it seems reasonable to conclude that being a Negro is sufficient condition to be disadvantaged from the standpoint of working in the trade studied or highly related trades. The finding does not augur well for efforts to upgrade the economic status of Negroes through trade training. Unless they are accepted more widely into the trades studied, such training is not likely to result in job upgrading for the Negro. Indeed, such training may even add to the resentment and unrest found among many Negroes. If

Table 142. JOB RELATEDNESS: COMPARISON OF GRADUATES BY RACE

| Year of Graduation | Race of Graduate | Job Relatedness | | |
|--------------------|------------------|-----------------|------|------|
| | | N | M | S.D. |
| 1953 | White | 1055 | 2.28 | 1.01 |
| | Negro | 39 | 1.77 | .91 |
| | Other | 3 | 2.17 | 1.31 |
| 1958 | White | 1351 | 2.23 | 1.06 |
| | Negro | 90 | 1.81 | .95 |
| | Other | 4 | 1.40 | .69 |
| 1962 | White | 1564 | 2.36 | 1.11 |
| | Negro | 128 | 1.88 | 1.04 |
| | Other | 5 | 2.40 | 1.36 |
| Combined | White | 3982 | 2.29 | 1.07 |
| | Negro | 258 | 1.84 | 1.00 |
| | Other | 12 | 2.01 | 1.24 |

they find such training cannot be put to use, there may be an even more intense embitterment. There is little point in training people to step up, and then denying them the opportunity to do so.

Lest there be any misunderstandings, the reader is reminded that the Negro graduates included in this and similar analyses herein, are not drawn exclusively from any one region of the country. The findings generalize to all regions of the country.

ANALYSIS OF INITIAL EARNINGS

Introduction

About what hourly earnings can the vocational course graduate expect when he starts his first full-time job after graduation? That would depend, of course, upon the trade he enters as well as other factors known to influence initial earnings. However, a general answer is provided by the starting hourly earnings on the vocational graduate's first full-time job without qualification as to trade studied, geographical region and other factors.

In Chapter 3, initial earnings were shown to be related to present earnings, i.e. those who started with relatively high hourly earnings also reported relatively high present earnings, two, six and eleven years after graduation. Initial earnings were unrelated to the other occupational measures, including related placement. The lack of relationship with the latter measure indicates those who enter trades unrelated to the trade studied start with about the same earnings as those who enter the trade studied or highly related trades.

The present chapter continues the analysis of the measure in terms of the basic study variables.

Analysis by Year of Graduation

Within each year of graduation group, what is the distribution of initial hourly earnings? What is the mean and median starting hourly wage of vocational graduates for each year of graduation group? Table 143 presents the data.

The earnings distributions are markedly skewed, as one might expect, toward the low end. For the graduates of 1953, 1958 and 1962 the mean hourly rates are 1.38, 1.50 and 1.47 respectively, whereas the median hourly rates are 1.20, 1.40 and 1.30 respectively.

Table 143. INITIAL EARNINGS: FREQUENCY DISTRIBUTIONS FOR VOCATIONAL COURSE GRADUATES BY YEAR OF GRADUATION

| Initial Earnings C.I. | YEAR OF GRADUATION | | | | | | | | | | | |
|--------------------------|--------------------|------|-------|------|------|-------|------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| > 4.00 | 3 | 0.3 | 100.0 | 1 | 0.1 | 100.0 | 4 | 0.2 | 100.0 | 8 | 0.2 | 100.0 |
| 3.51-4.00 | 4 | 0.4 | 99.7 | 6 | 0.4 | 99.9 | 7 | 0.4 | 99.8 | 17 | 0.4 | 99.8 |
| 3.01-3.50 | 5 | 0.5 | 99.3 | 12 | 0.9 | 99.5 | 10 | 0.6 | 99.4 | 27 | 0.7 | 99.4 |
| 2.51-3.00 | 22 | 2.1 | 98.8 | 49 | 3.5 | 98.6 | 56 | 3.4 | 98.8 | 127 | 2.0 | 98.7 |
| 2.01-2.50 | 71 | 6.9 | 96.7 | 132 | 9.4 | 95.1 | 105 | 6.3 | 95.4 | 309 | 7.6 | 95.7 |
| 1.51-2.00 | 185 | 17.9 | 89.8 | 316 | 22.6 | 85.7 | 307 | 18.4 | 89.1 | 810 | 19.6 | 88.1 |
| 1.01-1.50 | 438 | 42.3 | 71.9 | 589 | 42.0 | 63.1 | 946 | 56.7 | 70.7 | 1980 | 48.1 | 68.5 |
| .51-1.00 | 299 | 28.9 | 29.6 | 290 | 20.7 | 21.1 | 223 | 13.4 | 14.0 | 814 | 19.8 | 20.4 |
| .11- .50 | 7 | 0.7 | 0.7 | 6 | 0.4 | 0.4 | 11 | 0.6 | 0.6 | 24 | 0.6 | 0.6 |
| Number | 1034 | | | 1401 | | | 1669 | | | 4116 | | |
| Mean | 1.38 | | | 1.50 | | | 1.47 | | | 1.46 | | |
| Median | 1.20 | | | 1.40 | | | 1.30 | | | 1.30 | | |
| S.D. | .54 | | | .56 | | | .55 | | | .55 | | |

In view of the trend of generally increasing wages since the end of World War II, it is surprising that the expected trend did not materialize. The 1962 graduates had a lower mean and median starting wage than the 1958 graduates, who left school in a recession year and who had much more difficulty finding a first job. A plausible explanation is lacking.

Analysis by Type of School

How do vocational graduates of comprehensive and vocational schools compare in terms of starting earnings per hour? Table 144 presents the data.

Within each of the year of graduation groups, the mean starting hourly wage of vocational school graduates is slightly higher than that of compre-

Table 144. INITIAL EARNINGS: COMPARISON OF VOCATIONAL AND COMPREHENSIVE SCHOOL GRADUATES

| Year of Graduation | Type of School | Initial Earnings | | |
|--------------------|-------------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 635 | 1.38 | 0.52 |
| | Comprehensive | 402 | 1.36 | 0.59 |
| 1958 | Vocational | 812 | 1.54 | 0.58 |
| | Comprehensive | 593 | 1.44 | 0.54 |
| 1962 | Vocational | 994 | 1.48 | 0.55 |
| | Comprehensive | 679 | 1.44 | 0.57 |
| Combined | Vocational | 2451 | 1.48 | 0.55 |
| | Comprehensive | 1676 | 1.42 | 0.57 |

hensive school graduates. While the differences are not significant, their consistency in favor of vocational school graduates suggests the latter start at slightly higher wages as a group. A plausible explanation is lacking.

Analysis by School Enrollment

Do the vocational graduates of small, medium and large enrollment schools, as defined by this study, differ significantly in starting hourly wages on their first full-time job? Table 145 provides the data.

The data indicate there is no relationship between school enrollment and first job starting hourly wages. Differences between mean values within each year of graduation group are not significant.

Table 145. INITIAL EARNINGS: COMPARISON OF SMALL, MEDIUM AND LARGE ENROLLMENT SCHOOL GRADUATES

| Year of Graduation | School Enrollment | Initial Earnings | | |
|--------------------|----------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | < 500 | 370 | 1.37 | 0.53 |
| | 500 - 1500 | 387 | 1.38 | 0.55 |
| | > 1500 | 280 | 1.36 | 0.55 |
| 1958 | < 500 | 459 | 1.54 | 0.54 |
| | 500 - 1500 | 558 | 1.48 | 0.61 |
| | > 1500 | 388 | 1.47 | 0.52 |
| 1962 | < 500 | 557 | 1.41 | 0.44 |
| | 500 - 1500 | 614 | 1.50 | 0.64 |
| | > 1500 | 502 | 1.49 | 0.58 |
| Combined | < 500 | 1388 | 1.44 | 0.50 |
| | 500 - 1500 | 1568 | 1.46 | 0.61 |
| | > 1500 | 1171 | 1.45 | 0.55 |

Analysis by Race of Graduate

How do white and Negro vocational graduates compare in terms of first job starting hourly wages? Table 146 provides the data.

For the three year of graduation groups, there is no consistent difference favoring either white or Negro graduates. None of the differences are statistically significant. The conclusion is that race of graduates is not a variable which influences first job hourly wage rates.

Analysis by Type of Graduate

How do vocational and academic graduates compare in terms of first job starting hourly wages? Table 147 provides the data.

Table 146. INITIAL EARNINGS: COMPARISON OF GRADUATES BY RACE

| Year of Graduation | Race of Graduate | Initial Earnings | | |
|--------------------|------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | White | 988 | 1.36 | 0.54 |
| | Negro | 37 | 1.53 | 0.60 |
| | Other | 3 | 2.03 | 0.45 |
| 1958 | White | 1282 | 1.51 | 0.54 |
| | Negro | 89 | 1.36 | 0.78 |
| | Other | 4 | 1.15 | 0.87 |
| 1962 | White | 1507 | 1.47 | 0.52 |
| | Negro | 123 | 1.41 | 0.93 |
| | Other | 4 | 1.35 | 0.18 |
| Combined | White | 3788 | 1.46 | 0.54 |
| | Negro | 250 | 1.41 | 0.84 |
| | Other | 11 | 1.46 | 0.45 |

Table 147. INITIAL EARNINGS: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES

| Year of Graduation | Type of Graduate | Initial Earnings | | |
|--------------------|----------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 1037 | 1.37 | 0.55 |
| | Academic | 358 | 1.72 | 0.75 |
| 1958 | Vocational | 1405 | 1.50 | 0.56 |
| | Academic | 393 | 1.69 | 0.70 |
| 1962 | Vocational | 1673 | 1.43 | 0.56 |
| | Academic | 282 | 1.49 | 0.50 |
| Combined | Vocational | 4127 | 1.45 | 0.56 |
| | Academic | 1033 | 1.63 | 0.68 |

The 1953, 1958 and 1962 academic graduates earned respectively 35, 19, and 6 cents per hour more as the initial job starting wage than did the vocational graduates. For all years, the mean hourly starting wage of academic graduates is 18 cents per hour greater than that of vocational graduates. The difference is to be expected because a greater proportion of academic graduates have completed some, if not four years of college, than vocational graduates before obtaining their first full-time job.

Table 148 presents a more equitable comparison of the two types of graduates. It includes only vocational and academic graduates who have had no college education.

Table 148. INITIAL EARNINGS: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES WITH NO COLLEGE EDUCATION

| Year of Graduation | Type of Graduate | Initial Earnings | | |
|--------------------|----------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 826 | 1.31 | 0.49 |
| | Academic | 150 | 1.44 | 0.61 |
| 1958 | Vocational | 1182 | 1.46 | 0.52 |
| | Academic | 215 | 1.48 | 0.55 |
| 1962 | Vocational | 1504 | 1.46 | 0.56 |
| | Academic | 208 | 1.44 | 0.49 |
| Combined | Vocational | 3524 | 1.43 | 0.53 |
| | Academic | 573 | 1.46 | 0.54 |

The initial earnings of the 1953 academic graduates were thirteen cents an hour greater than that of 1953 vocational graduates. By 1958, the greater initial earnings of the academic graduates was only two cents an hour. And

by 1962 the difference was reversed. The 1962 vocational graduates had slightly higher initial earnings. The differences, however, for 1958 and 1962 graduates are not significant.

Two interpretations can be given: (1) The differences in initial earnings lack statistical significance; therefore, there is no difference in initial earnings between vocational and academic graduates. (2) The initial earnings of vocational graduates have in the past been lower than those of academic graduates, but have now caught up with and surpassed the initial earnings of academic graduates. The lack of significant differences does nothing to help the latter interpretation. More data is needed from more recent graduating classes to confirm or reject the hypothesis implied by the second interpretation.

ANALYSIS OF PRESENT EARNINGS

Introduction

Present earnings have reference to the reported hourly wage or salary rate being earned by the graduates as of June 30, 1964. The job worked at the time may have been in the trade studied in high school, a highly related trade, a slightly related trade, or a completely unrelated trade.

In Chapter 3, the reliability and stability of the measure were established. It was also shown that present earnings were significantly correlated with such other occupational measures as related placement, i.e. the more related the initial job to the trade studied, the higher earnings two, six and eleven years after graduation; with job relatedness, i.e. the more all jobs held were related to the trade studied, the higher earnings two, six and eleven years after graduation; with employment security, i.e. the less unemployment experienced, the greater present hourly earnings; with initial earnings, i.e. the greater first job starting hourly earnings, the greater present earnings; and with job satisfaction, i.e. the greater present earnings, the greater the satisfaction reported for all jobs held.

This section continues the analysis of the measure in terms of the basic study variables.

Analysis by Year of Graduation

Within each year of graduation group, what is the distribution of present (June, 1964) hourly earnings? What is the mean and median present hourly earnings for 1953, 1958 and 1962 graduates? Table 149 provides the data.

For the graduates of 1953, 1958 and 1962 the mean present hourly rates are 3.08, 2.49 and 2.01 dollars respectively, and the median rates are 3.00, 2.30 and 1.90 respectively. The average production employee hourly wage for 1964 was 2.53 dollars per hour.¹

1. Bureau of Labor Statistics, 1965, Employment and Earnings

The average earnings of those who were working in the trade studied at the time of the survey are significantly higher than the above averages. This can be inferred from the correlation between job relatedness and present earnings mentioned earlier.

The differences between the hourly earnings of graduates two years out of school and those six and eleven years out of school are respectively .48 and 1.07 dollars. Assuming a forty hour week, the mean 1962, 1958 and 1953 graduate earns about 80, 100 and 120 dollars per week respectively. On an annual basis, those earnings are 4160, 5200 and 6240 dollars respectively. How this compares with the earnings of academic course graduates will be discussed in a later section.

Table 149. PRESENT EARNINGS: FREQUENCY DISTRIBUTIONS FOR VOCATIONAL COURSE GRADUATES BY YEAR OF GRADUATION

| Present Earnings C.I. | YEAR OF GRADUATION | | | | | | | | | | | |
|--------------------------|--------------------|------|-------|------|------|-------|------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| > 5.00 | 34 | 3.3 | 100.0 | 11 | 0.8 | 100.0 | 7 | 0.4 | 100.0 | 52 | 1.2 | 100.0 |
| 4.51-5.00 | 46 | 4.4 | 96.7 | 16 | 1.1 | 99.2 | 7 | 0.4 | 99.6 | 69 | 1.7 | 98.8 |
| 5.01-4.50 | 67 | 6.5 | 92.3 | 31 | 2.2 | 98.1 | 4 | 0.2 | 99.2 | 102 | 2.5 | 97.1 |
| 3.51-4.00 | 124 | 12.0 | 85.8 | 71 | 5.0 | 95.9 | 16 | 1.0 | 99.0 | 211 | 5.0 | 94.6 |
| 3.01-3.50 | 201 | 19.4 | 73.8 | 155 | 10.9 | 90.9 | 61 | 3.6 | 98.0 | 419 | 10.1 | 89.6 |
| 2.51-3.00 | 264 | 25.4 | 54.4 | 320 | 22.5 | 80.0 | 201 | 11.8 | 94.4 | 788 | 18.9 | 79.5 |
| 2.01-2.50 | 184 | 17.7 | 29.0 | 394 | 27.7 | 57.5 | 404 | 23.8 | 82.6 | 984 | 23.6 | 60.6 |
| 1.51-2.00 | 74 | 7.1 | 11.3 | 280 | 19.7 | 29.8 | 553 | 32.6 | 58.8 | 909 | 21.8 | 37.0 |
| 1.01-1.50 | 34 | 3.3 | 4.2 | 126 | 8.8 | 1 | 395 | 23.3 | 26.2 | 557 | 13.4 | 15.2 |
| .51-1.00 | 9 | 0.9 | 0.9 | 17 | 1.2 | 1.3 | 44 | 2.6 | 2.9 | 71 | 1.7 | 1.8 |
| .11- .50 | 0 | 0.0 | 0.0 | 1 | 0.1 | 0.1 | 5 | 0.3 | 0.3 | 6 | 0.1 | 0.1 |
| Number | 1037 | | | 1422 | | | 1697 | | | 4168 | | |
| Mean | 3.08 | | | 2.49 | | | 2.01 | | | 2.44 | | |
| Median | 3.00 | | | 2.30 | | | 1.90 | | | 2.30 | | |
| S.D. | 1.00 | | | .81 | | | .69 | | | .92 | | |

Analysis by Type of School

How do vocational graduates of comprehensive and vocational schools compare in terms of present earnings after so many years out of school? Table 150 provides the data.

Table 150. PRESENT EARNINGS: COMPARISON OF VOCATIONAL AND COMPREHENSIVE SCHOOL GRADUATES

| Year of Graduation | Type of School | Present Earnings | | |
|--------------------|-------------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 656 | 2.97 | 1.10 |
| | Comprehensive | 411 | 3.03 | 1.11 |
| 1958 | Vocational | 846 | 2.45 | 0.94 |
| | Comprehensive | 631 | 2.33 | 0.90 |
| 1962 | Vocational | 1044 | 1.97 | 0.74 |
| | Comprehensive | 716 | 1.88 | 0.82 |
| Combined | Vocational | 2557 | 2.39 | 1.00 |
| | Comprehensive | 1761 | 2.31 | 1.02 |

Within each year of graduation group, there is no substantial difference in present hourly earnings between graduates of the two types of schools. The conclusion is that the type of school attended is unrelated to hourly earnings two, six and eleven years after graduation, notwithstanding the slight difference in favor of vocational school graduates.

Analysis by School Enrollment

Do vocational graduates of small, medium and large enrollment schools, as defined by this study, differ significantly in present hourly earnings two, six and eleven years out of school? Table 151 provides the data.

Table 151. PRESENT EARNINGS: COMPARISON OF SMALL, MEDIUM AND LARGE ENROLLMENT SCHOOL GRADUATES

| Year of Graduation | School Enrollment | Present Earnings | | |
|--------------------|----------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | < 500 | 382 | 2.88 | 1.05 |
| | 500 - 1500 | 404 | 2.96 | 1.12 |
| | > 1500 | 281 | 3.21 | 1.12 |
| 1958 | < 500 | 486 | 2.33 | 0.92 |
| | 500 - 1500 | 585 | 2.41 | 0.93 |
| | > 1500 | 406 | 2.47 | 0.90 |
| 1962 | < 500 | 588 | 1.83 | 0.63 |
| | 500 - 1500 | 643 | 1.95 | 0.82 |
| | > 1500 | 529 | 2.04 | 0.85 |
| Combined | < 500 | 1459 | 2.27 | 0.96 |
| | 500 - 1500 | 1642 | 2.36 | 1.02 |
| | > 1500 | 1217 | 2.45 | 1.04 |

In all year of graduation groups, the mean present hourly earnings increases with greater enrollment. For all graduates combined, the present hourly earnings are 2.27, 2.36 and 2.45 for small, medium and large enrollment schools respectively.

What is the explanation? One possible explanation is that the larger enrollment schools are located in or closer to areas of greater industrial diversity, growth and labor organization. Such factors would tend to increase hourly earnings. Another possible explanation lies in the fact that the larger enrollment schools offer more vocational courses, many of which are in trades that have higher hourly

earnings after some experience is gained, e.g. industrial electrician, machinest, and plumber. It is unlikely that the trend is related to differences in school characteristics directly.

Analysis by Race of Graduate

How do white and Negro vocational graduates compare in terms of hourly earnings two, six and eleven years out of school? Table 152 provides the data.

Table 152. PRESENT EARNINGS: COMPARISON OF GRADUATES BY RACE

| Year of Graduation | Race of Graduate | Present Earnings | | |
|--------------------|------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | White | 1017 | 3.01 | 1.11 |
| | Negro | 38 | 2.58 | 1.06 |
| | Other | 3 | 4.17 | 0.83 |
| 1958 | White | 1347 | 2.44 | 0.90 |
| | Negro | 96 | 1.87 | 1.06 |
| | Other | 4 | 2.42 | 0.51 |
| 1962 | White | 1582 | 1.96 | 0.74 |
| | Negro | 130 | 1.69 | 1.10 |
| | Other | 6 | 1.38 | 0.71 |
| Combined | White | 3959 | 2.39 | 0.99 |
| | Negro | 265 | 1.89 | 1.12 |
| | Other | 13 | 2.35 | 1.29 |

Within each year of graduation group, the Negro graduates had lower hourly earnings than the white graduates. Furthermore, the difference is greater after five and eleven years out of school than after two years. White 1953 graduates have a present hourly rate (June, 1964) of 3.01 compared to the rate of 2.58 for 1953 Negro graduates. The difference is substantial.

One explanation for differences in hourly earnings between white and Negro graduates is the finding that a much smaller percentage of the Negro graduates find work in the trade for which trained or in highly related trades. It has been shown that job relatedness to trade studied in high school correlates with present earnings. The disadvantage of the Negro is again demonstrated. Because he does not get into the trade for which trained, he also earns less two, six and ten years after graduation. No doubt there are still other reasons why Negro graduates earn less than white graduates after so many years out of school.

Analysis by Type of Graduate

How do vocational and academic graduates compare in terms of present hourly earnings two, six and eleven years after graduation. Table 153 provides the data for the two types of graduates without regard to post-high school education.

Table 153. PRESENT EARNINGS: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES

| Year of Graduation | Type of Graduate | Present Earnings | | |
|--------------------|----------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 1067 | 3.00 | 1.10 |
| | Academic | 379 | 3.22 | 1.45 |
| 1958 | Vocational | 1477 | 2.40 | 0.92 |
| | Academic | 426 | 2.40 | 1.01 |
| 1962 | Vocational | 1760 | 1.94 | 0.78 |
| | Academic | 306 | 1.73 | 0.77 |
| Combined | Vocational | 4318 | 2.36 | 1.01 |
| | Academic | 1111 | 2.50 | 1.27 |

The academic graduates of 1953 were earning substantially more than the vocational graduates of 1953. The academic and vocational graduates of 1958 had the same rate of hourly earnings. However, the vocational graduates of 1962 were earning substantially more than the academic graduates of 1962. What is the explanation? The greater college education among the academics accounts for the data. The superiority of the 1953 academic graduates is attributable to the greater percentage of college graduates among them than among 1953 vocational graduates. However, the 1962 academic graduates do not include those who were attending college full-time, and had never yet held a job. That explains why 1962 vocational graduates were earning more than the 1962 academic graduates. The latter were mainly those with no college attendance or those who had dropped out of college to go to work.

Table 154 compares vocational graduates with academic graduates, neither of which have attended college.

Table 154. PRESENT EARNINGS: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES (Based on graduates with no college education who have \geq 6 months employable time)

| Year of Graduation | Type of Graduate | Present Earnings | | |
|--------------------|----------------------|------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 822 | 3.02 | 0.95 |
| | Academic | 152 | 3.06 | 1.22 |
| 1958 | Vocational | 1198 | 2.46 | 0.79 |
| | Academic | 221 | 2.35 | 0.88 |
| 1962 | Vocational | 1536 | 2.01 | 0.70 |
| | Academic | 208 | 1.87 | 0.62 |
| Combined | Vocational | 3568 | 2.40 | 0.89 |
| | Academic | 581 | 2.36 | 1.02 |

The 1962 vocational graduates were earning fourteen cents an hour more than the 1962 academic graduates two years after graduation. The 1958 vocational graduates were earning eleven cents an hour more than the 1958 academic graduates six years after graduation. However, eleven years after graduation, the 1953 vocational graduates were earning four cents an hour less than the 1953 academic graduates. For all graduates combined, the non-college vocationalists earned \$2.40 an hour, whereas the non-college academics earned \$2.36 as of June, 1964.

The data suggests this generalization: For the first six or more years after graduation, the non-college vocationalists earn more than their academic counterparts. Somewhere between six and eleven years after graduation, the earnings of the non-college academic graduates catch up with the earnings of the vocational graduates. It may even be that thereafter the earnings of the academics exceed that of the vocational graduates. The data is not sufficient to be conclusive on the latter possibility.

A further study of the earning potential of vocational and academic graduates needs to be done to determine comparative earnings over a greater period of time. Within the time period studied, the vocational graduates with no college education have substantially greater accumulated earnings than the academic graduates with a college education.

ANALYSIS OF EARNINGS PROGRESSION

Introduction

How have the earnings of the vocational graduates of 1953, 1958 and 1962 progressed since their first full-time job after graduation? The measure that was finally adopted to tell the story of earnings progression was the average increase in earnings per month per month of employment. The measure consists of the difference between present hourly earnings and starting hourly earnings on first full-time job after graduation, multiplied by a constant to put the difference on a per month basis, and divided by the number of months employed. For example, if a graduate started at \$300 a month on his first job, and increased his earnings to \$400 a month over a ten month period, his earnings progression or average increase per month would be ten dollars. The measure does not take into account the number, amount or spacing of individual raises in the total employment period. Such factors would have a bearing upon total accumulated earnings over the period. The measure, therefore, must not be confused with the idea of accumulated earnings. The equation for the measure is given in Chapter 3.

Earnings progression, as defined above, was shown in Chapter 3 to be related to only one of the occupational measures, present earnings. Graduates with relatively high present earnings (as of June, 1964) tend to have relatively high earnings progression. Since present earnings are an element in the calculation of the measure, the relationship is understandable, although not a necessary one.

Earnings progression was found to be unrelated to employment security, employment stability, job satisfaction, related placement and job relatedness. The lack of relation with job relatedness is particularly noteworthy. The earnings progression of those who go into the trades studied or highly related trades is no different from those who enter only slightly related trades or even completely unrelated trades.

The present section continues the analysis of the measure in terms of the basic study variables.

Analysis by Year of Graduation

Within each year of graduation group, what is the distribution of the average increase in earnings per month per month of employment? What is the mean and median average increase in earnings per month? Table 155 provides the data.

Table 155. EARNINGS PROGRESSION: FREQUENCY DISTRIBUTIONS FOR VOCATIONAL COURSE GRADUATES BY YEAR OF GRADUATION

| Earnings Progression C.I. | YEAR OF GRADUATION | | | | | | | | | | | |
|------------------------------|--------------------|------|-------|------|------|-------|------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| >9.01 | 8 | 0.9 | 100.0 | 61 | 5.0 | 100.0 | 176 | 12.6 | 100.0 | 235 | 6.9 | 100.0 |
| 8.01-9.00 | 13 | 1.4 | 99.1 | 38 | 3.1 | 95.0 | 65 | 4.6 | 87.4 | 116 | 3.3 | 93.1 |
| 7.01-8.00 | 19 | 2.1 | 97.7 | 44 | 3.6 | 91.9 | 73 | 5.2 | 82.8 | 136 | 3.8 | 89.8 |
| 6.01-7.00 | 35 | 3.8 | 95.6 | 70 | 5.8 | 88.3 | 94 | 6.7 | 77.6 | 201 | 5.7 | 86.0 |
| 5.01-6.00 | 41 | 4.4 | 91.8 | 115 | 9.4 | 82.5 | 151 | 10.8 | 70.9 | 307 | 8.7 | 80.3 |
| 4.01-5.00 | 115 | 12.5 | 87.4 | 148 | 12.1 | 73.1 | 132 | 9.4 | 60.1 | 395 | 11.1 | 71.6 |
| 3.01-4.00 | 214 | 23.4 | 74.9 | 209 | 17.2 | 61.0 | 171 | 12.2 | 50.7 | 595 | 16.8 | 60.5 |
| 2.01-3.00 | 233 | 25.4 | 51.5 | 211 | 17.3 | 43.8 | 178 | 12.7 | 38.5 | 624 | 17.6 | 43.7 |
| 1.01-2.00 | 162 | 17.7 | 26.1 | 153 | 12.6 | 26.5 | 87 | 6.2 | 25.8 | 405 | 11.4 | 26.1 |
| .01-1.00 | 54 | 5.9 | 8.4 | 73 | 5.9 | 13.9 | 44 | 3.2 | 19.6 | 172 | 4.8 | 14.7 |
| 0.0 | 23 | 2.5 | 2.5 | 97 | 8.0 | 8.0 | 230 | 16.4 | 16.4 | 352 | 9.9 | 9.9 |
| Number | 916 | | | 1219 | | | 1401 | | | 3548 | | |
| Mean | 3.22 | | | 3.83 | | | 4.55 | | | 3.95 | | |
| Median | 3.00 | | | 3.40 | | | 4.00 | | | 3.40 | | |
| S.D. | 1.86 | | | 2.75 | | | 3.57 | | | 2.97 | | |

The mean average increase in earnings per month of employment is 4.55, 3.83 and 3.22 dollars respectively for the graduates of 1962, 1958 and 1953.

The equivalent median values are 4.00, 3.40 and 3.00 dollars per month. The decrease in earnings progression with increased months of employment, from a maximum of 24 for 1962 graduates to a maximum of 132 for 1953 graduates, is to be expected. Earnings tend to increase at a negatively accelerated rate over such a long period of time, with the sharpest rate of increase coming in the first few years. For that reason, the 1962 graduates, with only twenty-four months out of school, show the highest earnings progression.

Analysis by Type of School

How do vocational graduates of comprehensive and vocational schools compare in terms of mean average earnings increase per month of employment? Table 156 provides the data.

Table 156. EARNINGS PROGRESSION: COMPARISON OF VOCATIONAL AND COMPREHENSIVE SCHOOL GRADUATES

| Year of Graduation | Type of School | Earnings Progression | | |
|--------------------|-------------------------|----------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 548 | 3.16 | 1.82 |
| | Comprehensive | 368 | 3.32 | 1.92 |
| 1958 | Vocational | 702 | 3.96 | 2.77 |
| | Comprehensive | 517 | 3.66 | 2.72 |
| 1962 | Vocational | 837 | 4.57 | 3.54 |
| | Comprehensive | 563 | 4.53 | 3.61 |
| Combined | Vocational | 2097 | 3.98 | 2.96 |
| | Comprehensive | 1450 | 3.91 | 2.98 |

The differences in average dollars of increased earnings per month of employment between the graduates of the two types of schools are not significant. The conclusion is that the type of school, i.e. comprehensive or vocational, attended by the vocational course student has no bearing on his future earnings progression.

Analysis by School Enrollment

How do graduates of small, medium and large enrollment schools, as defined in this study, compare in terms of average earnings increase per month of employment? Table 157 provides the data.

Table 157. EARNINGS PROGRESSION: COMPARISON OF SMALL, MEDIUM AND LARGE ENROLLMENT SCHOOL GRADUATES

| Year of Graduation | School Enrollment | Earnings Progression | | |
|--------------------|----------------------|----------------------|------|------|
| | | N | M | S.D. |
| 1953 | < 500 | 312 | 3.01 | 1.73 |
| | 500 - 1500 | 351 | 3.14 | 1.86 |
| | > 1500 | 253 | 3.60 | 1.96 |
| 1958 | < 500 | 377 | 3.82 | 2.82 |
| | 500 - 1500 | 493 | 3.79 | 2.71 |
| | > 1500 | 349 | 3.90 | 2.74 |
| 1962 | < 500 | 478 | 4.20 | 3.43 |
| | 500 - 1500 | 497 | 4.48 | 3.67 |
| | > 1500 | 425 | 5.04 | 3.55 |
| Combined | < 500 | 1169 | 3.76 | 2.91 |
| | 500 - 1500 | 1350 | 3.87 | 2.97 |
| | > 1500 | 1028 | 4.29 | 3.02 |

Within each year of graduation group, the graduates of the > 1500 enrollment schools showed the greatest mean earnings progression. A plausible

explanation for the relationship between school enrollment and earnings progression after graduation is that the large enrollment schools are located in or near major metropolitan areas where earnings tend to be higher. It is not likely the school enrollment is related to earnings progression because of an unknown school characteristic which developed the earnings potential of large enrollment school graduates more than those from medium and small enrollment schools.

Analysis by Race of Graduate

How do white and Negro vocational graduates compare in terms of earnings progression? Table 158 provides the data.

Table 158. EARNINGS PROGRESSION: COMPARISON OF GRADUATES BY RACE

| Year of Graduation | Race of Graduate | Earnings Progression | | |
|--------------------|------------------|----------------------|------|------|
| | | N | M | S.D. |
| 1953 | White | 873 | 3.23 | 1.83 |
| | Negro | 32 | 2.98 | 2.35 |
| | Other | 3 | 4.30 | 1.42 |
| 1958 | White | 1117 | 3.89 | 2.75 |
| | Negro | 75 | 2.92 | 2.50 |
| | Other | 4 | 5.92 | 3.73 |
| 1962 | White | 1271 | 4.65 | 3.59 |
| | Negro | 92 | 3.54 | 3.24 |
| | Other | 4 | 1.85 | 1.69 |
| Combined | White | 3272 | 4.00 | 2.97 |
| | Negro | 200 | 3.23 | 2.86 |
| | Other | 11 | 4.00 | 3.11 |

Within each of the three year of graduation groups, the mean earnings progression score for white graduates was substantially greater than for Negro

graduates. The conclusion is that white vocational graduates increase their earnings at a more rapid rate than Negro vocational graduates. The difference in earnings progression between white and Negro graduates cannot be attributable to the fact that a much smaller percentage of Negroes enter the trades for which trained. Earnings progression is unrelated to the job relatedness, i.e. there is no difference in rate of earnings progression between those who enter the trades studied in high school and those who enter completely unrelated trades.

Analysis by Type of Graduate

How do vocational and academic course graduates with no college education compare in terms of earnings progression? Table 159 presents the data.

Table 159. EARNINGS PROGRESSION: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES (Based on graduates with no college education who have \geq 6 months employable time.)

| Year of Graduation | Type of Graduate | Earnings Progression | | |
|--------------------|----------------------|----------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 726 | 2.99 | 1.63 |
| | Academic | 132 | 3.27 | 2.41 |
| 1958 | Vocational | 1027 | 3.78 | 2.71 |
| | Academic | 176 | 3.93 | 2.85 |
| 1962 | Vocational | 1272 | 4.59 | 3.57 |
| | Academic | 173 | 4.11 | 3.74 |
| Combined | Vocational | 3037 | 3.92 | 2.98 |
| | Academic | 481 | 3.81 | 3.12 |

Two years after graduation, vocational graduates have a slightly greater mean earnings progression score than academic graduates. The difference is reversed six years after graduation, and becomes still greater in favor of academic course graduates eleven years after graduation. The data suggest that vocational graduates have an initial advantage in terms of earnings progression, but that within six years after graduation the advantage swings in favor of the academic graduates, and tends to become even greater in the following years. This is consistent with the interpretation offered in the preceding section on present earnings differences between the two types of graduates. By 1964, the 1962 vocational graduates were earning substantially more than the 1962 academic graduates. However, in the same year, 1953 academic graduates were earning slightly more than their vocational counterparts. Thus, over a period of about ten years, the academic graduates seem to overcome their earnings disadvantage of the early years at work.

10

THEIR POST HIGH SCHOOL EDUCATIONAL HISTORY

| | |
|---|----|
| <input type="checkbox"/> Type of Post-High School Education | 1 |
| <input type="checkbox"/> Accumulated College Education | 9 |
| <input type="checkbox"/> Accumulated Non-College Education | 15 |

CHAPTER 10 SUMMARY

Type of Post-High School Education

1. Year of graduation. The data do not permit a trend interpretation of the percentage of 1953, 1958, and 1962 graduates who reported post-high school education. About 41 per cent of the vocational graduates claimed some type of formal post-high school education. They attended virtually every type of post-high school source of education. The six most frequently mentioned sources are military-specialist school, four-year college, correspondence courses, two-year colleges, public trade-technical schools, and private trade-technical schools.
2. Type of school. There are no substantial differences between the graduates of vocational and comprehensive schools in terms of percentages who reported attending the different types of post-high school education.
3. School enrollment. There are no significant differences between small, medium, and large enrollment school graduates in percentages who report attending the different sources of post-high school education, with one exception: substantially fewer graduates from small enrollment schools report having attended college.
4. Race of graduates. A larger percentage of Negro vocational graduates report college-level education than white vocational graduates. The reverse is the case for post-high school trade-related education.
5. Academic versus vocational graduates. As expected, a much greater percentage of academic graduates report college-level education than vocational graduates. The reverse is the case for post-high school trade-related education.

Accumulated College Education

6. Year of graduation. The mean total class hours of college education accumulated by the graduates of 1953, 1958, and 1962 indicates that college credits are being carried up to 11 years after graduation. Also, the majority of the vocational graduates who attend college do not complete a four-year program.
7. Type of school. The difference in mean accumulated class hours of college education between vocational graduates of vocational and comprehensive schools is not significant.
8. School enrollment. The enrollment of former schools is unrelated to the mean class hours of college education accumulated by vocational graduates.

(Continued in Appendix B)

TYPE OF POST-HIGH SCHOOL EDUCATION

Introduction

Vocational education has been criticized for being terminal education, that is, for not preparing its graduates for higher education in the event that they so choose. Whether the criticism has merit or not, is not here the issue. It does imply that vocational graduates pursue little in the way of further formal education after graduation. That raises some researchable questions. What types of post-high school education do the graduates pursue? To what extent do they continue education after high school?

Analysis by Year of Graduation

Do the graduates of 1953, 1958 and 1962 differ in percentages that claim different kinds of post-high school education? Are there any discernable trends in terms of participation in the different kinds of education after high school? Table 160 presents the data.

Table 160. KINDS OF POST-HIGH SCHOOL EDUCATION REPORTED BY VOCATIONAL GRADUATES BY YEAR OF GRADUATION

| Sources of Post-High School Education | YEAR OF GRADUATION | | | | | | | |
|--|--------------------|------|------|------|------|------|----------|------|
| | 1953 | | 1958 | | 1962 | | Combined | |
| | N | % | N | % | N | % | N | % |
| Two-year college | 117 | 10.1 | 145 | 8.7 | 211 | 8.5 | 474 | 8.9 |
| Four-year college | 186 | 16.0 | 199 | 12.0 | 214 | 8.6 | 600 | 11.3 |
| Post-college graduate school | 41 | 3.5 | 22 | 1.3 | — | — | 63 | 1.2 |
| Private trade/technical school | 96 | 8.3 | 84 | 5.1 | 94 | 3.8 | 276 | 5.2 |
| Public trade/technical school | 92 | 7.9 | 123 | 7.4 | 163 | 6.6 | 380 | 7.1 |
| Business-commercial school | 44 | 3.8 | 40 | 2.4 | 40 | 1.6 | 124 | 2.3 |
| Adult continuation school | 76 | 6.5 | 97 | 5.8 | 78 | 3.1 | 252 | 4.7 |
| Military specialist school | 358 | 30.8 | 421 | 25.4 | 376 | 15.1 | 1157 | 21.7 |
| Company course or school | 185 | 15.9 | 157 | 9.5 | 93 | 3.7 | 436 | 8.2 |
| Correspondence courses | 171 | 14.7 | 185 | 11.2 | 156 | 6.3 | 512 | 9.6 |
| Other than above | 133 | 11.4 | 140 | 8.4 | 127 | 5.1 | 402 | 7.5 |

For the combined graduates, the six most frequently mentioned sources of post-high school education were as follows:

1. Military specialist schools (21.7 percent)
2. Four year college (11.3 percent)
3. Correspondence courses (9.6 percent)
4. Two year colleges (8.9 percent)
5. Public trade-technical schools (7.1 percent)
6. Private trade-technical schools (5.2 percent)

The percentages shown in Table 160 are not mutually exclusive, and can't be summed for a total percentage of graduates who reported some type of formal post-high school education. A separate analysis revealed that 41.6 percent of all vocational graduates claimed some type of formal post-high school education other than military specialist school. How much of such education was started and not completed is a question for which the study has no data. It can be concluded, however, that vocational education is not terminal education for a large percentage of graduates. The latter attend, in varying percentages, virtually every type of post-high school education.

What about trends? Are recent graduates obtaining additional education in greater numbers? Since the period of opportunity for post-high school education is greatest for the 1953 graduates and least for the 1962 graduates, the percentages by year of graduation are not truly comparable. What appears to be a trend of decreasing percentages attending the various sources of post-high school education is probably a reflection of the differences in time opportunity for additional education. With a few more years out of school, the graduates of 1962 can be expected to report more additional education than shown in Table 160. No conclusion can be drawn from Table 160, therefore, on the question of whether recent graduates are attending sources of post-high school education in greater proportions than those of five to ten years ago.

The percentage of 1953, 1958 and 1962 graduates who reported that they went directly to full-time college studies from high school is 8.3, 8.8 and 10.4 percent respectively. While these data suggest a slight trend, they are not conclusive.

Similarly, the percentage of 1953, 1958 and 1962 graduates who reported they went directly to full-time non-college studies is 0.7, 1.4 and 1.5 per cent respectively. The data hardly warrant the conclusion that there is a trend of increasing full-time non-college studies by vocational graduates. (Most vocational graduates continue their non-college studies on a part-time basis.)

Thus, what data the study has available, suggests there is no significant change over the past ten years in the percentage of graduates who pursue either college or non-college education. The data, however, are not considered adequate to be conclusive.

Analysis by Type of School

How do the vocational graduates of comprehensive and vocational schools compare in terms of percentages that report attending the different sources of post-high school education? Which of the two types of schools sends a greater percentage of graduates into post-high school education? Table 161 provides the data.

Table 161. KINDS OF POST-HIGH SCHOOL EDUCATION REPORTED BY VOCATIONAL GRADUATES BY TYPE OF HIGH SCHOOL ATTENDED

| Sources of Post-High School Education | TYPE OF SCHOOL | | | |
|--|----------------|------|---------------|------|
| | Vocational | | Comprehensive | |
| | N | % | N | % |
| Two-year college | 236 | 7.6 | 238 | 10.8 |
| Four-year college | 348 | 11.2 | 252 | 11.4 |
| Post-college graduate school | 44 | 1.4 | 25 | 1.1 |
| Private trade/technical school | 149 | 4.8 | 127 | 5.8 |
| Public trade/technical school | 242 | 7.8 | 138 | 6.3 |
| Business-commercial school | 66 | 2.1 | 58 | 2.6 |
| Adult continuation school | 143 | 4.6 | 109 | 4.9 |
| Military specialist school | 672 | 21.5 | 485 | 22.0 |
| Company course or school | 256 | 8.2 | 180 | 8.2 |
| Correspondence courses | 277 | 8.9 | 235 | 10.7 |
| Other than above | 270 | 8.7 | 132 | 6.0 |

A slightly higher percentage of comprehensive high school graduates report attendance at two year colleges. Beyond that, the differences are negligible. The conclusion is that the two types of schools send about an equal percentage of vocational graduates to each of the different sources of post-high school education. The proximity of such educational sources is undoubtedly a factor when schools are compared on an individual basis. It is not a factor in the present comparison.

Analysis by School Enrollment

How do small, medium and large enrollment high schools, as defined in this study, compare in terms of percentage of graduates who report attending the different sources of post-high school education? Table 162 presents the data.

Table 162. KINDS OF POST-HIGH SCHOOL EDUCATION REPORTED BY ENROLLMENT OF HIGH SCHOOL ATTENDED

| Sources of Post-High School Education | SCHOOL ENROLLMENT | | | | | |
|--|-------------------|------|------------|------|--------|------|
| | < 500 | | 500 - 1500 | | > 1500 | |
| | N | % | N | % | N | % |
| Two-year college | 87 | 5.0 | 224 | 11.1 | 163 | 10.5 |
| Four-year college | 125 | 7.1 | 291 | 14.4 | 184 | 11.8 |
| Post-college graduate school | 15 | 0.8 | 34 | 1.7 | 20 | 1.3 |
| Private trade/technical school | 90 | 5.1 | 87 | 4.3 | 99 | 6.4 |
| Public trade/technical school | 135 | 7.7 | 117 | 5.8 | 128 | 8.2 |
| Business-commercial school | 36 | 2.0 | 50 | 2.5 | 38 | 2.4 |
| Adult continuation school | 85 | 4.8 | 77 | 3.8 | 90 | 5.8 |
| Military specialist school | 399 | 22.7 | 412 | 20.4 | 346 | 22.2 |
| Company course or school | 132 | 7.5 | 174 | 8.6 | 130 | 8.4 |
| Correspondence courses | 171 | 9.7 | 181 | 9.0 | 160 | 10.3 |
| Other than above | 149 | 8.5 | 153 | 7.6 | 100 | 6.4 |

For all enrollment categories, the percentages vary within a range of two percentage points for private trade-technical schools, public trade-technical schools, business schools, adult continuation school, military specialist school, company courses, and correspondence courses. The conclusion is that the enrollment of the high school attended has little or no bearing on the percentage of graduates attending such sources of post-high school education.

The percentage of vocational graduates from small enrollment schools, i.e. less than 500 enrollment, who reported attending two-year colleges and four-year colleges is less than half the percentage from medium and large enrollment schools. Why this is so is a matter for hypothesis and further research. Possibly, the small schools do less in the way of making it possible for graduates to enter college. It also may be because they are less likely to be in or near centers of higher education.

Analysis by Race of Graduate

How do Negro and white graduates compare in terms of percentage reporting attendance at the different sources of post-high school education? Table 163 presents the data.

A larger percentage of Negro graduates report attending two-year colleges (12.5 percent vs. 8.7 percent for white graduates) and four-year colleges (15.1 percent vs. 11.0 percent for white graduates).

A larger percentage of white graduates report taking company courses (8.8 percent vs. 2.0 percent for Negro graduates); correspondence courses (10.1 percent vs. 4.1 percent); and adult continuation courses (5 percent vs. 2.3 percent).

A comment-worthy difference is the percentage of Negroes and whites reporting attendance at military specialist schools. Almost 23 percent of white graduates report such experience, whereas only 12 percent of the Negroes report attending such schools. The percentage of white graduates who reported military service was 51 percent. Forty-two percent of Negro graduates reported such experience. It is apparent the Negro graduates are not attending military specialists schools in the same proportion as white graduates. Unfortunately, the study has no data

Table 163. KINDS OF POST-HIGH SCHOOL EDUCATION REPORTED BY RACE OF VOCATIONAL GRADUATES

| Sources of Post-High School Education | RACE OF GRADUATE | | | | | |
|--|------------------|------|-------|------|-------|------|
| | White | | Negro | | Other | |
| | N | % | N | % | N | % |
| Two-year college | 421 | 8.7 | 43 | 12.5 | 2 | 10.5 |
| Four-year college | 531 | 11.0 | 52 | 15.1 | 4 | 44.4 |
| Post-college graduate school | 59 | 1.2 | 6 | 1.7 | 3 | 15.8 |
| Private trade/technical school | 251 | 5.2 | 18 | 5.2 | 2 | 10.5 |
| Public trade/technical school | 353 | 7.3 | 18 | 5.2 | 3 | 15.8 |
| Business-commercial school | 16 | 0.3 | 6 | 1.7 | 2 | 10.5 |
| Adult continuation school | 240 | 5.0 | 8 | 2.3 | 2 | 10.5 |
| Military specialist school | 1098 | 22.7 | 42 | 12.2 | 3 | 15.8 |
| Company course or school | 425 | 8.8 | 7 | 2.0 | 0 | 0.0 |
| Correspondence courses | 491 | 10.1 | 14 | 4.1 | 0 | 0.0 |
| Other than above | 381 | 7.9 | 17 | 4.9 | 1 | 5.3 |

on the reasons for the comparatively small Negro attendance at military specialists schools. Conceivably, such reasons might shed light on the relative educational achievement status of white and Negro vocational school graduates.

Analysis by Type of Graduate

How do academic and vocational graduates compare in terms of having attended the different types of post-high school education? Table 164 presents the data.

As expected, a proportionately greater number of academic graduates report having attended two year colleges (15.8 percent vs. 8.9 percent for the vocational graduates); four year colleges (47.2 percent vs. 11.3 percent); and graduate schools (8.4 percent vs. 1.3 percent).

Conversely, a greater percentage of vocational graduates report having attended private trade schools (5.2 percent vs. 4.2 percent for academic

graduates); public trade schools (7.1 percent vs. 3.8 percent); company courses (8.2 percent vs. 6.1 percent); adult continuation schools (4.7 percent vs. 2.1 percent); and correspondence courses (9.6 percent vs. 7.7 percent). The differences are not great. They do, however, confirm that the vocational graduate has a much greater interest in a trade or trade-related education.

Table 164. KINDS OF POST-HIGH SCHOOL EDUCATION REPORTED BY VOCATIONAL GRADUATES BY TYPE OF GRADUATE

| Sources of Post-High School Education | TYPE OF GRADUATE | | | |
|--|------------------|------|----------|------|
| | Vocational | | Academic | |
| | N | % | N | % |
| Two-year college | 474 | 8.9 | 282 | 15.8 |
| Four-year college | 600 | 11.3 | 841 | 47.2 |
| Post-college graduate school | 69 | 1.3 | 150 | 8.4 |
| Private trade/technical school | 276 | 5.2 | 75 | 4.2 |
| Public trade/technical school | 380 | 7.1 | 68 | 3.8 |
| Business-commercial school | 124 | 2.3 | 69 | 3.9 |
| Adult continuation school | 252 | 4.7 | 37 | 2.1 |
| Military specialist school | 1152 | 21.7 | 385 | 21.6 |
| Company course or school | 436 | 8.2 | 109 | 6.1 |
| Correspondence courses | 512 | 9.6 | 137 | 7.7 |
| Other than above | 402 | 7.5 | 103 | 5.8 |

There is a further aspect of the data that warrants comment. Of the total academic graduates, 44 percent reported that they never attended college. Another 22 percent attended college for various periods but did not complete their college education. Thus, 66 percent of the academic graduates had no college education or an incomplete college education. In view of this, the percentage of academic graduates who report attending non-college sources of post-high school education is amazingly small. Academic graduates who do not go to college actually accumulate less non-college post-high school education than vocational graduates who do not go to college. Sixty-four percent of academic graduates reported they had not attended any of the non-college sources of post-high school education.

ACCUMULATED COLLEGE EDUCATION

Introduction

About 18 percent of vocational course graduates reported that they had some college education. The percentage who claim some college education is only part of the story. One would also like to know how much college education was accumulated by those that did go to college.

Chapter 3 introduced a college education index that described the total accumulated hours of college-level education. The index score was derived as follows: Graduates reported the average hours of class attendance per week in two year colleges, four year colleges and graduate schools. They also indicated the dates of attendance. From this data, it is possible to calculate an approximation of the total class hours accumulated in all three college-level institutions. That total is the college education index. It equates amount of college education to hours of classroom attendance.

The procedure had one flaw. There was evidence that some students reported average hours of classroom attendance and study hours instead of merely class hours as requested. This was the only interpretation that could be placed upon some of the high hours of weekly attendance reported. The percentage who misinterpreted the questionnaire in this way, in so far as it was possible to determine, was less than ten percent. All who reported more than twenty class hours per week were equated to twenty class hours. This, of course, is only a partial correction because there was no way of ascertaining whether those who reported less than twenty class hours per week were also including non-class study hours. The only reasonable assumption is that the college education index scores are, by this error, higher than what they would be if the graduates reported only average weekly hours of class attendance.

The error does not invalidate the comparative analysis made in this section. There is no reason to believe that those who misinterpreted the question were distributed in anything but a random manner among the categories

under comparison. The error does, however, suggest caution in interpreting the index values and the mean accumulated hours of education by type of institution as absolute values. They are undoubtedly inflated.

The calculated college education index scores may be interpreted as staying power of the graduates. The lower the score, the fewer the total college hours accumulated, the sooner the graduate dropped out of college. It should be understood, however, that the study has no data to explain differences in staying power.

Analysis by Year of Graduation

What is the college education index, i.e. mean total accumulated classroom hours of college education, for the vocational graduates of 1953, 1958 and 1962? Table 165 provides the data. (The index values multiplied by 10 are the actual mean total accumulated hours.)

Table 165. COLLEGE EDUCATION: MEAN TOTAL ACCUMULATED CLASS HOURS OF POST HIGH SCHOOL EDUCATION BY YEAR OF GRADUATION

| Sources of Post-High School College Education | YEAR OF GRADUATION | | | | | | | | | | | |
|--|--------------------|-------|-------|------|-------|-------|------|-------|------|----------|-------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| Two-year college | 106 | 140.0 | 109.9 | 136 | 151.6 | 118.7 | 194 | 107.5 | 90.5 | 437 | 129.2 | 106.5 |
| Four-year college | 171 | 284.1 | 209.3 | 181 | 224.4 | 192.5 | 198 | 108.8 | 73.4 | 551 | 201.0 | 182.0 |
| Post graduate school | 33 | 144.3 | 228.6 | 22 | 63.0 | 80.9 | - | - | - | 55 | 101.2 | 178.7 |
| College Education Index | 243 | 221.7 | 161.6 | 285 | 175.5 | 130.3 | 382 | 91.9 | 59.3 | 911 | 152.8 | 129.3 |

The reader is cautioned against a year to year comparison. The index values of 222, 176 and 92 for the graduates of 1953, 1958 and 1962 respectively are a reflection of the differences in opportunity to accumulate college hours. The class of 1962 graduates who are attending college have necessarily an incomplete number of accumulated college hours. To a lesser degree, that is probably also the case for some 1958 graduates who may have gone to college after a year or more of work or who went part-time.

The total accumulated hours of the 1953 graduates is substantially greater than that of the 1958 graduates. This indicates that vocational graduates continue to accumulate college credits between six and eleven years out of school. The finding is attributable to the greater part-time college attendance by vocational graduates.

The apparent stretchout of college education for vocational graduates may be attributable to two factors. Most vocational graduates do not go directly from high school to college. The occupational history of many indicates that one or more years of gainful employment preceded enrollment in college. Also, a much greater percentage of vocational graduates pursue college studies on a part-time basis.

Analysis by Type of School

How do the vocational graduates of comprehensive and vocational schools compare in terms of total accumulated hours of college education. Table 166 provides the data.

Table 166. COLLEGE EDUCATION: MEAN TOTAL ACCUMULATED CLASS HOURS BY TYPE OF HIGH SCHOOL ATTENDED

| Sources of Post-High School College Education | | TYPE OF SCHOOL | | | | | |
|--|----------|----------------|-------|-------|---------------|-------|-------|
| | | Vocational | | | Comprehensive | | |
| | | N | M | S.D. | N | M | S.D. |
| Two-year college | | 224 | 128.8 | 108.4 | 213 | 129.6 | 104.5 |
| Four-year college | | 319 | 197.3 | 176.0 | 232 | 206.2 | 190.0 |
| Post graduate school | | 39 | 77.1 | 142.0 | 24 | 140.5 | 220.4 |
| College Education Index | | N | M | S.D. | N | M | S.D. |
| Year of Graduation | 1953 | 136 | 206.1 | 150.4 | 107 | 241.5 | 172.7 |
| | 1958 | 159 | 182.1 | 130.3 | 126 | 167.3 | 129.8 |
| | 1962 | 213 | 90.8 | 59.1 | 169 | 93.3 | 59.6 |
| | Combined | 508 | 150.2 | 124.4 | 403 | 155.9 | 134.3 |

Within each year of graduation group, the difference in the college education index between the graduates of the two types of schools fails to be significant. The same is so for the index difference for the combined graduates. The conclusion is that type of school attended is unrelated to the graduate's college education staying power.

Analysis by School Enrollment

How do the vocational graduates of small, medium and large enrollment schools, as defined in this study, compare in terms of total accumulated hours of college education? Table 167 presents the data.

Table 167. COLLEGE EDUCATION: MEAN TOTAL ACCUMULATED CLASS HOURS BY RACE OF VOCATIONAL GRADUATE

| Sources of Post-High School College Education | | SIZE OF SCHOOL ENROLLMENT | | | | | | | | |
|--|----------|---------------------------|-------|-------|----------|-------|-------|--------|-------|-------|
| | | < 500 | | | 500-1500 | | | > 1500 | | |
| | | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| Two-year college | | 81 | 155.2 | 121.0 | 209 | 120.8 | 101.1 | 147 | 126.7 | 103.2 |
| Four-year college | | 114 | 189.5 | 174.9 | 264 | 210.6 | 185.9 | 173 | 194.1 | 180.0 |
| Post graduate school | | 12 | 76.3 | 78.8 | 30 | 138.0 | 236.7 | 21 | 63.0 | 92.1 |
| College Education Index | | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| Year of Graduation | 1953 | 57 | 212.6 | 153.6 | 118 | 235.7 | 170.5 | 68 | 205.0 | 149.5 |
| | 1958 | 70 | 152.3 | 110.2 | 130 | 188.2 | 138.2 | 85 | 175.3 | 130.5 |
| | 1962 | 64 | 83.5 | 59.8 | 173 | 90.7 | 59.3 | 145 | 97.0 | 58.7 |
| | Combined | 191 | 147.2 | 123.8 | 422 | 161.4 | 138.8 | 298 | 144.0 | 117.6 |

The college education index values within each year of graduation group fail to reveal a significant trend between high school enrollment and accumulated hours of college education. There is a suggestion that those from medium

enrollment schools (500 to 1500) accumulate more college hours than those from either small or large enrollment schools. However, the lack of significant differences make it inadvisable to come to a firm conclusion on this point.

Analysis by Race of Graduate

How do Negro and white vocational graduates who report having attended college compare in terms of total accumulated class hours of college education? Table 168 provides the data.

Table 168. COLLEGE EDUCATION: MEAN TOTAL ACCUMULATED CLASS HOURS BY RACE OF VOCATIONAL GRADUATE

| Sources of Post-High School College Education | | RACE OF GRADUATE | | | | | | | | |
|--|----------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | White | | | Negro | | | Other | | |
| | | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| Two-year college | | 389 | 129.8 | 108.8 | 38 | 118.8 | 90.0 | 2 | 146.0 | 106.0 |
| Four-year college | | 486 | 197.8 | 182.7 | 49 | 232.7 | 188.6 | 4 | 261.5 | 171.4 |
| Post graduate school | | 53 | 109.5 | 193.4 | 6 | 53.2 | 21.3 | 3 | 60.7 | 37.6 |
| College Education Index | | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| Year of Graduation | 1953 | 219 | 214.8 | 161.0 | 21 | 281.4 | 159.2 | 1 | 410.0 | 0.00 |
| | 1958 | 250 | 173.0 | 128.2 | 26 | 191.0 | 151.9 | 1 | 414.0 | 0.00 |
| | 1962 | 337 | 90.8 | 59.8 | 33 | 90.0 | 54.0 | 3 | 156.3 | 42.0 |
| | Combined | 807 | 150.0 | 128.0 | 80 | 173.1 | 146.2 | 5 | 258.6 | 129.4 |

It should be stated that the number of Negro vocational graduates who reported attending college is so small as to make the comparison of questionable value. Within each year of graduation group, the difference in the college education index between white and Negro graduates favors the latter. It would seem that Negro vocational graduates who do go to college have somewhat greater staying power than their white counterparts. The finding should be regarded as suggestive rather than conclusive because of the small number of Negro graduates involved in the comparison.

Analysis by Type of Graduate

How do vocational and academic graduates from the same comprehensive schools, who report having attended college, compare in terms of total accumulated hours of college education? Table 169 provides the data.

Table 169. COLLEGE EDUCATION: MEAN TOTAL ACCUMULATED CLASS HOURS BY TYPE OF HIGH SCHOOL GRADUATE

| Sources of Post-High School College Education | | TYPE OF GRADUATE | | | | | |
|--|----------|------------------|-------|-------|----------|-------|-------|
| | | Vocational | | | Academic | | |
| | | N | M | S.D. | N | M | S.D. |
| Two-year college | | 213 | 129.6 | 104.5 | 263 | 136.0 | 91.2 |
| Four-year college | | 232 | 206.2 | 190.0 | 801 | 264.8 | 205.2 |
| Post graduate school | | 24 | 140.5 | 220.4 | 134 | 158.8 | 195.2 |
| College Education Index | | N | M | S.D. | N | M | S.D. |
| Year of Graduation | 1953 | 107 | 241.5 | 172.7 | 250 | 330.8 | 176.5 |
| | 1958 | 126 | 167.3 | 129.8 | 293 | 280.1 | 158.2 |
| | 1962 | 169 | 93.3 | 59.6 | 430 | 119.4 | 48.5 |
| | Combined | 403 | 155.9 | 134.3 | 973 | 222.1 | 159.0 |

Within each year of graduation group, the academic graduates who reported attending college accumulated substantially greater hours of college education than the vocational graduates who came from the same high schools. Whether the differences are attributable to the type of program taken in high school, the type of student who elects each type of program, or a combination of such factors can not be determined from data available. One can merely say that academic graduates have greater college staying power than vocational graduates who came from the same high schools. Further research would be desirable to determine why.

ACCUMULATED NON-COLLEGE EDUCATION

Introduction

Earlier in the chapter, it was reported that 42.6 percent of vocational graduates attended some type of non-college, post-high school education other than military specialist schools. While the percentage is impressive, it does not say anything about how much post-high school, non-college education vocational graduates accumulate. The present section concerns accumulated non-college education in the same manner as the preceding section concerned accumulated college education. The non-college education index, defined in Chapter 3 as the total accumulated hours of all sources of post-high school, non-college education, is analyzed in terms of the basic study variables.

The error of interpretation reported in the preceding section applies also to this section. Some of the graduates apparently reported both class hours and study hours per week instead of class hours only as was requested. The error was corrected to an indeterminate degree by adopting 40 hours as the maximum acceptable weekly class hours. For those who reported less than 40 hours, there was no way of determining to what extent they included study hours. The error inherent in the data reported in this section does not invalidate the comparative analysis since there is no reason to believe that the error is anything but randomly distributed among the comparative categories. The error does mean that the values reported are undoubtedly spuriously inflated. How much, cannot be specified. However, it is reasonable to assume that the percentage who misinterpreted the questionnaire item was small. Those who reported more than 40 hours per week of such education were less than five percent.

Analysis by Year of Graduation

For the graduates of 1953, 1958 and 1962 who reported attending a post-high school, non-college source of education, what is the non-college education

Index with and without military specialist school included? Also, what is the mean accumulated class hours reported for each of the different sources of non-college education? Table 170 provides the data. (Multiply presented hours by 10 to obtain actual reported hours.)

Table 170. NON-COLLEGE EDUCATION: MEAN TOTAL ACCUMULATED CLASS HOURS OF POST-HIGH SCHOOL EDUCATION BY YEAR OF GRADUATION FROM HIGH SCHOOL

| Courses of Post-High School Non-college Education | YEAR OF GRADUATION | | | | | | | | | | | |
|--|--------------------|-------|-------|------|-------|-------|------|------|------|----------|-------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| Private trade/technical school | 84 | 128.3 | 150.6 | 79 | 102.6 | 149.4 | 79 | 79.5 | 92.2 | 244 | 103.4 | 137.3 |
| Public trade/technical school | 81 | 71.1 | 89.1 | 99 | 62.9 | 89.0 | 137 | 66.6 | 95.6 | 319 | 67.1 | 92.7 |
| Business-commercial school | 31 | 93.3 | 95.4 | 32 | 74.5 | 106.5 | 36 | 47.2 | 63.5 | 99 | 70.5 | 91.4 |
| Adult continuation school | 52 | 31.1 | 35.8 | 77 | 32.5 | 44.2 | 65 | 20.5 | 24.7 | 195 | 28.5 | 37.0 |
| Military specialist school | 292 | 84.2 | 97.2 | 376 | 75.8 | 82.0 | 321 | 68.4 | 60.1 | 991 | 76.1 | 81.0 |
| Company course or school | 135 | 48.2 | 52.5 | 132 | 49.4 | 99.9 | 76 | 36.1 | 72.4 | 344 | 45.9 | 78.1 |
| Other than above | 92 | 87.6 | 134.5 | 106 | 89.6 | 152.3 | 93 | 39.2 | 57.1 | 292 | 72.7 | 125.3 |
| Non-college Education Index | 461 | 105.9 | 125.7 | 601 | 86.1 | 111.1 | 622 | 67.7 | 80.9 | 1691 | 84.7 | 106.7 |
| Non-college Education Index * | 358 | 94.5 | 125.7 | 412 | 82.9 | 134.2 | 408 | 59.2 | 86.2 | 1184 | 78.4 | 117.8 |

* Excluding military school attendance

A comparison is not in order between the three year of graduation groups. The differences in accumulated hours of non-college education between the year of graduation groups must be attributed to the differences in time opportunity to accumulate such education. That there is a substantial difference in the non-college education index values for 1953 and 1958 graduates means simply that this type of education is still accumulated between six and eleven years after graduation. Thus, time opportunity must be comparable before different year of graduation groups can be compared in terms of total amount of non-college education.

An examination of the accumulated hours associated with the different sources of non-college education reveals the following rank order:

1. Private trade-technical schools 103.4 hours
2. Military specialist schools 76.1 hours

3. Business-commercial schools 70.5 hours
4. Public trade-technical schools 67.1 hours
5. Company course schools 45.9 hours
6. Adult continuation schools 28.5 hours

The differences can't be interpreted as differences in staying power. More than likely, they reflect differences in course durations.

Analysis by Type of School

How do vocational graduates of comprehensive and vocational schools, who reported post-high school, non-college education, compare in terms of the non-college education index and the mean total accumulated hours per source of non-college education. Table 171 provides the data.

Table 171. NON-COLLEGE EDUCATION: MEAN TOTAL ACCUMULATED CLASS HOURS OF POST-HIGH SCHOOL EDUCATION BY TYPE OF HIGH SCHOOL ATTENDED

| Sources of Post-High School Non-college Education | TYPE OF SCHOOL | | | | | | |
|--|----------------|------|-------|---------------|-------|-------|-------|
| | Vocational | | | Comprehensive | | | |
| | N | M | S.D. | N | M | S.D. | |
| Private trade/technical school . . | 133 | 89.3 | 102.9 | 111 | 121.0 | 168.0 | |
| Public trade/technical school . . | 194 | 54.2 | 78.1 | 125 | 87.2 | 108.8 | |
| Business-commercial school | 50 | 58.1 | 84.2 | 49 | 83.0 | 96.5 | |
| Adult continuation school | 109 | 24.1 | 29.1 | 86 | 34.0 | 44.5 | |
| Military specialist school | 573 | 75.3 | 75.9 | 418 | 77.3 | 87.4 | |
| Company course or school | 185 | 45.6 | 72.6 | 159 | 46.2 | 84.1 | |
| Other than above | 195 | 71.7 | 126.9 | 97 | 74.8 | 121.8 | |
| Non-college Education Index * | 681 | 71.3 | 106.0 | 503 | 88.0 | 121.0 | |
| Non-college Education Index | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 284 | 101.3 | 117.4 | 177 | 113.2 | 137.8 |
| | 1958 | 330 | 78.8 | 90.4 | 271 | 94.9 | 131.4 |
| | 1962 | 349 | 58.9 | 67.6 | 273 | 79.1 | 94.0 |
| | Combined | 968 | 78.3 | 94.0 | 723 | 93.3 | 121.0 |

* Excluding military school attendance

The lower section of Table 171 shows the non-college education index values. For each of the graduating classes, comprehensive school graduates have a greater index score than vocational school graduates. The conclusion is that vocational graduates from comprehensive schools accumulate substantially more post-high school education than those from vocational schools. This does not necessarily reflect adversely on the vocational school. It may be that graduates of comprehensive school vocational programs have a stronger need for additional trade training. Chapter 6 indicated that less of these graduates obtain work in the trade studied or highly related trades than do vocational school graduates. It may be that more of the comprehensive school graduates have a preference for other type of work, which causes them to seek more non-college education. The upper section of Table 171 shows the mean accumulated hours for each source of education. Comprehensive school graduates have substantially more accumulated hours in private trade schools, public trade schools, business-commercial schools and adult continuation schools than do vocational school graduates. The differences in hours of company school and military specialist school attendance are not significant.

Analysis by School Enrollment

How do vocational graduates of small, medium and large enrollment schools, as defined in this study, who reported post-high school, non-college education compare in terms of the non-college education index and the mean total accumulated hours for the different sources of non-college education compare? Table 172 provides the data.

There is no consistent trend that holds for each of the three graduating classes. The differences in the non-college index scores for the combined group are not significant. The conclusion is that the enrollment of the school attended is unrelated to the amount of non-college education that will be accumulated.

The upper section of Table 172 shows the mean accumulated hours for each source of education. With increased enrollment, the mean accumulated hours

Table 172. NON-COLLEGE EDUCATION: MEAN TOTAL ACCUMULATED CLASS HOURS OF POST-HIGH SCHOOL EDUCATION BY ENROLLMENT OF HIGH SCHOOL ATTENDED

| Sources of Post-High School Non-college Education | SCHOOL ENROLLMENT | | | | | | | | | |
|--|-------------------|-------|-------|----------|-------|-------|--------|------|--------|-------|
| | < 500 | | | 500-1500 | | | > 1500 | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Private trade/technical school | 86 | 116.5 | 128.1 | 74 | 127.8 | 188.5 | 84 | 69.1 | 69.5 | |
| Public trade/technical school | 115 | 64.9 | 96.3 | 91 | 77.6 | 102.8 | 113 | 61.0 | 78.7 | |
| Business-commercial school | 31 | 59.9 | 86.8 | 37 | 72.9 | 91.5 | 31 | 78.0 | 94.7 ▲ | |
| Adult continuation school | 66 | 21.6 | 27.5 | 55 | 24.4 | 29.7 | 74 | 37.6 | 46.3 ▲ | |
| Military specialist school | 331 | 71.3 | 72.9 | 348 | 77.9 | 83.6 | 312 | 79.2 | 85.7 | |
| Company course or school | 99 | 60.6 | 114.5 | 123 | 41.5 | 66.7 | 122 | 38.3 | 42.6 ▼ | |
| Other than above | 105 | 47.9 | 52.4 | 109 | 97.0 | 167.2 | 78 | 72.3 | 119.7 | |
| Non-college Education Index * | 394 | 78.2 | 112.2 | 407 | 86.0 | 140.7 | 383 | 70.3 | 93.6 | |
| Non-college Education Index | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 154 | 118.6 | 131.1 | 165 | 101.4 | 138.7 | 142 | 97.3 | 100.3 |
| | 1958 | 215 | 79.8 | 107.2 | 203 | 94.4 | 124.1 | 183 | 84.2 | 99.0 |
| | 1962 | 191 | 64.2 | 72.9 | 213 | 67.8 | 77.9 | 218 | 70.7 | 89.8 |
| | Combined | 564 | 85.5 | 107.0 | 583 | 86.4 | 115.1 | 544 | 82.2 | 96.3 |

* Excluding military school attendance

shows an increasing trend for business-commercial schools and adult continuation schools, and a decreasing trend for company course schools. A plausible interpretation for these trends is lacking.

Analysis by Race of Graduate

How do Negro and white graduates who reported post-high school, non-college level education compare in terms of the mean total hours of such education accumulated? The lower section of Table 173 shows the non-college education index values.

The small number of Negroes who reported non-college education precludes placing confidence in the comparison. The results are suggestive, not conclusive. For each of the three year of graduation groups, the Negro graduates

Table 173. NON-COLLEGE EDUCATION: MEAN TOTAL ACCUMULATED CLASS HOURS OF POST-HIGH SCHOOL EDUCATION BY RACE OF HIGH SCHOOL GRADUATE

| Courses of Post-High School Non-college Education | RACE OF VOCATIONAL GRADUATE | | | | | | | | | |
|--|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | White | | | Negro | | | Other | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Private trade/technical school | 222 | 106.5 | 141.7 | 15 | 68.9 | 66.4 | 2 | 54.0 | 46.0 | |
| Public trade/technical school | 300 | 66.3 | 91.7 | 12 | 102.8 | 124.5 | 2 | 56.0 | 44.0 | |
| Business-commercial school | 93 | 69.9 | 93.2 | 5 | 74.4 | 59.7 | 1 | 100.0 | 0.0 | |
| Adult continuation school | 186 | 28.2 | 37.1 | 6 | 18.7 | 19.3 | 1 | 100.0 | 0.0 | |
| Military specialist school | 944 | 77.1 | 82.4 | 32 | 56.9 | 35.1 | 2 | 66.0 | 34.0 | |
| Company course or school | 335 | 46.6 | 78.9 | 5 | 8.8 | 6.6 | 0 | 0.0 | 0.0 | |
| Other than above | 275 | 73.1 | 125.3 | 15 | 61.9 | 131.4 | 0 | 0.0 | 0.0 | |
| Non-college Education Index * | 1117 | 78.6 | 118.5 | 49 | 73.4 | 105.1 | 3 | 141.0 | 185.3 | |
| Non-college Education Index | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 441 | 106.3 | 127.7 | 14 | 96.7 | 67.3 | 1 | 32.0 | 0.00 |
| | 1958 | 571 | 86.8 | 112.3 | 19 | 70.7 | 82.8 | 1 | 12.0 | 0.00 |
| | 1962 | 583 | 67.8 | 79.6 | 30 | 60.2 | 75.1 | 2 | 256.0 | 248.0 |
| | Combined | 1601 | 85.3 | 107.6 | 64 | 70.5 | 77.0 | 4 | 139.0 | 210.9 |

* Excluding military school attendance

have a lower non-college education index score than the white graduates. This suggests that Negro graduates accumulate less post-high school, non-college level education. The study has no data to indicate why this might be so. The difference is in contrast with the finding that Negro vocational graduates who attended college accumulated more college hours than their white counterparts. It is possible that the Negro's poorer acceptance into the trades may weaken his resolve to pursue non-college education.

Analysis by Type of Graduate

How do academic and vocational graduates who reported post-high school, non-college level education compare in terms of the mean total hours of such education accumulated? The lower section of Table 174 shows the non-college education index values.

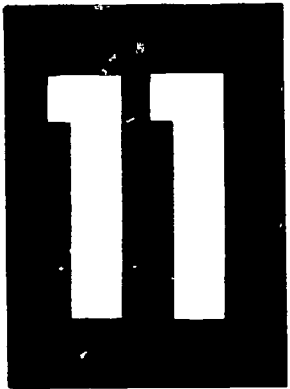
Table 174. NON-COLLEGE EDUCATION: MEAN TOTAL ACCUMULATED CLASS HOURS OF POST-HIGH SCHOOL EDUCATION BY TYPE OF HIGH SCHOOL GRADUATE

| Sources of Post-High School Non-college Education | TYPE OF GRADUATE | | | | | | |
|--|------------------|-------|-------|----------|-------|-------|-------|
| | Vocational | | | Academic | | | |
| | N | M | S.D. | N | M | S.D. | |
| Private trade/technical school . . | 111 | 121.0 | 168.0 | 69 | 149.3 | 161.7 | |
| Public trade/technical school . . | 125 | 87.2 | 108.8 | 57 | 117.8 | 137.4 | |
| Business-commercial school | 49 | 83.0 | 96.5 | 62 | 70.7 | 73.0 | |
| Adult continuation school | 86 | 34.0 | 44.5 | 27 | 22.8 | 33.9 | |
| Military specialist school | 418 | 77.3 | 87.4 | 322 | 75.8 | 67.8 | |
| Company course or school | 159 | 46.2 | 84.1 | 85 | 47.4 | 82.5 | |
| Other than above | 97 | 74.8 | 121.8 | 70 | 97.5 | 159.7 | |
| Non-college Education Index * | 503 | 88.0 | 121.0 | 320 | 96.6 | 132.8 | |
| Non-college Education Index | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 177 | 113.2 | 137.8 | 172 | 121.5 | 143.3 |
| | 1958 | 271 | 94.9 | 131.4 | 188 | 83.2 | 91.0 |
| | 1962 | 273 | 79.1 | 94.0 | 152 | 74.8 | 70.0 |
| | Combined | 723 | 93.3 | 121.0 | 512 | 93.6 | 108.6 |

* Excluding military school attendance

The direction of the differences are not consistent for the three year of graduation groups. The mean differences are not significant. The conclusion is that there is no difference in the amount of non-college education, over all sources of such education, accumulated by the two types of graduates.

The upper section of Table 174 shows that academic graduates who have attended trade or technical schools after high school accumulate substantially greater hours of such training than vocational graduates. The differences between the two types of graduates in other sources of non-college education are negligible. The difference in accumulated hours of private and public trade school education may be because vocational graduates very often continue in the trade studied in high school, whereas academic graduates start their trade training from the beginning. The latter would necessarily have to accumulate more hours to learn the beginning of a trade.



THEIR OFF THE JOB INTERESTS & AFFILIATIONS

- | | |
|--|-----------|
| <input type="checkbox"/> The Whole Person Concept of Education | 1 |
| <input type="checkbox"/> The Graduate's Conversational Interests | 3 |
| <input type="checkbox"/> The Graduate's Leisure Activities | 15 |
| <input type="checkbox"/> The Graduate's Organization Affiliation | 29 |

CHAPTER 11 SUMMARY

Education of the Whole Person

1. Vocational versus general education. Vocational education has been criticized for neglecting education of the whole person, a criticism difficult to answer because the concept of whole-person education is poorly defined.
2. Three suggested dependent variables. It is assumed that the education of the whole person will be reflected in, among other variables, range of conversational interests, range of leisure activities, and degree of organizational affiliation. The three variables provide a basis for comparing vocational and academic graduates.

The Graduate's Conversational Interest

3. Year of graduation. The range of conversational interests increases slightly with years out of school. Frequency of engagement in some topics increases with age; whereas, with others, there is a decrease. Family, work, and sports are the top three topics of conversation for all year-of-graduation groups. The least frequently discussed topics--religion, labor-union matters, and arts and literature.
4. Type of school. There is no difference in range of conversational interests between vocational graduates from comprehensive and vocational schools.
5. School enrollment. There is no difference in range of conversational interests between vocational graduates from small, medium, and large enrollment schools.
6. Race of graduates. Negro graduates have a slightly greater range of conversational interests than do white graduates. There are differences also in relative topic preferences.
7. Academic versus vocational graduates. A comparison of the two types of graduates who had no college education indicates no significant difference in terms of conversational interests.

The Graduate's Leisure Activities

8. Year of graduation. The range of leisure activities decreases slightly with years out of school. Frequency of engagement in some activities; e.g., attending educational programs, attending spectator sports, engaging in team sports, etc., decreased with age. Frequency of other activities; e.g., working in home workshop, watching television, etc., increased with age. The top three leisure activities were reading newspapers, watching television, and listening to music.

(Continued in Appendix B)

CONCEPT OF EDUCATING THE WHOLE PERSON

Introduction

The concept of educating the whole person has long been accepted by the majority of educators in the United States. The basic idea of the concept is simple: education should seek to develop those areas of knowledge, skill, attitudes, interests and beliefs which are necessary for adult adjustment in contemporary society. In effect, education is seen as preparation for life.

Interpretations of what are the necessary knowledges, skills, attitudes, etc. vary widely. They include sharp differences of opinion. The same is the case for the methods educators claim are the best for developing such learnings. There is, however, majority agreement on the basic concept. Those who embrace a three-R fundamentalist view are a minority.

The concept of education of the whole person has often been the basis for criticism of vocational education. Because of its emphasis upon trade training, vocational education has been criticized for neglecting the education of the whole person. The point made is that narrow trade training necessarily neglects areas of education which are covered in academic or general education programs. Moreover, the neglect comes at a critical time, near the end of the formative years when the influence of a broader education is most essential.

Such criticism is difficult to rebut because the concept of educating the whole person is deceptively simple. There is a lack of agreement on the criteria whereby the educational process can be evaluated in terms of how well it educates the whole person. Stated differently, there is no general agreement on the measurable dependent variables, excluding mere tests of knowledge and skill, that presumably reflect such education.

The present chapter is concerned with the issue of whether or not vocational education, compared with academic education, trains so narrowly that

its graduates reflect a lesser degree of education of their whole persons. Three dependent variables were adopted which presume to have some relevance to the education-of the-whole-person concept. It is not claimed that they are the only relevant variables, nor even the most important ones. Instead, they should be looked upon as providing a starting point for the comparison of vocational and academic education in terms of the whole person concept, as put forth by the general educator. The three dependent variables concern post-graduation (1) range and type of conversational interest, (2) range and type of leisure activities, and (3) degree of participation in community and other organizations. The underlying assumption is that the education of the whole person is reflected in the things he talks about, the ways he spends his leisure time, and the degree to which he participates in the organizations of his community.

THE GRADUATES CONVERSATIONAL INTERESTS

Introduction

The graduates were asked to indicate how frequently they talked about the following topics when they got together socially with others:

1. Work
2. Religion
3. Politics
4. Business conditions
5. World affairs
6. National affairs
7. State affairs
8. Community problems
9. Hobbies
10. Sports and athletics
11. Music, art, literature
12. Government matters
13. Labor union matters
14. Family

The answer frequency categories were: (1) almost never, (2) infrequently, (3) frequently, and (4) almost always. The ratings provided the basis for a breadth of conversational interest index. This measure was obtained by multiplying the mean frequency rating by 25. Each rating was given the value of the answer category indicated above. For a more complete description of the measure, see Chapter 3.

The rationale for the use of the measure is the reasoning that conversational interests are one dimension of the many that are relevant to the concept of education of the whole person. The index is a measure of breadth of conversational interest. It is a reasonable assumption that a person who engages in a wide variety of conversational topics demonstrates a broad interest in the world around him, and sufficient knowledge to provide the basis of conversation. In contrast with the person who has a narrow range of interests, such a person may be considered a more broadly educated person. It must be kept in mind that the concern is with people in general, not with individuals who may be exceptions to the rule.

Quite apart from the measure's usefulness for the concept of education of the whole person, it does describe one dimension of the vocational graduate — what he talks about.

Analysis by Year of Graduation

How does the conversational interest measure change with increased years out of school? Does the range of conversational interests increase as the graduate's range of experiences increase with more years out of school? Table 175 presents a frequency, percentage and cumulative percentage distribution of the measure.

Table 175. CONVERSATIONAL INTERESTS INDEX: FREQUENCY DISTRIBUTIONS FOR VOCATIONAL GRADUATES BY YEAR OF GRADUATION

| Conversation Interests | YEAR OF GRADUATION | | | | | | | | | | | |
|------------------------|--------------------|------|-------|-------|------|-------|-------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| C.I. | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| 100 | 0 | 0.0 | 100.0 | 3 | 0.2 | 100.0 | 0 | 0.0 | 100.0 | 3 | 0.1 | 100.0 |
| 93-99 | 2 | 0.2 | 100.0 | 5 | 0.3 | 99.8 | 1 | 0.1 | 100.0 | 8 | 0.2 | 99.9 |
| 85-92 | 6 | 0.6 | 99.8 | 15 | 1.0 | 99.5 | 22 | 0.9 | 99.9 | 43 | 0.8 | 99.7 |
| 78-84 | 35 | 3.3 | 99.2 | 55 | 3.6 | 98.5 | 74 | 3.3 | 99.0 | 164 | 3.4 | 98.9 |
| 70-77 | 206 | 19.3 | 95.9 | 263 | 17.3 | 94.9 | 349 | 15.5 | 95.7 | 820 | 16.8 | 95.5 |
| 63-69 | 353 | 33.1 | 76.6 | 448 | 29.4 | 77.6 | 579 | 25.6 | 80.2 | 1389 | 28.6 | 78.7 |
| 55-62 | 266 | 25.0 | 43.5 | 413 | 27.1 | 48.2 | 633 | 28.0 | 54.6 | 1314 | 27.0 | 50.1 |
| 48-54 | 130 | 12.2 | 18.5 | 201 | 13.2 | 21.1 | 342 | 15.2 | 26.6 | 674 | 13.9 | 23.1 |
| 40-47 | 46 | 4.3 | 6.3 | 85 | 5.6 | 7.9 | 163 | 7.2 | 11.4 | 297 | 6.1 | 9.2 |
| 33-39 | 19 | 1.8 | 2.0 | 30 | 2.0 | 2.3 | 76 | 3.4 | 4.2 | 125 | 2.5 | 3.1 |
| 25-32 | 2 | 0.2 | 0.2 | 5 | 0.3 | 0.3 | 19 | 0.8 | 0.8 | 27 | 0.6 | 0.6 |
| Number | 1065 | | | 1523 | | | 2258 | | | 4864 | | |
| Mean | 62.38 | | | 61.90 | | | 60.30 | | | 61.25 | | |
| Median | 63 | | | 63 | | | 61 | | | 61 | | |
| S.D. | 9.27 | | | 10.14 | | | 10.54 | | | 10.20 | | |

The mean values for 1962, 1958, and 1953 are respectively 60.3, 61.9, and 62.4, indicating a slight increase in the conversational interest index with increased years out of school. The overall trend is confirmed in the mean frequency of conversation ratings of the individual topics from which the conversational interest index was derived. The mean ratings are shown in Table 176.

The arrows at the left of the table indicate a consistent trend of a higher mean rating with increased years out of school. Thus, the frequency with which graduates talk about business conditions, national affairs, state affairs, community problems, and family increases with age. This is to be expected. Some items do not show a consistent increasing trend, but they do show higher mean ratings for the 1953 graduates. They are religion, politics, government matters, and labor unions. Conversational topics that seem to decrease in frequency with age are sports and athletics, music, art, literature, and hobbies. The fact that there are changes in conversational interests with age explains the relatively slight increase in breadth of conversational interest with age.

The rank order of the conversational topics based upon mean frequency ratings for all years combined is given below:

| | | | |
|-----------------------------------|-----|--------------------------------------|-----|
| 1. Family | 2.9 | 8. State affairs | 2.4 |
| 2. Work | 2.8 | 9. Community problems | 2.4 |
| 3. Sports and athletics | 2.8 | 10. Government matters | 2.4 |
| 4. Hobbies | 2.7 | 11. Politics | 2.3 |
| 5. World affairs | 2.6 | 12. Religion | 2.0 |
| 6. National affairs | 2.6 | 13. Labor union | 2.0 |
| 7. Business conditions | 2.5 | 14. Music, art, literature | 2.0 |

The rank order does not change very much through the years. For example, family, work and sports were the top three topics for all graduation class year groups, whereas, religion, labor union matters and fine arts and literature were the bottom three topics for all groups.

Table 176. CONVERSATIONAL INTEREST INDEXES AND MEAN FREQUENCY RATINGS *
OF CONVERSATION TOPICS BY YEAR OF GRADUATION

| Topics of Conversation | YEAR OF GRADUATION | | | | | | | | | | | |
|--------------------------------|--------------------|------|------|------|------|-------|------|------|-------|----------|-----|------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| Your work | 1136 | 2.8 | .68 | 1593 | 2.9 | .70 | 2366 | 2.8 | .74 | 5114 | 2.8 | .72 |
| Religion | 1127 | 2.1 | .74 | 1584 | 2.1 | .74 | 2372 | 2.0 | .77 | 5101 | 2.0 | .76 |
| Politics | 1120 | 2.4 | .75 | 1569 | 2.4 | .81 | 2340 | 2.2 | .80 | 5047 | 2.3 | .80 |
| Business conditions | 1116 | 2.6 | .74 | 1570 | 2.5 | .81 | 2340 | 2.4 | .84 | 5043 | 2.5 | .81 |
| World affairs | 1126 | 2.6 | .71 | 1583 | 2.6 | .74 | 2363 | 2.6 | .78 | 5091 | 2.6 | .75 |
| National affairs | 1124 | 2.7 | .71 | 1578 | 2.6 | .72 | 2359 | 2.6 | .78 | 5079 | 2.6 | .75 |
| State affairs | 1111 | 2.5 | .72 | 1557 | 2.4 | .73 | 2334 | 2.3 | .78 | 5021 | 2.4 | .76 |
| Community problems | 1109 | 2.6 | .76 | 1562 | 2.4 | .80 | 2344 | 2.2 | .84 | 5032 | 2.4 | .82 |
| Your hobbies | 1110 | 2.6 | .85 | 1566 | 2.7 | .88 | 2351 | 2.7 | .90 | 5046 | 2.7 | .89 |
| Sports and athletics | 1110 | 2.8 | .91 | 1565 | 2.8 | .89 | 2355 | 2.9 | .88 | 5046 | 2.8 | .89 |
| Music, art, literature, etc. | 1106 | 2.0 | .83 | 1572 | 2.0 | .89 | 2343 | 2.1 | .92 | 5040 | 2.0 | .90 |
| Government matters | 1105 | 2.5 | .76 | 1574 | 2.4 | .77 | 2336 | 2.4 | .81 | 5034 | 2.4 | .79 |
| Labor union matters | 1113 | 2.1 | .91 | 1570 | 2.0 | .90 | 2315 | 2.0 | .89 | 5016 | 2.0 | .90 |
| Your family | 1111 | 3.0 | .72 | 1576 | 2.9 | .77 | 2336 | 2.8 | .83 | 5042 | 2.9 | .80 |
| CONVERSATION MEASURE | 1065 | 62.4 | 9.27 | 1523 | 61.9 | 10.14 | 2258 | 60.3 | 10.54 | - | - | - |

* 1 = Almost never; 2 = Infrequently; 3 = Frequently; 4 = Almost always

A = Consistent higher mean rating with increased years out of school

Analysis by Type of School

How do vocational graduates of comprehensive and vocational schools compare in terms of the breadth of conversational interest measure? If, as claimed, the vocational graduates of comprehensive schools are exposed to more broadening influences, is it reflected in the measure? The bottom section of Table 178. presents the data.

Table 177. CONVERSATIONAL INTEREST INDEXES AND MEAN FREQUENCY RATINGS* OF CONVERSATION TOPICS BY TYPE OF SCHOOL

| Topics of Conversation | TYPE OF SCHOOL | | | | | | |
|--------------------------------|----------------|----------|----------|---------------|----------|----------|-------------|
| | Vocational | | | Comprehensive | | | |
| | N | M | S.D. | N | M | S.D. | |
| Your work | 2999 | 2.8 | .72 | 2115 | 2.9 | .71 | |
| Religion | 2991 | 2.0 | .73 | 2110 | 2.1 | .78 | |
| Politics | 2957 | 2.3 | .79 | 2090 | 2.3 | .80 | |
| Business conditions | 2955 | 2.5 | .82 | 2088 | 2.5 | .80 | |
| World affairs | 2987 | 2.6 | .74 | 2104 | 2.6 | .78 | |
| National affairs | 2983 | 2.6 | .74 | 2096 | 2.6 | .77 | |
| State affairs | 2944 | 2.4 | .76 | 2077 | 2.4 | .76 | |
| Community problems | 2949 | 2.4 | .81 | 2083 | 2.4 | .83 | |
| Your hobbies | 2959 | 2.6 | .89 | 2087 | 2.7 | .88 | |
| Sports and athletics | 2952 | 2.8 | .90 | 2094 | 2.9 | .87 | |
| Music, art, literature, etc. | 2958 | 2.0 | .89 | 2082 | 2.0 | .90 | |
| Government matters | 2955 | 2.4 | .79 | 2079 | 2.4 | .80 | |
| Labor union matters | 2939 | 2.0 | .90 | 2077 | 2.0 | .91 | |
| Your family | 2961 | 2.9 | .80 | 2081 | 2.9 | .80 | |
| CONVERSATION MEASURE | | N | M | S.D. | N | M | S.D. |
| Year of Graduation | 1953 | 659 | 62.6 | 9.03 | 406 | 62.0 | 9.64 |
| | 1958 | 864 | 61.2 | 10.09 | 660 | 62.8 | 10.13 |
| | 1962 | 1331 | 60.1 | 10.49 | 927 | 60.6 | 10.60 |
| | Combined | 2868 | 61.01 | 10.11 | 1997 | 61.59 | 10.31 |

* 1 = Almost never; 2 = Infrequently; 3 = Frequently;
4 = Almost always

There are no significant differences in the conversational interest index between the graduates of each type of school for any of the year of graduation groups or for the combined groups. The conclusion is that the type of school from which the graduate comes does not influence his future breadth of conversational interests.

Are there any differences in the mean frequency ratings given the individual topics of conversation by the graduates of the two types of schools? The ratings are shown in the upper section of Table 177. The rank order of the topics based on mean ratings appears to be much the same for both groups. Comparisons of individual item ratings reveal no substantial differences. The conclusion is that the type of school attended is not a variable influencing future conversational interests.

Analysis by Enrollment

How do the vocational graduates from small, medium and large enrollment schools, as defined by this study, differ in terms of the breadth of conversational interest index? Is there a significant trend? The bottom section of Table 178 presents the data.

The measure neither increases nor decreases as a function of school enrollment. The conclusion is that school enrollment is not a variable influencing the future breadth of conversational interest.

Are there any differences in the mean frequency ratings given the individual topics of conversation by the graduates from small, medium and large schools? The ratings are shown in the upper section of Table 178. There are no consistent trends among the mean ratings. Furthermore, the rank order of the topics, based upon mean ratings, is essentially the same for the three enrollment categories. The conclusion is that future conversational interests are unaffected by the enrollment of the high school attended.

**Table 178. CONVERSATIONAL INTEREST INDEXES AND MEAN FREQUENCY RATINGS *
OF CONVERSATION TOPICS BY SCHOOL ENROLLMENT**

| Topics of Conversation | SIZE OF SCHOOL ENROLLMENT | | | | | | | | | |
|--------------------------------------|---------------------------|------|------|----------|------|------|--------|------|------|-------|
| | < 500 | | | 500-1500 | | | > 1500 | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Your work | 1707 | 2.8 | .74 | 1903 | 2.8 | .72 | 1504 | 2.9 | .68 | |
| Religion | 1709 | 2.0 | .75 | 1892 | 2.1 | .76 | 1500 | 2.0 | .76 | |
| Politics | 1678 | 2.2 | .81 | 1880 | 2.4 | .77 | 1489 | 2.3 | .81 | |
| Business conditions | 1679 | 2.5 | .83 | 1878 | 2.5 | .81 | 1486 | 2.5 | .80 | |
| World affairs | 1698 | 2.6 | .73 | 1892 | 2.6 | .76 | 1501 | 2.6 | .77 | |
| National affairs | 1697 | 2.6 | .76 | 1883 | 2.6 | .74 | 1499 | 2.6 | .75 | |
| State affairs | 1690 | 2.4 | .77 | 1831 | 2.4 | .75 | 1500 | 2.4 | .75 | |
| Community problems | 1672 | 2.4 | .83 | 1869 | 2.4 | .80 | 1491 | 2.3 | .84 | |
| Your hobbies | 1678 | 2.6 | .90 | 1876 | 2.7 | .88 | 1492 | 2.7 | .87 | |
| Sports and athletics | 1685 | 2.8 | .92 | 1873 | 2.9 | .88 | 1488 | 2.8 | .87 | |
| Music, art, literature, etc. | 1680 | 2.0 | .91 | 1875 | 2.1 | .89 | 1485 | 2.0 | .89 | |
| Government matters | 1677 | 2.4 | .81 | 1872 | 2.4 | .77 | 1485 | 2.4 | .79 | |
| Labor union matters | 1679 | 2.0 | .90 | 1858 | 2.0 | .89 | 1479 | 2.0 | .91 | |
| Your family | 1681 | 2.9 | .81 | 1874 | 2.9 | .79 | 1487 | 2.9 | .81 | |
| CONVERSATION MEASURE | | | | | | | | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 385 | 62.4 | 9.44 | 392 | 62.5 | 9.05 | 288 | 62.1 | 9.34 |
| | 1958 | 504 | 61.2 | 10.43 | 591 | 61.9 | 9.72 | 429 | 62.6 | 10.41 |
| | 1962 | 726 | 60.0 | 10.68 | 810 | 61.0 | 10.47 | 727 | 59.9 | 10.42 |
| | Combined | 1620 | 60.9 | 10.36 | 1803 | 61.6 | 9.95 | 1442 | 61.2 | 10.28 |

* 1 = Almost never; 2 = Infrequently; 3 = Frequently; 4 = Almost always

Analysis by Race of Graduate

How do Negro and white graduates differ in terms of the breadth of conversational interest index? The lower section of Table 179 presents the data.

Table 179. CONVERSATIONAL INTEREST INDEXES AND MEAN FREQUENCY RATINGS *
OF CONVERSATION TOPICS BY RACE OF GRADUATE

| Topics of Conversation | RACE OF GRADUATE | | | | | | | | | |
|--------------------------------------|------------------|------|------|-------|-----|------|-------|-----|------|------|
| | White | | | Negro | | | Other | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Your work | 4732 | 2.8 | .71 | 334 | 2.8 | .82 | 19 | 2.9 | .83 | |
| Religion | 4717 | 2.0 | .74 | 335 | 2.4 | .83 | 19 | 1.5 | .60 | |
| Politics | 4670 | 2.3 | .80 | 330 | 2.5 | .82 | 19 | 2.1 | .64 | |
| Business conditions | 4668 | 2.5 | .81 | 326 | 2.4 | .91 | 19 | 2.4 | .74 | |
| World affairs | 4716 | 2.6 | .75 | 326 | 2.9 | .78 | 19 | 2.8 | .69 | |
| National affairs | 4702 | 2.6 | .74 | 329 | 2.8 | .80 | 19 | 2.7 | .64 | |
| State affairs | 4646 | 2.4 | .75 | 327 | 2.6 | .83 | 18 | 2.3 | .74 | |
| Community problems | 4656 | 2.4 | .81 | 330 | 2.7 | .90 | 18 | 1.9 | .78 | |
| Your hobbies | 4670 | 2.7 | .88 | 327 | 2.8 | .92 | 19 | 2.6 | .98 | |
| Sports and athletics | 4671 | 2.8 | .89 | 328 | 3.2 | .80 | 18 | 2.8 | .96 | |
| Music, art, literature, etc. | 4663 | 2.0 | .89 | 329 | 2.6 | .94 | 18 | 2.0 | 1.05 | |
| Government matters | 4664 | 2.4 | .78 | 322 | 2.6 | .85 | 19 | 2.5 | .82 | |
| Labor union matters | 4645 | 2.0 | .90 | 323 | 2.1 | .97 | 19 | 2.0 | .86 | |
| Your family | 4669 | 2.9 | .79 | 325 | 2.9 | .93 | 19 | 2.6 | .88 | |
| CONVERSATION MEASURE | | | | | | | | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 1016 | 62.3 | 9.16 | 43 | 65.4 | 10.96 | 3 | 58.0 | 7.12 |
| | 1958 | 1404 | 61.6 | 9.87 | 105 | 66.5 | 12.05 | 5 | 56.2 | 9.50 |
| | 1962 | 2069 | 60.0 | 10.34 | 169 | 64.3 | 11.92 | 8 | 64.9 | 8.83 |
| | Combined | 4506 | 61.0 | 10.0 | 318 | 65.2 | 11.86 | 16 | 60.9 | 9.45 |

* 1 = Almost never; 2 = Infrequently; 3 = Frequently; 4 = Almost always

Within each graduating group, the Negro graduates have a higher index score than the white graduates. This suggests that Negro graduates have a broader range of conversational interests than white graduates. One plausible interpretation is that Negroes who have graduated from high school have a

greater interest in many of the topics listed because of intensified efforts in the civil rights movement in recent years.

What are the topics which show the greatest difference in mean frequency ratings between Negro and white graduates? The upper section of the table shows the mean ratings. There are some interesting differences in the rank order of the topics shown below:

| <u>WHITE GRADUATES</u> | | <u>NEGRO GRADUATES</u> | |
|--|-----|--------------------------------------|-----|
| 1. Family | 2.9 | Sports and athletics | 3.2 |
| 2. Work | 2.8 | Family | 2.9 |
| 3. Sports and athletics | 2.8 | World affairs | 2.9 |
| 4. Hobbies | 2.7 | Work | 2.8 |
| 5. World affairs | 2.6 | National affairs | 2.8 |
| 6. National affairs | 2.6 | Hobbies | 2.8 |
| 7. Business conditions | 2.5 | Community problems | 2.7 |
| 8. State affairs | 2.4 | State affairs | 2.6 |
| 9. Community problems | 2.4 | Music, art, literature, etc. | 2.6 |
| 10. Government matters | 2.4 | Government matters | 2.6 |
| 11. Politics | 2.3 | Politics | 2.5 |
| 12. Religion | 2.0 | Religion | 2.4 |
| 13. Music, art, literature, etc. | 2.0 | Business conditions | 2.4 |
| 14. Labor union matters | 2.0 | Labor union matters | 2.1 |

Negro graduates show higher mean ratings in sports, community problems, world affairs, religion, politics, national affairs, state affairs, government matters, and music, art and literature, etc.

Analysis by Type of Graduate

How do vocational and academic graduates compare in terms of the breadth of conversational interest measure. The bottom section of Table 180 presents the data for all graduates, regardless of level of education completed.

**Table 180. CONVERSATIONAL INTEREST INDEXES AND MEAN FREQUENCY RATINGS *
OF CONVERSATION TOPICS BY TYPE OF GRADUATE
(Based on all graduates regardless of formal educational level attained)**

| Topics of Conversation | TYPE OF GRADUATE | | | | | | |
|--------------------------------------|------------------|----------|----------|-------------|----------|----------|-------------|
| | Vocational | | | Academic | | | |
| | N | M | S.D. | N | M | S.D. | |
| Your work | 5114 | 2.8 | .72 | 1723 | 2.8 | .76 | |
| Religion | 5101 | 2.0 | .76 | 1743 | 2.2 | .75 | |
| Politics | 5047 | 2.3 | .80 | 1739 | 2.6 | .77 | |
| Business conditions | 5043 | 2.5 | .81 | 1727 | 2.5 | .81 | |
| World affairs | 5091 | 2.6 | .75 | 1740 | 2.8 | .70 | |
| National affairs | 5079 | 2.6 | .75 | 1743 | 2.8 | .68 | |
| State affairs | 5021 | 2.4 | .76 | 1750 | 2.4 | .76 | |
| Community problems | 5032 | 2.4 | .82 | 1730 | 2.4 | .81 | |
| Your hobbies | 5046 | 2.7 | .89 | 1729 | 2.5 | .89 | |
| Sports and athletics | 5046 | 2.8 | .89 | 1726 | 3.0 | .86 | |
| Music, art, literature, etc. | 5040 | 2.0 | .90 | 1728 | 2.3 | .90 | |
| Government matters | 5034 | 2.4 | .79 | 1736 | 2.6 | .75 | |
| Labor union matters | 5016 | 2.0 | .90 | 1731 | 1.8 | .84 | |
| Your family | 5042 | 2.9 | .80 | 1731 | 2.8 | .82 | |
| CONVERSATION MEASURE | | N | M | S.D. | N | M | S.D. |
| Year of Graduation | 1953 | 1065 | 62.4 | 9.27 | 421 | 64.3 | 8.48 |
| | 1958 | 1524 | 61.9 | 10.14 | 559 | 62.8 | 9.24 |
| | 1962 | 2258 | 60.3 | 10.54 | 783 | 61.6 | 10.03 |
| | Combined | 4865 | 61.2 | 10.20 | 1763 | 62.6 | 9.50 |

* 1 = Almost never; 2 = Infrequently; 3 = Frequently; 4 = Almost always

Within each graduating class group, the academic graduates have a slightly higher conversational interest score than the vocational graduates. The differences, while consistent, are not statistically significant. The consistency

of the differences, however, do suggest that academic graduates have a slightly broader range of conversational interests.

How do the graduates compare in terms of the mean ratings given the individual items that comprise the conversational index measure? The data is shown in the upper section of the table. The academic graduates gave higher mean frequency of conversation ratings to the following topics: religion, politics, world affairs, national affairs, sports, music and art, and government matters. The vocational graduates yielded higher mean ratings on hobbies and labor union matters. The magnitude of the differences are not substantial, particularly when one considers the much higher percentage of college attendance and completion among the academic graduates.

Table 180 compared vocational and academic graduates without regard to the level of formal educational attained. How would vocational and academic graduates with no college education compare in terms of the conversation interest index and the mean frequency ratings of the topics that comprise the index? Table 181 provides the data for such graduates from comprehensive schools only.

The index scores for the two types of graduates are not significantly different. The conclusion is that the type of high school curriculum a graduate has followed does not influence the breadth of his conversational interests, as measured by the index.

Comparison of the mean ratings indicate that vocational graduates are slightly more inclined to talk about labor union matters, whereas, academic graduates are slightly more inclined to talk about politics and music, art, and literature. The differences on the other topics of conversation are either negligible or non-existent. The overall conclusion is that the type of curriculum a graduate has followed has, with the exception of a few topics, a negligible influence on type of conversational interests in future years.

The reader is reminded that the data herein discussed is what graduates claim they talk about and how frequently. There are indications that what is claimed may correspond with what they do talk about. For example, it is not unexpected that vocational graduates talk more frequently about labor union matters than academic graduates. Nor is it very surprising that both academic

Table 181. CONVERSATIONAL INTEREST INDEXES AND MEAN FREQUENCY RATINGS OF * CONVERSATION TOPICS BY TYPE OF GRADUATE (Based on graduates from comprehensive schools only with no college level education)

| Topics of Conversation | TYPE OF GRADUATE | | | | | | |
|--------------------------------------|------------------|----------|----------|-------------|----------|----------|-------------|
| | Vocational | | | Academic | | | |
| | N | M | S.D. | N | M | S.D. | |
| Your work | 1730 | 2.9 | .71 | 789 | 2.8 | .76 | |
| Religion | 1720 | 2.1 | .79 | 788 | 2.1 | .76 | |
| Politics | 1702 | 2.2 | .81 | 783 | 2.4 | .78 | |
| Business conditions | 1699 | 2.5 | .81 | 788 | 2.5 | .85 | |
| World affairs | 1714 | 2.6 | .79 | 784 | 2.7 | .73 | |
| National affairs | 1707 | 2.6 | .76 | 780 | 2.7 | .72 | |
| State affairs | 1691 | 2.4 | .77 | 788 | 2.4 | .76 | |
| Community problems | 1695 | 2.3 | .84 | 776 | 2.4 | .81 | |
| Your hobbies | 1701 | 2.7 | .88 | 777 | 2.6 | .92 | |
| Sports and athletics | 1712 | 2.9 | .86 | 774 | 3.0 | .84 | |
| Music, art, literature, etc. | 1694 | 2.0 | .90 | 772 | 2.2 | .92 | |
| Government matters | 1694 | 2.4 | .81 | 782 | 2.5 | .76 | |
| Labor union matters | 1691 | 2.1 | .92 | 776 | 1.9 | .89 | |
| Your family | 1701 | 2.9 | .80 | 773 | 2.9 | .83 | |
| CONVERSATION MEASURE | | N | M | S.D. | N | M | S.D. |
| Year of Graduation | 1953 | 305 | 61.3 | 10.0 | 172 | 62.9 | 8.9 |
| | 1958 | 542 | 62.3 | 10.4 | 267 | 62.0 | 9.6 |
| | 1962 | 771 | 60.4 | 10.7 | 357 | 61.4 | 11.1 |
| | Combined | 1621 | 61.2 | 10.5 | 796 | 61.9 | 10.2 |

* 1 = Almost never; 2 = Infrequently; 3 = Frequently; 4 = Almost always

and vocational graduates talk more about work and family than, say, religion or labor union matters. Such agreements with expectation, while they do not validate the claims, do make them more credible.

THE GRADUATE'S LEISURE ACTIVITIES

Introduction

The graduates were asked to indicate how frequently they engaged in the following type of leisure activities:

1. Reading newspapers
2. Engaging in craft hobbies
3. Reading trade books, magazines, etc.
4. Attending spectator sports
5. Attending plays, concerts, ballet, etc.
6. Watching television programs
7. Reading general magazines
8. Working at home shop activities
9. Attending educational courses
10. Engaging in team sports
11. Engaging in performing arts
12. Visiting or entertaining friends
13. Reading non-fiction books
14. Collecting stamps, coins, etc.
15. Attending lectures & discussions
16. Engaging in individual sports
17. Listening to music at home
18. Going to the movies

The answer frequency categories were: (1) almost never, (2) infrequently, (3) frequently, and (4) almost always. The individual ratings provided the basis for a breadth of leisure activity index. This measure was obtained by multiplying the mean frequency rating of the graduate by 25. Each rating was given the value of the answer category indicated above, thereby giving the measure a range of 25 to 100. For a more complete description of the measure, see Chapter 3.

The rationale for the use of the measure was the reasoning that leisure activities are relevant to the concept of educating the whole person. The assumption is that a broad range of leisure activities reflect a broad and balanced interest in non-vocational activities. The defect of the assumption is that a narrow range of leisure activities does not necessarily mean a narrow interest in such activities. To a degree, conditions of income and opportunity will influence and determine leisure activities. Despite this weakness of the measure, it was felt that it explored a relevant dimension of the "total" individual. Presumably, conditions of money and opportunity are randomly distributed among some of the major independent variables that are analyzed in terms of the measure, e.g. type of school and school enrollment.

Analysis by Year of Graduation

How does the leisure activity index change with increased years out of school? Does the range of such activities increase, decrease or remain unchanged with age? Table 182 presents a frequency, percentage and cumulative percentage distribution of the index.

Table 182. LEISURE ACTIVITY INDEX: FREQUENCY DISTRIBUTIONS FOR VOCATIONAL GRADUATES BY YEAR OF GRADUATION

| Leisure Activities | YEAR OF GRADUATION | | | | | | | | | | | |
|--------------------|--------------------|------|-------|-------|------|-------|-------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| C.I. | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| 100 | 0 | 0.0 | 100.0 | 1 | 0.1 | 100.0 | 0 | 0.0 | 100.0 | 1 | 0.1 | 100.0 |
| 93-99 | 0 | 0.0 | 100.0 | 0 | 0.0 | 99.9 | 1 | 0.1 | 100.0 | 1 | 0.1 | 99.9 |
| 85-92 | 0 | 0.0 | 100.0 | 1 | 0.1 | 99.9 | 1 | 0.1 | 99.9 | 2 | 0.1 | 99.8 |
| 78-84 | 4 | 0.4 | 100.0 | 8 | 0.5 | 99.8 | 17 | 0.8 | 99.8 | 29 | 0.5 | 99.7 |
| 70-77 | 23 | 2.1 | 99.6 | 60 | 4.0 | 99.3 | 111 | 4.9 | 99.0 | 194 | 3.9 | 99.2 |
| 63-69 | 128 | 11.9 | 97.5 | 185 | 12.3 | 95.3 | 317 | 14.2 | 94.1 | 632 | 13.1 | 95.3 |
| 55-62 | 333 | 31.0 | 85.6 | 504 | 33.7 | 83.0 | 708 | 31.7 | 79.9 | 1548 | 32.1 | 82.2 |
| 48-54 | 339 | 31.5 | 54.6 | 417 | 27.9 | 49.3 | 601 | 26.9 | 48.2 | 1363 | 28.3 | 50.1 |
| 40-47 | 213 | 19.8 | 23.1 | 265 | 17.7 | 21.4 | 365 | 16.4 | 21.3 | 846 | 17.6 | 21.8 |
| 33-39 | 33 | 3.1 | 3.3 | 50 | 3.4 | 3.7 | 100 | 4.5 | 4.9 | 185 | 3.8 | 4.2 |
| 25-32 | 2 | 0.2 | 0.2 | 5 | 0.3 | 0.3 | 10 | 0.4 | 0.4 | 18 | 0.4 | 0.4 |
| Number | 1075 | | | 1496 | | | 2231 | | | 4819 | | |
| Mean | 54.00 | | | 54.86 | | | 55.06 | | | 54.74 | | |
| Median | 54 | | | 55 | | | 55 | | | 54 | | |
| S.D. | 7.86 | | | 8.49 | | | 9.05 | | | 8.64 | | |

The mean values for 1962, 1958 and 1953 are respectively 55.1, 54.9 and 54.0, indicating a tendency for the active range of leisure activities to decrease with age. That does not mean time spent in leisure activities decreases within two to eleven years out of school. It implies only a shrinkage in the range of such activities. The change, however, is very slight within the years spanned by the study. Later data will show why this is so.

The mean frequency ratings for the different kinds of leisure activities are shown in Table 183.

The leisure activities are shown grouped in six categories: (1) reading activities, (2) self-education activities, (3) hobby activities, (4) athletic activities, (5) fine arts activities, and (6) popular entertainment activities. The arrows at the far left of the table indicate the direction of a consistent trend by year of graduation. As the years go by, the frequency of engagement in the following activities increases: newspaper reading, home workshop activities and T. V. watching. Activities that show a consistent decreasing trend with increased years out of school are: attending educational courses, attending spectator sports, engaging in team sports, and listening to music for pleasure. Other activities which show a decrease, albeit not a decrease for each year of graduation group, are: attending lectures and discussion groups, engaging in hobbies, attending plays and concerts, engaging in individual sports, and going to the movies.

For all vocational graduates combined, the rank order of leisure activities, based upon the mean ratings shown in Table 183 is as follows:

| <u>Type of Leisure Activity</u> | <u>Mean Rating*</u> |
|--|---------------------|
| 1. Reading newspapers | 3.4 |
| 2. Watching T.V. programs | 2.9 |
| 3. Listening to music for pleasure | 2.9 |
| 4. Entertaining or visiting friends | 2.8 |
| 5. Engaging in individual sports | 2.7 |
| 6. Reading general magazines | 2.6 |
| 7. Reading trade books and periodicals | 2.5 |
| 8. Going to the movies | 2.4 |
| 9. Attending spectator sports | 2.3 |
| 10. Working in home workshop | 2.2 |
| 11. Engaging in team sports | 2.0 |
| 12. Reading non-fiction | 2.0 |
| 13. Attending educational courses | 1.9 |

* 1 = Almost never, 2 = Infrequently, 3 = Frequently and 4 = Almost always

**Table 183. LEISURE ACTIVITY INDEXES AND MEAN FREQUENCY
RATINGS OF LEISURE ACTIVITIES BY YEAR OF GRADUATION**

| Types of Leisure Activities | YEAR OF GRADUATION | | | | | | | | | | | |
|-----------------------------------|--------------------|------|------|------|------|------|------|------|------|----------|-----|------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| 1 Reading newspapers | 1126 | 3.6 | .69 | 1591 | 3.5 | .79 | 2371 | 3.2 | .82 | 5107 | 3.4 | .80 |
| 1 Reading non-fiction books | 1114 | 2.0 | .85 | 1556 | 2.0 | .86 | 2333 | 2.0 | .88 | 5022 | 2.0 | .87 |
| 1 Reading general magazines | 1115 | 2.6 | .84 | 1574 | 2.7 | .82 | 2360 | 2.6 | .83 | 5068 | 2.6 | .83 |
| 2 Reading trade books/periodicals | 1118 | 2.5 | .86 | 1573 | 2.5 | .90 | 2360 | 2.4 | .89 | 5070 | 2.5 | .89 |
| 2 Attending educational courses | 1107 | 1.8 | .90 | 1563 | 1.9 | .96 | 2320 | 2.0 | 1.02 | 5009 | 1.9 | .97 |
| 2 Attending lectures, discussions | 1111 | 1.5 | .76 | 1568 | 1.5 | .80 | 2333 | 1.6 | .84 | 5031 | 1.6 | .81 |
| 3 Engaging in craft hobbies | 1120 | 1.9 | .91 | 1576 | 1.9 | .90 | 2361 | 2.0 | .92 | 5076 | 1.9 | .91 |
| 3 Working in a home workshop | 1114 | 2.3 | .96 | 1564 | 2.2 | .97 | 2340 | 2.1 | .98 | 5036 | 2.2 | .98 |
| 3 Collecting stamps, coins, etc. | 1107 | 1.4 | .82 | 1550 | 1.5 | .86 | 2311 | 1.5 | .80 | 4987 | 1.5 | .83 |
| 4 Attending spectator sports | 1127 | 2.1 | .83 | 1569 | 2.2 | .84 | 2344 | 2.4 | .85 | 5059 | 2.3 | .85 |
| 4 Engaging in team sports | 1119 | 1.8 | .88 | 1573 | 1.9 | .94 | 2344 | 2.1 | .97 | 5055 | 2.0 | .95 |
| 4 Engaging in individual sports | 1115 | 2.5 | .77 | 1571 | 2.7 | .77 | 2364 | 2.7 | .79 | 5069 | 2.7 | .78 |
| 5 Attending plays, concerts, etc. | 1115 | 1.4 | .64 | 1549 | 1.4 | .65 | 2331 | 1.5 | .68 | 5013 | 1.4 | .66 |
| 5 Engaging in performing arts | 1085 | 1.3 | .63 | 1528 | 1.3 | .70 | 2292 | 1.4 | .81 | 4923 | 1.4 | .74 |
| 5 Listening to music at home | 1117 | 2.8 | .86 | 1573 | 2.9 | .88 | 2354 | 3.0 | .88 | 5063 | 2.9 | .88 |
| 6 Watching T.V. programs | 1108 | 3.1 | .81 | 1569 | 3.0 | .88 | 2357 | 2.8 | .94 | 5053 | 2.9 | .91 |
| 6 Entertaining/visiting friends | 1112 | 2.7 | .58 | 1568 | 2.8 | .62 | 2348 | 2.8 | .72 | 5046 | 2.8 | .66 |
| 6 Going to movies | 1128 | 2.0 | .69 | 1583 | 2.3 | .71 | 2348 | 2.6 | .69 | 5078 | 2.4 | .74 |
| LEISURE ACTIVITY MEASURE | 1075 | 54.0 | 7.86 | 1496 | 54.9 | 8.49 | 2231 | 55.1 | 9.05 | -- | -- | -- |

* 1 = Almost never; 2 = Infrequently; 3 = Frequently; 4 = Almost always

▲ ▼ = Indicates direction of mean ratings with increased years out of school

| | | |
|-----|---|-----|
| 14. | Engaging in craft hobbies | 2.9 |
| 15. | Attending educational discussion groups | 1.6 |
| 16. | Collecting stamps, coins, other objects | 1.5 |
| 17. | Attending plays and concerts | 1.4 |
| 18. | Engaging in performing arts | 1.4 |

The rank order of leisure activities in terms of the six groups defined previously, based upon a mean of the mean ratings, is as follows:

| | | |
|----|--|-----|
| 1. | General reading activities | 2.7 |
| 2. | Popular entertainment | 2.6 |
| 3. | Sports and athletic activities | 2.1 |
| 4. | Self-education activities | 1.9 |
| 5. | Hobbies and home crafts | 1.9 |
| 6. | Fine arts activities | 1.8 |

Analysis by Type of School

How do the vocational graduates of comprehensive and vocational schools compare in terms of breadth of leisure activities? The bottom section of Table 184 presents the data.

There are no significant differences in the leisure activity indexes between graduates from the two types of schools. The conclusion is that the type of school from which the graduate comes does not influence his future range of leisure activities.

Do the graduates from the two types of schools differ in the mean ratings given to the individual types of leisure activities? The ratings are shown in the upper section of Table 184. The rank order of leisure activities, based on mean ratings, is essentially the same for both groups. There are no significant differences between the mean ratings for specific activities. The conclusion is that the type of school attended is not a variable influencing specific future leisure time activities of vocational course graduates.

**Table 184. LEISURE ACTIVITY INDEXES AND MEAN FREQUENCY
RATINGS OF LEISURE ACTIVITIES BY TYPE OF SCHOOL**

| Types of Leisure Activities | | TYPE OF SCHOOL | | | | | |
|---------------------------------|---------------------------------|----------------|----------|-------------|---------------|----------|-------------|
| | | Vocational | | | Comprehensive | | |
| | | N | M | S.D. | N | M | S.D. |
| 1 | Reading newspapers | 2995 | 3.4 | .82 | 2112 | 3.4 | .78 |
| | Reading non-fiction books | 2949 | 2.0 | .86 | 2073 | 2.0 | .87 |
| | Reading general magazines | 2972 | 2.6 | .83 | 2096 | 2.7 | .83 |
| 2 | Reading trade books/periodicals | 2981 | 2.5 | .87 | 2089 | 2.4 | .90 |
| | Attending educational courses | 2936 | 1.9 | .97 | 2073 | 1.9 | .97 |
| | Attending lectures, discussions | 2950 | 1.5 | .79 | 2081 | 1.6 | .84 |
| 3 | Engaging in craft hobbies | 2983 | 1.9 | .91 | 2093 | 1.9 | .91 |
| | Working in a home workshop | 2954 | 2.2 | .99 | 2082 | 2.2 | .96 |
| | Collecting stamps, coins, etc. | 2929 | 1.5 | .82 | 2058 | 1.5 | .84 |
| 4 | Attending spectator sports | 2972 | 2.2 | .84 | 2087 | 2.3 | .86 |
| | Engaging in team sports | 2959 | 1.9 | .94 | 2096 | 2.0 | .96 |
| | Engaging in individual sports | 2977 | 2.6 | .78 | 2092 | 2.7 | .78 |
| 5 | Attending plays, concerts, etc. | 2940 | 1.4 | .65 | 2073 | 1.5 | .68 |
| | Engaging in performing arts | 2892 | 1.4 | .74 | 2031 | 1.4 | .76 |
| | Listening to music at home | 2969 | 2.9 | .88 | 2094 | 2.9 | .88 |
| 6 | Watching T.V. programs | 2962 | 2.9 | .91 | 2091 | 3.0 | .90 |
| | Entertaining/visiting friends | 2952 | 2.8 | .66 | 2094 | 2.8 | .66 |
| | Going to movies | 2978 | 2.4 | .74 | 2100 | 2.4 | .74 |
| LEISURE ACTIVITY MEASURE | | N | M | S.D. | N | M | S.D. |
| Year of Graduation | 1953 | 658 | 54.0 | 7.73 | 417 | 54.0 | 8.07 |
| | 1958 | 851 | 54.5 | 8.49 | 646 | 55.3 | 8.46 |
| | 1962 | 1305 | 54.8 | 8.94 | 926 | 55.4 | 9.19 |
| | Combined | 2827 | 54.5 | 8.56 | 1993 | 55.1 | 8.75 |

* 1 = Almost never; 2 = Infrequently; 3 = Frequently; 4 = Almost always

Analysis by Enrollment

Do the vocational graduates from small, medium and large enrollment schools, as defined in this study, differ in terms of the leisure activity index? Is there a significant trend? The lower section of Table 185 presents the data.

Table 185. LEISURE ACTIVITY INDEXES AND MEAN FREQUENCY RATINGS OF LEISURE ACTIVITIES BY SCHOOL ENROLLMENT

| Types of Leisure Activities | SIZE OF SCHOOL ENROLLMENT | | | | | | | | | |
|---------------------------------|---------------------------|------|------|----------|------|------|--------|------|------|------|
| | < 500 | | | 500-1500 | | | > 1500 | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Reading newspapers | 1709 | 3.4 | .81 | 1895 | 3.4 | .79 | 1503 | 3.4 | .81 | |
| 1 Reading non-fiction books | 1676 | 2.0 | .87 | 1870 | 2.0 | .87 | 1476 | 2.0 | .86 | |
| Reading general magazines | 1690 | 2.6 | .84 | 1882 | 2.6 | .82 | 1496 | 2.6 | .82 | |
| Reading trade books/periodicals | 1690 | 2.5 | .88 | 1883 | 2.4 | .88 | 1497 | 2.5 | .90 | |
| 2 Attending educational courses | 1658 | 1.9 | .95 | 1870 | 1.9 | .98 | 1481 | 2.0 | .99 | |
| Attending lectures, discussions | 1669 | 1.5 | .82 | 1875 | 1.6 | .82 | 1487 | 1.6 | .84 | |
| Engaging in craft hobbies | 1695 | 1.9 | .91 | 1885 | 1.9 | .91 | 1496 | 1.9 | .91 | |
| 3 Working in a home workshop | 1673 | 2.2 | .99 | 1876 | 2.1 | .97 | 1487 | 2.1 | .97 | |
| Collecting stamps, coins, etc. | 1679 | 1.5 | .80 | 1812 | 1.5 | .83 | 1496 | 1.5 | .85 | |
| Attending spectator sports | 1684 | 2.2 | .86 | 1881 | 2.3 | .84 | 1494 | 2.2 | .84 | |
| 4 Engaging in team sports | 1684 | 1.9 | .94 | 1871 | 2.0 | .96 | 1500 | 2.0 | .94 | |
| Engaging in individual sports | 1687 | 2.7 | .78 | 1879 | 2.7 | .78 | 1503 | 2.7 | .79 | |
| Attending plays, concerts, etc. | 1652 | 1.4 | .64 | 1868 | 1.5 | .68 | 1493 | 1.4 | .66 | |
| 5 Engaging in performing arts | 1662 | 1.4 | .73 | 1788 | 1.4 | .77 | 1473 | 1.4 | .74 | |
| Listening to music at home | 1685 | 2.9 | .88 | 1886 | 2.9 | .88 | 1492 | 2.9 | .87 | |
| Watching T.V. programs | 1681 | 2.9 | .91 | 1879 | 2.9 | .91 | 1493 | 2.9 | .90 | |
| 6 Entertaining/visiting friends | 1681 | 2.8 | .66 | 1874 | 2.8 | .67 | 1491 | 2.8 | .66 | |
| Going to movies | 1693 | 2.4 | .75 | 1882 | 2.4 | .73 | 1503 | 2.4 | .74 | |
| LEISURE ACTIVITY MEASURE | | | | | | | | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 379 | 54.2 | 7.80 | 402 | 54.1 | 7.8 | 294 | 53.6 | 8.00 |
| | 1958 | 497 | 54.5 | 8.52 | 574 | 54.8 | 8.46 | 426 | 55.2 | 8.47 |
| | 1962 | 710 | 54.9 | 9.29 | 808 | 55.4 | 8.68 | 713 | 54.9 | 9.21 |
| | Combined | 1590 | 54.6 | 8.73 | 1794 | 54.9 | 8.44 | 1436 | 54.7 | 8.78 |

* 1 = Almost never; 2 = Infrequently; 3 = Frequently; 4 = Almost always

The breadth of leisure activity index is not significantly related to school enrollment. The conclusion is that school enrollment is not a variable influencing the vocational graduates' range of future leisure activities.

Are there any differences in the mean ratings of frequency of leisure activities that suggest a relationship with the enrollment of former schools? The ratings are shown in the upper section of Table 185. There are no significant trends among the mean ratings that suggest enrollment of the former school is a variable influencing frequency of leisure activities. The conclusion is that future leisure activities are uninfluenced by size of school enrollment.

Analysis by Race of Graduate

How do Negro and white graduates differ in terms of the leisure activity index? The bottom section of Table 186 presents the data.

Within each graduating class group, the Negro graduates have a higher index score than the white graduates. Although the differences are not significant, their consistency suggests that Negro graduates have a slightly broader range of leisure activities than white graduates, that is, they report a greater frequency of involvement in the leisure activities listed.

How do the Negro and white graduates compare in terms of mean ratings for the individual leisure activities? The upper section of Table 186 presents the data. The mean ratings of Negro graduates are greater for the following factors, listed in order of the magnitude of the difference:

1. Engaging in team sports (2.6 vs. 1.9)
2. Attending spectator sports (2.8 vs. 2.2)
3. Engaging in performing arts (1.8 vs. 1.2)
4. Attending educational lectures (1.9 vs. 1.5)
5. Attending plays, concerts, etc. (1.8 vs. 1.4)
6. Listening to home music (3.3 vs. 2.9)
7. Reading non-fiction books (2.3 vs. 2.0)

Table 186. LEISURE ACTIVITY INDEXES AND MEAN FREQUENCY RATINGS OF LEISURE ACTIVITIES BY RACE OF GRADUATE

| Types of Leisure Activities | RACE OF GRADUATES | | | | | | | | | |
|---------------------------------|-------------------|----------|-------------|----------|----------|-------------|----------|----------|-------------|-------|
| | White | | | Negro | | | Other | | | |
| | | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Reading newspapers | 4721 | 3.4 | .81 | 337 | 3.5 | .73 | 19 | 3.5 | .60 | |
| 1 Reading non-fiction books | 4652 | 2.0 | .86 | 325 | 2.3 | .89 | 18 | 2.3 | 1.10 | |
| Reading general magazines | 4694 | 2.6 | .83 | 326 | 2.8 | .83 | 18 | 2.7 | .80 | |
| Reading trade books/periodicals | 4691 | 2.5 | .89 | 332 | 2.5 | .84 | 18 | 2.6 | .83 | |
| 2 Attending educational courses | 4641 | 1.9 | .97 | 322 | 2.0 | 1.00 | 19 | 2.4 | 1.26 | |
| Attending lectures, discussion | 4661 | 1.5 | .79 | 324 | 1.9 | .94 | 19 | 1.7 | .96 | |
| Engaging in craft hobbies | 4699 | 1.9 | .91 | 330 | 1.8 | .92 | 19 | 1.8 | .99 | |
| 3 Working in a home workshop | 4668 | 2.2 | .98 | 320 | 1.9 | .95 | 19 | 2.2 | 1.18 | |
| Collecting stamps, coins, etc. | 4620 | 1.5 | .82 | 322 | 1.6 | .86 | 19 | 1.5 | .75 | |
| Attending spectator sports | 4685 | 2.2 | .84 | 329 | 2.8 | .83 | 17 | 2.5 | .78 | |
| 4 Engaging in team sports | 4681 | 1.9 | .93 | 326 | 2.6 | 1.01 | 19 | 1.9 | .97 | |
| Engaging in individual sports | 4699 | 2.7 | .77 | 324 | 2.5 | .92 | 19 | 2.3 | .80 | |
| Attending plays, concerts, etc. | 4637 | 1.4 | .64 | 331 | 1.8 | .85 | 17 | 1.7 | .82 | |
| 5 Engaging in performing arts | 4563 | 1.3 | .71 | 316 | 1.8 | .98 | 18 | 1.2 | .53 | |
| Listening to music at home | 4691 | 2.9 | .88 | 325 | 3.3 | .75 | 19 | 2.8 | .87 | |
| Watching T.V. programs | 4673 | 2.9 | .91 | 333 | 3.1 | .86 | 18 | 2.8 | .96 | |
| 6 Entertaining/visiting friends | 4671 | 2.8 | .66 | 329 | 2.9 | .72 | 18 | 2.6 | .59 | |
| Going to movies | 4707 | 2.4 | .74 | 325 | 2.5 | .75 | 19 | 2.5 | .75 | |
| LEISURE ACTIVITY MEASURE | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 1027 | 53.9 | 7.75 | 43 | 57.6 | 9.25 | 3 | 52.7 | 5.31 |
| | 1958 | 1385 | 54.6 | 8.23 | 97 | 58.8 | 10.68 | 5 | 48.6 | 10.07 |
| | 1962 | 2042 | 59.7 | 8.82 | 170 | 59.0 | 10.44 | 8 | 63.1 | 8.21 |
| | Combined | 4471 | 54.5 | 8.41 | 310 | 58.7 | 10.37 | 16 | 56.6 | 10.72 |

* 1 = Almost never; 2 = Infrequently; 3 = Frequently; 4 = Almost always

The rank order of the six group of activities, based upon group means of individual mean ratings, differ for the two races.

| <u>White Graduates</u> | <u>Negro Graduates</u> |
|---|----------------------------------|
| 1. Popular entertainment (2.70) | General reading (2.86) |
| 2. General reading (2.66) | Popular entertainment . . (2.83) |
| 3. Sports and athletics (2.26) | Sports and athletics . . (2.63) |
| 4. Self-education (1.96) | Fine arts activities . . (2.30) |
| 5. Hobbies and crafts (1.86) | Self-education (2.13) |
| 6. Fine arts activities (1.86) | Hobbies and crafts . . . (1.43) |

Since it has been shown that neither the type of school nor the school enrollment influence the leisure activity index or the mean frequency ratings of the activities, it is reasonable to assume school factors are not the source of the differences between Negro and white graduate leisure activities. The differences are more likely the products of differences in social and cultural milieu. It must be remembered that the Negro in our survey is a high school graduate. He certainly does not correspond to the commonly held image of the Negro high school dropout. Relative to their respective numbers, a smaller percentage of Negroes graduate from high schools than do white students. Those that do may have greater upward strivings than do their white counterparts. This may account for some of the differences in leisure activities.

Analysis by Type of Graduate

How do vocational and academic graduates compare in terms of the leisure activity index? Do the academic graduates, perhaps because of their greater exposure to a broader education, have a greater breadth of leisure activities? The lower section of Table 187 presents the data. It should be understood that the percentage of college graduates and those who have had some college is greater among the academic graduates.

Within each of the graduating class groups, the academic graduates have a slightly higher leisure activity index score than do the vocational graduates.

Table 187. LEISURE ACTIVITY INDEXES AND MEAN FREQUENCY RATINGS OF LEISURE ACTIVITIES BY TYPE OF GRADUATE (Based on all graduates regardless of formal educational level attained.)

| Types of Leisure Activities | | TYPE OF GRADUATE | | | | | |
|---------------------------------|----------------------------------|------------------|----------|-------------|----------|----------|-------------|
| | | Vocational | | | Academic | | |
| | | N | M | S.D. | N | M | S.D. |
| 1 | Reading newspapers | 5107 | 3.4 | .80 | 1753 | 3.5 | .73 |
| | Reading non-fiction books | 5022 | 2.0 | .87 | 1731 | 2.8 | .88 |
| | Reading general magazines | 5068 | 2.6 | .83 | 1740 | 2.8 | .78 |
| 2 | Reading trade books/ periodicals | 5070 | 2.5 | .89 | 1733 | 2.5 | .93 |
| | Attending educational courses | 5009 | 1.9 | .97 | 1720 | 2.2 | 1.08 |
| | Attending lectures, discussions | 5031 | 1.6 | .81 | 1733 | 1.9 | .93 |
| 3 | Engaging in craft hobbies | 5076 | 1.9 | .91 | 1746 | 1.7 | .84 |
| | Working in a home workshop | 5036 | 2.2 | .98 | 1723 | 1.7 | .88 |
| | Collecting stamps, coins, etc. | 4987 | 1.5 | .83 | 1746 | 1.5 | .81 |
| 4 | Attending spectator sports | 5059 | 2.3 | .85 | 1741 | 2.4 | .81 |
| | Engaging in team sports | 5055 | 2.0 | .95 | 1735 | 2.1 | .98 |
| | Engaging in individual sports | 5069 | 2.7 | .78 | 1732 | 2.6 | .81 |
| 5 | Attending plays, concerts, etc. | 5013 | 1.4 | .66 | 1736 | 1.7 | .77 |
| | Engaging in performing arts | 4923 | 1.4 | .74 | 1729 | 1.5 | .87 |
| | Listening to music at home | 5063 | 2.9 | .88 | 1743 | 3.0 | .85 |
| 6 | Watching T.V. programs | 5053 | 2.9 | .91 | 1731 | 2.8 | .97 |
| | Entertaining/visiting friends | 5046 | 2.8 | .66 | 1738 | 2.8 | .68 |
| | Going to movies | 5078 | 2.4 | .74 | 1742 | 2.3 | .72 |
| LEISURE ACTIVITY MEASURE | | N | M | S.D. | N | M | S.D. |
| Year of Graduation | 1953 | 1075 | 54.0 | 7.86 | 421 | 55.8 | 7.56 |
| | 1958 | 1497 | 54.9 | 8.49 | 559 | 55.5 | 7.90 |
| | 1962 | 2231 | 55.1 | 9.05 | 784 | 56.7 | 8.48 |
| | Combined | 4820 | 54.7 | 8.64 | 1764 | 56.1 | 8.10 |

* 1 = Almost always; 2 = Infrequently; 3 = Frequently; 4 = Almost always

The differences are not significant. However, their consistency suggests academic graduates may have a slightly greater involvement in leisure activities. The higher educational attainment in the academic graduate group may account for the differences.

How do the graduates compare in terms of the mean frequency ratings for the individual leisure activities and for the leisure activities grouped into the six categories described previously? The upper section of Table 187 shows the mean frequency ratings.

The academic graduates are more frequently engaged in the following activities:

1. Reading non-fiction books (2.8 vs. 2.0)
2. Attending educational courses (2.2 vs. 1.9)
3. Attending lectures and discussions . . . (1.9 vs. 1.6)
4. Attending plays, concerts, etc. (1.7 vs. 1.4)
5. Reading general magazines (2.8 vs. 2.6)

This may be a direct reflection of the very much higher percentage of academic graduates in the sample who attended college. Since a substantial number of the 1962 and 1958 academic graduates were still in college at the time of the survey, the differences may be a reflection of a college attendance period rather than what happens after formal education has been completed.

The vocational graduates are more frequently engaged in craft hobbies and home workshop activities.

The rank order of the six activities most frequently engaged in is essentially the same for both types of graduates:

| <u>Academic Graduates</u> | <u>Vocational Graduates</u> |
|--|-------------------------------------|
| 1. Reading newspapers (3.5) | Reading newspapers (3.4) |
| 2. Listening to music (3.0) | Listening to music (2.9) |
| 3. Watching television (2.8) | Watching television (2.8) |
| 4. Visiting/entertaining friends (2.8) | Visiting/entertaining friends (2.8) |
| 5. Reading general magazines . . (2.8) | Engaging in individual sports (2.7) |
| 6. Reading non-fiction books . . (2.8) | Reading general magazines . . (2.6) |

The rank order of the six activity groups, based upon group means of individual mean frequency ratings, for the two types of graduates is as follows:

| <u>Academic Graduates</u> | | <u>Vocational Graduates</u> | |
|--------------------------------|-------|-----------------------------|-------|
| 1. Self-educational activities | (3.3) | Popular entertainment | (2.7) |
| 2. General reading activities | (3.0) | General reading activities | (2.6) |
| 3. Popular entertainments | (2.6) | Sports and athletics | (2.3) |
| 4. Sports and athletics | (2.3) | Self-educational activities | (2.0) |
| 5. Fine arts activities | (2.1) | Fine arts activities | (1.9) |
| 6. Hobby activities | (1.6) | Hobby activities | (1.9) |

Table 187 compared vocational and academic graduates without regard to their attained level of formal education at the time of the survey. Since a much higher percentage of academic graduates than vocational graduates attended or completed college, it is reasonable to assume that amount of education influenced the differences shown in Table 187. A more equitable comparison is in order.

How do vocational and academic high school graduates with no college education compare in terms of the leisure activity index, and the mean frequency ratings of the individual activities that comprise the index? Table 188 provides the data for graduates from the same comprehensive schools.

The leisure activity indexes for the two types of graduates are not significantly different for any of the year of graduation groups. The conclusion is that the type of curriculum the graduate has followed in high school, i.e. academic or vocational, does not influence the range of his leisure activities as an adult.

When the mean frequency ratings of the individual leisure activities are compared, the conclusion is much the same, i.e. the type of high school curriculum followed does not significantly influence future adult leisure activities. The mean ratings are slightly higher for the academic graduates in some activities, but the differences are not statistically significant. It does appear, however, that vocational course graduates engage in home workshop activities more frequently than academic graduates — a hardly surprising fact.

Table 188. LEISURE ACTIVITY INDEXES AND MEAN FREQUENCY RATINGS OF LEISURE ACTIVITIES BY TYPE OF GRADUATE (Based on graduates from comprehensive schools only with no college level education)

| Types of Leisure Activities | TYPE OF GRADUATE | | | | | | |
|------------------------------------|------------------|----------|-------------|----------|----------|-------------|-----|
| | Vocational | | | Academic | | | |
| | N | M | S.D. | N | M | S.D. | |
| Reading newspapers | 1726 | 3.4 | .80 | 790 | 3.5 | .76 | |
| 1 Reading non-fiction books | 1689 | 2.0 | .85 | 772 | 2.1 | .86 | |
| Reading general magazines | 1711 | 2.6 | .85 | 782 | 2.7 | .82 | |
| Reading trade books/periodicals | 1700 | 2.3 | .90 | 774 | 2.4 | .94 | |
| 2 Attending educational courses | 1687 | 1.8 | .89 | 771 | 1.8 | .93 | |
| Attending lectures, discussions | 1697 | 1.5 | .77 | 780 | 1.5 | .77 | |
| Engaging in craft hobbies | 1708 | 1.9 | .91 | 785 | 1.8 | .89 | |
| 3 Working in a home work shop | 1700 | 2.2 | .96 | 767 | 1.8 | .91 | |
| Collecting stamps, coins, etc. | 1677 | 1.5 | .84 | 789 | 1.5 | .87 | |
| Attending spectator sports | 1697 | 2.3 | .86 | 781 | 2.4 | .84 | |
| 4 Engaging in team sports | 1707 | 2.0 | .97 | 780 | 2.1 | .96 | |
| Engaging in individual sports | 1706 | 2.7 | .78 | 779 | 2.6 | .84 | |
| Attending plays, concerts, etc. | 1690 | 1.4 | .64 | 777 | 1.5 | .72 | |
| 5 Engaging in performing arts | 1648 | 1.4 | .73 | 776 | 1.5 | .83 | |
| Listening to music at home | 1707 | 2.9 | .90 | 784 | 3.0 | .89 | |
| Watching T.V. programs | 1701 | 3.0 | .90 | 771 | 3.0 | .94 | |
| 6 Entertaining or visiting friends | 1708 | 2.8 | .67 | 781 | 2.8 | .71 | |
| Going to movies | 1713 | 2.4 | .75 | 782 | 2.4 | .75 | |
| LEISURE ACTIVITY MEASURE | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 312 | 53.3 | 8.1 | 172 | 54.5 | 8.4 |
| | 1958 | 534 | 54.8 | 8.5 | 267 | 54.2 | 8.6 |
| | 1962 | 776 | 54.6 | 9.1 | 357 | 54.9 | 8.9 |
| | Combined | 1625 | 54.4 | 8.8 | 796 | 54.6 | 8.7 |

* 1 = Almost never; 2 = Infrequently; 3 = Frequently; 4 = Almost always

THE GRADUATE'S ORGANIZATION AFFILIATIONS

Introduction

The graduates were asked to indicate their present membership status in the following kinds of community organizations:

- | | |
|--------------|----------------------|
| 1. Religious | 7. Veterans |
| 2. Political | 8. Business or trade |
| 3. Service | 9. Cultural |
| 4. Sports | 10. Civic |
| 5. Labor | 11. Youth |
| 6. Fraternal | 12. Professional |

The membership status categories represented different degrees of active participation. They were: (1) not a member, (2) inactive member, (3) active member, and (4) presently an officer. The ratings provided the basis for an organization affiliation index, which reflected degree of active participation in community organizations. The affiliation measure was obtained by multiplying the mean frequency rating of the graduate by 25. Each rating was given the value of numbers preceding the aforementioned answer categories. For a more complete description of the measure, see Chapter 3.

The rationale for the use of the measure was the reasoning that degree of organization affiliation reflected social interaction with different segments of the community. In a democratic society, such social interaction is desirable. It may be looked upon as a measure of the degree to which the individual is an influence in his community. Certainly, somewhere within the concept of education of the total person, there must be recognition of the dimension of organizational affiliation and leadership. Hence, one of the goals of education might be to instill a motivation and capability for active participation in recognized organizations in our society.

Analysis by Year of Graduation

How does the organization affiliation index change with increased age or years out of high school? Does the degree of active participation in community organizations increase as the graduate gets older and more established in his community? Table 189 presents a frequency, percentage and cumulative percentage distribution of the affiliation measure.

Table 189. ORGANIZATION AFFILIATION INDEX: FREQUENCY DISTRIBUTIONS FOR VOCATIONAL GRADUATES BY YEAR OF GRADUATION

| Organization Affiliation | YEAR OF GRADUATION | | | | | | | | | | | |
|--------------------------|--------------------|------|-------|-------|------|-------|-------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| C.I. | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| 100 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 |
| 93-99 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 |
| 85-92 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 |
| 78-84 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 |
| 70-77 | 0 | 0.0 | 100.0 | 1 | 0.1 | 100.0 | 2 | 0.1 | 100.0 | 3 | 0.1 | 100.0 |
| 63-69 | 1 | 0.1 | 100.0 | 1 | 0.1 | 99.9 | 2 | 0.1 | 99.9 | 4 | 0.1 | 99.9 |
| 55-62 | 12 | 1.1 | 99.9 | 9 | 0.5 | 99.8 | 10 | 0.4 | 99.8 | 31 | 0.6 | 99.8 |
| 48-54 | 32 | 2.8 | 98.8 | 37 | 2.3 | 99.3 | 44 | 1.8 | 99.4 | 113 | 2.5 | 99.2 |
| 40-47 | 174 | 15.4 | 96.0 | 160 | 9.8 | 97.0 | 160 | 6.5 | 97.6 | 494 | 10.9 | 96.7 |
| 33-39 | 384 | 34.1 | 80.6 | 494 | 30.3 | 87.2 | 577 | 23.5 | 91.1 | 1460 | 32.0 | 85.8 |
| 25-32 | 525 | 46.5 | 46.5 | 928 | 56.9 | 56.9 | 1656 | 67.6 | 67.6 | 2449 | 53.8 | 53.8 |
| Number | 1128 | | | 1630 | | | 2451 | | | 4554 | | |
| Mean | 33.90 | | | 32.24 | | | 31.06 | | | 33.08 | | |
| Median | 33 | | | 31 | | | 29 | | | 31 | | |
| S.D. | 6.67 | | | 6.11 | | | 5.84 | | | 5.98 | | |

The mean values for 1962, 1958 and 1953 are respectively 31.1, 32.2 and 33.9, indicating a trend of increased organization affiliation with more years out of school. This is as expected, and requires that the index be used to compare individuals or groups with like years out of high school.

Table 190 provides the mean ratings of affiliation with each type of organization. The upward pointing arrows represent consistently higher mean ratings for greater years out of school for the type of organizations so marked, i.e. religious, labor, fraternal and professional organizations. For all types of organizations, other than youth, athletic and cultural organizations, the 1953 graduates have a higher mean rating than the 1962 graduates.

Based upon mean ratings, the three types of organization with which graduates have the most active affiliation are: (1) religious, (2) labor, and (3) athletic organizations.

The mean ratings indicate something else about the vocational graduate; he is not a member of many organizations, and when he is, he is usually an inactive member. The percentages of non-membership and inactive membership reported below for all graduates combined shows his non-membership more clearly.

| <u>Type of Organization</u> | <u>Not a Member</u> | <u>Inactive</u> |
|-----------------------------|---------------------|-----------------|
| Religious | 22.6 % | 38.3 % |
| Political | 82.2 | 13.6 |
| Service | 93.3 | 3.5 |
| Athletic | 73.0 | 7.3 |
| Labor Union | 68.6 | 10.6 |
| Fraternal | 89.1 | 4.9 |
| Veterans | 95.7 | 2.9 |
| Business | 86.4 | 5.8 |
| Cultural | 93.6 | 2.7 |
| Civic | 92.9 | 3.8 |
| Youth | 85.4 | 7.6 |
| Professional | 88.6 | 3.4 |

The vocational graduate does not conform to the stereotype "joiner" American. As shall be shown later, neither does the academic graduate. This may be because the survey covers the young adult years only. Organization affiliation status may change with the middle years.

Table 190. ORGANIZATION AFFILIATION INDEXES AND MEAN FREQUENCY RATINGS
OF ORGANIZATION AFFILIATION BY YEAR OF GRADUATION

| Types of Organizations | YEAR OF GRADUATION | | | | | | | | | | | |
|-----------------------------|--------------------|------|------|------|------|------|------|------|------|----------|-----|------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | N | M | S.D. |
| ▲ Religious | 1108 | 2.4 | .87 | 1576 | 2.2 | .82 | 2350 | 2.1 | .81 | 5053 | 2.2 | .83 |
| Political | 1111 | 1.3 | .62 | 1558 | 1.3 | .56 | 2333 | 1.1 | .41 | 5020 | 1.2 | .52 |
| Service | 1104 | 1.2 | .54 | 1553 | 1.1 | .44 | 2319 | 1.1 | .34 | 4994 | 1.1 | .42 |
| Athletic | 1101 | 1.5 | .86 | 1545 | 1.5 | .86 | 2324 | 1.5 | .83 | 4989 | 1.5 | .85 |
| ▲ Labor union | 1105 | 1.7 | .91 | 1555 | 1.6 | .86 | 2327 | 1.4 | .76 | 5005 | 1.5 | .84 |
| ▲ Fraternal | 1105 | 1.3 | .64 | 1554 | 1.2 | .57 | 2320 | 1.1 | .43 | 4997 | 1.2 | .53 |
| Veterans | 1117 | 1.1 | .38 | 1554 | 1.1 | .30 | 2315 | 1.0 | .24 | 5004 | 1.1 | .30 |
| Business or trade | 1114 | 1.3 | .68 | 1556 | 1.2 | .61 | 2324 | 1.2 | .51 | 5002 | 1.2 | .58 |
| Cultural | 1106 | 1.1 | .40 | 1558 | 1.1 | .40 | 2324 | 1.1 | .45 | 5006 | 1.1 | .42 |
| Civic | 1102 | 1.2 | .56 | 1553 | 1.1 | .45 | 2311 | 1.1 | .32 | 4983 | 1.1 | .42 |
| Youth | 1107 | 1.2 | .66 | 1554 | 1.2 | .56 | 2314 | 1.3 | .63 | 4992 | 1.2 | .62 |
| ▲ Professional | 1102 | 1.3 | .70 | 1544 | 1.2 | .61 | 2293 | 1.1 | .51 | 4957 | 1.2 | .59 |
| ORGANIZATION AFFILIATION | 1128 | 39.9 | 6.67 | 1630 | 32.2 | 6.11 | 2451 | 31.1 | 5.84 | — | — | — |

* 4 = Presently an officer; 3 = Active member; 2 = Inactive member; 1 = Not a member

▲ = Indicates direction of mean ratings with increased years out of school

Analysis by Type of School

How do vocational graduates of comprehensive and vocational schools compare in terms of the organization affiliation index? The lower section of Table 191 presents the data.

Table 191. ORGANIZATION AFFILIATION INDEXES AND MEAN FREQUENCY RATINGS OF ORGANIZATION AFFILIATION BY TYPE OF SCHOOL

| Types of Organizations | TYPE OF SCHOOL | | | | | | |
|---------------------------------|----------------|------|------|---------------|------|------|------|
| | Vocational | | | Comprehensive | | | |
| | N | M | S.D. | N | M | S.D. | |
| Religious | 2970 | 2.2 | .83 | 2083 | 2.2 | .83 | |
| Political | 2944 | 1.2 | .51 | 2076 | 1.2 | .53 | |
| Service | 2937 | 1.1 | .40 | 2057 | 1.1 | .45 | |
| Athlete | 2939 | 1.5 | .84 | 2050 | 1.5 | .86 | |
| Labor union | 2946 | 1.6 | .85 | 2059 | 1.5 | .81 | |
| Fraternal | 2940 | 1.2 | .54 | 2057 | 1.2 | .51 | |
| Veterans | 2944 | 1.1 | .30 | 2060 | 1.1 | .29 | |
| Business or trade | 2938 | 1.2 | .58 | 2064 | 1.2 | .59 | |
| Cultural | 2945 | 1.1 | .40 | 2061 | 1.1 | .45 | |
| Civic | 2934 | 1.1 | .40 | 2049 | 1.1 | .45 | |
| Youth | 2932 | 1.2 | .62 | 2060 | 1.2 | .62 | |
| Professional | 2912 | 1.2 | .58 | 2045 | 1.2 | .60 | |
| ORGANIZATION AFFILIATION | | | | | | | |
| | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 669 | 33.5 | 6.36 | 429 | 34.6 | 7.08 |
| | 1958 | 921 | 32.2 | 5.90 | 709 | 32.3 | 6.37 |
| | 1962 | 1434 | 31.1 | 5.95 | 1017 | 30.9 | 5.67 |
| | Combined | 3069 | 32.0 | 6.10 | 2158 | 32.1 | 6.35 |

* 4 = Presently an officer; 3 = Active member; 2 = Inactive member; 1 = Not a member

Within each year of graduation group, there is no significant difference in the organization affiliation index between graduates of the two types of schools. The conclusion is that the type of school the vocational graduate has attended has no bearing on his future active participation in community organizations.

Are there any significant differences in the mean affiliation ratings given to the different types of organizations by the graduates of the two types of schools? The upper section of Table 191 shows the mean affiliation scores. There are no significant differences in any of the comparisons. The type of school attended by the graduate does not influence the type of organization he affiliates with after graduation.

Analysis by School Enrollment

How do vocational graduates from small, medium, and large enrollment schools, as defined in this study, differ in terms of the organization affiliation index? Is there a significant trend? The lower section of Table 192 presents the data.

Although the affiliation index increases slightly with increased enrollment for each year of graduation group, the trends are not significant. The conclusion is the school enrollment is not a variable influencing the graduates' future affiliation with community organizations. The slight tendency for a higher affiliation index for large enrollment schools can be attributed to the location of such schools in major metropolitan areas where there is a greater representation of the types of organization listed. For example, more of the trades in metropolitan areas are labor union affiliated than in the smaller communities.

Are there any differences in the mean ratings of affiliation with individual types of organizations in terms of school enrollment? The mean ratings are shown in the upper section of Table 192. There is no trend of mean ratings by enrollment for any of the organization categories. The conclusion is that the enrollment of the graduate's former school is unrelated to his future affiliation with the types of organizations covered by the survey.

Table 192. ORGANIZATION AFFILIATION INDEXES AND MEAN FREQUENCY RATINGS OF ORGANIZATION AFFILIATION BY SCHOOL ENROLLMENT

| Types of Organizations | SCHOOL ENROLLMENT | | | | | | | | | |
|---------------------------------|-------------------|----------|-------------|----------|----------|-------------|----------|----------|-------------|------|
| | < 500 | | | 500-1500 | | | > 1500 | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Religious | 1685 | 2.2 | .84 | 1874 | 2.2 | .82 | 1494 | 2.2 | .84 | |
| Political | 1666 | 1.2 | .53 | 1864 | 1.2 | .49 | 1490 | 1.2 | .54 | |
| Service | 1667 | 1.1 | .39 | 1853 | 1.1 | .44 | 1474 | 1.1 | .43 | |
| Athlete | 1671 | 1.5 | .84 | 1844 | 1.5 | .86 | 1474 | 1.5 | .85 | |
| Labor union | 1666 | 1.5 | .82 | 1854 | 1.5 | .84 | 1485 | 1.6 | .85 | |
| Fraternal | 1667 | 1.2 | .53 | 1856 | 1.2 | .51 | 1474 | 1.2 | .56 | |
| Veterans | 1666 | 1.1 | .31 | 1858 | 1.1 | .30 | 1480 | 1.1 | .28 | |
| Business or trade | 1668 | 1.2 | .56 | 1851 | 1.2 | .58 | 1483 | 1.2 | .61 | |
| Cultural | 1673 | 1.1 | .39 | 1853 | 1.1 | .43 | 1480 | 1.1 | .45 | |
| Civic | 1670 | 1.1 | .44 | 1843 | 1.1 | .41 | 1470 | 1.1 | .43 | |
| Youth | 1665 | 1.2 | .59 | 1852 | 1.2 | .63 | 1475 | 1.2 | .63 | |
| Professional | 1652 | 1.2 | .53 | 1835 | 1.2 | .61 | 1470 | 1.2 | .61 | |
| ORGANIZATION AFFILIATION | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 407 | 33.4 | 6.53 | 428 | 33.6 | 6.49 | 293 | 35.0 | 6.97 |
| | 1958 | 533 | 31.7 | 5.67 | 642 | 32.3 | 6.18 | 455 | 32.8 | 6.45 |
| | 1962 | 777 | 30.9 | 5.94 | 906 | 31.0 | 5.61 | 768 | 31.3 | 5.99 |
| | Combined | 1722 | 31.3 | 6.08 | 1987 | 32.0 | 6.08 | 1518 | 32.4 | 6.48 |

* 4 = Presently an officer; 3 = Active member; 2 = Inactive member; 1 = Not a member

Analysis by Race of Graduate

Do Negro and white graduates differ in terms of the organization affiliation index? The lower section of Table 193 presents the data.

Within each of the year of graduation groups, the Negro graduates have a slightly higher organization affiliation index than the white graduates. The consistency of the differences suggests that Negro graduates tend to become members of, and participate more actively in, organizations than do white

Table 193. ORGANIZATION AFFILIATION INDEXES AND MEAN FREQUENCY RATINGS OF ORGANIZATION AFFILIATION BY RACE OF GRADUATE

| Types of Organizations | RACE OF GRADUATE | | | | | | | | | |
|---------------------------------|------------------|----------|-------------|----------|----------|-------------|----------|----------|-------------|------|
| | White | | | Negro | | | Other | | | |
| | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Religious | 4681 | 2.2 | .83 | 328 | 2.4 | .84 | 19 | 1.7 | .73 | |
| Political | 4660 | 1.2 | .51 | 316 | 1.3 | .63 | 19 | 1.2 | .52 | |
| Service | 4638 | 1.1 | .42 | 311 | 1.1 | .44 | 19 | 1.1 | .45 | |
| Athlete | 4636 | 1.5 | .83 | 310 | 1.8 | .97 | 18 | 1.5 | .83 | |
| Labor union | 4648 | 1.5 | .84 | 312 | 1.5 | .84 | 19 | 1.4 | .67 | |
| Fraternal | 4641 | 1.2 | .53 | 311 | 1.2 | .55 | 19 | 1.0 | .22 | |
| Veterans | 4647 | 1.1 | .28 | 312 | 1.1 | .41 | 19 | 1.1 | .22 | |
| Business or trade | 4646 | 1.2 | .58 | 311 | 1.3 | .64 | 19 | 1.4 | .67 | |
| Cultural | 4649 | 1.1 | .40 | 312 | 1.3 | .68 | 19 | 1.0 | .22 | |
| Civic | 4632 | 1.1 | .41 | 306 | 1.3 | .62 | 19 | 1.1 | .45 | |
| Youth | 4634 | 1.2 | .60 | 313 | 1.5 | .80 | 19 | 1.3 | .55 | |
| Professional | 4606 | 1.2 | .58 | 305 | 1.3 | .69 | 19 | 1.3 | .80 | |
| ORGANIZATION AFFILIATION | N | M | S.D. | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 1073 | 33.8 | 6.56 | 42 | 37.1 | 8.23 | 3 | 35.0 | 4.24 |
| | 1958 | 1475 | 32.3 | 5.91 | 110 | 34.2 | 8.00 | 5 | 27.8 | 2.99 |
| | 1962 | 2192 | 31.0 | 5.64 | 183 | 34.0 | 7.24 | 10 | 32.4 | 5.85 |
| | Combined | 4757 | 32.0 | 6.04 | 336 | 34.5 | 7.68 | 18 | 31.6 | 6.55 |

* 4 = Presently an officer; 3 = Active member; 2 = Inactive member; 1 = Not a member

graduates. It should be kept in mind, however, that the differences are not great. Furthermore, neither Negro nor white graduates are strong joiners. They are overwhelmingly non-members.

Are there any differences in the mean affiliation ratings between Negro and white graduates? The upper section of the table shows the mean ratings. In no case are the mean affiliation ratings of white graduates greater than comparable ratings by Negro graduates. The Negro graduate is more frequently a member of the following types of organizations: athletic, youth, religious, cultural and civic organizations.

In rank order, the top three types of organizations in terms of mean affiliation ratings are the same for both Negro and white graduates: (1) religious, (2) athletic, and (3) labor union. The differences are not so much in kinds of organizations both races become members of, but in the percentages that become members and the degree of active involvement.

Analysis of Type of Graduate

How do vocational and academic graduates compare in terms of the organization affiliation index? Do the academic graduates, because of their broader education, become actively involved in community and other organizations to a greater degree than do vocational graduates? The lower section of Table 194 presents the data.

Within each year of graduation group, the organization affiliation index is slightly greater for academic graduates than for vocational graduates. While the differences are not significant, their consistency suggests academic graduates are slightly more involved in community organizations than vocational graduates.

How do the two types of graduates compare in terms of the mean affiliation ratings? The upper section of Table 194 presents the data. The differences are negligible, albeit consistently in favor of the academic graduates, with the exception of veterans' organizations and labor unions, in which vocational graduates are more active. Academic graduates are somewhat more active in professional organizations, e.g. 17 percent of the academic graduates reported they were officers in such organizations, whereas, only 7.4 percent of vocational graduates reported officer status.

In general, then, there are slight but consistent differences that indicate academic graduates are more actively involved in community and other organizations. What happens to those differences when vocational and academic graduates, from comprehensive schools only, who have no college education are compared? Table 195 provides the data.

Table 194. ORGANIZATION AFFILIATION INDEXES AND MEAN FREQUENCY RATINGS OF ORGANIZATION AFFILIATION BY TYPE OF GRADUATE
 (Based on all graduates regardless of formal educational level attained)

| Types of Organizations | TYPE OF GRADUATE | | | | | | |
|---------------------------------|------------------|----------|-------------|----------|----------|-------------|------|
| | Vocational | | | Academic | | | |
| | N | M | S.D. | N | M | S.D. | |
| Religious | 5053 | 2.2 | .83 | 1739 | 2.3 | .85 | |
| Political | 5020 | 1.2 | .52 | 1734 | 1.3 | .62 | |
| Service | 4994 | 1.1 | .42 | 1721 | 1.2 | .55 | |
| Athlete | 4989 | 1.5 | .85 | 1715 | 1.6 | .89 | |
| Labor union | 5005 | 1.5 | .84 | 1723 | 1.3 | .67 | |
| Fraternal | 4997 | 1.2 | .53 | 1728 | 1.3 | .70 | |
| Veterans | 5004 | 1.1 | .30 | 1728 | 1.0 | .28 | |
| Business or trade | 5002 | 1.2 | .58 | 1722 | 1.3 | .64 | |
| Cultural | 5006 | 1.1 | .42 | 1721 | 1.2 | .60 | |
| Civic | 4983 | 1.1 | .42 | 1721 | 1.2 | .50 | |
| Youth | 4992 | 1.2 | .62 | 1720 | 1.3 | .73 | |
| Professional | 4957 | 1.2 | .59 | 1706 | 1.4 | .79 | |
| ORGANIZATION AFFILIATION | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 1128 | 33.9 | 6.66 | 423 | 36.2 | 7.85 |
| | 1958 | 1630 | 32.2 | 6.11 | 562 | 33.6 | 6.56 |
| | 1962 | 2,154 | 31.1 | 5.84 | 794 | 32.3 | 6.2 |
| | Combined | 5227 | 32.0 | 6.21 | 1779 | 33.6 | 6.9 |

* 4 = Presently; 3 = Active member; 2 = Inactive member;
 1 = Not a member

Within each year of graduation group, the organization affiliation index shows no significant difference between comprehensive school vocational and academic graduates who have had no college. It is noteworthy that the differences in favor of the academic graduates found when college educated graduates were included in the comparison (Table 194) have now virtually disappeared.

Table 195. ORGANIZATION AFFILIATION INDEXES AND MEAN FREQUENCY
 RATINGS OF ORGANIZATION AFFILIATION BY TYPE OF GRADUATE
 (Based on graduates from comprehensive schools only with no college level education)

| Types of Organizations | TYPE OF GRADUATE | | | | | | |
|---------------------------------|------------------|----------|-------------|----------|----------|-------------|-----|
| | Vocational | | | Academic | | | |
| | N | M | S.D. | N | M | S.D. | |
| Religious | 1697 | 2.2 | .81 | 779 | 2.2 | .83 | |
| Political | 1694 | 1.2 | .51 | 777 | 1.2 | .53 | |
| Service | 1679 | 1.1 | .40 | 776 | 1.2 | .51 | |
| Athletic | 1672 | 1.5 | .84 | 769 | 1.5 | .88 | |
| Labor union | 1680 | 1.5 | .83 | 772 | 1.4 | .80 | |
| Fraternal | 1678 | 1.1 | .47 | 779 | 1.2 | .54 | |
| Veterans | 1679 | 1.1 | .30 | 777 | 1.1 | .30 | |
| Business or trade | 1683 | 1.2 | .57 | 776 | 1.2 | .59 | |
| Cultural | 1685 | 1.1 | .41 | 776 | 1.1 | .51 | |
| Civic | 1673 | 1.1 | .41 | 772 | 1.1 | .44 | |
| Youth | 1684 | 1.2 | .60 | 771 | 1.3 | .67 | |
| Professional | 1672 | 1.2 | .53 | 769 | 1.2 | .57 | |
| ORGANIZATION AFFILIATION | N | M | S.D. | N | M | S.D. | |
| Year of Graduation | 1953 | 326 | 34.1 | 6.6 | 173 | 34.8 | 6.9 |
| | 1958 | 584 | 32.0 | 6.1 | 269 | 32.7 | 6.2 |
| | 1962 | 850 | 30.7 | 5.4 | 364 | 31.0 | 5.4 |
| | Combined | 1762 | 31.7 | 6.0 | 806 | 32.3 | 6.2 |

* 4 = Presently an officer; 3 = Active member; 2 = Inactive member;
 1 = Not a member

The differences between the mean ratings shown at the top of Table 195 also fail to be significant. The conclusion is that there is no difference in community organization affiliation between vocational and academic course graduates with no college level education.

12

MISCELLANEOUS FINDINGS ABOUT THE GRADUATES

- | | |
|---|----|
| <input type="checkbox"/> Employment Mobility Analysis | 1 |
| <input type="checkbox"/> Ordinal Day of Return Analysis | 11 |
| <input type="checkbox"/> Military Service Analysis | 17 |

CHAPTER 12 SUMMARY

Analysis of Job Mobility

1. Job mobility measure. The number of moves vocational graduates made to other cities for employment was multiplied by the sum of weights assigned to distances moved to provide a measure of employment mobility.
2. Year of graduation. The mean number of moves to other cities for graduates of 1953, 1958, and 1962 was .4, .3, and .2--indicating very little mobility of vocational graduates. The percentage that moved to another city to get their first job is negligible. Of those who do move to other cities, the majority of cases are for distances less than 300 miles.
3. Type of school. There is no significant difference between graduates of vocational and comprehensive schools in terms of job mobility as herein defined.
4. School enrollment. There is no significant difference between graduates of small, medium, and large enrollment schools in terms of job mobility as herein defined.
5. Race of graduates. No conclusion can be drawn about job mobility differences between Negro and white graduates on the basis of the uncorrected sample. See text for details.

Ordinal Day of Return Analysis

6. Ordinal day of return. This has reference to how many days it took for the graduate's questionnaire to be returned. It reflects promptness and cooperation in returning the questionnaire.
7. Year of graduation. There is no significant difference between the graduates of 1953, 1958, and 1962 in terms of mean number of days required to return the questionnaire.
8. Type of school. Vocational school graduates were slightly quicker to return questionnaires than comprehensive school graduates.
9. School enrollment. There is no significant difference between graduates of small, medium, and large enrollment schools in terms of promptness of questionnaire return.
10. Race of graduates. Negro graduates were slightly less prompt in returning the questionnaire than white graduates.
11. Academic versus vocational graduates. Academic graduates were somewhat more prompt in returning questionnaires than vocational graduates.

(Continued in Appendix B)

ANALYSIS OF JOB MOBILITY

Introduction

To what extent do vocational graduates move to other cities to find employment or to improve their employment status? What are the distances moved?

A measure was developed to reflect both aspects of mobility, i.e. number of new city moves and distances moved. The graduate's score on the job mobility measure, was obtained by multiplying the sum of weights, ranging from 2 to 7, assigned to distances moved from 50 to more than 1200 miles by the number of moves made. The measure is for comparative purposes only. It cannot be interpreted directly in terms of number of moves or distances moved. The higher the score, the greater the graduate's job mobility which is a product of number of moves and weights assigned to distances moved. See Chapter 3 for a more complete definition of the measure.

In Chapter 3, it was shown that the job mobility measure was unrelated to any of the other occupational measures, i.e. employment security, related placement, job relatedness, job satisfaction, and earnings progression. It was concluded that those who moved to other cities to take jobs fared neither better or worse in terms of the occupational measures than those who stayed in the area in which they went to school. Individuals may, of course, be exceptions to the general rule. The finding is particularly relevant to the widespread idea that efforts should be made to stimulate employment mobility, to encourage people to go where the jobs are. In terms of the occupational measures used in this study, there is no evidence that those who go are better off than those who stay. It should be kept in mind, however, that these findings apply to vocational graduates, not to the general labor market as such.

The present section continues the analysis of the mobility measure in terms of the basic study variables.

Analysis by Year of Graduation

Within each year of graduation group, what is the mean and median number of new city moves reported by graduates? What is the frequency distribution for the number of moves reported? Table 196 provides the data. A later table will provide comparable data in terms of the job mobility measure described earlier.

Table 196. NUMBER OF MOVES TO OTHER CITIES: FREQUENCY DISTRIBUTIONS FOR VOCATIONAL GRADUATES BY YEAR OF GRADUATION

| Number of New City Job Moves | YEAR OF GRADUATION | | | | | | | | |
|------------------------------|--------------------|------|-------|------|------|-------|------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | % | C% | N | M | C% | N | M | C% |
| 6 | 1 | 0.1 | 100.0 | 0 | - | - | 0 | - | - |
| 5 | 3 | 0.3 | 99.9 | 0 | - | - | 0 | - | - |
| 4 | 7 | 0.7 | 99.6 | 5 | 0.4 | 100.0 | 2 | 0.1 | 100.0 |
| 3 | 25 | 2.4 | 98.9 | 23 | 1.7 | 99.6 | 12 | 0.7 | 99.9 |
| 2 | 71 | 6.8 | 96.5 | 66 | 4.7 | 98.0 | 52 | 3.1 | 99.2 |
| 1 | 174 | 16.8 | 89.7 | 219 | 15.7 | 93.3 | 161 | 9.7 | 96.0 |
| 0 | 756 | 72.9 | 72.9 | 1080 | 77.5 | 77.5 | 1439 | 86.4 | 86.4 |
| Number of Cases | 1037 | | | 1393 | | | 1666 | | |
| Mean | 0.42 | | | 0.32 | | | 0.18 | | |
| Median | 0.0 | | | 0.0 | | | 0.0 | | |
| S. D. | 0.83 | | | 0.67 | | | 0.52 | | |

The mean number of jobs that involved changes in residence to other cities were .42, .32 and .18 for the graduates of 1953, 1958 and 1962 respectively. The median number of such moves for all three year of graduation groups was zero. The data in Table 196 indicate the following: (1) The great majority of vocational graduates find all their jobs in the city where they went to school. Approximately 73, 77 and 86 percent of the 1953, 1958 and 1962 graduates respectively have never moved to another city for employment purposes.

(2) With increased years out of school, the number of such moves reported increases. However, the increase is negatively accelerated. There is no evidence of a relatively high mobility period after so many years out of school.

Less than three percent of the graduates reported that their first full-time job after graduation involved a move to another city. This is understandable in view of the age of high school graduates. Unless they have friends or relatives in other cities with whom they can stay, it is very unlikely that they will make such moves at their age. How does this agree with the opinion held by some vocational educators that schools should not necessarily confine their trade training to local employment opportunities, that they should think more broadly in terms of state, regional or even national employment opportunities? The mobility findings offer little support for such views. First, there is very little mobility in the sense that the term is herein used. Second, the evidence indicates that those who have made such moves are no better off in terms of working in the trades studied or highly related trades than those who have made no such moves.

Table 197 provides similar data in terms of the job mobility measure which takes into account both number of moves to other cities and the distances moved.

The mean values of .45, 1.0 and 2.06 for 1962, 1958 and 1953 graduates respectively reflect what was established in Table 196. There is relatively little job mobility, as defined, among vocational graduates. It is a relatively infrequent factor among recent graduates, but does increase with increased years out of school. Even at eleven years out of school, however, the great majority of graduates have yet to make a move to another city to obtain employment.

When the vocational graduates do move to other cities, what distances do they go? Table 198 shows a distribution of distances moved by the three year of graduation groups.

Within each year of graduation group, the majority of the moves has been for distances less than 300 miles. The median distance moved is greater for

Table 197. JOB MOBILITY INDEX: FREQUENCY DISTRIBUTIONS
FOR VOCATIONAL GRADUATES BY YEAR OF GRADUATION

| Employment Mobility | Year of Graduation | | | | | | | | | | | |
|------------------------|--------------------|------|-------|------|------|-------|------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| > 100 | 2 | 0.2 | 100.0 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 2 | 0.1 | 100.0 |
| 90- 99 | 0 | 0.0 | 99.8 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 0 | 0.0 | 99.9 |
| 80- 89 | 1 | 0.1 | 99.7 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 1 | 0.1 | 99.9 |
| 70- 79 | 2 | 0.2 | 99.6 | 0 | 0.0 | 100.0 | 0 | 0.0 | 100.0 | 2 | 0.1 | 99.9 |
| 60- 69 | 5 | 0.5 | 99.4 | 3 | 0.2 | 99.8 | 1 | 0.0 | 100.0 | 9 | 0.2 | 99.8 |
| 50- 59 | 3 | 0.3 | 98.9 | 3 | 0.2 | 99.8 | 0 | 0.0 | 99.9 | 6 | 0.2 | 99.6 |
| 40- 49 | 2 | 0.2 | 98.6 | 5 | 0.4 | 99.6 | 3 | 0.1 | 99.9 | 10 | 0.3 | 99.5 |
| 30- 39 | 8 | 0.8 | 98.4 | 5 | 0.4 | 99.2 | 1 | 0.1 | 99.8 | 14 | 0.4 | 99.2 |
| 20- 29 | 18 | 1.9 | 97.6 | 17 | 1.3 | 98.8 | 13 | 0.8 | 99.7 | 48 | 1.2 | 98.8 |
| 10- 19 | 34 | 3.5 | 95.7 | 30 | 2.3 | 97.5 | 25 | 1.6 | 98.9 | 89 | 2.2 | 97.6 |
| 0- 9 | 884 | 92.2 | 92.2 | 1259 | 95.2 | 95.2 | 1562 | 97.3 | 97.3 | 3717 | 95.4 | 95.4 |
| Number | 959 | | | 1322 | | | 1605 | | | 3898 | | |
| Mean | 2.06 | | | 1.00 | | | 0.45 | | | 1.03 | | |
| Median | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| S. D. | 10.45 | | | 5.45 | | | 3.22 | | | 6.45 | | |

the 1953 graduates than for 1958 and 1962 graduates, indicating older graduates move somewhat greater distances. However, what is impressive is the relatively short distances moved. The implication for vocational education is clear. The labor market for which a school trains persons in the trade is relatively small in terms of geographic area. The great majority never obtain employment outside the city in which they received their high school education. Those that do, do not go great distances from that city.

It should be pointed out that these conclusions are tentative depending upon the results of correcting the sample for the address unknown cases. It is very likely that there is substantially greater mobility, as defined, among

Table 198. DISTANCES MOVED FOR EMPLOYMENT: FREQUENCY DISTRIBUTION FOR VOCATIONAL GRADUATES BY YEAR OF GRADUATION

| Distances Moved For Jobs (miles) | YEAR OF GRADUATION | | | | | | | | |
|----------------------------------|--------------------|------|-------|------|------|-------|------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | % | C% | N | % | C% | N | % | C% |
| > 1200 | 45 | 11.4 | 100.0 | 34 | 9.1 | 100.0 | 16 | 6.5 | 100.0 |
| 601 - 1200 | 32 | 8.1 | 88.6 | 28 | 7.5 | 90.9 | 16 | 6.5 | 93.5 |
| 301 - 600 | 55 | 13.9 | 80.5 | 50 | 13.4 | 83.4 | 34 | 13.8 | 87.0 |
| 151 - 300 | 74 | 18.7 | 66.6 | 55 | 14.7 | 70.0 | 44 | 17.9 | 73.2 |
| 51 - 150 | 96 | 24.2 | 47.9 | 94 | 25.1 | 55.3 | 58 | 23.6 | 55.3 |
| < 50 | 94 | 23.7 | 23.7 | 113 | 30.2 | 30.2 | 78 | 31.7 | 31.7 |
| NUMBER MOVES | 396 | — | — | 374 | — | — | 246 | — | — |

the address unknown cases. In metropolitan areas, it is quite possible that graduates have moved to other parts of a city without leaving a forwarding address. In some of the smaller towns, however, the inability to locate the graduate through normal postal channels would seem to indicate a move to another city. On the basis of such reasoning, the mobility picture presented can be expected to change with sample correction.

Analysis by Type of School

How do vocational graduates of comprehensive and vocational schools compare in terms of job mobility? Table 199 presents the data.

Within each of the year of graduation groups, the comprehensive school graduates have a slightly higher mean job mobility score than the vocational graduates. The individual differences, however, are neither substantial nor statistically significant. The conclusion is that job mobility is unrelated to the type of high school attended.

**Table 199. JOB MOBILITY INDEX: COMPARISON OF VOCATIONAL
AND COMPREHENSIVE SCHOOL VOCATIONAL GRADUATES**

| Year of Graduation | Type of School | Job Mobility | | |
|--------------------|-------------------------|--------------|-----|------|
| | | N | M | S.D. |
| 1953 | Vocational | 600 | 1.6 | 9.6 |
| | Comprehensive | 359 | 2.8 | 11.6 |
| 1958 | Vocational | 773 | 0.9 | 5.1 |
| | Comprehensive | 555 | 1.2 | 5.8 |
| 1962 | Vocational | 958 | 0.4 | 3.1 |
| | Comprehensive | 647 | 0.6 | 3.4 |
| Combined | Vocational | 2341 | 0.8 | 6.0 |
| | Comprehensive | 1558 | 1.3 | 7.0 |

Analysis by School Enrollment

How do graduates of small, medium and large enrollment schools, as defined in this study, compare in terms of the job mobility measure? Table 200 provides the data.

Within and across the year of graduation groups, there is no consistent pattern of the mean mobility scores that suggests job mobility is related to the enrollment of the high school attended. It must be concluded that job mobility and school enrollment are unrelated variables.

Analysis by Race of Graduates

How do white and Negro vocational graduates compare in terms of the job mobility measure? Table 201 provides the data.

Table 200. JOB MOBILITY INDEX: COMPARISON OF SMALL, MEDIUM AND LARGE ENROLLMENT SCHOOL VOCATIONAL GRADUATES

| Year of Graduation | School Enrollment | Job Mobility | | |
|--------------------|----------------------|--------------|-----|------|
| | | N | M | S.D. |
| 1953 | < 500 | 342 | 2.0 | 12.0 |
| | 500 - 1500 | 351 | 2.4 | 10.3 |
| | > 1500 | 266 | 1.7 | 8.1 |
| 1958 | < 500 | 437 | 1.1 | 5.4 |
| | 500 - 1500 | 516 | 1.0 | 5.5 |
| | > 1500 | 370 | 0.9 | 5.4 |
| 1962 | < 500 | 547 | 0.6 | 3.9 |
| | 500 - 1500 | 562 | 0.4 | 2.4 |
| | > 1500 | 496 | 0.4 | 3.2 |
| Combined | < 500 | 1328 | 1.1 | 7.3 |
| | 500 - 1500 | 1438 | 1.1 | 6.3 |
| | > 1500 | 1133 | 0.9 | 5.5 |

Table 201. JOB MOBILITY INDEX: COMPARISON BY RACE OF VOCATIONAL GRADUATES

| Year of Graduation | Race of Graduate | Job Mobility | | |
|--------------------|------------------|--------------|-----|------|
| | | N | M | S.D. |
| 1953 | White | 914 | 2.2 | 10.2 |
| | Negro | 35 | 0.0 | 0.0 |
| | Other | 3 | 0.0 | 0.0 |
| 1958 | White | 1217 | 1.1 | 5.7 |
| | Negro | 77 | 0.3 | 1.6 |
| | Other | 4 | 0.0 | 0.0 |
| 1962 | White | 1443 | 0.5 | 3.3 |
| | Negro | 119 | 0.3 | 3.3 |
| | Other | 4 | 0.0 | 0.0 |
| Combined | White | 3585 | 1.1 | 6.7 |
| | Negro | 232 | 0.3 | 2.5 |
| | Other | 11 | 0.0 | 0.0 |

Within each year of graduation group, the white graduates have a greater mean job mobility than the Negro graduates. The mobility difference between the two races increases with increased years out of school. Despite these differences, it cannot be concluded that the Negro has less job mobility, as defined, than the white graduate. The data in Table 201 is based upon those who were locatable and provided a questionnaire. It is known, however, that a substantially greater percentage of the Negro graduates were address unknown cases despite intensified efforts to locate them in the city in which they went to school. Thus, it may well be that, if data were available on the address unknown Negro graduates, the job mobility of the Negro graduates would be greater than that of the whites. The correction of the sample for address unknown and non-respondent cases, discussed in the Appendix, does not resolve the analysis. Correction for race of graduates could not be undertaken because the percentage of white and Negro graduates in the solicited sample of over ten thousand graduates was unknown. Inferences about the relative returns of white and Negro graduates could only be made by comparing the return performance of known all-Negro schools with that of schools known to have all or virtually all white graduates. The schools could not or would not identify graduates in terms of race.

Under the circumstances described, no conclusion can be reached about the relative job mobility of white and Negro graduates on the basis of data herein presented.

Analysis by Type of Graduate

How do academic and vocational course graduates, who have had no college education, compare in terms of the job mobility measure? Table 202 provides the data.

Within each year of graduation group, the academic graduates have a higher mean mobility score than the vocational graduates. Only the difference generated by the 1953 graduates, however, is significant. Thus, although both types of graduates exhibit relatively low job mobility, the academic graduates have

Table 202. JOB MOBILITY INDEX: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES WITH NO COLLEGE EDUCATION

| Year of Graduation | Type of Graduate | Job Mobility | | |
|--------------------|----------------------|--------------|-----|------|
| | | N | M | S.D. |
| 1953 | Vocational | 771 | 1.3 | 6.7 |
| | Academic | 143 | 5.5 | 30.0 |
| 1958 | Vocational | 1112 | 0.9 | 5.1 |
| | Academic | 212 | 1.6 | 5.2 |
| 1962 | Vocational | 1449 | 0.5 | 3.3 |
| | Academic | 209 | 0.9 | 4.7 |
| Combined | Vocational | 3344 | 0.8 | 4.9 |
| | Academic | 564 | 2.1 | 16.0 |

somewhat greater job mobility than the vocational graduates. Why this should be so, is a matter for further study. One plausible hypothesis is that the vocational graduates who enter the trade studied or highly related trades are less mobile because of a relatively greater association with labor organizations and the seniority benefits that go with such associations. It should be recalled that vocational graduates had greater employment security as a group than academic graduates. The unemployment stimulus to job mobility would therefore be less.

ORDINAL DAY OF RETURN ANALYSIS

Introduction

Ordinal day of questionnaire return refers to the number of days between the initial contact of the graduate and when a questionnaire was received from him. Thus, it is a measure of the graduates' promptness and cooperation in returning the questionnaire.

The primary purpose of the measure was to determine whether there were relationships between promptness of return and the occupational and non-occupational measures. Such relationships would imply that those who did not return a questionnaire would perform differently on the occupational and non-occupational measures, if one is willing to assume that the non-respondents to the seventh and last contact are on a continuum with the non-respondents to earlier contacts who were prodded into a questionnaire return. It was shown in Chapter 3 that the ordinal day of return measure correlated significantly with only two occupational measures, job relatedness and employment security. One would predict, therefore, that non-respondents would perform differently on these two measures than the respondents. Similarly, one would predict that there would be no difference between respondents and non-respondents converted to respondents by intensified efforts on those measures that are unrelated to ordinal day of return. The outcome has considerable significance for survey methodology where correction for non-respondents must be considered.

Quite apart from such methodological considerations, the measure is of interest as a reflection of possible willingness to cooperate. This section is concerned with the analysis of the ordinal day of return measure in terms of the basic study variables.

Analysis by Year of Graduation

How do the graduates of 1953, 1958 and 1962 compare in terms of the ordinal day of return measure? Table 203 presents the data.

Table 203. ORDINAL DAY OF QUESTIONNAIRE RETURN: FREQUENCY DISTRIBUTION FOR VOCATIONAL GRADUATES BY YEAR OF GRADUATION

| Ordinal Day | YEAR OF GRADUATION | | | | | | | | | | | |
|-------------|--------------------|------|-------|-------|------|-------|-------|------|-------|----------|------|-------|
| | 1953 | | | 1958 | | | 1962 | | | Combined | | |
| C. I. | N | % | C% | N | % | C% | N | % | C% | N | % | C% |
| 91-100 | 9 | 0.8 | 100.0 | 14 | 0.9 | 100.0 | 14 | 6.6 | 100.0 | 37 | 0.7 | 100.0 |
| 81- 90 | 4 | 0.4 | 99.2 | 7 | 0.4 | 99.1 | 17 | 0.7 | 99.4 | 28 | 0.6 | 99.3 |
| 71- 80 | 14 | 1.2 | 98.8 | 28 | 1.7 | 98.7 | 39 | 1.6 | 98.7 | 81 | 1.6 | 98.7 |
| 61- 70 | 34 | 3.0 | 97.6 | 88 | 5.5 | 97.0 | 154 | 6.4 | 97.1 | 280 | 5.4 | 97.2 |
| 51- 60 | 52 | 4.7 | 94.6 | 58 | 3.6 | 91.5 | 107 | 4.4 | 90.7 | 219 | 4.3 | 91.8 |
| 41- 50 | 113 | 10.1 | 89.9 | 175 | 10.9 | 87.9 | 246 | 10.2 | 86.3 | 537 | 10.4 | 87.5 |
| 31- 40 | 91 | 8.1 | 79.8 | 133 | 8.3 | 77.0 | 165 | 6.8 | 76.1 | 390 | 7.5 | 77.1 |
| 21- 30 | 139 | 12.4 | 71.7 | 154 | 9.5 | 68.7 | 292 | 12.1 | 69.3 | 591 | 11.4 | 69.6 |
| 11- 20 | 286 | 25.5 | 59.3 | 363 | 22.6 | 59.2 | 538 | 22.2 | 57.2 | 1188 | 23.0 | 58.2 |
| 1- 10 | 379 | 33.8 | 33.8 | 589 | 36.6 | 36.6 | 848 | 35.0 | 35.0 | 1818 | 35.2 | 35.2 |
| Number | 1121 | | | 1609 | | | 2420 | | | 5169 | | |
| Mean | 23.44 | | | 24.28 | | | 24.75 | | | 24.37 | | |
| Median | 15 | | | 15 | | | 15 | | | 15 | | |
| S. D. | 19.08 | | | 20.52 | | | 20.66 | | | 20.30 | | |

The mean ordinal day of return for 1953, 1958 and 1962 graduates is 23.44, 24.28 and 24.75. The differences are negligible. The promptness of return is apparently unrelated to years since graduation from high school. Graduates of more than ten years ago were just as prompt with their returns as were graduates of two years before the survey was undertaken. In Chapter 2, it was reported that the percentage of questionnaires returned, based on locatable graduates, was 59.7, 65.1 and 71.4 percent for the graduates of 1953, 1958 and 1962 respec-

tively, indicating a decreasing rate of return with increased years out of school. The lack of such a relation with the ordinal day of return measure indicates ordinal day of return and rate of return are unrelated.

Analysis by Type of School

How do the vocational graduates of comprehensive and vocational schools compare in terms of the number of days required to return the questionnaire? Table 204 provides the data.

Table 204. ORDINAL DAY OF QUESTIONNAIRE RETURN: COMPARISON OF VOCATIONAL AND COMPREHENSIVE SCHOOL VOCATIONAL GRADUATES

| Year of Graduation | Type of School | Ordinal Day of Return | | |
|--------------------|-------------------------|-----------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 687 | 22.5 | 18.4 |
| | Comprehensive | 434 | 24.9 | 20.1 |
| 1958 | Vocational | 912 | 22.8 | 19.8 |
| | Comprehensive | 698 | 26.2 | 21.3 |
| 1962 | Vocational | 1413 | 23.9 | 20.5 |
| | Comprehensive | 1007 | 26.0 | 20.9 |
| Combined | Vocational | 3027 | 23.3 | 19.8 |
| | Comprehensive | 2143 | 25.9 | 20.9 |

Within each year of graduation group, the mean ordinal day of return is slightly less for vocational school than comprehensive school graduates. While not substantial, the consistency of the difference suggests those from vocational schools were quicker to respond with completed questionnaires. Shall this be interpreted as greater willingness to cooperate?

Analysis by School Enrollment

How do the vocational graduates of small, medium and large enrollment schools, as defined in this study, compare in terms of the number of days required to return the questionnaire? Table 205 provides the data.

Table 205. ORDINAL DAY OF QUESTIONNAIRE RETURN: COMPARISON OF SMALL, MEDIUM AND LARGE ENROLLMENT SCHOOL VOCATIONAL GRADUATES

| Year of Graduation | School Enrollment | Ordinal Day of Return | | |
|--------------------|----------------------|-----------------------|------|------|
| | | N | M | S.D. |
| 1953 | < 500 | 416 | 22.0 | 17.7 |
| | 500 - 1500 | 399 | 23.1 | 19.8 |
| | > 1500 | 306 | 25.9 | 19.6 |
| 1958 | < 500 | 543 | 21.7 | 19.1 |
| | 500 - 1500 | 604 | 25.8 | 21.2 |
| | > 1500 | 463 | 25.3 | 20.9 |
| 1962 | < 500 | 783 | 24.3 | 20.8 |
| | 500 - 1500 | 855 | 25.1 | 21.0 |
| | > 1500 | 782 | 24.8 | 20.3 |
| Combined | < 500 | 1747 | 22.9 | 19.6 |
| | 500 - 1500 | 1869 | 25.0 | 20.9 |
| | > 1500 | 1554 | 25.2 | 20.4 |

No consistent trend relating ordinal day of return to school enrollment is revealed in the data. Individual differences between enrollment categories are not significant. The conclusion is that the promptness with which graduates returned questionnaires is unrelated to the enrollment of the school from which they came. If promptness of return is interpreted as an indicator of willingness to cooperate, it must be concluded that such willingness is also unrelated to school enrollment.

Analysis by Race of Graduate

How do white and Negro graduates compare in terms of number of days required to return the questionnaire? Table 206 provides the data.

Table 206. ORDINAL DAY OF QUESTIONNAIRE RETURN: COMPARISON BY RACE OF VOCATIONAL GRADUATES

| Year of Graduation | Race of Graduate | Ordinal Day of Return | | |
|--------------------|------------------|-----------------------|------|------|
| | | N | M | S.D |
| 1953 | White | 1067 | 23.4 | 19.2 |
| | Negro | 42 | 25.8 | 17.0 |
| | Other | 3 | 14.0 | 5.4 |
| 1958 | White | 1456 | 23.6 | 20.0 |
| | Negro | 110 | 31.4 | 24.2 |
| | Other | 6 | 20.8 | 12.3 |
| 1962 | White | 2159 | 24.6 | 20.5 |
| | Negro | 186 | 26.3 | 22.1 |
| | Other | 10 | 19.8 | 16.1 |
| Combined | White | 4700 | 24.0 | 20.1 |
| | Negro | 339 | 27.9 | 22.4 |
| | Other | 19 | 19.2 | 13.9 |

Within each year of graduation group, the mean ordinal day of return for Negro graduates is slightly higher than for white graduates. The difference for the 1958 graduates is about a week. While the differences are not statistically significant, their consistent direction suggest Negro graduates are slightly slower to respond with questionnaires than white graduates.

Analysis by Type of Graduate

How do vocational and academic graduates compare in terms of number of days required to return the questionnaire? Table 207 provides the data.

Table 207. ORDINAL DAY OF QUESTIONNAIRE RETURN: COMPARISON OF VOCATIONAL AND ACADEMIC GRADUATES

| Year of Graduation | Type of Graduate | Ordinal Day of Return | | |
|--------------------|----------------------|-----------------------|------|------|
| | | N | M | S.D. |
| 1953 | Vocational | 434 | 24.9 | 20.1 |
| | Academic | 423 | 24.5 | 19.0 |
| 1958 | Vocational | 698 | 26.2 | 21.3 |
| | Academic | 561 | 23.8 | 19.1 |
| 1962 | Vocational | 1007 | 26.0 | 20.9 |
| | Academic | 793 | 23.7 | 19.4 |
| Combined | Vocational | 3027 | 23.3 | 19.8 |
| | Academic | 1777 | 23.9 | 19.2 |

Within each year of graduation group, the academic graduates took slightly less, although not significantly less, time to return their questionnaires. The small differences do not warrant any interpretation about the relative willingness to cooperate between the two types of graduates.

MILITARY SERVICE AMONG GRADUATES

Introduction

The military service data obtained from the graduates was primarily for the purpose of determining their employable time in the period beginning with graduation and ending with June, 1964, the close of the period surveyed. It may be a matter of interest to some to know whether the percentage of graduates who claimed military service is related to the basic study variables.

Analysis by Year of Graduation

Does the percentage of graduates claiming military service differ for the three year of graduation groups? Table 208 provides the data.

Table 208. MILITARY SERVICE CLAIMED: COMPARISON OF VOCATIONAL GRADUATES BY YEAR OF GRADUATION

| CLAIMED MILITARY SERVICE | | | | | | | |
|--------------------------|------|------|------|------|------|----------|------|
| YEAR OF GRADUATION | | | | | | | |
| 1953 | | 1958 | | 1962 | | Combined | |
| N | % | N | % | N | % | N | % |
| 817 | 70.2 | 986 | 59.5 | 873 | 35.1 | 2685 | 50.4 |

The percentage of 1953, 1958 and 1962 graduates who reported military service was 70.2, 59.5 and 35.1 respectively. On the assumption that most graduates that enter the services do so within three years after graduation, the data suggest that fewer vocational graduates are entering the services in recent years.

Analysis by Type of School

How do vocational graduates from vocational and comprehensive schools compare in terms of percentage claiming military service? Table 209 provides the data.

Table 209. MILITARY SERVICE CLAIMED: COMPARISON OF VOCATIONAL GRADUATES FROM VOCATIONAL AND COMPREHENSIVE SCHOOLS

| CLAIMED MILITARY SERVICE | | | |
|--------------------------|------|---------------|------|
| TYPE OF SCHOOL | | | |
| Vocational | | Comprehensive | |
| N | % | N | % |
| 1605 | 51.4 | 1080 | 49.0 |

The percentage is 51.4 for vocational school graduates and 49.0 for comprehensive school graduates. The conclusion is there is no difference between the graduates of the two types of schools in terms of military service.

Analysis by Enrollment

How do the graduates of small, medium and large enrollment schools, as defined in this study, compare in percentage claiming military service? Table 210 provides the data.

Table 210. MILITARY SERVICE CLAIMED: COMPARISON OF VOCATIONAL GRADUATES OF SMALL, MEDIUM AND LARGE ENROLLMENT SCHOOLS

| CLAIMED MILITARY SERVICE | | | | | |
|--------------------------|------|------------|------|--------|------|
| SCHOOL ENROLLMENT | | | | | |
| < 500 | | 500 - 1500 | | > 1500 | |
| N | % | N | % | N | % |
| 966 | 55.0 | 967 | 48.0 | 752 | 48.4 |

There is no consistent trend between school enrollment and percentage of graduates claiming service, although a greater percentage of small enrollment school graduates claim military service. Since the graduates of small enrollment schools had no more difficulty in finding jobs than those of medium or large enrollment schools, (Chapter 5) the greater percentage claiming military service cannot be related to employment difficulties in small enrollment school communities.

Analysis by Race of Graduate

How do white and Negro graduates compare in terms of percentage that claim military service? Table 211 presents the data.

Table 211. MILITARY SERVICE CLAIMED: COMPARISON
BY RACE OF GRADUATE

| CLAIMED MILITARY SERVICE | | | | | |
|--------------------------|------|-------|------|-------|------|
| RACE OF GRADUATE | | | | | |
| White | | Negro | | Other | |
| N | % | N | % | N | % |
| 2439 | 50.3 | 145 | 42.2 | 8 | 42.1 |

A smaller percentage of Negro graduates claim military service than white graduates. The difference of eight percent is significant. In the absence of study data that might explain the difference, no hypotheses are offered.

Analysis by Type of Graduate

How do academic and vocational course graduates from the same schools compare in terms of percentage claiming military service? Table 212 presents the data.

**Table 212. MILITARY SERVICE CLAIMED: COMPARISON
OF VOCATIONAL AND ACADEMIC GRADUATES**

| CLAIMED MILITARY SERVICE | | | |
|--------------------------|------|----------|------|
| TYPE OF GRADUATE | | | |
| Vocational | | Academic | |
| N | % | N | % |
| 1080 | 49.0 | 763 | 42.9 |

Forty-nine percent of the vocational graduate from comprehensive schools claim military service versus forty-three percent of the academic graduates. One factor accounting for the difference is deferment of military service for reason of college attendance among the 1962 and 1958 graduates.

13

APPENDIX

| | |
|---------------------------------------|-----------|
| A. Schools Surveyed by Study | 1 |
| B. Chapter Summaries Continued | 5 |
| C. Correction of Study Sample | 15 |

SCHOOLS SURVEYED BY STUDY*

I. NORTHEAST

- | | |
|---|---|
| 1. Westbrook High School Westbrook, Maine | 13. Bladensburg Senior High School Bladensburg, Maryland |
| 2. J. M. Wright Reg. Vo-Tech School Stamford, Connecticut | 14. Fairmont Heights Senior High School Fairmont Heights, Maryland |
| 3. Oliver Wolcott Reg. Vo-Tech School Torrington, Connecticut | 15. Philip Schuyler High School Albany, New York |
| 4. Diman Vocational High School Fall River, Massachusetts | 16. Sewanhaka High School Floral Park, New York |
| 5. Haverhill Trade High School Haverhill, Massachusetts | 17. Linton High School Schenectady, New York |
| 6. Quincy Trade High School Quincy, Massachusetts | 18. Abington Senior High School Abington, Pennsylvania |
| 7. Boston Trade High School Roxbury, Massachusetts | 19. Eddystone Senior High School Eddystone, Pennsylvania |
| 8. Cole Trade High School Southbridge, Massachusetts | 20. Central Dauphin High School Harrisburg, Pennsylvania |
| 9. Waltham Vocational High School Waltham, Massachusetts | 21. Hazleton Senior High School Hazleton, Pennsylvania |
| 10. Pawtucket Vocational High School Pawtucket, Rhode Island | 22. Greater Johnstown Joint High School Johnstown, Pennsylvania |
| 11. St. Johnsbury Trade School St. Johnsbury, Vermont | 23. Tyrone Junior-Senior High School Tyrone, Pennsylvania |
| II. <u>MIDEAST</u> | 24. William Penn Senior High School York, Pennsylvania |
| 12. William Jason Comprehensive High School Georgetown, Delaware | 25. Chamberlain Vocational High School Washington, D. C. |

*The numbers of the schools correspond with the school numbers in Table 9, Chapter 1, which indicates by year of graduation the number of graduates selected from each school.

- | | |
|--|--|
| <p>26. Camden County Vo-Tech High School Merchantville, New Jersey</p> <p>27. Middlesex County Vo-Tech High School New Brunswick, New Jersey</p> <p>28. Hutchison-Central Technical High School Buffalo, New York</p> <p>29. McKinley Vocational School Buffalo, New York</p> <p>30. Saunders Trade and Technical School Yonkers, New York</p> <p>31. William E. Grady Vo-Tech High School Brooklyn, New York</p> <p>32. Mount Vernon High School Mount Vernon, New York</p> <p>33. Erie Technical Memorial High School Erie, Pennsylvania</p> <p>34. Connelley Vocational High School Pittsburgh, Pennsylvania</p> <p>35. Williamsport Technical Institute Williamsport, Pennsylvania</p> | <p>41. Patterson Cooperative High School Dayton, Ohio</p> <p>42. Lima Senior High School Lima, Ohio</p> <p>43. Norwood High School Norwood, Ohio</p> <p>44. Dunbar Vocational High School Chicago, Illinois</p> <p>45. Chicago Vocational High School Chicago, Illinois</p> <p>46. Gerstmeyer Technical High School Terre Haute, Indiana</p> <p>47. Washington Trade School Detroit, Michigan</p> <p>48. Anderson High School Anderson, Indiana</p> <p>49. Max S. Hayes Trade School Cleveland, Ohio</p> <p>50. Macomber Vocational High School Toledo, Ohio</p> |
|--|--|
-
- | | |
|---|--|
| <p>III. <u>GREAT LAKES</u></p> <p>36. Mount Vernon Township High School Mount Vernon, Illinois</p> <p>37. Alton Senior High School Alton, Illinois</p> <p>38. North High School Evansville, Indiana</p> <p>39. Eastern High School Lansing, Michigan</p> <p>40. Central High School Pontiac, Michigan</p> | <p>IV. <u>PLAINS</u></p> <p>51. Davenport Central High School Davenport, Iowa</p> <p>52. Des Moines Technical High School Des Moines, Iowa</p> <p>53. Poplar Bluff Senior High School Poplar Bluff, Missouri</p> <p>54. Topeka Trade School Topeka, Kansas</p> <p>55. Minneapolis Area Vo-Tech School Minneapolis, Minnesota</p> |
|---|--|

56. O'Fallon Technical School
St. Louis, Missouri

57. Springfield Vo-Tech Industrial
Springfield, Missouri

V. SOUTHEAST

58. Anniston High School
Anniston, Alabama

59. Murphy High School
Mobile, Alabama

60. Hot Springs High School
Hot Springs, Arkansas

61. Northwestern Senior High School
Miami, Florida

62. Dixie Hollins Comprehensive High School
St. Petersburg, Florida

63. Pascagoula High School
Pascagoula, Mississippi

64. Hillside High School
Durham, North Carolina

65. New Hanover High School
Wilmington, North Carolina

66. T. L. Hanna High School
Anderson, South Carolina

67. Wilson High School
Florence, South Carolina

68. Howard High School
Chattanooga, Tennessee

69. Fulton High School
Knoxville, Tennessee

70. Memphis Technical School
Memphis, Tennessee

71. Maggie Walker High School
Richmond, Virginia

72. Jefferson High School
Roanoke, Virginia

73. Jefferson County Vocational School
Tarrant, Alabama

74. Orange County Vocational School
Orlando, Florida

75. Lively Technical School
Tallahassee, Florida

76. George W. Carver Vocational School
Atlanta, Georgia

77. Jordan Vocational High School
Columbus, Georgia

78. Theodore Ahrens Trade School
Louisville, Kentucky

79. Owensboro Area Vo-Tech School
Owensboro, Kentucky

80. Baton Rouge Vo-Tech School
Baton Rouge, Louisiana

81. Sullivan Memorial Trade School
Bogalusa, Louisiana

82. Gastonia Industrial Education Center
Gastonia, North Carolina

83. Murray Vocational School
Charleston, South Carolina

84. Virginia Mechanics Institute
Richmond, Virginia

85. Wyoming County Vo-Tech School
Pineville, West Virginia

86. McDowell Vocational School
Welch, West Virginia

VI. SOUTHWEST

- 87. Tucson High School
Tucson, Arizona
- 88. Jay High School
Jay, Oklahoma
- 89. Capitol Hill High School
Oklahoma City, Oklahoma
- 90. Duncan Senior High School
Duncan, Oklahoma
- 91. Brownsville High School
Brownsville, Texas
- 92. Denison High School
Denison, Texas
- 93. John Tyler High School
Tyler, Texas
- 94. El Paso Technical High School
El Paso, Texas

VII. ROCKY MOUNTAINS

- 95. William J. Palmer High School
Colorado Springs, Colorado

VIII. PACIFIC

- 96. Las Vegas High School
Las Vegas, Nevada
- 97. Benson Polytechnic High School
Portland, Oregon
- 98. Fremont High School
Los Angeles, California
- 99. John A. O'Connell Vocational High School
San Francisco, California
- 100. Pacific High School
San Bernardino, California

CHAPTER SUMMARIES (continued)

CHAPTER **2** SUMMARY

Procedure for Sample Correction

10. Logic of sample correction. The necessity for considering sample correction was recognized, and the general logic of such correction was described.
11. Sample correction for non-respondents. A five per cent corrective sample of vocational ($N = 136$) and academic non-respondents ($N = 37$) was selected for intensive follow-up. The returns were respectively 66 per cent ($N = 90$) and 65 per cent ($N = 24$). Consult text for correction procedure.
12. Sample correction for address unknowns. A five per cent corrective sample of vocational ($N = 132$) and academic ($N = 48$) address unknowns was selected for intensive search. The returns were respectively 51 per cent ($N = 68$) and 46 per cent ($N = 22$). Consult text for correction procedure.

CHAPTER **3** SUMMARY

Derived Measure Intercorrelations

9. Occupational measures. Of the 45 potential interrelationships between the occupational measures, 16 were established by the standard of interpretation adopted. Consult the text for details of the intercorrelational analysis.
10. Non-occupational measures. Of the 28 potential relationships between the non-occupational measures, 7 were established by the standard of interpretation adopted. Consult the text for details of the intercorrelational analysis.
11. Occupational-non-occupational measures. Of the 80 potential relationships between occupational and non-occupational measures, 17 were established by the standard of interpretation adopted. Consult the text for details of the intercorrelational analysis.

CHAPTER 5 SUMMARY

Reasons for Not Getting Job in Trade Studied

12. Year of graduation. In order of frequency, the reasons given for not getting jobs in same or highly related trades were: (1) no jobs available, (2) liked other work more, (3) not accepted as apprentice, and (4) insufficient pay.
13. Type of school. No significant differences in reasons given for not getting job in trade studied between graduates of vocational and comprehensive schools.
14. Enrollment of school. Reasons given for not getting job in trade vary with school enrollment; e.g., smaller percentage of large enrollment school graduates give the reason "no job available."
15. Race of graduate. A substantially larger percentage of Negro than white graduates reported that no job was available in the trade studied. Also, Negroes reported that they were not accepted into an apprenticeship program.

Opinion of How Well Prepared for the Trade

16. Year of graduation. Graduates of all class years who went into the trades studied or highly related trades reported they were well prepared by their high school training.
17. Type of school. Comprehensive and vocational school graduates had an equally high opinion of how well they were prepared for the trade.
18. Enrollment of school. Small, medium, and large enrollment schools had an equally high opinion of how well they were prepared for the trade.
19. Race of graduate. The analysis was omitted because too few Negroes reported they obtained their first job in the trade studied or allied trade.

Methods Used to Get First Job

20. Year of graduation. The rank order of the top six acknowledged sources of help in finding the first job was: (1) friend or relative (38%), (2) school teacher (18%), (3) school placement service (10%), (4) school coop programs (9%), (5) answering want ads (7%), and (6) school counselor (5%).

21. Type of school. Vocational school graduates acknowledge help in finding the first job to school sources more frequently than comprehensive school graduates.
22. Enrollment of school. The size of school enrollment is, with one exception, unrelated to the frequency with which different sources of job placement are acknowledged.
23. Race of graduate. Negro graduates report less job placement help from school sources than do white graduates. They rely more on the help of friends and relatives.
24. Type of graduate. Academic graduates receive much less help from school sources in finding a first job than vocational graduates.

CHAPTER 6 SUMMARY

A General Conclusion

7. Changes in shop equipment, methods, and materials. The data raise a question about a massive effort to re-equip vocational shops on the grounds that graduates are seriously handicapped because of obsolete equipment, unrealistic work methods, and substitute materials.

CHAPTER 7 SUMMARY

Where Most Was Learned About Skills

8. Year of graduation. The percentage of graduates who report that on-the-job was the source of learning most about trade skills increases with increased years out of school, as should be the case. Some skills are mostly acquired in school; e.g., mathematical skills, manual job skills, theoretical job knowledge, communication skills, and reading and interpretive skills. Other skills are mostly acquired on-the-job; e.g., practical job knowledge, clerical skills, personal relation skills, and supervisory skills.
9. Type of school. In general, a greater percentage of vocational school graduates claim they learned most of the basic skills in high school than academic school graduates.
10. School enrollment. A greater percentage of the vocational graduates from small enrollment schools than of those from medium and large enrollment

schools claimed they learned most of their trade skills in school. This suggests more trade skills are learned in small enrollment schools.

Need for More Basic Skill Training

11. Year of graduation. The percentage of graduates claiming need for additional training reflects both type of skill and years out of school. The need for additional training is greatest in supervisory skills, mathematical skills, and reading-interpretive skills. The data indicate a substantial percentage claimed need for more training in all basic skill areas.
12. Type of school. There are no substantial differences between graduates of vocational and comprehensive schools in terms of expressed need for additional training in the basic skill areas.
13. School enrollment. There is a consistent pattern which suggests that graduates from medium enrollment schools feel less need for additional skill training than those from small and large enrollment schools.
14. Training needs by trade. An analysis of training needs by trade makes clear that training needs vary by trade. For example, 77 per cent of machinists report the need for additional training in mathematics; whereas, only 25 per cent of the welders report such a need. The data indicate why one can't make blanket statements about the training needs of all T&I vocational graduates.

CHAPTER 9 SUMMARY

Analysis of Number of Jobs Held

11. Year of graduation. The mean number of full-time jobs held by 1953, 1958, and 1962 graduates respectively is 3.08, 2.48, and 1.96. Vocational graduates do not do much moving from employer to employer.
12. Type of school. There is no significant difference in mean number of jobs held between vocational and comprehensive school graduates.
13. School enrollment. There is no significant difference in mean number of jobs held between graduates of small, medium, and large enrollment schools.
14. Race of graduates. There is no significant difference in mean number of jobs held between Negro and white vocational graduates.
15. Academic graduates. There is no significant difference in number of full-time jobs held between academic and vocational graduates.

Analysis of Job Satisfaction

16. Year of graduation. Job satisfaction is expressed as the mean satisfaction rating given by the graduates to all full-time jobs held. The job satisfaction of 1953, 1958, and 1962 graduates was not significantly different. Mean job satisfaction scores indicate vocational graduates, as a group, are well satisfied with the jobs they hold.
17. Type of school. There is no significant difference in job satisfaction between graduates of vocational and comprehensive schools.
18. School enrollment. There is no significant difference in job satisfaction reported by graduates of small, medium, and large enrollment schools.
19. Race of graduates. Negro vocational graduates report less job satisfaction than white vocational graduates.
20. Academic graduates. There is no significant difference in reported job satisfaction between academic and vocational course graduates.

Analysis of Job Relatedness

21. Year of graduation. Job relatedness is expressed as the mean of the ratings given by graduates to each full-time job held for its relatedness to the trade studied in high school. There is no significant difference in the mean job relatedness reported by graduates of 1953, 1958, and 1962. The job relatedness means indicate that the average job held is only "slightly related" to the trade studied in high school.
22. Type of school. Vocational school graduates have a slightly higher mean job relatedness score than comprehensive school graduates. They are more likely to work in jobs related to the trade studied in high school.
23. School enrollment. There is no substantial difference in mean job relatedness scores for graduates of small, medium, and large enrollment schools.
24. Race of graduates. Negro graduates have a significantly lower mean job relatedness score than white vocational graduates.

Analysis of Initial Earnings

25. Year of graduation. For graduates of 1953, 1958, and 1962 respectively, the mean first-job starting hourly rates were 1.38, 1.50, and 1.47 dollars.

26. Type of school. Vocational school graduates had slightly higher starting hourly rates on their first full-time jobs than comprehensive school vocational graduates.
27. School enrollment. There is no significant difference in first-job starting hourly wages between graduates from small, medium, and large enrollment schools.
28. Race of graduates. There is no significant difference in first job starting hourly wages between Negro and white graduates.
29. Academic graduates. When graduates without college education are compared, there is no significant difference in first-job starting hourly earnings between academic and vocational graduates.

Analysis of Present Earnings

30. Year of graduation. For graduates of 1953, 1958, and 1962 respectively, the mean present (June, 1964) hourly earnings are 3.08, 2.49, and 2.01 dollars. Those working in the trades studied in high school tend to earn more than those in wholly different trades.
31. Type of school. There is no significant difference in present earnings between graduates from vocational and comprehensive schools.
32. School enrollment. Mean present hourly earnings reported by graduates is related to former school enrollment; i.e., the greater the school enrollment of the former school, the greater present earnings. Alternative interpretations are given.
33. Race of graduate. The present earnings of Negro vocational graduates are substantially less than those of white vocational graduates.
34. Academic graduates. When graduates with no college education are compared, the vocational graduates have higher present earnings after two and six years out of school than do the academic graduates, but the latter catch up in earnings after eleven years out of school.

CHAPTER 10 SUMMARY

Accumulated College Education (continued)

9. Race of graduates. Negro vocational graduates who attended college accumulated more class hours of college education than white vocational graduates.

10. Academic versus vocational graduates. Academic graduates who attended college accumulated substantially more class hours of college education than vocational graduates.

Accumulated Non-College Education

11. Year of graduation. The three classes of graduates cannot be compared in terms of accumulated class hours of non-college education because of unequal time opportunity. The greatest amount of class hours are accumulated in private trade-technical schools.
12. Type of school. Vocational graduates of comprehensive schools accumulate more class hours of non-college education than the graduates of vocational schools.
13. School enrollment. There is no significant difference between graduates of small, medium, and large enrollment schools in terms of mean accumulated hours of non-college, post-high school education.
14. Race of graduates. Negro graduates who attended non-college sources of post-high school education accumulated fewer class hours of such education than white vocational graduates.
15. Academic versus vocational graduates. Of those who reported post-high school, non-college level education, there is no significant difference between academic and vocational graduates, in terms of class hours of such education accumulated.

CHAPTER 11 SUMMARY

The Graduate's Leisure Activities (continued)

9. Type of school. There is no difference in the range of leisure activities or the type of leisure activities engaged in by graduates of comprehensive and vocational schools.
10. School enrollment. There is no difference in range or type of leisure activities engaged in by graduates from small, medium, and large enrollment schools.
11. Race of graduate. Negro graduates report a broader range of leisure activities than white graduates. There are also differences in the emphasis placed on individual activities.

12. Academic versus vocational graduate. A comparison of the two types of graduates who had no college indicates no difference in range of leisure activities. There is also little difference in individual types of leisure activities between the two types of graduates.

The Graduate's Organization Affiliation

13. Year of graduation. There is a slight increase in organization affiliation with increased years out of school. The graduates are overwhelmingly non-members and inactive members. Most active affiliation is with religious, labor, and athletic organizations. Least active affiliation is with cultural, civic, and community-service organizations.
14. Type of school. There is no difference in degree of organization affiliation between vocational graduates of comprehensive and vocational schools.
15. School enrollment. There is no difference in degree of organization affiliation between graduates of small, medium, and large enrollment schools.
16. Race of graduate. Negro graduates have a slightly greater degree of organization affiliation than white graduates. The difference is not substantial.
17. Academic versus vocational graduates. A comparison of the two types of graduates who have had no college education reveals no significant difference in degree of organization affiliation. Affiliation with individual organizations also fails to be significantly different.

Over-All Conclusion

18. Academic versus vocational graduates. When education of the whole person is defined in terms of conversational interests, leisure activities, and affiliation with community organizations, there is no evidence that suggests vocational graduates have been less wholly educated than academic graduates.

CHAPTER 12 SUMMARY

Military Service Among Graduates

12. Year of graduation. The percentage of 1953, 1958, and 1962 vocational graduates who reported military service is 70, 59, and 31 per cent respectively.
13. Type of school. There is no significant difference between graduates of vocational and comprehensive schools in terms of percentage reporting military service.
14. School enrollment. A slightly greater percentage of small enrollment school graduates reported military service than those from medium and large enrollment schools.
15. Race of graduate. Eight per cent fewer Negro graduates reported military service than white graduates. No data are available on the number of either race rejected from military service.

CORRECTIVE STUDY SAMPLE

Introduction

Of the 10,798 vocational graduates that constituted the survey sample, 50.5 percent (5434) returned questionnaires, 24.5 percent (2632) could not be located through the mails, and 25.0 percent (2732) were assumed to be unwilling to respond because mailings were accepted, but questionnaires were not forthcoming. These facts made it necessary to adopt a procedure for correcting the sample returns for address unknown cases and for non-respondent cases. Accordingly, two correction samples of address unknown cases and non-respondent cases were obtained for the purpose of correcting bias in the original, uncorrected sample. The details of how these cases were obtained through intensified search and persuasion, and the results of such efforts, are described in Chapter 2.

Correction Strategy

Sample correction was considered for each of the occupational measures, e.g. employment security, job stability, general placement, related placement, etc., and for the non-occupational measures, e.g. conversational interests, leisure activities, organizational affiliation, and others.

For each year of graduation, the above measures were calculated for the (1) address unknown correction sample usable returns, (2) non-respondent correction sample usable returns, and (3) the combined address unknown--non-respondent correction samples. In addition, the measure values were already available from the uncorrected sample.

The strategy for determining whether the original sample values required correction was to test the differences between original (uncorrected) sample means and their corresponding three correction sample means. This was done by means of the t test for significance of differences between means. The

absence of significant differences at the five percent or greater level of confidence was the basis for deciding that correction of the original sample means was not required. The absence of such significant differences meant one could not with confidence reject the hypothesis that both uncorrected and correction sample means were random samples from the same population, and that the differences were attributable to sampling error. Where significant differences were revealed by the t test, the original sample means were corrected for the implied bias by the procedure described in the next section.

Correction Procedure¹

Where t test results indicated the need for correction, the correction of original sample values was applied by the following equation:

$$X_c = \frac{N_0 X_0 + \frac{n_2}{.05 p_2} X_{AU} + \frac{n_3}{.05 p_3} X_{NR}}{N_t}$$

Where:

- X_c = Corrected mean
- N_0 = Number of cases in original, uncorrected sample
- X_0 = Mean obtained from original, uncorrected sample
- N_2 = Number of usable address unknown correction sample returns
- $.05$ = 5% address unknown correction sample; also 5% non-respondent correction sample
- p_2 = Proportion of address unknown 5% correction sample for which a return was secured
- X_{AU} = Mean obtained from address unknowns correction sample

¹The rationale for correction of the original sample was provided by Marion F. Shaycoft of Project Talent, a study conducted by the University of Pittsburgh and the American Institutes for Research.

- N_3 = Number of usable non-respondent correction sample returns
 p_3 = Proportion of non-respondent 5% correction sample for which a return was secured
 X_{NR} = Mean obtained from non-respondents correction sample
 N_t = Total number of cases

It should be pointed out that the usable correction sample returns were somewhat less than the actual returns reported in Chapter 2. Questionnaires with substantial omissions or information that suggested the respondent was not taking the questionnaire seriously were not processed.

The logic of the correction procedure implied by the above procedure is to weight the address unknown and non-respondent correction sample values in proportion to the total number of such cases and the magnitude of the returns involved in the two types of correction sample. The corrected value is then an estimate of what the value would have been had all cases surveyed responded.

OCCUPATIONAL MEASURES

Employment Security

The employment security measure indicates the percentage of employable time between graduation and June, 1964 that was spent in full-time employment. Table A-1 below provides the mean employment security values obtained for the correction sample as a whole, and for the address unknown and non-respondent sub-groups. The uncorrected sample means, reported in Chapter 9, are also shown. The employment security means obtained from the five percent correction sample are slightly greater than the equivalent means obtained from the 51 percent uncorrected sample. The lower section of the table provides the t values obtained from testing for significance of difference between:

1. Uncorrected sample and correction sample (t 1-2)
2. Uncorrected sample and address unknown sample (t 1-3)
3. Uncorrected sample and non-respondent sample (t 1-4)
4. Address unknown sample and non-respondent sample (t 3-4)

Table A-1. EMPLOYMENT SECURITY: UNCORRECTED, CORRECTION AND CORRECTED DATA: ALSO t TEST RESULTS

| EMPLOYMENT SECURITY | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|-------|-------|------|-------|-------|------|-------|-------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1026 | 92.67 | 15.64 | 1421 | 87.30 | 20.21 | 1701 | 84.00 | 23.18 |
| 2. Combined correction sample | 39 | 94.49 | 13.27 | 54 | 90.32 | 16.02 | 35 | 90.26 | 14.93 |
| 3. Add. unkn. correction sample | 24 | 94.79 | 10.82 | 26 | 87.54 | 19.58 | 10 | 84.50 | 17.94 |
| 4. Non-resp. correction sample | 15 | 94.00 | 16.45 | 28 | 92.89 | 11.18 | 25 | 92.56 | 12.84 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .72 | | | 1.08 | | | 1.59 | |
| t 1-3 | | .66 | | | .06 | | | .07 | |
| t 1-4 | | .33 | | | 1.46 | | | 1.84 | |
| t 3-4 | | .18 | | | 1.22 | | | 1.44 | |

None of the mean employment security differences tested proved to be significant. The conclusion is that it is not necessary to correct the original uncorrected sample.

Employment Stability

The employment stability measure describes the average number of months per full-time job held with a given employer. Table A-2 compares the mean employment stability values obtained from the main uncorrected sample with the equivalent values obtained from the total correction sample and the address unknown and the non-respondent correction samples. The employment

Table A-2. EMPLOYMENT STABILITY: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| JOB STABILITY | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|-------|-------|------|-------|-------|-------|-------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1038 | 46.52 | 34.93 | 1416 | 26.12 | 19.10 | 1685 | 12.57 | 7.45 |
| 2. Combined correction sample | 39 | 48.36 | 34.62 | 54 | 24.26 | 18.54 | 35 | 14.77 | 7.06 |
| 3. Add. unkn. correction sample | 24 | 49.17 | 33.70 | 26 | 23.73 | 18.91 | 10 | 11.30 | 7.95 |
| 4. Non-resp. correction sample | 15 | 47.07 | 36.01 | 28 | 24.75 | 18.16 | 25 | 16.16 | 6.14 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | .32 | | | .70 | | | 1.73 | | |
| t 1-3 | .37 | | | .63 | | | .54 | | |
| t 1-4 | .06 | | | .38 | | | 2.40* | | |
| t 3-4 | .18 | | | .20 | | | 1.88 | | |

* Significant at 5 percent level of confidence.

stability means obtained from the correction sample are slightly higher than those obtained from the uncorrected sample. The t test results, however, indicate that differences in mean values failed, with one exception, to attain

significance at the five percent or better level of confidence. The exception was the mean employment stability of the 1962 uncorrected sample compared with the 1962 non-respondent correction sample. The overall lack of significant differences between the uncorrected and correction sample means justify, in our opinion, the conclusion that no correction is required for the original sample.

Number of Jobs Held

The number of full-time jobs held with different employers since graduation from high school was considered another reflection of employment stability. The original, uncorrected sample indicated that vocational course graduates did not do much jumping from employer to employer. Table A-3 compares the mean number of jobs held values obtained from the uncorrected sample with those obtained from the correction sample as a whole, and those obtained from the address unknown and non-respondent correction sample sub-groups.

Table A-3. NUMBER OF JOBS HELD: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| NUMBER OF JOBS HELD | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|------|------|------|------|------|------|------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1114 | 3.08 | 1.84 | 1491 | 2.48 | 1.50 | 1764 | 1.96 | 1.14 |
| 2. Combined correction sample | 44 | 2.91 | 1.55 | 57 | 2.58 | 1.77 | 35 | 1.74 | 0.90 |
| 3. Add. unkn. correction sample | 25 | 2.84 | 1.46 | 26 | 2.23 | 1.89 | 10 | 2.10 | 1.14 |
| 4. Non-resp. correction sample | 19 | 3.00 | 1.65 | 31 | 2.87 | 1.60 | 25 | 1.60 | 0.75 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .60 | | | .49 | | | 1.13 | |
| t 1-3 | | .65 | | | .84 | | | .39 | |
| t 1-4 | | .19 | | | 1.43 | | | 1.57 | |
| t 3-4 | | .33 | | | 1.36 | | | 1.48 | |

The t test results lead to the conclusion that correction of the original sample is unnecessary. The correction sample means, without exception, fail to attain a significance of difference at the five percent or better level of confidence. Accordingly, no correction of the original sample was undertaken.

General Placement

This measure provides the mean time in months required by graduates to obtain their first full-time job after graduation. The measure is a reflection, in part, of school efforts to place graduates.

Table A-4 compares the mean months required to get the first full-time job obtained from the original, uncorrected sample with comparable values obtained from the address unknown, the non-respondent, and the combined address unknown—non-respondent correction sample. The t test results indicate that

Table A-4. GENERAL PLACEMENT: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| GENERAL PLACEMENT | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|------|------|------|------|------|------|------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 946 | 1.26 | 2.63 | 1193 | 2.29 | 4.02 | 1807 | 1.70 | 2.77 |
| 2. Combined correction sample | 37 | 0.71 | 1.21 | 46 | 1.94 | 3.24 | 33 | 1.54 | 2.70 |
| 3. Add. unkn. correction sample | 22 | 0.73 | 1.25 | 19 | 1.68 | 2.37 | 8 | 1.20 | 1.47 |
| 4. Non-resp. correction sample | 15 | 0.67 | 1.15 | 27 | 2.12 | 3.72 | 25 | 1.64 | 2.98 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | 1.27 | | | .58 | | | .33 | | |
| t 1-3 | .94 | | | .66 | | | .51 | | |
| t 1-4 | .87 | | | .22 | | | .11 | | |
| t 3-4 | .14 | | | .44 | | | .39 | | |

the address unknown and non-respondent correction sample means are not significantly different. Moreover, when the sub-samples are combined into a single correction sample, the resulting means are not significantly different from the original, uncorrected sample means. None of the t values are signif-

icant at the five percent or better level of confidence. The conclusion is that the original sample means for this measure do not require correction for address unknown and non-respondent cases.

Related Placement

The related placement measure is a composite of months required to obtain the first full-time job after graduation and how related that job was to the trade studied in high school. Consult Chapter 3 for the equation used to calculate the measure.

Table A-5 compares the mean related placement values obtained from the original, uncorrected sample with comparable values obtained from the address unknown, the non-respondent, and the combined address unknown—non-respondent correction sample. The t test results, reported in the lower half of the table, reveal no significant difference between address unknown and non-respondent correction sample means. Moreover, there are no significant differences between original sample means and correction sample means for the 1953 and 1958 graduates. However, the 1962 graduates reveal a different picture. The original sample mean of 42.2 is significantly greater than the correction sample mean of 35.8. The t value of 3.04 is significant at better than the 1 percent level of confidence. Accordingly, the related placement mean obtained for 1962 graduates

Table A-5. RELATED PLACEMENT: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| RELATED PLACEMENT | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|-------|-------|------|-------|-------|------|--------|-------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 915 | 47.43 | 32.30 | 1126 | 37.75 | 29.81 | 1672 | 42.22 | 30.68 |
| 2. Combined correction sample | 37 | 49.14 | 29.76 | 46 | 34.20 | 27.42 | 33 | 25.91 | 17.51 |
| 3. Add. unkn. correction sample | 22 | 47.54 | 28.74 | 19 | 40.37 | 30.11 | 8 | 25.50 | 19.77 |
| 4. Non-resp. correction sample | 15 | 51.47 | 31.03 | 27 | 29.85 | 24.43 | 25 | 26.04 | 16.73 |
| 5. Corrected sample | | NC | | | NC | | 4199 | 35.78 | - |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .32 | | | .79 | | | 3.04** | |
| t 1-3 | | .02 | | | .38 | | | 1.54 | |
| t 1-4 | | .48 | | | 1.36 | | | 2.63** | |
| t 3-4 | | .38 | | | 1.28 | | | .07 | |

** Significant at 1 percent or better level of confidence.

was corrected by the procedure explained earlier in this section of the Appendix. The corrected sample mean is shown on line five of the table. It indicates a lower related placement performance than was originally thought to be the case.

Table A-6 provides the percentages of graduates placed into the same trade studied, highly related trades, slightly related trades and completely unrelated trades for (1) the original uncorrected sample, (2) the combined address unknown—non-respondent correction sample, and (3) the corrected sample. For all graduates, the corrected sample percentage placed in the same trade is 25.0 percent, whereas, the percentage placed in a completely unrelated trade is 41.3 percent.

Table A-6. UNCORRECTED, CORRECTION AND CORRECTED SAMPLE DATA ON PERCENTAGE OF GRADUATES PLACED INTO EACH OF FOUR CATEGORIES OF RELATIONSHIP BETWEEN FIRST JOB HELD AND TRADE STUDIED IN HIGH SCHOOL

| FIRST JOB HELD | NATURE OF SAMPLE FROM WHICH PERCENTAGE VALUES WERE OBTAINED | YEAR OF GRADUATION | | | | | | | |
|----------------------------|---|--------------------|------|------|------|------|------|----------|------|
| | | 1953 | | 1958 | | 1962 | | Combined | |
| | | N | % | N | % | N | % | N | % |
| SAME TRADE | 1. Uncorrected sample | 301 | 32.6 | 313 | 27.6 | 498 | 29.6 | 1118 | 29.8 |
| | 2. Total correction sample | 11 | 25.0 | 15 | 26.3 | 1 | 2.8 | 27 | 19.8 |
| | 3. Non-resp. corr. sample | 4 | 21.0 | 7 | 23.3 | 1 | 4.0 | 12 | 16.2 |
| | 4. Add. unkn. corr. sample | 7 | 28.0 | 8 | 29.6 | 0 | 0.0 | 15 | 24.2 |
| | 5. Corrected sample | - | - | - | - | - | - | 2699 | 25.0 |
| HIGHLY RELATED TRADE | 1. Uncorrected sample | 168 | 18.2 | 189 | 16.6 | 333 | 19.8 | 691 | 18.4 |
| | 2. Total correction sample | 11 | 25.0 | 5 | 8.8 | 6 | 17.1 | 22 | 16.2 |
| | 3. Non-resp. corr. sample | 7 | 36.8 | 1 | 3.3 | 3 | 12.0 | 11 | 14.9 |
| | 4. Add. unkn. corr. sample | 4 | 16.0 | 4 | 14.8 | 3 | 30.0 | 11 | 17.7 |
| | 5. Corrected sample | - | - | - | - | - | - | 1868 | 17.3 |
| SLIGHTLY RELATED TRADE | 1. Uncorrected sample | 150 | 16.3 | 164 | 14.4 | 229 | 13.6 | 544 | 14.5 |
| | 2. Total correction sample | 7 | 15.9 | 10 | 17.5 | 8 | 22.8 | 25 | 18.4 |
| | 3. Non-resp. corr. sample | 2 | 10.5 | 5 | 16.7 | 7 | 28.0 | 14 | 18.9 |
| | 4. Add. unkn. corr. sample | 5 | 20.0 | 5 | 18.5 | 1 | 10.0 | 11 | 17.7 |
| | 5. Corrected sample | - | - | - | - | - | - | 1771 | 16.4 |
| COMPLETELY UNRELATED TRADE | 1. Uncorrected sample | 303 | 32.9 | 470 | 41.4 | 625 | 37.1 | 1402 | 37.3 |
| | 2. Total correction sample | 15 | 34.1 | 27 | 47.4 | 20 | 57.1 | 62 | 45.6 |
| | 3. Non-resp. corr. sample | 6 | 31.6 | 17 | 56.7 | 14 | 56.0 | 37 | 50.0 |
| | 4. Add. unkn. corr. sample | 9 | 36.0 | 10 | 37.0 | 6 | 60.0 | 25 | 40.3 |
| | 5. Corrected sample | - | - | - | - | - | - | 4460 | 41.3 |

The importance of the concept of related placement for vocational educational evaluation should give pause in unqualified acceptance of the correction. It must be pointed out that the correction sample is only 3 percent of the original, uncorrected sample. One can question the adequacy of the correction sample from the standpoint of the small numbers involved. In any event, it is reasonable to conclude that between 25 and 29.8 percent of the graduates are placed in the same trade studied in high school, between 17.3 and 18.4 percent of the graduates are placed in highly related trades, between 14.5 and 16.4 percent are placed into slightly related trades, and between 37.3 and 41.3 percent are placed into completely unrelated trades.

Job Relatedness

The measure is the mean of the relatedness ratings given to each job held. Jobs were rated 4 if they were in the same trade as the one studied in high school, 3 if in a highly related trade, 2 if in a slightly related trade or occupation, and 1 if in a completely unrelated trade or occupation.

Table A-7 compares the mean relatedness values obtained from the original, uncorrected sample with those obtained from the address unknown, the

Table A-7. JOB RELATEDNESS: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| JOB RELATEDNESS | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|------|------|------|------|------|------|--------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1106 | 2.26 | 1.01 | 1473 | 2.20 | 1.05 | 1736 | 2.33 | 1.11 |
| 2. Combined correction sample | 44 | 2.21 | 0.91 | 56 | 2.06 | 1.01 | 35 | 1.71 | 0.85 |
| 3. Add. unkn. correction sample | 25 | 2.20 | 0.92 | 26 | 2.22 | 1.07 | 10 | 2.05 | 0.88 |
| 4. Non-resp. correction sample | 19 | 2.21 | 0.89 | 30 | 1.92 | 0.95 | 25 | 1.58 | 0.80 |
| 5. Corrected sample | | NC | | | NC | | 4199 | 2.11 | - |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .32 | | | .98 | | | 3.28** | |
| t 1-3 | | .29 | | | .10 | | | .80 | |
| t 1-4 | | .21 | | | 1.45 | | | 3.36** | |
| t 3-4 | | .04 | | | 1.09 | | | 1.48 | |

** Significant at 1 percent or better level of confidence.

non-respondent, and the combined address unknown—non-respondent correction samples. The t test results, reported in the lower half of the table, reveal no significant difference between address unknown and non-respondent correction sample means. However, consistent with the findings on related placement, there is a significant difference between the 1962 uncorrected sample mean and the 1962 correction sample mean. Accordingly, the corrected sample mean is reported in line 5 of the table. The downward correction of this measure is not substantial, and applies only for the 1962 graduates.

Job Satisfaction

The job satisfaction measure is the mean of satisfaction ratings made by vocational graduates for each full-time job held. The original, uncorrected sample indicated a relatively high degree of rated job satisfaction. The mean ratings obtained from the correction sample indicate no need to change the conclusions about this measure that were drawn from the original, uncorrected sample. Table A-8 compares the mean job satisfaction ratings obtained from the original sample with those obtained from the address unknown and non-respondent correction samples, separately and combined into a single correction sample. With one exception, none of the sixteen t

Table A-8. JOB SATISFACTION: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| JOB SATISFACTION | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|-------|------|------|------|------|------|------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1107 | 3.19 | 0.61 | 1473 | 3.13 | 0.66 | 1743 | 3.06 | 0.74 |
| 2. Combined correction sample | 44 | 3.20 | 0.57 | 56 | 3.12 | 0.80 | 34 | 3.16 | 0.54 |
| 3. Add. unkn. correction sample | 25 | 3.04 | 0.55 | 26 | 3.30 | 0.78 | 9 | 2.92 | 0.29 |
| 4. Non-resp. correction sample | 19 | 3.42 | 0.53 | 30 | 2.97 | 0.78 | 25 | 3.24 | 0.59 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .11 | | | .11 | | | .78 | |
| t 1-3 | | 1.22 | | | 1.30 | | | .57 | |
| t 1-4 | | 1.63 | | | 1.31 | | | 1.21 | |
| t 3-4 | | 2.25* | | | 1.55 | | | 1.51 | |

* Significant at 5 percent level of confidence.

test results proved to be significant at or beyond the five percent level of confidence. Accordingly, no correction of the original sample means was undertaken for this measure.

Number of Moves to Other Cities

This measure indicates the mean number of moves to new cities made by vocational graduates to either obtain employment or to improve their employment status. The uncorrected sample findings indicated that such moves were extremely infrequent. The great majority of graduates do not move to other cities to improve their employment status. This conclusion, however, was on weak grounds as long as one did not have comparable data on the address unknown cases which constituted 24.5 percent of the total sample and the non-respondents cases which constituted 25 percent of the sample. Table A-9 compares the mean number of new city moves reported by vocational graduates in the original, uncorrected sample with comparable means obtained from the address unknown, the non-respondent and the combined address unknown--non-respondent correction sample. Of the sixteen mean difference comparison, none produced t values that were significant at the five percent or better level of confidence.

Table A-9. NUMBER OF MOVES TO OTHER CITIES: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| NUMBER OF MOVES TO OTHER CITIES | YEAR OF GRADUATION | | | | | | | | |
|------------------------------------|--------------------|------|------|------|------|-------|------|------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1037 | .424 | .833 | 1394 | .316 | .673 | 1666 | .185 | .521 |
| 2. Combined correction sample | 42 | .310 | .597 | 56 | .288 | .822 | 34 | .147 | .429 |
| 3. Add. unkn. correction sample | 24 | .292 | .611 | 25 | .125 | .590 | 10 | .200 | .400 |
| 4. Non-resp. correction sample | 18 | .333 | .577 | 31 | .419 | 1.009 | 24 | .125 | .439 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | .88 | | | .30 | | | .42 | | |
| t 1-3 | .77 | | | 1.41 | | | .09 | | |
| t 1-4 | .46 | | | .83 | | | .56 | | |
| t 3-4 | .22 | | | 1.27 | | | .45 | | |

Accordingly, it was concluded that the mean values derived from the original sample for this measure do not require correction. Oddly, the address unknown cases in the correction sample reported fewer new city moves than the original sample graduates. The address unknown problem was particularly acute in the major metropolitan areas. These results suggest that such cases merely moved to other parts of city without leaving forwarding addresses.

Job Mobility Index

The employment mobility measure is a composite that reflects number of moves to other cities to improve employment status plus the distances moved. Consult Chapter 3 for the equation used to calculate the measure.

Table A-10 compares the mean employment mobility values obtained from the original sample with those obtained from the address unknown, the non-respondent, and the combined address unknown--non-respondent correction samples. The t test results, reported in the lower half of the table, indicate that the mean differences are not significant at the five percent or better level of confidence. There are substantial differences in variances for the 1953 and 1958 comparisons. The conclusion is that the employment mobility values obtained for the original sample need not be corrected for address unknown and non-respondent cases.

Table A-10. JOB MOBILITY INDEX: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| JOB MOBILITY INDEX | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|------|-------|------|------|-------|------|------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 959 | 2.06 | 10.45 | 1322 | 1.00 | 5.45 | 1605 | 0.45 | 3.22 |
| 2. Combined correction sample | 41 | 0.49 | 2.15 | 54 | 4.26 | 26.04 | 33 | 0.61 | 3.43 |
| 3. Add. unkn. correction sample | 23 | 0.43 | 2.04 | 25 | 8.40 | 41.19 | 9 | 0.00 | 0.00 |
| 4. Non-resp. correction sample | 18 | 0.56 | 2.29 | 29 | 3.10 | 14.65 | 24 | 0.83 | 4.00 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .96 | | | .91 | | | .28 | |
| t 1-3 | | .75 | | | .88 | | | .42 | |
| t 1-4 | | .61 | | | 1.93 | | | .57 | |
| t 3-4 | | .19 | | | .60 | | | .60 | |

Initial Earnings

The initial earnings measure describes the mean dollars per hour earned by vocational course graduates at the start of their first full-time job. Table A-11 compares the initial earnings values obtained from the original sample with those obtained from the correction sample for the graduates of 1953, 1958, and 1962. None of the initial earnings mean differences attained significance at the five percent or better level of confidence. Accordingly, no correction of the original sample means was undertaken for this measure.

Table A-11. INITIAL EARNINGS: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| INITIAL EARNINGS | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|------|------|------|------|------|------|------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1034 | 1.38 | 0.54 | 1401 | 1.50 | 0.56 | 1669 | 1.47 | 0.55 |
| 2. Combined correction sample | 38 | 1.30 | 0.41 | 52 | 1.54 | 0.53 | 33 | 1.45 | 0.27 |
| 3. Add. unkn. correction sample | 21 | 1.25 | 0.29 | 25 | 1.60 | 0.53 | 9 | 1.44 | 0.35 |
| 4. Non-resp. correction sample | 17 | 1.36 | 0.52 | 27 | 1.49 | 0.52 | 24 | 1.45 | 0.24 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | .90 | | | .51 | | | .21 | | |
| t 1-3 | 1.10 | | | .89 | | | .16 | | |
| t 1-4 | .15 | | | .09 | | | .18 | | |
| t 3-4 | .80 | | | .74 | | | .09 | | |

Present Earnings

The present earnings measure describes the mean dollars per hour earned by the vocational graduates as of June, 1964, that is, after eleven, six or two years out of school depending upon year of graduation. Table A-12 compares the present earnings means obtained from the original, uncorrected sample with those obtained from the address unknown, non-respondent, and combined correction samples. The t test results indicate that no mean differ-

ence test attained significance at the five percent or better level of confidence. It was concluded that uncorrected and correction means were drawn from the same population, and that no correction of the uncorrected present earnings means was necessary.

Table A-12. PRESENT EARNINGS: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| PRESENT EARNINGS | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|------|------|------|------|------|------|------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1037 | 3.08 | 1.00 | 1422 | 2.49 | 0.81 | 1697 | 2.01 | 0.69 |
| 2. Combined correction sample | 37 | 3.09 | 1.04 | 53 | 2.48 | 1.02 | 32 | 2.11 | 0.71 |
| 3. Add. unkn. correction sample | 20 | 3.14 | 0.94 | 23 | 2.49 | 0.81 | 8 | 2.06 | 0.54 |
| 4. Non-resp. correction sample | 17 | 3.04 | 1.15 | 30 | 2.48 | 1.15 | 24 | 2.13 | 0.76 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .06 | | | .09 | | | .81 | |
| t 1-3 | | .27 | | | .00 | | | .20 | |
| t 1-4 | | .16 | | | .07 | | | .84 | |
| t 3-4 | | .28 | | | .03 | | | .23 | |

Earnings Progression

The earnings progression measure describes the mean increase in earnings per month per month of employment. Table A-13 compares the earnings progression means obtained from the original, uncorrected sample, and reported in Chapter 9, with those obtained from the address unknown, the non-respondent and the combined correction sample. The t test results indicate that none of the differences tested are significant at the five percent or better level of confidence. Thus, correction sample means of this measure are not significantly

different from the uncorrected sample means. Accordingly, no correction was applied to the original sample data.

Table A-13. EARNINGS PROGRESSION: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| EARNINGS PROGRESSION | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|------|------|------|------|------|------|------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 916 | 3.22 | 1.86 | 1219 | 3.83 | 2.75 | 1401 | 4.55 | 3.57 |
| 2. Combined correction sample | 33 | 3.22 | 2.02 | 40 | 3.84 | 3.07 | 30 | 4.47 | 3.86 |
| 3. Add. unkn. correction sample | 18 | 3.44 | 1.71 | 22 | 3.99 | 3.30 | 7 | 4.36 | 2.92 |
| 4. Non-resp. correction sample | 15 | 2.95 | 2.30 | 18 | 3.67 | 2.74 | 23 | 4.50 | 4.10 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .00 | | | .02 | | | .12 | |
| t 1-3 | | .50 | | | .27 | | | .14 | |
| t 1-4 | | .55 | | | .24 | | | .07 | |
| t 3-4 | | .68 | | | .32 | | | .08 | |

NON-OCCUPATIONAL MEASURES

College Education Index

The measure indicates the mean total hours of college education accumulated by those who attended. Table A-14 compares the mean values obtained from the original, uncorrected sample with those obtained from the address unknown, the non-respondent, and the combined address unknown—non-respondent correction samples. The numbers of cases in the correction samples who attended college are too few to warrant an interpretation of the t values. No correction of original sample means was applied.

Table A-14. COLLEGE EDUCATION: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| COLLEGE EDUCATION | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|-------|-------|------|-------|-------|------|-------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 243 | 221.7 | 161.6 | 285 | 175.5 | 130.3 | 382 | 91.9 | 59.3 |
| 2. Combined correction sample | 12 | 206.8 | 179.7 | 17 | 145.8 | 116.2 | 4 | 90.2 | 53.4 |
| 3. Add. unkn. correction sample | 8 | 237.9 | 188.3 | 8 | 147.8 | 140.5 | 3 | 116.3 | 33.0 |
| 4. Non-resp. correction sample | 4 | 144.5 | 142.0 | 9 | 144.1 | 89.1 | 1 | 12.0 | 0.0 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .31 | | | .92 | | | .06 | |
| t 1-3 | | .28 | | | .59 | | | .71 | |
| t 1-4 | | .95 | | | .72 | | | 1.34 | |
| t 3-4 | | .80 | | | .06 | | | 2.23* | |

* Significant at 5 percent level of confidence.

Non-College Education Index

The measure indicates the mean total hours of non-college education accumulated by those who attended specified sources of non-college education. Table A-15 compares the mean values obtained from the original, uncorrected sample with those obtained from the address unknown, the non-respondent, and the combined address unknown—non-respondent correction sample. The small number of cases in many cells makes the t test of dubious value. Nevertheless, the t values are given. The two values that are "significant" do not warrant interpretation because of the means based on less than 10 cases. No correction of the original sample means was applied.

Table A-15. NON-COLLEGE EDUCATION: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| NON-COLLEGE EDUCATION | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|-------|-------|------|------|-------|------|--------|-------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 461 | 105.9 | 125.7 | 601 | 86.1 | 111.1 | 622 | 67.7 | 80.9 |
| 2. Combined correction sample | 11 | 120.7 | 103.3 | 21 | 73.7 | 64.8 | 7 | 153.6 | 110.8 |
| 3. Add. unkn. correction sample | 4 | 71.8 | 80.3 | 8 | 83.8 | 74.9 | 0 | - | - |
| 4. Non-resp. correction sample | 7 | 148.7 | 104.5 | 13 | 67.5 | 56.9 | 7 | 153.6 | 110.8 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .39 | | | .51 | | | 2.78** | |
| t 1-3 | | .54 | | | .06 | | | - | |
| t 1-4 | | .89 | | | .60 | | | 2.78** | |
| t 3-4 | | 1.15 | | | .54 | | | - | |

** Significant at 1 percent or better level of confidence

Attitude Toward Former High School

The measure is a mean of an attitude score based upon ratings of ten high school factors. Consult Chapter 3 for measure's equation.

Table A-16 compares the mean attitude values obtained from the original, uncorrected sample with those obtained from the address unknown, the non-respondent, and the combined address unknown--non-respondent correction samples. The t test results, reported in the lower half of the table, reveal no t values significant at the five percent or better level confidence. The conclusion is that the mean attitude-toward-former-high school values obtained from the original sample do not require correction.

Table A-16. ATTITUDE TOWARD FORMER HIGH SCHOOL: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| ATTITUDE TOWARD FORMER HIGH SCHOOL | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------------|--------------------|------|------|------|------|------|------|------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1078 | 2.83 | 0.58 | 1469 | 2.88 | 0.54 | 1808 | 3.00 | 0.53 |
| 2. Combined correction sample | 44 | 2.86 | 0.53 | 58 | 2.77 | 0.59 | 35 | 2.93 | 0.51 |
| 3. Add. unkn. correction sample | 25 | 2.76 | 0.49 | 27 | 2.69 | 0.59 | 10 | 2.70 | 0.57 |
| 4. Non-resp. correction sample | 19 | 2.99 | 0.55 | 31 | 2.84 | 0.59 | 25 | 3.02 | 0.44 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .34 | | | 1.52 | | | .77 | |
| t 1-3 | | .60 | | | 1.81 | | | 1.78 | |
| t 1-4 | | 1.19 | | | .41 | | | .19 | |
| t 3-4 | | 1.43 | | | .95 | | | 1.73 | |

Conversational Interests Index

The conversational interests measure describes the graduates range of conversational interests. Consult Chapter 3 for a description of the measure.

Table A-17 compares the conversational interest mean values obtained from the original, uncorrected sample with those obtained from the address unknown,

the non-respondent, and the combined correction sample. The t test results, reported in the lower half of the table, indicate no significant differences in mean values. Accordingly, no correction was applied to the corrected sample mean values.

Table A-17. CONVERSATIONAL INTERESTS INDEX: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| CONVERSATIONAL INTERESTS INDEX | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|-------|------|------|-------|-------|------|-------|-------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1065 | 62.38 | 9.27 | 1523 | 61.90 | 10.14 | 2258 | 60.30 | 10.54 |
| 2. Combined correction sample | 44 | 61.20 | 9.05 | 58 | 59.76 | 9.28 | 45 | 60.18 | 12.79 |
| 3. Add. unkn. correction sample | 25 | 62.84 | 8.65 | 27 | 58.59 | 10.07 | 13 | 57.00 | 14.50 |
| 4. Non-resp. correction sample | 19 | 59.05 | 9.12 | 31 | 60.77 | 8.41 | 32 | 61.47 | 11.79 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | .83 | | | 1.58 | | | .08 | |
| t 1-3 | | .25 | | | 1.68 | | | 1.12 | |
| t 1-4 | | 1.55 | | | .62 | | | .62 | |
| t 3-4 | | 1.37 | | | .88 | | | 1.05 | |

Leisure Activity Index

The leisure activities measure describes the graduates' range of active involvement in selected leisure activities. Consult Chapter 3 for a description of the measure.

Table A-18 compares the leisure activity mean values obtained from the original, uncorrected sample with those obtained from the address unknown, the non-respondent, and the combined correction sample. The t test results, reported in the lower half of the table, indicate no significant differences between appropriate mean values at the five percent or better level of confidence. One can't reject the hypotheses that the samples are drawn from the same population. Accordingly, no correction was applied to the leisure activity mean values obtained from the original sample.

Table A-18. LEISURE ACTIVITY INDEX: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| LEISURE ACTIVITY INDEX | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|-------|------|------|-------|------|------|-------|-------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1075 | 54.00 | 7.86 | 1496 | 54.86 | 8.49 | 2231 | 55.06 | 9.05 |
| 2. Combined correction sample | 44 | 52.27 | 8.02 | 58 | 53.36 | 7.70 | 45 | 53.02 | 8.73 |
| 3. Add. unkn. correction sample | 25 | 53.56 | 8.81 | 27 | 52.18 | 8.59 | 13 | 54.85 | 10.13 |
| 4. Non-resp. correction sample | 19 | 50.47 | 6.44 | 31 | 54.39 | 6.66 | 32 | 52.28 | 7.98 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | 1.43 | | | 1.32 | | | 1.50 | |
| t 1-3 | | .28 | | | 1.62 | | | .08 | |
| t 1-4 | | 1.94 | | | .31 | | | 1.73 | |
| t 3-4 | | 1.26 | | | 1.08 | | | .88 | |

Organization Affiliation Index

The organization affiliation measure describes the degree to which graduates become actively involved in community organizations. Consult Chapter 3 for a description of the measure.

Table A-19 compares the organization affiliation mean values obtained from the original, uncorrected sample with those obtained from the address unknown, the non-respondent, and the combined correction samples. The t test results, reported in the lower half of the table, indicate no significant differences in mean values obtained for the address unknown and non-respondent correction samples. Accordingly, there is justification for combining the two sub-samples into a single correction sample. For 1953 and 1958 graduates, the corrective sample means differ significantly above the one percent level of confidence. Accordingly, correction was applied to the original sample means. The corrected sample means are shown in Table A-19. The magnitude of the correction does not alter the general conclusion presented in Chapter 11, namely (1) graduates are not highly active in community organizations, and (2) active involvement increases with increased years out of school.

Table A-19. ORGANIZATION AFFILIATION INDEX: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| ORGANIZATION AFFILIATION INDEX | YEAR OF GRADUATION | | | | | | | | |
|---------------------------------|--------------------|-------|------|--------|-------|------|------|-------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 1128 | 33.90 | 6.67 | 1630 | 32.24 | 6.11 | 2451 | 31.06 | 5.84 |
| 2. Combined correction sample | 44 | 37.18 | 8.03 | 58 | 33.88 | 7.35 | 45 | 31.16 | 4.89 |
| 3. Add. unkn. correction sample | 25 | 37.84 | 7.18 | 27 | 32.18 | 4.89 | 13 | 30.77 | 4.44 |
| 4. Non-resp. correction sample | 19 | 36.32 | 8.96 | 31 | 35.36 | 8.69 | 32 | 31.31 | 5.06 |
| 5. Corrected sample | 2945 | 35.84 | - | 3654 | 33.00 | - | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | 3.17** | | | 1.99* | | | .11 | | |
| t 1-3 | 2.91** | | | .05 | | | .18 | | |
| t 1-4 | 1.56 | | | 2.79** | | | .24 | | |
| t 3-4 | .61 | | | 1.65 | | | .33 | | |

* Significant at 5 percent level of confidence.

** Significant at 1 percent or better level of confidence.

Acknowledged High School Learning

The measure describes how much graduates working in the trade studied claimed to have learned about the trade in high school. Consult Chapter 3 for a description of the measure.

Table A-20 compares the mean acknowledged high school learning values obtained from the original, uncorrected sample with those obtained from the address unknown, the non-respondent, and the combined address unknown--non-respondent correction samples. The mean values obtained from the correction samples are slightly lower than those obtained from the original sample. However, the t test results indicate that the differences are not significant at the five percent or better level of confidence. Accordingly, it was not felt necessary to correct the original sample means.

Table A-20. ACKNOWLEDGED HIGH SCHOOL LEARNING: UNCORRECTED, CORRECTION AND CORRECTED DATA; ALSO t TEST RESULTS

| ACKNOWLEDGED HIGH SCHOOL LEARNING | YEAR OF GRADUATION | | | | | | | | |
|-----------------------------------|--------------------|------|------|------|------|------|------|------|------|
| | 1953 | | | 1958 | | | 1962 | | |
| | N | M | SD | N | M | SD | N | M | SD |
| 1. Original uncorrected sample | 350 | 8.15 | 2.29 | 515 | 8.12 | 2.20 | 687 | 8.30 | 2.50 |
| 2. Combined correction sample | 15 | 7.28 | 1.49 | 17 | 7.61 | 2.26 | 8 | 7.36 | 3.34 |
| 3. Add. unkn. correction sample | 10 | 7.14 | 1.50 | 10 | 7.69 | 2.80 | 5 | 6.52 | 2.44 |
| 4. Non-resp. correction sample | 5 | 7.56 | 1.43 | 7 | 7.50 | 1.11 | 3 | 8.77 | 4.09 |
| 5. Corrected sample | | NC | | | NC | | | NC | |
| SIGNIFICANCE TESTS | | | | | | | | | |
| t 1-2 | | 1.45 | | | .94 | | | 1.05 | |
| t 1-3 | | 1.38 | | | .61 | | | 1.58 | |
| t 1-4 | | .57 | | | .74 | | | .32 | |
| t 3-4 | | - | | | - | | | - | |

Concluding Remarks About Sample Correction

The strategy of testing for significance of difference between original, uncorrected sample statistics and subsequently obtained correction sample statistics before correcting the former by means of the latter resulted in the need to correct only 3 of the 19 occupational and non-occupational measures. (They were related placement, job relatedness and organizational affiliation). This itself is a strong argument for concluding that there is little, if any, basic difference in matters relevant to the study between the approximately 5,400 graduates who returned questionnaires and the approximately 5,300 graduates who did not, either because they could not be located or were unwilling to complete and return a rather demanding questionnaire.