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*Louisiana State University and Agricultural & Mechanical College*

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**PERSISTENCE IN COLLEGE AS RELATED TO  
INTELLIGENCE ECONOMIC BACKGROUND AND  
PRESENT OCCUPATION**

**A Dissertation**

**Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy**

**in**

**The Department of Education**

**By**

**Grace Bordelon Agate**

**B. A., University of Wisconsin, 1919**

**M. A., Louisiana State University, 1928**

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## ABSTRACT

During the past two decades, the rapid and continuous increases in the enrollments of schools at the college level have resulted in many problems. These problems have involved matters of administration, instruction, student direction and finance.

The consideration of these problems has given rise to questions involving factors that affect the attendance of students at college and influence the length of time they remain there. What relation is there between persistence in college and the expression of the intention of attending college? Do students who express the intention of attending college remain in college longer than those who do not express this intention? What relation exists between persistence in college and the intelligence of the student? Are the students who remain in college for longer periods of time or until graduation more intelligent than those who remain for shorter periods of time? What is the relation between persistence in college and the economic background of the students? Do students from homes representing the higher economic levels tend to remain in college longer than those from homes representing the lower economic levels? Do students tend to remain longer in colleges located away from their communities than in colleges located within their communities? What relation is there between persistence in college and present occupation? Do those students who complete the greater number of years of college work tend to secure better employment than those who do not? These questions resolve themselves into the problem of this

study, persistence in college as related to intelligence, economic background and present occupation.

The data for this study were secured from the graduating classes of 1950 from eighteen high schools located in different sections of the State of Louisiana. The six large high schools, that is, those whose graduating classes numbered more than fifty and the twelve small high schools, those whose graduating classes numbered less than fifty, presented the opportunity to study the school, community, and family conditions that are found in the state. Information blanks concerning educational plans, vocational choices, parental occupation and education, and conveniences in the home, were filled out, and the Otis Self-Administering Test of Mental Ability, Form A was taken by fifteen hundred graduates. In the years that followed, the periods of matriculation were ascertained from the colleges the graduates attended and facts concerning their employment following graduation were secured. Valid results were obtained from eleven hundred forty of the graduates. The data were tabulated and the technique of paired comparisons was employed to study the results.

The results of the study reveal that persistence in college is related to intelligence, economic background, and present occupation. Of all the high school graduates studied, for those who entered college and persisted therein, the mean I. Q. was fourteen points higher than for those who did not attend college. For those students who persisted in college for four years, the mean I. Q. was twenty-three and one-tenth

points higher than for those who attended college for only one-fourth year, or the nine-week summer term held in some of the colleges.

The students who persisted in college for four years, came from homes nine-tenths of which possessed a telephone, electricity and insurance, while the students who persisted for only one-fourth year came from homes only four-tenths of which possessed these conveniences. The students in the former group were the offspring of parents whose mean rank in education was beyond the completion of the high school course and whose occupations were in the higher categories according to Taussig's classification, while the students in the latter group were the offspring of parents who could read and write and who were engaged in occupations classified in the lower categories.

In the matter of present employment, it was found from the data secured that those persons who had persisted in college for four years were engaged in occupations in the upper ranks according to Taussig and slightly above those of their fathers, while those persons who had persisted for one-fourth year were engaged in services in the lower occupational categories.

Potential uses for the results of this study can be found at the elementary as well as the secondary and college levels in education. A full program of guidance in the secondary schools and colleges is indicated. Other implications will be revealed as more intensive and extensive studies are made of persistence in college as related to intelligence, economic background, and present occupation.

**PART I**

**INTRODUCTION**

**CHAPTER I**

**PRESENTATION OF THE STUDY**

## PART I INTRODUCTION

### CHAPTER I

#### PRESENTATION OF THE STUDY

##### BACKGROUND

During the past two decades, the literature concerning education has contained many references to the remarkable increases in the enrollments of secondary schools and colleges. The reports of the United States Office of Education contain the data which show this great development at the secondary and higher levels of education. These reports reveal facts concerning population changes, expansion in colleges, universities and professional schools and the total enrollment in the public secondary schools.

Rapid expansion of school population. A survey of the ten-year period from 1920 to 1930 shows the rapid growth in the public school population.

The schools of the country attracted a larger percentage of the children of school age in 1930 than 1920. In 1920 there were 77.8 per cent of the children from 5 to 17 years of age, inclusive, enrolled in the public schools; in 1930 there were 81.3 per cent.<sup>1</sup>

This period was characterized also by increases in daily attendance. "Of every 100 children enrolled in 1920 only 75 were in daily attendance; in 1930 there were 83 of every 100 attending daily."<sup>2</sup>

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<sup>1</sup> United States Department of the Interior, Office of Education, Bulletin, No. 20, Biennial Survey of Education, 1928-1930, Vol. 2, (Washington, D. C.: United States Government Printing Office, 1931) p. 13.

<sup>2</sup> Ibid.



Enrollments at universities, colleges and professional schools, including preparatory and special students, increased 56.8 per cent during this decade.<sup>3</sup>

The increases in enrollment, both relative and absolute, are revealed in the ratio of school enrollment to total population and to school population, as shown by the following statement:

The percent of the total population enrolled in public schools increased from 20.9 in 1928-1930 to 21.1 in 1931-1933, and the ratio of enrollment to the population 5 to 17 years of age increased during the biennium from 81.3 to 82.<sup>4</sup>

A recent report from the United States Office of Education shows that these gains have been rapid and continuous in the increases reported in the following biennium. The report stated the following:

Approximately one-fourth of the total population is enrolled in regular full-time day schools. In addition a large number are studying at night, in the summer, by correspondence, or in private trade or vocational schools not reporting to the Office of Education.

The number reported for 1935-36 was 30,567,477 in full-time day schools. The Bureau of the Census estimated the total population as 122,024,000 persons on January 1, 1936.<sup>5</sup>

Although growth has been evident in all the major divisions of the educational system, unusual acceleration has been revealed in high

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<sup>3</sup> United States Department of the Interior, Office of Education, Bulletin, op. cit., p. 326.

<sup>4</sup> United States Department of the Interior, Office of Education, Bulletin, No. 2, Biennial Survey of Education, 1930-32 (Washington, D. C.: United States Government Printing Office, 1933) p. 3.

<sup>5</sup> United States Department of the Interior, Office of Education, Bulletin, No. 2, Biennial Survey of Education, 1934-1936 (Washington, D. C.: United States Government Printing Office, 1937) p. 4.

school and college enrollments. A statistical summary<sup>6</sup> disclosed the fact that, in 1934, there were approximately four million students in secondary schools and one million in the institutions of higher learning. The secondary school population of 1934 in proportion to the total population was six times as great as in 1890 and that of the institutions of higher learning, three times as great. A recent study<sup>7</sup> noted the progress in secondary school enrollment from 1890 to 1930 and reported an increase from about three per cent of the population of high school age to almost fifty percent of that population. Similar growth in institutions of higher learning was indicated in an historical summary from 1900 to 1936 as follows:

Whereas, less than one-third of 1 per cent of the total population in 1900 were enrolled in college, more than nine-tenths of 1 per cent were so enrolled in 1936; that whereas, a little more than 4 per cent based on the number of persons 18 to 21 years of age were enrolled in college in 1900, nearly 13 per cent of this number were enrolled in 1936. A 59 per cent increase in total population and a 59 per cent increase in population 18 to 21 are accompanied by an increase of more than 400 per cent in actual enrollment in institutions of higher education.<sup>8</sup>

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<sup>6</sup> Frank M. Phillips, "Statistical Summary of Education 1933-1934". United States Bureau of Education, Bulletin, No. 19 (Washington, D. C.: United States Government Printing Office, 1936) p. 4.

<sup>7</sup> Grayson M. Kefauver, Victor M. Nell, and C. Ellwood Drake, "The Secondary School Population", United States Office of Education, Bulletin, 1933, No. 17, Monograph No. 4 (Washington, D. C.: United States Government Printing Office, 1933) p. 4.

<sup>8</sup> Henry G. Badger, Frederick J. Kelley, and Walter J. Greenleaf, "Statistics of Higher Education, 1936-36", United States Department of the Interior, Office of Education, Bulletin, No. 2, Biennial Survey of Education, 1934-1936, Vol. 2, Chap. IV (Washington, D. C.: United States Printing Office, 1937) p. 4.

The rapid growth in school population has been accompanied by increases in expenditures for education as shown in the following statement:

What thinking Americans can read '\$65,000,000 spent for elementary and secondary education in 1870, more than two hundred millions in 1900, and approximately two and a half billion dollars in 1930' without attempting to visualize the progress of American education since Civil War days?<sup>9</sup>

The steadily increasing rate of growth in school enrollments has been regarded as an outstanding and significant trend in education in this country. With the growth in school populations have developed some of the present educational problems.

Problems created. Out of the remarkable increases in school populations at the secondary and college levels, have arisen problems that range from the subtle and elusive matter of academic standards to the practical and pressing subject of providing financial support. Were former academic standards to be maintained or were they to be modified? Were differentiations to be made in the offerings so that all students could accomplish their school tasks? Could financial support be provided for the differentiated offerings in education? Could increased cost of providing secondary and particularly college education for all be justified in the light of the success achieved by students at the college level? These are some of the important questions that confront those who are responsible for the organization and administration of the schools.

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<sup>9</sup> United States Department of the Interior, Office of Education, Bulletin, No. 20, Biennial Survey of Education, 1928-1930, Vol. I (Washington, D. C.: United States Printing Office, 1931) p. 87.

The fact that large numbers of students at and above the secondary level have not succeeded in completing their courses<sup>10</sup> indicates the need for adjustment. Lord has found that "nearly one-third of the young men and women who begin a college course drop out before the end of the first year and only half of the average freshman class go to the end of the course and receive the degree."<sup>11</sup> These failures have been due, in some degree, to the lack of mental ability,<sup>12</sup> to standards that were too high, to poor habits of study, to the lack of sufficiently differentiated offerings or to financial inadequacies revealed in limited facilities and mediocre instruction.<sup>13</sup> The need for adjustment is emphasized by Cox and Duff, in the following statement:

There can scarcely be a more important problem facing the school authorities than the wholesale failure of pupils who if offered courses suited to their talents might come through with the exhilaration of success instead of the discouragement of failure.<sup>14</sup>

That educational practices have tended to adhere to former standards is observed in this statement by a leading historian, "Education

<sup>10</sup> Edward L. Thorndike, "Changes in the Quality of Pupils Entering the High School," School Review, 30:355, May, 1922.

<sup>11</sup> Everett W. Lord, A Plan for Self-Management (revised edition; New York: The Ronald Press Company, 1935) pp. 173-174.

<sup>12</sup> George S. Counts, The Selective Character of American Secondary Education (Chicago: University of Chicago Press, 1922) p. 154.

<sup>13</sup> C. W. Odell, "Are College Students a Select Group?" University of Illinois Bulletin, No. 34 (Urbana, Illinois: University of Illinois Press, 1927) p. 9.

<sup>14</sup> P. W. L. Cox and J. C. Duff, Guidance by the Classroom Teacher (New York: Prentice-Hall, Inc., 1935) p. 7.

became increasingly academic and 'scientific' and lagged far behind the movement of great economic forces in national life.<sup>15</sup>

A different point of view has been shown in the observations of an outstanding college president in his consideration of the present situation in education. James Bryant Conant declared:

Instead of being concerned largely with boys and girls whose interests and abilities were such as to give them high aptitude for 'book learning', the schools now include every kind and level of ability; the student body comprises youths with the widest possible range of ambitions. The schools must accommodate pupils, the majority of whom would not profit from the type of education which was standard two generations ago.<sup>16</sup>

Concerning the variety of offerings and the instruction and direction of the students, Conant commented:

How to provide adequate instruction for both the pre-college student and the others is not the only knotty question facing the school board and the schoolmaster. How to provide expert guidance through the educational maze is still another and quite as difficult to answer. We allow countless boys and girls to decide blindly whether or not to go to college. Many a youth ignorant of his own capacities embarks on a type of higher education for which he is quite unfitted. But even when all the techniques have been perfected for ensuring efficient educational guidance, one difficulty may still remain, the economic hurdle.<sup>17</sup>

Any attempt to solve these problems in organization and administration arising from increases in high school populations demands a study of the students who furnish the point of departure for the wise determination of educational policies and practices.

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<sup>15</sup> Charles A. Beard, The Nature of the Social Sciences (New York: Charles Scribner's Sons, 1934) p. 139.

<sup>16</sup> James Bryant Conant, "The University and the High School," School and Society, 49:161, February 11, 1939.

<sup>17</sup> Ibid., p. 162.

## THE PROBLEM OF THIS STUDY

Any consideration of the problem of adjustment of the college student reveals the need for a study of the student not only with reference to his plans for college work but in the light of his past schooling, his abilities, his home and community influences. Brooks declared, "Not until a college has surveyed a candidate's past in school and community and has estimated his future in terms of potentiality and purpose, can it decide his probable success in that institution."<sup>18</sup>

The study of the student raises questions with reference to factors which may influence his entering and remaining in college until the completion of the course.

1. What relation is there between persistence in college and the expression of the intention of attending college? Do students who express the intention of attending college remain in college longer than those who do not express this intention?

2. What relation exists between persistence in college and the intelligence of the student? Are the students who remain in college for longer periods of time or until graduation more intelligent than those who remain for shorter periods of time?

3. What is the relation between persistence in college and the economic background of the students? Do the students from homes representing the higher economic levels tend to remain in college longer than

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<sup>18</sup> Wendell D. Brooks, "Who Can Succeed in College?" School and Society, 12:427, April, 1925.

those from homes representing the lower economic levels? Do students tend to remain longer in colleges located away from their communities than in colleges located within their communities?

4. What relation is there between persistence in college and present occupation? Do those students who complete the greater number of years of college work tend to secure better employment than those who do not?

These questions involve comparisons of groups of students with reference to the probable influence upon their college careers of the factors previously considered and they lead to the problem of this study, persistence in college as related to intelligence, economic background and present occupation.

Definition of terms. The terms employed in the statement of the problem require definition. Throughout this discussion the term college is employed to designate colleges, normal schools, universities and all other institutions of higher learning. It has the same meaning as that ascribed to it by Odell.<sup>19</sup> Persistence refers to the amount of time spent in college. This is computed according to the periods of matriculation provided in the institution such as, the college year of nine months, the semester of four and one-half months and the terms of 12, 9, and 6 weeks each. Relation refers to the connection or association revealed in the comparison of two or more factors by the method of paired comparisons. Strang advocates this method and declares, "It will reveal

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<sup>19</sup> Odell, op. cit., p. 7.

relationships accurately.<sup>20</sup> Reamers and Stalnaker<sup>21</sup> employed the method of paired comparisons on the basis of various items of information collected. For example, the number and percentage of cases were given for each of the four divisions of university status, namely, graduated, in school, withdrawn, dropped; in regard to being on probation one semester or more; major field; place of residence; test scores and many other items. The same comparisons were made with respect to the following factors: average college grades, intelligence test percentile rank scores on the psychological examination and size of high school. Intelligence connotes general mental ability. It has been defined and described by various authorities and Dearborn presents opinions expressed by British and American psychologists in symposia on the subject.

Some of the briefer statements or definitions, beginning with one of Binet's, are (1) 'Intelligence is judgment or common sense, initiative, the ability to adapt one's self.' (2) According to Burt: 'Voluntary attention is the essential factor in general intelligence.' (3) Yerkes says, 'Intelligence is the ability to think in terms of abstract ideas.' (4) 'Intelligence is intellect plus knowledge,' according to Hammon. (5) 'Intelligence is an acquiring capacity,' says Woodrow. (6) One of the best definitions is proposed by Ballard. 'Intelligence is the relative general efficiency of minds measured under similar conditions of knowledge, interest, and habituation.' Other definitions are: 'Intelligence is 'a composite measure of ability to learn' (Gates) and one proposed by Thorndike, 'We may then define intelligence, in general, as the power of good responses from the point of view of truth or fact.'<sup>22</sup>

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<sup>20</sup> Ruth Strang, Personnel Development and Guidance in College and Secondary School (New York: Harper and Brothers, Publishers, 1934) p. 71.

<sup>21</sup> H. H. Reamers and J. W. Stalnaker, "A Study of the Class Entering Purdue University in 1926," Studies in Higher Education, XVII, Bulletin of Purdue University, Vol. XXXI., No. 9 (Lafayette, Indiana: Purdue University, 1931).

<sup>22</sup> W. F. Dearborn, Intelligence Tests (Boston: Houghton Mifflin Company, 1928) pp. 93-94.



In this study, intelligence is indicated by the intelligence quotients based upon the scores of students in the Otis Self-Administering Test of Mental Ability, Higher Examination, Form A.<sup>23</sup> The importance of intelligence as a factor in college success is pointed out by Spence. "Of the factors measured, by far the most important in determining final success is general ability, even when it is measured by only a twenty minute test."<sup>24</sup> His reference is to the Otis test mentioned previously. The economic background of the students is regarded in the light of five indices of the economic status of the home: the occupation of the father, the education of the parents and the presence in the home of a telephone, electricity and personal or property insurance. These indices are discussed more completely in a subsequent chapter. Present occupation refers to present employment or vocation.

Need for the study. The need for intensive and extensive study of college students and the factors which bear upon their successful accomplishment of work in the school is revealed in the challenges contained in current educational literature.

Assuming that education today is aiming toward the development of the individual and the betterment of society rather than toward the perfection of the mechanism of school organization, it behooves educators to discover and develop those practices which help a

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<sup>23</sup> Arthur S. Otis, Otis Self-Administering Test of Mental Ability, Higher Examination, Form A (New York: World Book Company, Copyright 1922)

<sup>24</sup> Ralph B. Spence, "Factors Related to College Achievement," Teacher's College Record, No. 5, 29:513, February, 1926.

student to 'find himself' and best fit him for his place in society. Only by adjusting the school system and instructional material to meet the needs of the student can this be accomplished.<sup>25</sup>

Strang lays "emphasis on the importance and, at the same time, the difficulty of obtaining a true and meaningful picture of the personality of each candidate for admission to college; the continuity of the process of admission to college with the guidance of students in high school and college; and the need of curricula which are suited to individuals of different interests and capacities."<sup>26</sup>

Paralleling the interest in finding the students that will profit by college courses as they are now organized, should run the interest in fitting the institution of higher learning to the student who seems unable to succeed in the traditional type of college or university, Strang<sup>27</sup> insists. These adjustments are predicated upon full knowledge of the student and his abilities, and close familiarity with the aims and organization of the institution. Admission must be based upon such data in helping the student make his course of study worth-while.

According to McNeely,<sup>28</sup> the matter of students leaving college prior to graduation is a problem of vital concern to higher education

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<sup>25</sup> "Some Factors in the Adjustment of College Students," Department of the Interior, Office of Education, Bulletin, 1937, No. 12 (Washington, D. C.: United States Government Printing Office, 1939) p. 1.

<sup>26</sup> Strang, op. cit., p. 131.

<sup>27</sup> Ibid., p. 133.

<sup>28</sup> John H. McNeely, "Why Students Leave College," School Life, 24:115, No. 4, January, 1939.

in the United States. He considers the losses to the students and the institutions and raises questions affecting the efficiency of the administration of the institutions involved. Should the students have been admitted in the first place? Do the educational programs including the method of instruction lack the essential appeal so that students lose interest and leave the institutions? Are the environmental conditions at the college such as to make adjustments too difficult for the student? These problems can be solved only in the light of the particular and general causes underlying the persistence of students in college.

From a student in one of the great universities of the west comes the following call for assistance in adjustments in the college career:

We need somebody to help us consider our life aims in a very objective and unprejudiced way. We expect to find this aid toward self-realization in college. We value this far above mere academic attainments. We want a college curriculum that more closely corresponds to the problems and activities of everyday life. We want to employ our energies in useful, creative tasks. Students are constantly confronted by all the financial, social, moral and love problems that adults have to contend with. We want men on the faculty who can give us sound common-sense help in the solution of these problems.<sup>29</sup>

An editorial comment in an important educational magazine<sup>30</sup> declared that as long as the essential purpose of the college was the pre-professional training of a select group of young men to enter the

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<sup>29</sup> C. Gilbert Wrenn, "A Student Aids the Superiorities of College," School and Society, 33:453, April 4, 1921.

<sup>30</sup> Editorial News and Editorial Comment, Elementary School Journal, 39:421-423, No. 7, March, 1929.

professions or to become leaders in industry and commerce, the organization of the content of instruction presented no great problems. But a new order of things characterized by a change in attitude toward mental discipline, by the vast accumulation of new knowledge and most of all by the needs and interests of the new constituency which economic and social change have thrust into college classrooms, has demanded modification of the old patterns of the college. Two important forces beat upon the college from without and add to its perplexities. One is the democratization of higher education in the enrollment in 1930 of eleven times as many college students as in 1890, with almost every conceivable cultural background, with varying interests and capacities, and with expectations of engaging in all types of activities which challenge people in their mature years. The second force is the changing nature of the world that youth must face. The complex and dynamic character of life at present demands new qualities of intelligence and of personality; a wider grasp of the essential elements of human experience, and, above all, it requires qualities of adjustment and of adaptation. If the democratic state is to persist, the spirit of political experiment, of invention, and of contrivance must be cultivated. In every area of human relations whether of government, economic or ethics, the necessity is presented for adaption and adjustment. In the new orientation toward which the college is striving the problem of vital concern is, what will happen to the student? Will the college be able to work out an adequate program of guidance and adopt policies designed to safeguard human values?

Critical thinking about the problems of the college and its students points to the need for study of the colleges and their students and the factors which conduce to or militate against the mutual achievement of aims and purposes. Consonant with the efforts to understand, and to adjust the student and the college, is the study of the problem of persistence in college as related to intelligence, economic background and present occupation.

Source of data. As a part of and paralleling the steady and rapid growth in school population on the upper levels in our country, marked increases in enrollment have been apparent in the schools of Louisiana in recent years. Growth in high school population is indicated in a comparison of the high school graduates for the sessions preceding and following the session 1929-1930 when this study was undertaken. The State Department of Education<sup>31</sup> reported the number of white public high school graduates for 1928-29 to be 6,848; for 1929-30, 7,056;<sup>32</sup> and for 1930-31, 8,113.<sup>33</sup> The increase for the 1929-30 session was 488 and that for the 1930-31 session, 1,077. Expansion in population has been noted particularly on the college level during the past two decades. In a study of college attendance in Louisiana for the four-year period,

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<sup>31</sup> Eightieth Annual Report for the Session 1928-29, State Department of Education, Bulletin, No. 185, (Baton Rouge, Louisiana, 1929) p. 106.

<sup>32</sup> Eighty-first Annual Report for the Session 1929-30, State Department of Education, Bulletin, No. 186, (Baton Rouge, Louisiana, 1930) p. 110.

<sup>33</sup> Eighty-second Annual Report for the Session 1930-31, State Department of Education, Bulletin, No. 220, (Baton Rouge, Louisiana, 1931) p. 118.

1933-1938, Tinsley noted this growth. "College attendance in Louisiana has increased 59.6 per cent during the past four years. This study found 17,509 Louisiana people in college in 1937-38 as compared to 11,004 in 1933-34. It is interesting to note that the total high school attendance in the state for that period increased only a little over 20 per cent."<sup>34</sup> This increase in the flow of students into our colleges has been attended by problems concerning academic standards, articulation of courses, differentiations in curricula involving financial aspects, and personal and occupational adjustments. Entering into and contributing to a solution of these problems, should be an understanding of the students.

In attacking the problem of this study, an earnest effort was made to enlist the cooperation of the high schools of the state. Through personal visits and extended correspondence, permission was sought to approach the principals and teachers of the high schools and secure their aid in obtaining the information concerning the students. The work was begun during the 1929-30 session of school when arrangements had been completed with certain high schools to cooperate in the work. Six large high schools and twelve small high schools, located in different parts of the state<sup>35</sup> were used in the study. The large high schools were designated as those whose seniors numbered more than fifty, and the

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<sup>34</sup> G. J. Tinsley, College attendance in Louisiana (Unpublished study, Southwestern Louisiana Institute, Lafayette, 1938) p. 1.

<sup>35</sup> Appendix A.

small high schools, those whose seniors numbered less than that. The large high schools included were C. E. Byrd, in Shreveport; Natchitoches; Belton, in Alexandria; Lake Charles; Lafayette; and Baton Rouge. The small high schools were those located in Abbeville, Bastrop, Broussard, Dunkie, Carendre, Homer, Jeanarotte, Jennings, Lecompte, Scott, St. Martinville, and Welsh. The graduates from these high schools represent the influences of large and small educational systems, of rural and industrial areas, and of families at various levels of social and cultural development.

Collection and tabulation of data. The first step in the collection of data was taken in the fall of 1929 when, to each of the schools named, there were sent as many copies of the Information Blank and of the Otis Self-Administering Test of Mental Ability, Higher Examination, Form A,<sup>36</sup> as there were members of the graduating class. The Information Blanks were mimeographed sheets requesting fifteen items of information, including the plans of the graduates to attend college and facts concerning their scholastic and economic background. In the interviews with the teachers and in the directions<sup>37</sup> sent to them, emphasis was laid upon making every effort to secure the fullest cooperation of the students in obtaining complete and accurate information. The teachers were asked to explain to their students the purpose and method of the investigation, and to make clear the need for full and accurate

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<sup>36</sup> Appendix B.

<sup>37</sup> See. cit.

information which would be held in the strictest confidence and used only in professional connections. The directions requested the teachers to examine the completed blanks and clarify, if possible, any ambiguities. Particularly, it was suggested that check be made on the father's occupation and on the education of the father and the mother. In the instance of vague answers concerning occupations as "On the railroad" or "In a store", the teachers were requested to ascertain the nature of the work and indicate the salary whenever possible so that the classification of occupations might be determined as accurately as possible. The "education" of the parents challenged scrutiny and such replies as "not much", "high school", "college" were to be clarified by such expressions as "none", "read and write", or the grade completed in elementary school, in high school, or the years completed in college. These Information Blanks furnished the data concerning the economic background of the students.

In preparation for the administration of the mental tests,<sup>38</sup> the teachers were requested to read carefully the Manual of Directions included in the sets of tests and to follow the directions and suggestions. The teachers were reminded to see that all members of the class were present on the day designated for the test.

The Otis Self-Administering Test of Mental Ability, Higher Examination, Form A, was used because the time required for administration

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<sup>38</sup> Otis, op. cit.



is only a half hour, the test is self-administering and in that respect it offers an additional test of the student's ability, the scoring is simple and the computation of the I. Q. is a matter of locating a point on an interpretation chart. Concerning the reliability and validity of this test, Otis makes these statements:

By 'reliability' is meant the degree to which the scores of the test are consistent in measuring whatever the test measures. Reliability is determined by means of correlation between different forms of the same test. The coefficient of correlation was found between Forms A and B of the Higher Examination as follows: Higher Examination, Grades 7 to 12, 125 and 125 cases, average, .921.

There is no direct method, of course, of finding the true validity of the tests--the degree to which they measure the hypothetical quality we call mental ability. The method of standardization is perhaps the best assurance as to the validity of the tests. Various other indications are available, however. The coefficient of correlation between the Higher Examination and the Advanced Examination taken two years earlier was .889 for 100 cases in Grades 7 to 12. The average of four coefficients of correlation between the Higher and Intermediate Examinations, averaging about 100 cases each in groups covering grades 7 to 9, was .842.<sup>39</sup>

These tests are used widely in surveys and other studies. Kefauver, Nell, and Drake<sup>40</sup> refer to a state testing program in which the Otis Self-Administering Test, Higher Examination, Form B was given to more than eleven thousand twelfth-grade pupils in the schools of New Hampshire in 1931, and in the national survey reported in their study, the Otis Self-Administering Test, Higher Examination, Form A was one of the tests used. In the Illinois study of more than twelve thousand

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<sup>39</sup> Otis, op. cit., Manual of Directions, p. 12.

<sup>40</sup> Kefauver, Nell, and Drake, op. cit., pp. 16-19.

high school graduates, begun by Odell<sup>41</sup> in 1925, the Otis Self-Administering Test of Mental Ability, Higher Examination, Form A was used. In her evaluation of tests, Strang comments, "There is a large number of intelligence tests from which to make a choice. For students in public high schools, the Otis Self-Administering Tests of Mental Ability are the most widely used."<sup>42</sup> Myers and Williams in describing the testing movement state: "Following the war, many adaptations of this work (The Army Alpha Test) were prepared especially for school and group use. Among these, the tests bearing the name of Otis and Forman have probably been most widely used."<sup>43</sup>

When the completed Information Blanks and tests were received from each school, the scoring, checking and tabulation were undertaken. The information concerning the graduates of each school was recorded on work sheets twenty-four by thirty-six inches, properly ruled, with spaces left for final grades, for college experience, for occupation and for comments or notes.<sup>44</sup> At the close of the session, many of the high school principals submitted the final marks in all subjects for each of their graduates. Those marks that were lacking were secured from the records of the State Department of Education. Through the years until the final items concerning college experience and occupation

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<sup>41</sup> Odell, op. cit., p. 14.

<sup>42</sup> Ruth Strang, Behavior and Background of Students in College and Secondary Schools, (New York: Harper Brothers, 1934) p. 136.

<sup>43</sup> Alonzo F. Myers and Clarence G. Williams, Education in a Democracy, (New York: Prentice-Hall, Inc., 1937) p. 152.

<sup>44</sup> Appendix C.

were available, constant effort was employed to secure as full and as accurate data as possible. When all the facts concerning the graduates had been assembled, this information was compiled and recorded on a master sheet of information from which were secured the data for tabulation for purposes of comparison.<sup>45</sup>

It must be recognized that, in intelligence test results, in school marks, and in information secured from students and from teachers, variable errors may be present. Individual scores in a group intelligence test may be less reliable than those in an individual test. School marks may be highly subjective in character and information may be tinged by wilful or innocent misrepresentations. Despite the possibility of errors in filling out the Information Blanks, the danger of unreliability in group mental tests, the subjective character of school marks, the difficulty among teachers in securing valid information concerning their former students, the replies and results in this undertaking showed careful attention to the matter in hand and a serious effort on the part of teachers and students to cooperate in providing accurate and complete information.

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<sup>45</sup> Appendix C.

**CHAPTER II**

**OTHER STUDIES REVEALING EVIDENCES OF  
RELATION BETWEEN PERSISTENCE  
IN COLLEGE AND INTELLIGENCE,  
ECONOMIC BACKGROUND,  
AND OCCUPATION**

## CHAPTER II

### OTHER STUDIES REVEALING EVIDENCES OF RELATION BETWEEN PERSISTENCE IN COLLEGE AND INTELLIGENCE, ECONOMIC BACKGROUND, AND OCCUPATION

Persistence in college and the factors that influence it have, within recent years, challenged the attention of students of education and are assuming an increasingly important place in the field of research. The success of students in college and the mortality of college students offer areas of fruitful investigation. The studies concerning persistence in college are of recent date and their number is small.

A study was conducted recently by the United States Office of Education<sup>1</sup> in cooperation with twenty-five universities scattered throughout the country to determine the causes of student mortality. The investigator included fifteen thousand five hundred thirty-five students who were in college during the sessions from 1930 to 1935, and an effort was made to discover the reasons underlying the fact that nine thousand three hundred five of them left college before graduation. It was found that the most common causes for withdrawal were dismissal for failure in academic work, financial difficulties, lack of interest,

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<sup>1</sup> "College Student Mortality," United States Department of the Interior, Office of Education, Bulletin, No. 11, 1937 (Washington, D. C.: United States Government Printing Office, 1938).

and death or sickness. Other factors involved were the distance of the homes of the students from the institutions and the place of lodging. In twenty-one of the twenty-five universities, higher percentages of the students with homes in another state left the institution than those with homes within the county in which the institution was located. Approximately three-fourths of the universities had higher mortalities among students lodging at a rooming house or college dormitory than among those lodging at home or at a fraternity or sorority house.

Among the supplementary institutional studies reported in this investigation<sup>2</sup> were the findings at the University of Florida. One of the important questions studied was the relationship between scores made by the students on psychological tests and student mortality. This consisted in showing the percentage of mortality among the eight hundred eighty-eight freshmen in the general college according to the average deciles (state norms) on the American Psychological Examination and the Iowa Content Test.<sup>3</sup> Of the students whose scores placed them at the first or highest decile, 15.1 per cent left the university as compared with 60.1 per cent at the tenth or lowest decile. The mortality among students ranked at the second or next highest decile was 18.8 per cent in contrast with 53.4 per cent at the second lowest

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<sup>2</sup> Ibid., p. 109.

<sup>3</sup> Loc. cit.

decile. Data were secured also concerning the length of the period of attendance of the students in relation to scholastic records. Those students remained in college for longer periods of time whose ranks were the highest on the mental tests and whose scholastic records were the highest than did those students whose ranks on the mental tests and in scholastic achievement were the lowest. The relationship between persistence in college and intelligence was positive and definite.

Lord reported a survey<sup>6</sup> made of student persistence in the colleges of this country in the fall of 1937. All American colleges were invited to cooperate. Replies were secured from two hundred sixty-six, a sufficient number to justify the assumption that the returns were characteristic of the colleges of the United States. The returns from the colleges included figures of registration by classes, from the fall of 1930 to the fall of 1936; the percentage of students leaving college each year and their attitude toward students failing in their courses. It was found that, as a rule, the number of students withdrawing during the first year was larger than for any succeeding year. In some colleges, the percentages of sophomore students who left school were larger than the percentages for the freshman year. One-ninth of those who began the senior year failed to graduate. Of approximately three hundred thousand annually beginning a college course, at least one

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<sup>6</sup> Everett W. Lord, Student Persistence in American Colleges, (Indianapolis, Indiana: Alpha Kappa Psi Fraternity, November, 1939).

hundred thirty thousand left before completing the prescribed course. Of those who withdrew, 20.7 per cent left for unknown reasons; 11.8 per cent left for financial reasons; 11.8 per cent failed, and 2.8 per cent died.

Concerning the reasons for withdrawal, Lord concluded:

But in a vast number of cases, the college is at fault. The student should not have been admitted in the first place; once admitted, he should have had wiser and more efficient guidance. This is a responsibility which the college has no right to shirk.<sup>5</sup>

In the matter of the financial difficulties experienced by some of the students, Lord insisted that the college has a responsibility which it does not always recognize. Students with financial problems could be supervised by the college in programs of study not requiring class attendance or they could be directed in the selection of inexpensive courses or given substantial reading courses. Certainly they should be assured of the continued interest of the college in their welfare. He deplored the inadequacy of the records and the meagerness of the knowledge on the part of college authorities concerning their students. He insisted upon the following:

...records of a more personal nature, a closer relationship between the college and the student, a warmer feeling of sympathy for the young people who look to the college as a real alma mater. Only when this attitude can be maintained can the present loss to society be reduced to a minimum, and the weakening of moral fiber of thousands of our ambitious young people be prevented.<sup>6</sup>

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<sup>5</sup> Ibid., pp. 5-6.

<sup>6</sup> Loc. cit.



This study disclosed the fact that scholastic ineptitude and financial difficulties arising from economic inadequacies are factors that militate against student persistence in American colleges. Lord challenged the colleges to accept their responsibilities in controlling these factors.

A study, extending from September 1925 to June 1929, was made of the students who entered six colleges of liberal arts, located in the east, which normally enrolled from two hundred fifty to five hundred women. Pope, who made the survey, stated the purpose of it as follows:

The present study is limited to ascertaining the conditions under which women students in a group of colleges were eliminated before graduation. The factors relating to elimination were studied by following the college career of each of these freshmen, entering in 1925, who left before graduation.<sup>7</sup>

Data were secured concerning two hundred forty-seven of the three hundred women who withdrew from college. Of the fifteen reasons designated as the principal ones for withdrawal, those enumerated most frequently and listed in the order of their frequency, were as follows:

Financial difficulty, 51 per cent; academic failure, 11 per cent; desire for another type of instruction, 10 per cent; failure to gain social recognition, 9 per cent; ill health and marriage, each, 7 per cent; and discipline, 6 per cent.<sup>8</sup>

It was revealed that students admitted by certificate or by certificate, supplemented by satisfactory examination, formed a more

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<sup>7</sup> Ruth Vesta Pope, Factors Affecting the Elimination of Women Students, Teachers College Contributions to Education, No. 486, (New York: Teachers College, Columbia University, 1931) p. 10.

<sup>8</sup> Ibid., p. 49.

stable group than those who were admitted by examination alone, or with conditions, or on probation. Students who had attended other colleges without having attained sophomore rank proved to be poor risks.

With reference to the location of the college, Pope made the following statement:

Residence in a town or city where a college was located had a bearing upon withdrawals, since 64 per cent of the group drawn from such communities were numbered among those who withdrew, as compared with a general withdrawal rate of 48 per cent in the colleges as a whole.<sup>9</sup>

Neither the size of the town, which furnished the background of the student, nor the size of the high school in which she was prepared, nor the size of her class afforded predictive value of the persistence in college of the student. Rank-in-class not only provided predictive value for persistence in college but also furnished useful information for selection and for college guidance. Concerning mental ability, Pope made the following observation:

Intelligence tests showed significant differences in favor of the graduates, between the graduating and withdrawal groups.<sup>10</sup>

Nine recommendations were offered by Pope in the solution of the problems of withdrawals, and they implied that institutions of higher learning must become student-centered rather than subject-centered if persistence in college is to be encouraged. Five of them are stated here:

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<sup>9</sup> Ibid., p. 38.

<sup>10</sup> Ibid., p. 39.

That each college investigate the financial resources of applicants and require a reliable medical examination, a clinical history, and character references from persons known to the college.

That each college determine the elements in environment now adversely affecting adjustment which can be controlled.

That special study be given policies concerning financial aid.

That colleges find out why the older applicants were delayed in seeking admission, whether they are mentally retarded or whether they have been poorly conditioned by college life elsewhere.

That the colleges determine the applicants' intentions relative to graduation.<sup>11</sup>

Thirteen hundred students enrolling as freshmen in the University of Arkansas in September, 1927, were studied by Geberich<sup>12</sup> with reference to persistence in attendance. For the convenience of the school authorities, the report was made by colleges. The College of Arts and Sciences enrolled the greatest number of freshmen while the College of Agriculture enrolled the smallest number. Upon entering college, the freshmen had taken the American Council Psychological Examination.<sup>13</sup> Geberich found that persistence in attendance in the college in which the students had registered first, was greatest in the College of Agriculture, 54 per cent of whose students persisted at least eight semesters and 52 per cent of whose entrants received their degrees. The College of Arts and Sciences with five times as many students ranked second, 24 per cent of its entrants remaining eight semesters and 21 per cent receiving degrees. The total ultimate percentage of graduation from the college of original

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<sup>11</sup> Ibid., p. 108.

<sup>12</sup> J. R. Geberich, Persistence in Attendance of Students Entering the University of Arkansas as Freshmen in September 1927 and 1928 (unpublished study, University of Arkansas, Fayetteville, Arkansas, Fall, 1928).

<sup>13</sup> Ibid., p. 3.

registration was predicted to be 25 per cent. Graduation by students not included in the above prediction was estimated at 6 per cent making a total predicted percentage of graduation of 32 per cent. The average percentile scores on the mental test showed the students of the Colleges of Arts and Sciences and of Engineering to be the intellectually select groups while the students in the Colleges of Education and Agriculture were of lower mental caliber than the average of all entering freshmen.

The study revealed, also, that students had been admitted to the university who appeared unable to meet the academic standards and that some of the students who were dropped because of poor scholarship were able, according to the test given, to perform the school tasks satisfactorily. Gebarick made the following statements:

The 59 students who were dropped for poor scholarship had an average percentile score of 52.0, which is far below the average for entering freshmen. However, 23 per cent of them scored above the median on the entrance test and 7 per cent were in the highest quintile, which facts indicate that a considerable number of students were dropped who probably had the mental ability necessary for doing satisfactory or even superior work in college.<sup>14</sup>

In this study, the low percentage of persistence until graduation and the fact of the academic failure of certain students, seven per cent of whom were of the highest quintile rank, point to the need for study of the factors which influence persistence at this college.

Tallman<sup>15</sup> studied eleven hundred seventy-five students who were freshmen at the University of Iowa in 1920. Of these, six hundred

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<sup>14</sup> Ibid., p. 2.

<sup>15</sup> Russell Herrick Tallman, "A Critical Analysis of Student Persistence at the State University of Iowa," University of Iowa Studies in Education, Vol. IV, No. 1 (Iowa City, 1927).

sixty-eight or 86.9 per cent completed their courses in 1924. He estimated that about 87 per cent of the freshmen entering the University of Iowa would eventually complete four years of work. He reported that the scores made in the Iowa High School Mental-Educational Survey by the group which entered college were significantly higher than those for the group which did not enter college. Of those who dropped out of the freshman class in 1920, the greatest number both of men and women gave the lack of funds as the reason for being unable to continue their work.

A follow-up study was made by Stuit<sup>16</sup> of the freshman class of the Teachers College at the University of Nebraska in the fall of 1936. The study revealed that of the two hundred twenty-two students enrolled, ninety-four failed to return for sophomore work. Questionnaires were sent to the students who withdrew, requesting information regarding reasons for leaving the university, employment status, plans for the future and an estimate of the effectiveness of the instructional and guidance programs. Sixty-three questionnaires, filled out properly were returned. Eight of these were from men, and fifty-five were from women.

In answer to the question concerning reasons for withdrawal from the university, thirty-one students gave financial difficulties as the cause, twelve gave poor scholastic records, eight had accepted work opportunities, eight said that they were dissatisfied with the university,

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<sup>16</sup> Dewey B. Stuit, "A Follow-up Study of Freshmen in the Teachers College of the University of Nebraska," School and Society, (48:282-284, August 27, 1936).

six had married, and nineteen gave miscellaneous reasons, such as illness at home, health and change in residence. Twenty-seven planned to return to the university, twenty-five did not intend to return and eleven were undecided. Thirty-four stated that they were employed and twenty-nine stated that they were unemployed. The fields of employment were rural teaching, office work, farm work, filling station service, cooking, and housework.

Stuit concluded that there was definite need for a more adequate pre-college guidance program for the students and that an effort should be made to assist them with their financial problems. He recommended the following:

An attempt should be made to discourage students from entering the university if they lack the academic aptitude necessary for success. Several of the students who withdrew because of scholastic reasons had scores so low that failure was almost inevitable. While it is not possible to exclude high school graduates from a state university, it would seem desirable to insist on more adequate pre-college guidance in this respect. Certainly these students did not profit by their experience of failure. The bitter comments attached to some of the questionnaires testify to this fact.<sup>17</sup>

The studies conducted by the United States Office of Education and by Lord, which embraced many institutions of higher learning, the study by Pope which included six colleges of liberal arts, and those studies by Geberich at the University of Arkansas, by Tallman at the University of Iowa and by Stuit at the University of Nebraska, reveal the high percentage of mortality among college students, the positive relation between persistence in college and intelligence and economic

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<sup>17</sup> Ibid., p. 284.

status and the need for research that will propose means of effecting better adjustments and adaptations between the colleges and their students.

Studies have been made at the secondary level to determine the factors that affect the expression of the intention to attend college. Other studies begun at the secondary level and continued at the college level, have sought to examine the factors that condition the persistence of students in college. Studies have been made, also, of present occupation with reference to persistence in college. Some of these studies extended over long periods of time. The results have bearing upon this study.

In 1924, two studies from widely different sections of the country were published. These were by Mann<sup>18</sup> in North Carolina and by Colvin and McPhail<sup>19</sup> in Massachusetts. The investigations secured intelligence test scores and other data through the use of questionnaires from large numbers of high school seniors and compared them with the intentions of the students concerning the continuation of their education in college. Both studies indicated a reliable degree of selection among those students who planned to attend college. In North

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<sup>18</sup> G. W. Mann, "Selective Influence of the Desire to go to College." High School Journal, (7:8-9 January, 1924).

<sup>19</sup> Stephen S. Colvin and Andrew H. McPhail, "Intelligence of Seniors in the High Schools of Massachusetts," United States Department of the Interior, Bureau of Education Bulletin, No. 9, (Washington, D. C.: United States Government Printing Office, 1924).

Carolina those who planned to attend college had a median point score of 112, made upon Trubus's Kentimeters, while that of the whole group was 102.<sup>20</sup> Dividing the seniors into high, average and low groups with scores of 100 and 120 as the dividing points, thirty per cent of those planning to go to college were in the high score group and nineteen per cent were in the low score group. For all high school seniors, only twenty-three per cent were in the high group and twenty-five per cent were in the low group. The excess of those in the high group over those in the low group for the seniors who planned to go to college was eleven per cent, whereas for all seniors the high group was two per cent less than the low group.<sup>21</sup>

The Massachusetts study<sup>22</sup> grew out of the work of a commission directed by the United States Office of Education at the invitation of the Governor of Massachusetts to determine the possibility of establishing a state university or bringing about a cooperative arrangement between the state and institutions of higher learning then existing in the state. The study broadened into a number of important investigations and Colvin and McPhail undertook to determine first, the number of high school students who might be expected to enter the higher institutions of the state and second, their intellectual capabilities to pursue

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<sup>20</sup> Mann, op. cit., p. 8.

<sup>21</sup> Ibid., p. 9.

<sup>22</sup> Colvin and McPhail, op. cit., p. 2.



studies in these institutions. The seniors were divided into three groups and designated as good, questionable or bad college risks according to the records of students at Brown University who had taken the same psychological examination in previous years. On the basis already indicated, twenty-six per cent of all seniors were classed as good and fifty-four per cent as bad risks. Of those planning to go to college, thirty-four per cent were designated as good risks and forty per cent as bad risks.<sup>23</sup> The difference of eight per cent in each case indicated a definite degree of selection.

These studies offer evidence of selection among students who indicate their intention to attend college, but Odell<sup>24</sup> in his investigation of more than twelve thousand Illinois seniors continued his study to the point of following the seniors after they left high school to ascertain which entered college and how well they were able to do their work. His purpose was to present what he found "regarding the relationship of ability as shown by intelligence test results and high school marks to actual college entrance."<sup>25</sup> References were made also to that group of students which remained in college through the freshman year. Three hundred sixty-eight schools, more than half of them in the state, cooperated and the Otis Self-Administering Test of Mental

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<sup>23</sup> Ibid., p. 36.

<sup>24</sup> C. W. Odell, "Are College Students a Select Group?" University of Illinois Bulletin, No. 34 (Urbana, Illinois: University of Illinois Press, 1923) p. 11.

<sup>25</sup> Ibid., p. 12.

Ability, Higher Examination, Form A was given to all the seniors. They were requested also to fill out "An Information Blank for High School Seniors" which sought facts concerning their economic background. These data and the freshman marks were tabulated and the following conclusions were drawn:

It appears that there is a small but reliable difference in ability between high-school seniors who plan to attend college and all seniors, the former of course ranking slightly higher. A decidedly greater difference exists between those who actually become college freshmen and all high-school graduates. The mean I. Q. of the former is probably at least five points higher than that of the latter and the mean average high-school mark about two points higher. The excess of superior over inferior college freshmen is probably about twenty-five per cent greater than the corresponding figures for all high-school graduates. It is further shown that a comparatively small amount of selection occurs during the freshman year and that those still remaining in college at the end of the year are slightly superior to the whole group of those entering.<sup>26</sup>

Iowa high school seniors were investigated by Geberich and Stoddard,<sup>27</sup> who conducted a survey that had been inaugurated in 1923, under the sponsorship of Dean C. E. Seashore of the University of Iowa. The purpose of the investigation was to provide a basis for the formulation of a program of pre-college and college guidance for high school and college students in Iowa. The survey was made each year in April and an average of seventeen hundred Iowa high school seniors comprised the number studied. At the time that Geberich and Stoddard made their

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<sup>26</sup> Ibid., pp. 44-45.

<sup>27</sup> J. R. Geberich, and G. D. Stoddard, "A Personal Survey of Ten Thousand Iowa High School Seniors," School and Society, (30:515-516, October 12, 1929).

report ten thousand four hundred thirty-seven students had participated in the survey. The test batteries used in this survey were identical with those of the University of Iowa entrance examinations of the preceding September. Thus changes found desirable in the entrance examination were incorporated into the survey. The cumulative character of the study was one of its most valuable aspects.

The study had as its objective the use of a mental-educational test battery in the senior year of high school as a foundation for educational and vocational guidance. More specifically the aims were:

1. The determination of the selective factors in operation between high school graduation and college entrance.
2. The discovery of the gifted high school graduate.
3. The determination of the degree to which the tests of the Iowa High School Survey can be used in predicting scholastic success in college.<sup>28</sup>

The students from the thirty-eight high schools, included in the survey, who went to college were studied and the following conclusions were drawn:

The occupational status of the families from which the gifted pupils come is superior for the University of Iowa students. Greater percentages in the professions, manufacturing, office work, and transportation are accompanied by smaller percentages of laborers and farmers. Vocational choices of the gifted pupils tend strongly toward the professions, business and the higher types of skilled labor. Their most recent occupations, for those not in college, show that many of the superior students have entered fields of work not their vocational choices and that many of them are clearly in positions where their superior abilities will not be utilized.<sup>29</sup>

The studies by Mana, by Colvin and McPhail, and by Geberich and Stoddard revealed the college groups as select groups with intelligence

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<sup>28</sup> Ibid., p. 815.

<sup>29</sup> Ibid., p. 816.

and the socio-economic factors evident. Their findings agreed on the point that the most intelligent students tended to go to college. Geberich and Stoddard found the homes of these students to be on the higher economic and cultural levels.

Studies have been undertaken to ascertain valid instruments and determine their uses in selecting and directing college students. These studies have examined mental tests, school marks, ranks-in-class, and chronological ages to determine their predictive value.

A word of warning has been offered by Strang concerning the tendency to rely too strongly on mental test results. She stated the following:

While intelligence test scores identify fairly accurately those who are likely to succeed in college, high ratings do not assure success in college or vocational pursuits. This is because of the multiplicity of factors that affect achievement. There is always the possibility that the absence of any one characteristic may mean failure in spite of the presence of many other favorable characteristics.<sup>30</sup>

In seeking an answer to the question, "How well do the tests of mental ability predict academic survival regardless of marks?", Freeman<sup>31</sup> discovered that the test is especially valuable for finding the highest and lowest ranges and he summarized the limitations in the use of the test results thus:

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<sup>30</sup> Ruth Strang, Behavior and Background of Students in College and Secondary Schools (New York: Harper and Brothers, 1932) p. 132.

<sup>31</sup> Frank S. Freeman, "Predicting Academic Survival," Journal of Educational Research, (23:113-22, February, 1931).

In general, at present we may only say that the mental tests, if the American Council Test is typical, are to be used as supplemental information. Exclusion on the basis of decile rank at best presents an equal chance of being right or wrong even in the lowest decile. Of course, if the candidates for admission are far too numerous, selection might be made on the basis of the tests in part at least, with the assurance that by eliminating those at the lowest deciles fewer errors and injustices will be committed than otherwise. But the test of mental capacity is still not closed to fallibility, and the individual still remains unique. We will best understand him by getting his complete picture. To do so, of course will be costly in time, energy, and money. But it seems that psychological practice, in the field of individual differences, if it is to be effective, cannot be through mass study alone, no more so than mass practice of medicine can be effective. If our results are typical, it must be said that the mental tests are inadequate as selective instruments at the college level, just as any other single criterion is inadequate. Yet they have a contribution to make, and on that basis their employment is justifiable.<sup>32</sup>

Feiser<sup>33</sup> studied the relationship between the intelligence of eight hundred fifteen Louisiana State University students entering as freshmen in the fall of 1933, and the subsequent academic success of these students over a period of six semesters. The students were grouped into certain classifications according to the occupations of their fathers and the results revealed the following:

Certainly the highest group, the professional, is the most homogeneous. The pupils come from homes where they hear good English spoken, where thoughtful and thought provoking conversations are everyday affairs, where the members of the family have vast stores of general information and where the intelligence is high. The lowest group on the other hand, the children of laborers come from a variety of homes. Some of them undoubtedly are very similar to those of the professional group; but others show the ravages of

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<sup>32</sup> Ibid., p. 122.

<sup>33</sup> Walter G. Feiser, "The Prognosis Value of the American Council of Education Psychological Examination," (unpublished Doctor's dissertation, Louisiana State University, 1937).

poverty, want, lack of time for conversation, absence of books, and other cultural advantages. The result is that the heterogeneity of laboring homes pulls down the correlation to one of the lowest obtained.<sup>34</sup>

In an investigation at the University of Oregon in 1930, Douglass<sup>35</sup> studied the predictive value of the general average of high school marks, marks in high school subjects, standing on the American Council Psychological Examination and the principals' ratings of the high school graduates. His findings were that, "The best single type of prognostic data is the average high school mark."<sup>36</sup> This significant statement also occurred: "Very little may be gained in accuracy or prediction by employing any of the variables included in this investigation other than average high school marks and a good intelligence test."<sup>37</sup>

That the size of the class influences the predictive value of rank-in-class, Garrett found in his study of three hundred twenty-four freshmen at the Louisiana State University in 1928. He concluded the following:

Exact rank-in-class is to be preferred for high school graduates from classes of less than 50 students. For classes larger than this number the decile rank would probably be as serviceable in predicting college success.

For classes of fewer than 25 students scholastic average in the last two years of high school usually shows greater predictive value than rank-in-class.

<sup>34</sup> Peiser, op. cit., p. 112.

<sup>35</sup> Earl R. Douglass, "Relation of High School Preparation and other Factors to Academic Success at the University of Oregon," University of Oregon Publication, Education Series, Vol. III, No. 1 (University of Oregon Press, 1931).

<sup>36</sup> Ibid., p. 25.

<sup>37</sup> Loc. cit.



The American Council Psychological Examination shows decidedly less predictive value than do either rank-in-class or scholastic averages based on high school records but does improve prediction when used in conjunction with scholastic average in classes of fewer than 25 students.<sup>38</sup>

Moore<sup>39</sup> investigated those students who graduated from high school in 1932, two years younger than the average high school graduates and found them able to hold their own in college with the older gifted students. She concluded: "From this we conclude that so far as college achievement, as measured by objective tests and college grades, is concerned, it is desirable to encourage gifted students to enter college at an age as young as 15 or 16 years."<sup>40</sup> She enumerated advantages to the students in "occupying themselves with studies which constituted a real challenge to their intelligence and industry."<sup>41</sup>

From these studies it is obvious that, as instruments of prediction, mental tests, school marks, ranks-in-class, and chronological ages have their limitations and may not be regarded as absolute. In combinations and under certain conditions they are valuable in selecting and directing college students.

Studies have been made with particular attention to the economic background of students. Chapin defined the socio-economic status as

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<sup>38</sup> Homer L. Garrett, "Predictive Value of High School Records with Special Reference to Rank-in-class," (unpublished Doctor's dissertation, Leland Stanford University, Palo Alto, 1932) pp. 237-274.

<sup>39</sup> Margaret Whitehead Moore, A Study of Young High School Graduates Teachers College Contributions to Education, No. 535, (New York: Teachers College, Columbia University, 1933).

<sup>40</sup> Ibid., p. 66.

<sup>41</sup> Id. cit.

the "position that an individual or a family occupies with reference to the prevailing average standards of cultural possessions, effective income, material possessions, and participation in group activities in the community."<sup>42</sup> Pethoff<sup>43</sup> found that 48.3 per cent of the students entering the University of Chicago came from the wealthiest occupational class, the proprietors, a group which comprised only 7.8 per cent of the population of the city of Chicago. The professional group was represented in 18.6 per cent of the freshman students and in only 5.1 per cent of the city's population. There was only one representative of the unskilled labor group in the freshman class as compared with 16.9 per cent composing that group in the city of Chicago. The non-labor groups had more than four times as many representatives in the university as did the labor groups. One-fifth of the members of the class came from families with a college tradition.

Variation of only a fraction of a point in the median psychological test scores for college students whose parents were engaged in professional, business, or skilled mechanical work, was found by Gillis.<sup>44</sup>

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<sup>42</sup> F. Stuart Chapin, "A Quantitative Scale for Rating the Home and Environment of Middle Class Families in an Urban Community," Journal of Educational Psychology, (19:99, February, 1923).

<sup>43</sup> E. F. Pethoff, "Who Goes to College?" Journal of Higher Education, (8:294-297, June, 1931).

<sup>44</sup> Frances M. Gillis, "Correlates of Intelligence in College Students," School and Society, (34:266-270, August 22, 1931).



Hoffman<sup>45</sup> reported no startling differences in the intelligence scores of the students at Harvard College who represented the five occupational groups in Tausig's classification but he found that ninety per cent of the students came from the professional and business classes. Kibbe<sup>46</sup> found the factors, responsible for the maladjustment of one thousand seven hundred ten freshmen students who entered the University of California in 1930, in the college as well as in the home. The major factors in elimination were lack of adequate financial means, health disabilities, and varying degrees of personal and social maladjustments. Her principal recommendation was the provision of an enlarged program of personal and social guidance by competent experts.

Dear in his study of high school students in Michigan in relation to the occupations of their fathers drew these conclusions:

The groups whose representation in high school declined between the seventh and twelfth grades, includes those in clerical service, building trades, artisans, proprietors, miscellaneous trades, personal service, public service, mining, lumbering, and fishing. The facts when analyzed indicate that men in the non-labor types of employment and those engaged in either farming or printing kept their children in school longer than did men in the other occupations. The lack of persistence of children whose fathers were engaged in other types of labor indicates a relatively longer continuance in the secondary school for the children of farmers and printers.<sup>47</sup>

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<sup>45</sup> W. B. Hoffman, "Occupations of Parents of College Students," School and Society, (35:25-26, January 2, 1932).

<sup>46</sup> Helen Kibbe, Factors Involved in the Elimination of Undergraduate Students from the University of California at Los Angeles (unpublished Master's thesis, University of California, Los Angeles, 1937).

<sup>47</sup> R. Earnest Dear, "Distribution and Persistence According to Paternal Occupation Represented in the Secondary Schools in Michigan," Journal of Educational Research, No. 8 (26:692, April, 1933).

These studies have revealed relationships between persistence in school, achievement in courses, and the home and community environment. In some of the research, a study of separate environmental factors was noted, in others the attempt was made to ascertain the influence of a given combination of factors. The tendency is apparent toward a consideration of the entire, interrelated pattern of the socio-economic background in which the individual moves and a need is observed for the evaluation of the effect of environment upon individuals through case studies. These studies call attention to the inadequacy of the cultural background of certain groups. They point out the scholastic handicaps certain groups have to face. They reveal the deviations from cultural and social patterns.

The occupations of the youths of the land have become an important subject of study. With retrenchments in industry and the occupations not fully overcome since the recent great depression and the number of youths seeking employment increasing, problems have arisen that demand attention. Clark<sup>48</sup> of Columbia University attempted a numerical estimate of the current situation. He judged that four hundred thousand youths, leaving school in 1936, had chosen to go into professions, that two hundred thousand actually attempted to enter the professions and that eighty-seven thousand five hundred had succeeded.

Attempts have been made to evaluate the factors involved in securing employment. Bell interviewed thirteen thousand five hundred

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<sup>48</sup> Harold F. Clark, "Exploring Occupational Trends," Occupations, (14:766-72, May, 1936).

twenty-eight youths in Maryland and made this statement concerning occupational opportunity:

The employment of the youth's father in one of the lower or higher income occupations profoundly affects the amount of schooling the youth is likely to receive. The amount of his schooling will, in turn, determine to a marked degree, the kind of job he will get and therefore the income he will earn.<sup>49</sup>

Byrns<sup>50</sup> studied eight thousand high school seniors in Wisconsin with respect to their vocational choices, their mental ability, and their occupational opportunities. She discovered relationships between mental ability and vocational preferences, but the disproportions between the numbers of students planning to enter particular fields of employment and the numbers that those fields could be expected to absorb was so marked that they led to disturbing questions of guidance procedures. Proctor and Ward<sup>51</sup> continued for four years a study of seven hundred seventy-one high school seniors who had been tested for general intelligence and who had answered questions regarding vocational and educational plans during the 1917-1918 school year. Of these, two hundred seventy-two were found in occupations and two hundred ninety

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<sup>49</sup> Howard M. Bell, Youth Tell Their Story, American Council of Education, (Washington, D. C., 1937) p. 77.

<sup>50</sup> Ruth Byrns, "Relation of Vocational Choice to Mental Ability and Occupational Opportunity," The School Review (47:101-108, February, 1939).

<sup>51</sup> William M. Proctor and Helen Ward, "Relation of General Intelligence to the Persistence of Educational and Vocational Plans of High School Pupils," Journal of Educational Research, No 4 (7:237-208, April, 1923).

were found in institutions of higher learning. Forty per cent of those in occupations were employed at tasks ranking equal to or above their choices, while sixty per cent were in occupations of lower rank. More girls than boys were following occupations of their original choices. Only twenty-six per cent of those in occupations had had any training for the work in which they were engaged. In terms of median intelligence quotients, those in educational institutions surpassed those in occupations by ten points and were superior to those who left school by twenty points. The vocational ambitions of those in educational institutions ranked higher than the ambitions of those in occupations. Better and more systematic educational and vocational guidance of high school pupils and more careful attention to those not going to college were the needs that seemed to be indicated definitely by the facts presented.

Daniel<sup>52</sup> studied the careers of two hundred fifty-five graduates of five rural high schools in East Baton Rouge parish and found that less than one-half of the boys continued their education beyond the high school. Except in the case of those who finished their courses, college attendance did not materially increase their earning power. From a financial standpoint, one year of college work seemed almost as effective as four, and it appeared that some training beyond high school was requisite for financial independence. Two-thirds of the girls

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<sup>52</sup> John I. Daniel, Post Graduate Careers of High School Pupils, (unpublished Master's thesis, Louisiana State University, Baton Rouge, Louisiana, 1931).

continued their study beyond high school and one-eighth completed four-year courses. One-half of the girls became housewives and one-fifth became teachers. Ninety per cent of the boys and girls remained in Louisiana and three-fourths of the entire group remained in the parish.<sup>53</sup>

Proctor<sup>54</sup> made an extensive study of fifteen hundred persons over a period of thirteen years and followed them into their occupations which he grouped as follows: Rank I, Proprietary and Professional; Rank II, Semi-professional and clerical; Rank III, Skilled labor; Rank IV, Semi-skilled labor; Rank V, Unskilled labor.

The findings of the thirteenth-year check-up which he made on fifteen hundred persons to whom Army Alpha Intelligence Tests were given in 1917-1918, are briefly as follows:

(1) There is a significant relation between the rank of vocational status achieved in 18 years and the individual intelligence quotient recorded while in high school. Those achieving occupational Rank I, as of 1930-31, were found to have earned average I. Q. ratings in 1917-18 of 115; Rank II, 108.1; Rank III, 104; Rank IV, 90.3; Rank V, 97.4. (2) Likewise the length of schooling seems to be closely related to rank of occupational value. Those found in occupational Rank I, in 1930-31, had an average length of schooling of 17.18 years; Rank II, 14.03 years; Rank III, 12.04 years; Rank IV, 10.83 years; Rank V, 9.4 years. (3) The 945 persons whose occupations were recorded in 1930-31 had a median I. Q. of 108, while the 259 persons who could not be located had a median I. Q. of 93. This probably means that many more cases would have been included in Ranks III, IV, and V, and that the average I. Q. is and the length of schooling would have been considerably less if all 1500 persons could have been contacted. (4) The significant bearing of these

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<sup>53</sup> Ibid., pp. 32-33.

<sup>54</sup> William Martin Proctor, "Intelligence and the Length of Schooling in Relation to Occupational Levels," Stanford University, School and Society, (42:726, December 7, 1935).

data on guidance in secondary schools is (a) that so far as general averages go, the persons ranking high in intelligence tend to gravitate toward the high ranking vocations; (b) That those found in the high ranking vocations had had correspondingly longer periods of schooling than those found in low ranking vocations; (c) That these generalizations are only significant in relation to trends and should not be assumed to apply to individual cases, as illustrated by the Italian boy with an I. Q. of 95 as of 1917-1918, who was found in 1930-31 to be a successful electrical engineer having 15 years of schooling to his credit.<sup>55</sup>

The investigations concerning the employment of youth today show positive but varying degrees of relation between persistence in college and present employment. Procter and Ward found students with longer periods of college training in the higher professions. Bell found close relation between the amount of schooling and remuneration in employment. Daniel indicated and Clark and Byrns pointed out the lack of proportion between the youths seeking certain employment and the ability of the occupational field to absorb them.

The studies considered in this chapter challenge further investigation, suggest techniques for additional studies, and offer bases for comparisons. They present much information and many facts, for the improvement of education. They reflect continued and consistent effort to attack the problems of education. In each of these respects they relate themselves to the problem of this study, persistence in college as related to intelligence, economic background, and present occupation.

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<sup>55</sup> Ibid., pp. 788-789.

**PART II**

**ANALYSIS AND INTERPRETATION  
OF THE DATA**

**CHAPTER III**

**PERSISTENCE IN COLLEGE AS  
RELATED TO THE INTELLIGENCE  
OF STUDENTS**



### CHAPTER III

#### PERSISTENCE IN COLLEGE AS RELATED TO THE INTELLIGENCE OF STUDENTS

During the recent years such progress has been made in our country in eliminating the gaps between the units of education that education is being regarded as a continuous process from primary grades to the college levels. This continuity is the result of the close articulation of the units of education and it has been conducive to a steady increase in the number of high school graduates who go to college.<sup>1</sup> The growth in population in the colleges has produced problems in student adjustments, differentiations in courses, increases in the teaching staff, and in improvements and augmentations in physical and material equipment. These problems are being studied more widely and innovations are being made in terms of a more adequate and complete understanding of the college populations. Various means and agents are being employed to study and understand the students in order that the college might minister as efficiently and effectively as possible to the needs of the students.

This study has undertaken to examine a group of high school graduates in the light of the relations that appear to exist between certain data that have been collected concerning them and arranged

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<sup>1</sup> P. Roy Brammell, "Articulation of High School and College," United States Department of the Interior, Office of Education, Bulletin, 1932, No. 17, National Survey of Secondary Education, Monograph, No. 10 (Washington, D. C.: United States Government Printing Office, 1933) p. 1.

according to certain methods. The graduates have been considered with respect to the relation between their persistence in college and their intelligence. A comparison was made of the graduates who attended college and those who did not on the basis of intelligence. Their scores upon the mental test administered and their school marks for the senior year were compared as criteria of mental ability. The intelligence of students was considered at the various levels of persistence in college. The expression of the intention to attend college as an indication of prescience and foresight was examined in connection with persistence in college. Persistence in college was studied with reference to the economic background of the students, which took into account the occupation of the father, the education of the parents and the presence in the home of a telephone, electricity, and personal or property insurance. Comparisons were made of urban and rural groups of students on the basis of persistence in college with respect to the possession of a telephone, electricity and insurance. Then, persistence in college was studied with respect to the occupations in which the students engaged. Comparisons were made between the occupations in which the students engaged and the occupational choices they had expressed in high school. Further comparisons were drawn between the occupations of the students and those of their fathers which the students had listed in high school. Finally, persistence in college was considered in relation to the location of the college and to the continuous and discrete attendance of certain students.

Before entering into the study of the phases indicated, it will be well to consider briefly the communities which contributed to this study. The high school seniors both from the large and small schools, represent the inhabitants of areas widely distributed throughout the state of Louisiana. The large high schools, characterized as such in this connection because their senior classes numbered fifty or more members were located in cities of fourteen thousand to eighty thousand population at the time that this study was undertaken in 1930, except Natchitoches, the population of which was almost five thousand. Natchitoches has been an educational center and the domicile of a State College devoted to the training of teachers for more than fifty years which may account for its large senior class in proportion to its population. The largest of these cities, Shreveport, is in the northwestern section of the state. Natchitoches is in the western part of the state. Alexandria is situated in the center from almost all points. Lake Charles is in the southwestern section. Lafayette is in the southern part, and Baton Rouge is in the eastern section of the state.<sup>2</sup>

The small high schools, those with senior classes numbering less than fifty, are located in communities with populations numbering less than three thousand, except Eastrop, the population of which was a little more than five thousand at the time of the study. The industries of that community included a paper mill and a gas plant which had been

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<sup>2</sup> Appendix A.

established only a few years previously and had attracted many workers without families. This condition might explain population growth without corresponding increases in school population. Homer and Bastrop are in the northern part of the state; Leesville and Sunkie are near the center; and Selah, Jennings, Abbeville, Scott, Broussard, St. Martinville, New Iberia, and Jeanerette are distributed from the west toward the east along the southern part of the state. These towns and cities present the variety in speech, manners, customs, modes and means of living, that is found in the state. The differences have sociological and economic implications that bear upon an understanding of the graduates of the high schools being studied.

During the years from 1930, when the students graduated from high school, until the conclusion of the school year in 1934, the high school teachers, who had assisted in securing the data from their graduates, aided in locating them in college. From the office of the registrar, the attendance record for each student in the various colleges was secured. Of the eleven hundred forty graduates studied, attendance records were obtained for seven hundred thirty-four. No records showing attendance in college were secured for the remaining four hundred six high school graduates.

COMPARISON OF THE GRADUATES WHO ATTENDED COLLEGE  
AND THOSE WHO DID NOT ON THE BASIS OF INTELLIGENCE QUOTIENTS  
AND HIGH SCHOOL MARKS

The first phase of the analysis of the factors concerning the relationship between persistence in college and intelligence consisted in the comparison of the graduates who attended college and those who

did not attend college with respect to intelligence quotients and high school marks. Data consisting of the intelligence quotients based on the scores of the students on the Otis Self-Administering Test of Mental Ability, Higher Examination, Form A and the final marks in high school, were assembled for the graduates who attended college and those who did not and these were arranged in Table I.

TABLE I

HIGH SCHOOL GRADUATES WHO ATTENDED COLLEGE AND THOSE WHO DID NOT, WITH RESPECT TO INTELLIGENCE QUOTIENTS, NUMBERS, PERCENTAGES, AND HIGH SCHOOL MARKS

I. Q.	Graduates who attended college			Graduates who did not attend college		
	Number	Per cent	High school marks	Number	Per cent	High school marks
150-154	11	1.8	3.9			
145-149	44	8.0	3.4			
140-144	68	8.4	3.3	1	.2	3.4
115-119	106	14.4	2.9	8	1.9	2.5
110-114	132	18.6	2.5	26	6.4	2.5
105-109	159	21.6	2.3	43	10.4	2.3
100-104	97	13.2	2.4	53	13.2	2.0
95-99	69	9.4	1.9	83	20.7	1.6
90-94	35	4.6	1.6	74	18.2	1.5
85-89	12	1.6	1.6	49	12.2	1.2
80-84	5	.6	1.5	46	11.3	1.2
75-79	1	.1	1.1	15	3.6	1.0
70-74	1	.1	1.0	5	1.2	1.0
65-69						
60-64				3	.7	1.0
TOTAL:	734	100.0		406	100.0	
Mean I. Q. for all graduates			104			
Mean I. Q.		109.2			98.0	
Mean high school marks			2.3			1.6
Per cent above I. Q. of 110		48.8			6.5	
Per cent below I. Q. of 90		8.4			29.0	

NOTE: The high school marks represent the fourth-year marks changed from the letters, A, B, C, D, to the numbers 4, 3, 2, 1 respectively for computation of the averages.

Table I presents the distribution of the intelligence quotients or I. Q.'s from sixty to one hundred thirty-four, of the graduates who attended college and those who did not, showing the numbers and percentages at each level. The high school marks are given at each level for both groups. These marks represent the fourth-year marks changed from the letters, A, B, C, D, to the numbers 4, 3, 2, 1, respectively, with the averages computed for the graduates at each level. The highest grade to be attained is A, and the lowest grade possible for passing and graduation is D. For the graduates being studied, the average high school marks range from 1, which represents the equivalent of D, to 3.9, which lacks one-tenth of a point of being A.

The graduates who attended college are arranged according to their I. Q.'s at the various levels from seventy to one hundred thirty-four, the highest level, while those who did not attend college are arranged from sixty, the lowest level, to one hundred twenty-four. In the former group, the greatest number of cases, four hundred ninety-four, or 67.8 per cent, occurs at the levels between one hundred and one hundred nineteen, while in the latter group, two hundred fifty-nine, or 64.3 per cent, are found at the levels between eighty-five and one hundred four.

For the graduates who attended college, the average high school marks computed for the persons at each level occur in ascending order from the seventy to seventy-four level of intelligence where the mark is 1, or the equivalent of D, to the highest level for all graduates, one

hundred thirty to one hundred thirty-four, where the mark is 3.9, or one-tenth point below the equivalent of A, the highest mark ascribed. For the graduates who did not attend college, the marks, computed similarly, occur in ascending order from the sixty to sixty-four level of intelligence, the lowest level for all the graduates, to the one hundred twenty to one hundred twenty-four level of intelligence, where the mark is 3.4, or four-tenths points above the equivalent of D, or lacking six-tenths points of the equivalent of A. In the instance, both of the graduates who attended college and those who did not, the value of the high school mark increases from 1, or D, the lowest mark for passing and subsequently for graduation, to 3.9, or one-tenth point less than the equivalent of A, the highest mark to be obtained, concurrently as the levels of intelligence rise from the lowest to the highest in the distribution.

The increases in the value of the high school marks are definite as the levels of intelligence rise, but they are not uniform. The smallest increase is that of one-tenth point and it occurs at the seventy-five to seventy-nine level of intelligence for the graduates who attended college. The largest increase is that of nine-tenths of a point, which occurs at the one-hundred twenty to one hundred twenty-four level for the graduates who did not attend college. The highest mental level was attained by graduates who attended college and these also achieved the highest school marks. Eleven of the graduates who attended college and whose I. Q.'s ranged between one hundred thirty



and one hundred thirty-four, received high school marks the average of which was 3.9, or one-tenth less than the equivalent of A. One of the graduates who did not attend college and whose I. Q. was at the one hundred twenty to one hundred twenty-four level, received high school marks the average of which was 3.4, or four-tenths points above B and lacking six-tenths points of being A. The lowest mark received by both groups was 1, or D, the lowest passing grade but there were no graduates who went to college whose I. Q.'s were below the seventy to seventy-four level, while there were three graduates who did not go to college whose I. Q.'s were at the sixty to sixty-four level.

Odell employed a widely used plan for the comparison of groups as follows:

Since the most common plan of threefold classification of mental ability is to call all those with I. Q.'s above 110, superior, those with I. Q.'s from 90 to 110 average or normal, and those with I. Q.'s below 90 inferior this division has been employed here.<sup>5</sup>

By applying this plan in the examination of the two groups, it is found that 48.5 per cent of the graduates who attended college ranked in the superior group, those whose I. Q.'s were above 110, and their average high school marks ranged from 3.5, or five-tenths points above the equivalent of C, to 3.9 which lacks one-tenth point of the equivalent of A. Of the graduates who did not attend college only 8.3 per cent ranked in the superior group and their high school marks ranged from 2.5, or five-

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<sup>5</sup> C. W. Odell, "Are College Students a Select Group?" University of Illinois, Bulletin, No. 54. (Urbana, Illinois: University of Illinois Press, 1922) p. 22.

**CHAPTER IV**

**PERSISTENCE IN COLLEGE AS  
RELATED TO THE ECONOMIC  
BACKGROUND OF THE STUDENTS**

tenths points above the equivalent of C, to 3.4, which is four-tenths points above B, and lacks six-tenths points of being the equivalent of A.

In the normal or average group, representing I. Q.'s from ninety to one hundred ten, are found 48.8 per cent of the graduates who attended college, and their high school marks range from 1.8, or eight-tenths points above the equivalent of D, to 4.8, or five-tenths points above C, while in this group are found 68.5 per cent of the graduates who did not attend college and their high school marks range from 1.5, or five-tenths points above the equivalent of D, to 2.3, or three-tenths points above the equivalent of C. The graduates who attended college received high school marks which exceed in the lowest rank those of the graduates who did not attend college by three-tenths points. In the highest rank, the high school marks of the graduates who attended college exceeded those of the graduates who did not attend college by two-tenths points.

There are found in the inferior group, those whose I. Q.'s are below 90, only 2.4 per cent of the graduates who attended college and their high school marks range from 1, the equivalent of D, to 1.6, or six-tenths points above the equivalent of D, while in this group are found 29.0 per cent of the graduates who did not attend college and their high school marks range from 1, the equivalent of D, to 1.8 or two-tenths points above the equivalent of D. The high school marks of the graduates who attended college are four-tenths points higher than those of the graduates who did not attend college.

The mean high school mark for the graduates who attended college was 8.5, while that for the graduates who did not attend college was 1.8 or five-tenths points less. The mean I. Q. for the former group was found to be one hundred nine and two-tenths while the mean I. Q. for the latter group was ninety-five or 14.2 points lower. The mean I. Q. for the graduates who attended college was 2.2 points above the mean for the whole group studied, while the mean for the graduates who did not attend college was 9 points lower than the mean for all the graduates. These facts are illustrated in Figure 1, which requires no explanation.

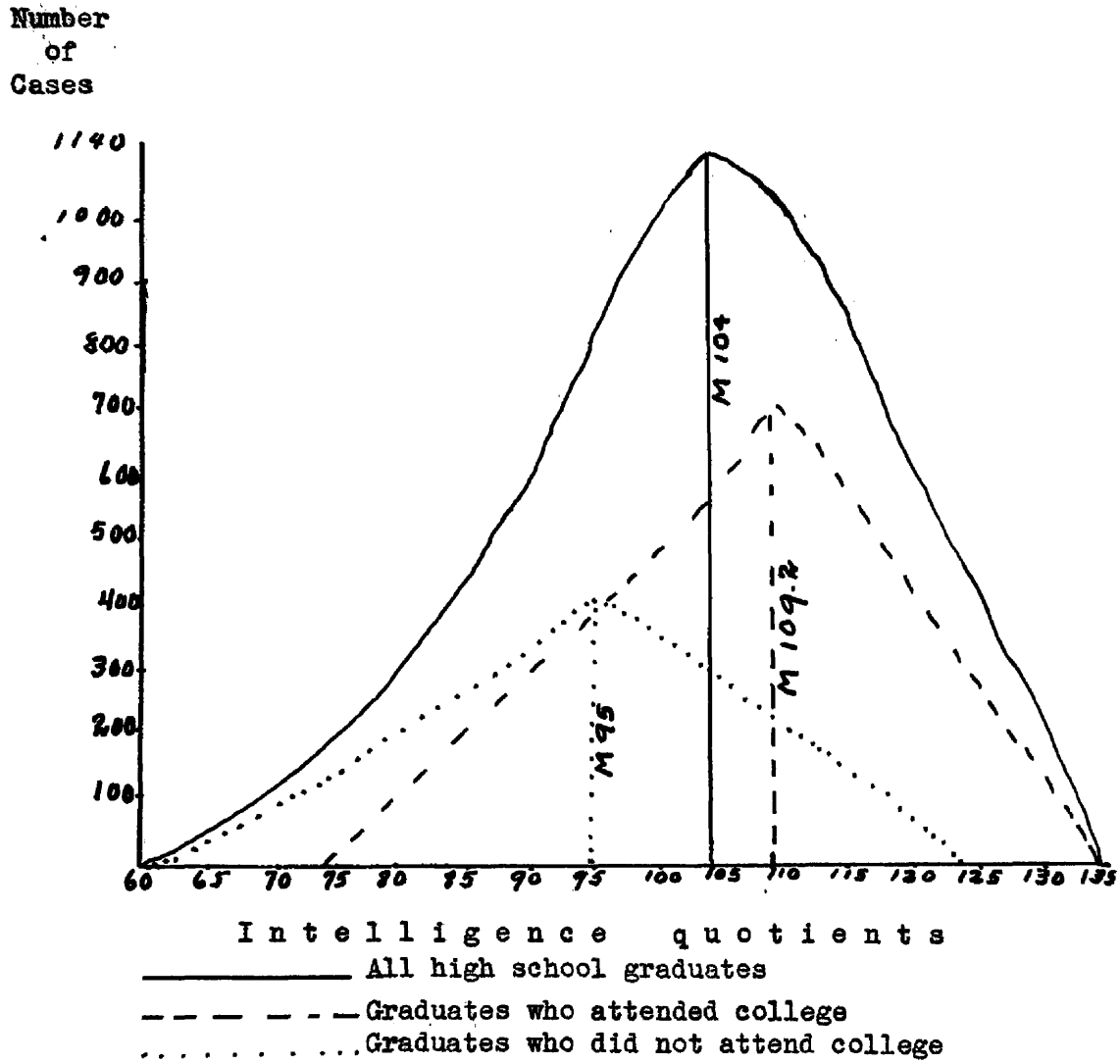


FIGURE 1

NUMBERS OF GRADUATES IN  
CERTAIN GROUPS WITH VARIOUS  
INTELLIGENCE QUOTIENTS

The graduates who attended college ranked higher in intelligence and received higher school marks than did the graduates who did not attend college. Direct and definite relation appears to exist between the high school marks received by the graduates and the levels of their intelligence, the graduates who went to college, being located at the higher levels of intelligence and receiving the higher average high school marks and the graduates who did not attend college, being located at the lower intelligence levels and receiving the lower average high school marks.

#### THE INTELLIGENCE OF STUDENTS AT THE VARIOUS LEVELS OF PERSISTENCE IN COLLEGE

The second phase of the analysis of the relation between intelligence and the persistence in college of the students being considered, consisted in examining the intelligence quotients of the students who went to college on the basis of the length of the period of their attendance or persistence in college. Hereafter the word, "students" will be employed instead of "graduates", for, from this point forward in the study, those graduates who went to college will be considered and they will be designated as students.

TABLE II

PERSISTENCE IN COLLEGE AS RELATED TO INTELLIGENCE REPRESENTED BY MEAN I. Q.'S, BASED UPON SCORES ON THE OTIS SELF-ADMINISTERING TEST OF MENTAL ABILITY, HIGHER EXAMINATION, FORM A

Persistence in college expressed in years	Number of cases	Per cent of cases	Mean I. Q.
4.0	296	39.5	114.5
3.67	10	1.2	113.0
3.5	20	3.0	108.5
3.25	26	5.5	104.8
3.0	67	8.5	103.0
2.67	11	1.5	102.0
2.5	22	3.0	101.6
2.0	162	22.0	107.2
1.5	12	2.0	99.5
1.0	69	9.4	105.6
.5	20	3.0	95.7
.25	15	2.0	91.2
<b>Total:</b>	<b>734</b>	<b>100.0</b>	
Mean years of persistence in college	<b>2.67</b>		
Above mean years of persistence in college	<b>433</b>	<b>57.3</b>	
Below mean years of persistence in college	<b>311</b>	<b>42.7</b>	

Table II presents the periods of persistence in college expressed in years and arranged in descending order from four years, the highest level, to .25 or one-fourth year, the lowest level. The number of cases, percentage of cases and the mean I. Q. are given for the students at each level of persistence.

The investigation took into consideration only the four years of college work between 1930 and 1934. Twelve levels of persistence were found, some representing the full year, that is, the nine-month term of college work, others representing the fractional part of the year accounted for in the provision, by some of the colleges, of such periods of study as the six-week, the nine-week and twelve-week summer sessions. Besides the semester plan for the regular college year, one institution arranged its division of time in three terms of twelve weeks each.

Of the seven hundred thirty-four students who persisted in college, the greatest number, two hundred ninety-six, or 39.3 per cent, persisted for four years. For this group, the mean I. Q. was one hundred fourteen and three-tenths, the highest intelligence rank at any level. At the two-year level the next largest group of students, one hundred sixty-two, or 22.0 per cent, was found. The mean I. Q. at this level was one hundred seven and two-tenths or seven and one-tenth points lower than the highest mean I. Q., which was found at the four-year level. The third largest number of cases, sixty-nine or 9.4 per cent occurred at the one-year level and for this group the mean I. Q. was one hundred five and six-tenths, or one and six-tenths points lower than for the



group at the two-year level. At the three-year level, the fourth largest group of students was found. The number was sixty-seven, or 8.3 per cent of the cases and the mean I. Q. was one hundred three, or two and six-tenths points below that for the group at the one-year level. As the levels of persistence descended from four years to .25 or one-fourth year, the mean I. Q.'s diminish from one hundred fourteen and three-tenths to ninety-one and two-tenths except at the two-year level where the mean I. Q. is one hundred seven and two-tenths, and at the one-year level, where it is one hundred five and six-tenths.

The explanation for the large group of students found at the two-year level and the difference in the mean I. Q. at that level and those above and below it may be found in the fact that at the time the students entered college, three of the institutions in the state, the Louisiana State Normal College at Natchitoches, the Southwestern Louisiana Institute at Lafayette, and the Louisiana Polytechnic Institute at Ruston were offering a two-year teacher training course and issuing a diploma which permitted the holder to teach in the elementary grades of the public schools of the state. Many students availed themselves of the opportunity offered by this course. At that time, also, two institutions, the Louisiana Polytechnic Institute at Ruston and the Southwestern Louisiana Institute at Lafayette were offering a one-year commercial course which provided training in stenography and typewriting and in bookkeeping. At the completion of the year of training a certificate was issued which indicated preparation to serve as a stenographer or a bookkeeper. This course attracted many students.

With the exception of the two levels of persistence discussed, for each decline in the levels of persistence, a corresponding decline is noted in the mean I. Q.'s. At the highest level of persistence, the mean I. Q. is also the highest for the whole group, while at the lowest level of persistence, the mean I. Q. is also the lowest for the whole group. The difference between the highest and lowest levels of persistence in college is 3.75 years and the difference between the highest and lowest mean I. Q.'s is twenty-three and one-tenth points.

The mean years of persistence in college was found to be 2.87 years. The number of students above the level of the mean years of persistence in college was found to be four hundred twenty-three, or 57.5 per cent of the whole group. The number of students below the mean level of persistence was three hundred eleven or 42.7 per cent of the whole group of students.

Figure 2 presents graphically the levels of persistence in college, with the percentage of students at that level and their mean I. Q.'s. It should be read thus: "Of those students who attended college, 39.3 per cent persisted for four years and had a mean I. Q. of 114.3."

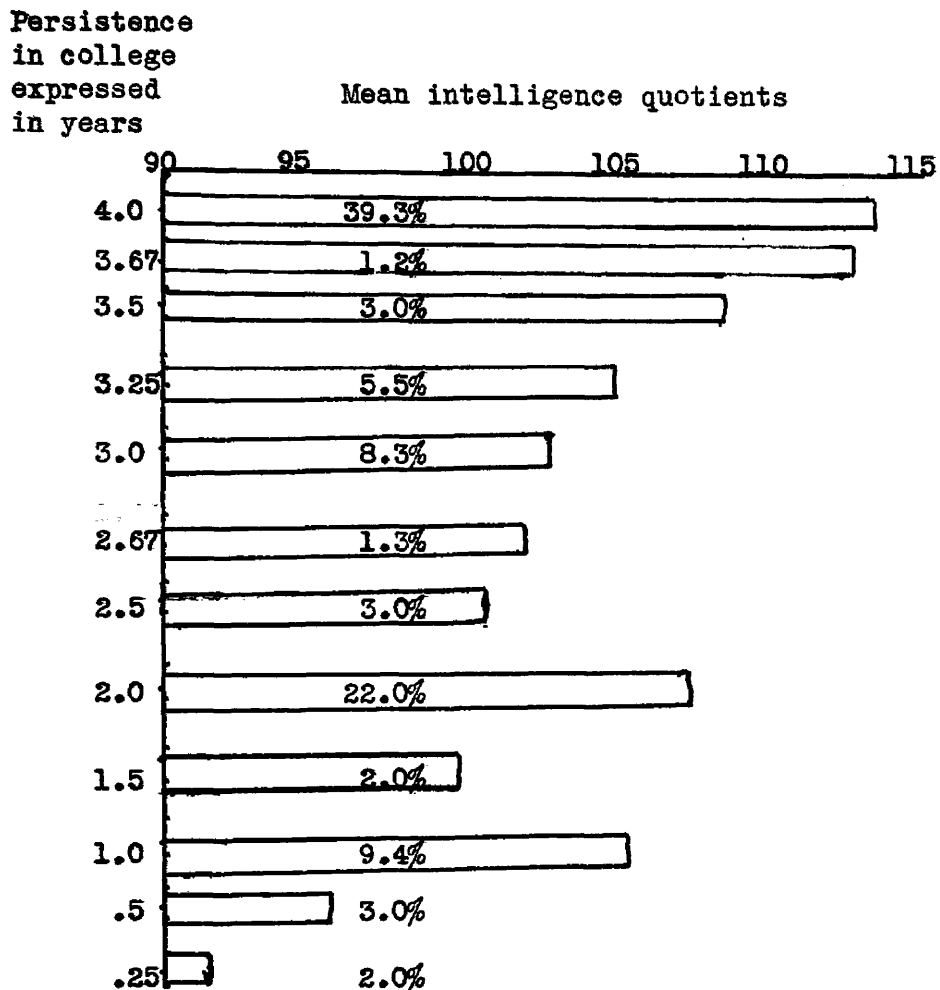


FIGURE 2

VARIOUS LEVELS OF PERSISTENCE IN COLLEGE  
AND MEAN INTELLIGENCE QUOTIENTS  
FOR CERTAIN PERCENTAGES OF STUDENTS

These data reveal significant relationship between persistence in college and the mean I. Q.'s of students at the various levels. The students with greater intelligence, represented by the higher mean I. Q.'s, tend to remain in college longer than do students with less intelligence, represented by the lower mean I. Q.'s. The relation between persistence in college and intelligence appears to be direct.

COMPARISON OF THE STUDENTS WHO EXPRESSED THE INTENTION  
OF ATTENDING COLLEGE WITH THOSE WHO DID NOT ON THE BASIS  
OF PERSISTENCE IN COLLEGE

One of the items of information requested on the Information Blank for High School Seniors was, "Do you intend to attend college?"<sup>4</sup> The expression of the intention to attend or not to attend college was regarded as an indication of forethought and planning rather than as a clue for following the students after high school graduation. It has important though not final bearing on the study of the students. Because of the implications of intelligence that are associated with forethought, planning, prearrangement, and the exercise of judgment, the expression of the intention to attend or not to attend college is considered in the third phase of the analysis of the factors concerning the relationship between persistence in college and intelligence.

The data showed that of the seven hundred thirty-four students who attended college some had expressed the intention of attending college and some had not expressed that intention.

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<sup>4</sup> Appendix B.

TABLE III

PERSISTENCE IN COLLEGE AS RELATED TO THE EXPRESSION OF  
THE INTENTION TO ATTEND COLLEGE

Persistence in college expressed in years	Students who expressed intention of attending college		Students who expressed no intention of attending college	
	Number	Per cent	Number	Per cent
4.0	290	46.9	6	5.2
3.67	8	1.3	2	1.7
3.5	15	2.4	5	4.4
3.25	30	4.8	6	5.2
3.0	51	8.3	10	8.7
2.67	6	.9	5	4.4
2.5	12	1.9	10	8.7
2.0	150	24.3	12	10.4
1.5	6	.9	6	5.2
1.0	39	6.3	31	26.9
.5	6	.9	14	12.3
.25	7	1.2	6	5.2
<b>Total:</b>	<b>619</b>	<b>100.0</b>	<b>115</b>	<b>100.0</b>
Mean years of persistence for whole group			2.87	
Mean years of persistence in college	3.05		1.73	
Above mean years of persistence in college	343	55.4	56	48.7
Below mean years of persistence in college	276	44.6	59	51.3

Table III presents the facts concerning the students who expressed the intention of attending college and the students who expressed no intention of attending college. The twelve levels of persistence expressed in years and arranged in descending order from four years to one-fourth year are found in the first column. The second and third columns present the number and percentage of students, who expressed the intention of attending college, at the level of their persistence in college. The fourth and fifth columns give these facts for the students who did not express the intention. Six hundred nineteen students expressed the intention while one hundred fifteen did not express the intention. The difference between the number of students who want to college and had expressed, in the senior year at high school, their intention of attending college, and the number of students who went to college and in their senior year at high school had expressed no intention of attending college was five hundred four.

The greatest number of students at any of the levels of persistence who expressed the intention of attending college is two hundred ninety or 46.9 per cent and it occurs at the four-year level. The second largest number is one hundred fifty or 24.3 per cent and it occurs at the two-year level. Of the students who had expressed no intention of attending college, the greatest number, thirty-one or 36.9 per cent was found at the one-year level. The second largest number, fourteen, or 12.3 per cent, occurred at the .5 or one-half year level.

For the whole group of college students, the mean years of persistence was computed and found to be 2.87 years. The mean years of

persistence for each group with reference to the expression of the intention to attend college, was computed and it was found that the mean years for the group that expressed the intention of attending was 3.05 years, while that for the group that had not expressed the intention was 1.73 years. The mean years of persistence for the first group was greater than that of the second group by 1.32 years. It was found, also, that the mean years of persistence for the first group was greater than that for the whole group by .18 years, while that of the second group was less than the mean years for the whole group by 1.14 years.

The number of students found at levels of persistence above that at which the mean years of persistence for that group occurred was three hundred forty-three or 35.4 per cent for the students who had expressed the intention of attending college. For the same group, the number of those found below that level was two hundred seventy-six or 44.6 per cent. The difference between the number of those above that mean and those below it is sixty-seven or 10.8 per cent. Among the students who had expressed no intention of attending college, it was found that fifty-six or 48.7 per cent were above the level of persistence at which the mean for that group was found. Fifty-nine, or 51.3 per cent of the students, were below the mean years of persistence for that group. The difference between the number of students above and those below the mean years of persistence for the group is three, or 2.6 per cent.

The data considered in the discussion above are presented graphically in Figure 3 which should be read as follows: "Of the graduates

who expressed the intention of attending college, 46.9 per cent persisted for four years, while 5.2 per cent of the graduates who expressed no intention of attending college persisted for four years."



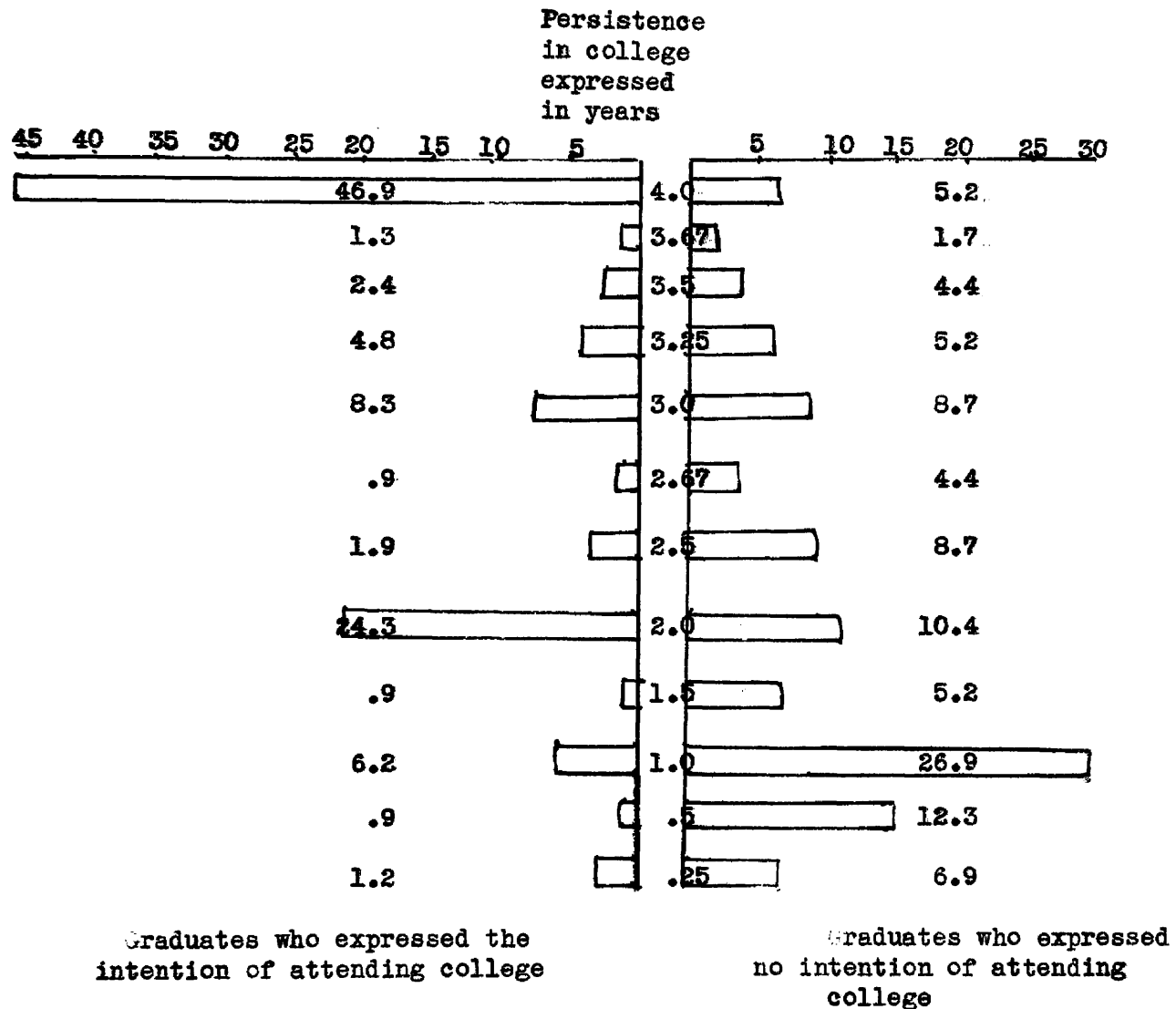


FIGURE 3

PERCENTAGES AT VARIOUS LEVELS OF PERSISTENCE IN COLLEGE FOR THE GRADUATES WHO EXPRESSED THE INTENTION OF ATTENDING COLLEGE AND FOR THE GRADUATES WHO EXPRESSED NO INTENTION OF ATTENDING COLLEGE

The consideration of the data with reference to the relation of persistence in college to the expression of the intention to attend college seems to justify these statements:

Of the students who attended college, the number of those who had expressed the intention of attending college was greater than the number of those who had not expressed the intention.

The students who had expressed the intention of attending college persisted therein for greater periods of time than did those students who had not expressed the intention of attending college.

It appears that there is significant relation between persistence in college and the expression of the intention to attend college.

In the national survey of the secondary school population conducted by Kefauver, Noll, and Drake, this statement concerning the college intentions of high school students occurs: "Pupils from all schools and curriculums report plans to go to college, although the proportions are much larger for the academic group. As many as a fifth in the industrial group in the comprehensive and general schools have ambitions to get to college."<sup>5</sup>

#### SUMMARY

The purpose of this chapter was to examine certain factors concerning the relationship between persistence in college and intelligence.

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<sup>5</sup> Grayson M. Kefauver, Victor H. Noll, and E. Ellwood Drake, "The Secondary School Population," United States Department of the Interior, Office of Education, Bulletin, 1932, No. 17, Monograph No. 4, (Washington, D. C.: United States Government Printing Office, 1933) p. 57.

The first phase of the analysis consisted in the comparison of the graduates, who attended college and those who did not, with respect to intelligence quotients and average high school mark. These conditions were revealed:

The graduates who attended college ranked higher in intelligence and received higher average high school marks than did the graduates who did not attend college.

Direct and definite relation appears to exist between the high school marks received by the graduates and the levels of their intelligence, the graduates who went to college being located at the higher levels of intelligence and receiving the higher average high school marks, and the graduates, who did not attend college, being located at the lower intelligence levels and receiving the lower average high school marks.

The second phase of the analysis consisted in examining the intelligence quotients of the students who went to college on the basis of the length of the period of their attendance or persistence in college. The data appears to justify the following conclusion:

The students with greater intelligence, represented by the higher mean intelligence quotients, tend to remain in college longer than do students with less intelligence, represented by the lower mean intelligence quotients.

The third phase of the analysis was concerned with the relation between the expression of the intention to attend or not to attend college and persistence in college. The deductions were as follows:

Of the students who attended college, the number of those who had expressed the intention of attending college was greater than the number of those who had not expressed the intention.

The students who had expressed the intention of attending college persisted therein for greater periods of time than did those students who had not expressed the intention of attending college.

On the basis of the analysis made and the conclusions drawn, it appears that, for the students being considered, persistence in college is related to intelligence.

## CHAPTER IV

### PERSISTENCE IN COLLEGE AS RELATED TO THE ECONOMIC BACKGROUND OF THE STUDENTS

A significant part of the whole process of learning for the individual lies outside of the school. Factors in the home and community may influence scholastic achievement. The home and the community may provide the incentive and the means that enable the individual to persist in college. It is the purpose of this chapter to consider the problem of the relationship between persistence in college and the economic background of the students.

Five factors are treated as indices of the economic background; the occupation of the father, the education of the parents and the possession of a telephone, electricity and insurance. These factors are employed not because they are regarded as adequate and complete measures of the economic background of the students, but because they may afford indices of the stability and security of the economic and cultural family environment. In a certain degree, the information concerning these factors is objective and susceptible to verification. Certain phases of the information have been furnished by the students on other occasions as, registration in the elementary school and in the high school.

This chapter considers the problem of the relation between persistence in college and the economic background of the students in four phases, namely, persistence in college as related to the occupation of the father, persistence in college as related to the education of the

parents, persistence in college as related to the possession of a telephone, electricity and insurance, and a comparison of the urban and rural groups on the basis of persistence in college with respect to the possession of a telephone, electricity and insurance.

#### PERSISTENCE IN COLLEGE AS RELATED TO

#### THE OCCUPATION OF THE FATHER

The occupation of the father is an important factor in determining the economic background of the members of the family. It may condition the home environment. It may establish the social practices and set the cultural patterns. Counts regarded it as the most important factor in his study of the secondary school population. He stated:

Occupation is the central fact in the lives of the great masses of people. It is the interest that occupies the time and energy of the ordinary person for the major part of his waking hours. In large measure it determines his place of residence, his associates during the working-day, and his more intimate acquaintances and friends of the leisure moments. If pursued for years, it will set its mark on his physical nature and will stamp his mind with its special pattern. It will determine to a considerable degree what he does, what he thinks, and his outlook on life.<sup>1</sup>

From the Information Blanks for High School Seniors<sup>2</sup> filled out by the students while they were still in high school, the information concerning the occupations of their fathers was secured. The teachers in the various schools assisted in securing details concerning certain occupations that had been listed by the students and they verified the

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<sup>1</sup> George S. Counts, The Selective Character of American Secondary Education (Chicago: University of Chicago Press, 1922), p. 81.

<sup>2</sup> Appendix B.

information concerning others. They aided in the grouping of the occupations according to Taussig's<sup>3</sup> classification which can be done with some measure of success "with relatively complete information for each case,"<sup>4</sup> according to Counts. Counts'<sup>5</sup> modification of Taussig's classification and the United States Census for 1920 were consulted as the need was found.

Taussig's classification<sup>6</sup> ranks the occupations in five categories. For use in this study, Taussig's categories were arranged in descending order from the highest to the lowest and weighted from 5 to 1 in the same order as follows: professional, 5; semi-professional, 4; skilled, 3; semi-skilled, 2; unskilled, 1. The occupations of the fathers of the students were arranged in the various categories and were assigned the number ascribed to the category. These numbers were set down for the persistence level at which the offspring of the parent was located and the average computed for each level. These numbers, together with those concerning the education of the parents and the presence in the home of certain factors are found in Table IV which will be discussed subsequently.

From the information blanks that had been filled out by the seniors in high school, were secured the facts concerning the education

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<sup>3</sup> Appendix D.

<sup>4</sup> Counts, op. cit., p. 22.

<sup>5</sup> loc. cit.

<sup>6</sup> Appendix D.

of the parents. For college graduation, the number, 4, was assigned; for high school graduation, the number, 3 was assigned; for elementary school graduation or the completion of the seventh grade, 2, was the number recorded, and for the ability to read and write, the number, 1, was recorded. No number was ascribed if the student's answer indicated that the parent could neither read nor write. The numbers representing the educational status were combined for the father and the mother of each student and set down at the persistence level of their offspring. The sum of all the numbers, that had been combined, was taken at each persistence level and the average was computed by dividing the sum by the number of parents at that level.

In the matter of the possession of a telephone, electricity and insurance, the computation was made as follows: If the student's information blank showed that his home possessed all three of these factors, the number, 3, was set down at the persistence level of the student. If the home possessed two, or if it possessed one or if it possessed none of these factors, the numbers, 2 or 1 or 0, were set down, respectively. At each level, the sum of the numbers was taken, this was divided by three, the number of the factors being considered, then the resulting number was divided by the number of students at that persistence level to secure the average for that level.



TABLE IV

PERSISTENCE IN COLLEGE AS RELATED TO THE OCCUPATION OF THE FATHER, THE EDUCATION OF THE PARENTS, THE POSSESSION OF A TELEPHONE, ELECTRICITY, AND INSURANCE AS INDICES OF THE ECONOMIC BACKGROUND OF THE STUDENTS

Persistence in college expressed in years	Number of cases	Per cent of cases	Occupation of father*	Education of parents**	Possession of telephone electricity insurance
4.0	296	39.5	3.7	3.1	.9
3.67	10	1.2	2.6	3.1	.9
3.5	20	3.0	2.7	3.0	.9
3.25	36	5.5	2.7	2.9	.9
3.0	61	8.5	2.6	2.7	.9
2.67	11	1.5	2.5	2.6	.8
2.5	22	3.0	2.5	2.3	.8
2.0	162	22.0	2.4	2.2	.8
1.5	12	2.0	2.0	2.0	.8
1.0	69	9.4	2.0	2.0	.8
.8	20	3.0	1.9	1.6	.5
.25	15	2.0	1.3	1.4	.4
Total:	734	100.0			
Mean years of persistence in college		2.87			
Above mean years of persistence in college	423	57.3			
Below mean years of persistence in college	311	42.7			

\* Based on Foussig's classification

- 5 Professional
- 4 Semi-professional
- 3 Skilled
- 2 Semi-skilled
- 1 Unskilled

\*\* Education of father and mother computed together

- 4 College graduate
- 3 High school graduate
- 2 Elementary school graduate
- 1 Ability to read and write

Table IV presents the data concerning the economic background of the students. The first column shows the years of persistence in college, in descending order from four years to one-fourth year. In the second column is found the number of cases at each of the twelve levels of persistence in college. The third column gives the percentage of cases at each level. The fourth column contains the average of the numerical weights, ascribed, through the occupational ranking according to Taussig's classification, to the occupations of the fathers of the students at each level of persistence. The occupational ranks appear in descending order from the highest rank which occurs at the highest persistence level, to the lowest rank which occurs at the lowest persistence level. The two hundred ninety-six students who represent 39.3 per cent of the cases and who are at the four-year persistence level, have fathers the average of whose occupational rank is 3.7, or threenths points lower than the rank assigned to the semi-professional or the second highest category. The fifteen students who represent 2.0 per cent of the cases, and who are at the lowest level of persistence, have fathers the average of whose occupational rank is 1.3, or threenths points above the rank of the unskilled or the lowest occupational classification. The students who persisted in college for four years were the offspring of fathers the average of whose occupational rank approximated that of the semi-professional category, while the students who persisted in college for one-fourth year were the offspring of fathers the average of whose occupational rank was approximately that of the unskilled category.

The mean years of persistence in college for the whole group was found to be 3.57 years. Above that level occur five higher levels of persistence at which are found four hundred twenty-three, or 57.3 per cent of the students in the whole group, whose fathers have occupational ranks, the average of which exceeds the semi-skilled rank and approaches the semi-professional rank. For the groups at each of these five levels, the lowest average occupational classification is 2.6 points, or four-tenths points below that of the skilled category, while the highest average occupational classification is 2.7, or three-tenths points below that of the semi-professional category.

Below the level of the mean years of persistence occur seven lower levels of persistence at which are found three hundred eleven, or 42.7 per cent of the students in the whole group, whose fathers have occupational ranks the average of which falls below that of the skilled rank and descends almost to that of the unskilled rank. For the groups at each of these seven persistence levels, the highest average occupational rank is 2.5, or five-tenths points below that of the skilled category, while the lowest average occupational rank is 1.3, or three-tenths points above that of the unskilled category.

From the analysis of the data, it appears that the students, who persisted in college for the greater periods of time, were the offspring of fathers the average of whose occupational rank was higher than that of the fathers whose offspring persisted in college for the lesser periods of time.

The occupation of the father, as Counts<sup>7</sup> has pointed out, is correlated with the intellectual development, the amount of education, the economic resources and the social level of the family. It is therefore a significant factor in determining the status of the home. A pronouncement by Rainey qualifies the significance of the influence of the father's occupation. He asserted:

No matter how low a man's occupation may be, his home may contain elements that rank far above it and give to the youth growing up within it a wholesome background that enters intimately into the make-up of his knowledge of life, his habits and his ideals.<sup>8</sup>

In the light of the fact that abundant Federal aid in education, now being provided, was not available in 1930, the occupation of the father and its relation to the length of time his offspring remained in college acquires greater significance than that it would possess if financial aid had been as prevalent as it is at this time. College attendance in this study was affected little, if any, by Federal aid. The students in this study graduated from high school in May, 1930, and Federal aid was inaugurated in the colleges in the early part of the year 1934, when many of the students were completing their courses or were already engaged in other interests. Strong commented as follows:

It was because of the drastic reduction in the number of jobs the colleges could afford to give students, the increased difficulty in finding employment in the community, and the need for the services the students could render to the colleges that the Federal government for the first time in American history undertook to help needy youth work their way through college. Accordingly the Federal Student Aid

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<sup>7</sup> Counts, op. cit., p. 21.

<sup>8</sup> Homer F. Rainey and others, How Fare American Youth (New York: D. Appleton-Century Co., Inc., 1933) p. 31.

program was initiated in February, 1934. Responsibility for its administration was vested in the local educational institutions, and a wide variety of colleges and universities resorted to this form of assistance. It was estimated in 1935 that one in every twelve college students was receiving aid under the Federal program.<sup>9</sup>

#### PERSISTENCE IN COLLEGE AS RELATED TO

#### THE EDUCATION OF THE PARENTS OF THE STUDENTS

The data for this phase of the study of the relation between persistence in college and the economic background of the students were secured from the Information Blanks for High School Seniors.<sup>10</sup> Questions eleven and twelve requested information concerning the education of the father and of the mother. In their directions to the students, the teachers were requested to explain that definite information was desired with reference to the grade completed in school or the years of college work completed. College graduation was the highest educational category and to it was ascribed four points, high school graduation was the second highest category and to it was ascribed three points. The completion of the elementary course or the graduation from the elementary school was the next highest category and was given two points. The ability to read and write was the lowest category and to it was assigned one point. To avoid confusion, the values ascribed to the degrees of education were not refined. The classifications were made definite to avoid error.

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<sup>9</sup> Ruth Strang, Behavior and Background of Students in Colleges and Secondary Schools (New York: Harper and Brothers, 1932) p. 549.

<sup>10</sup> Appendix B.

The fifth column of Table IV presents the results of the computation of the averages of the numbers representing the educational status of the parents at each persistence level. At the highest persistence level, the numbers representing the educational status of the parents were also the highest and their size diminished at each of the levels of persistence until the lowest persistence level was reached where the numbers were also the lowest. At the four-year level of persistence, there were two hundred ninety-six students, or 39.3 per cent of the whole group whose parents had a degree of education the average of which was slightly above high school graduation, while at the one-fourth year level of persistence, there were fifteen students, representing 2.0 per cent of the whole group whose parents could do little more, as an average, than read and write.

At the one-year level the average of the parents' education was found to be the equivalent of elementary school graduation. At the two-year level it was two-tenths points higher than at the one-year level, at the three-year level it was five-tenths points higher than at the two-year level, while at the four-year level, it was four-tenths points higher than at the three-year level.

The mean years of persistence for the whole group was found to be 2.87 years. The students at the levels above which the mean occurred, were the offspring of parents, the average of whose education represented elementary and high school graduation, while the students, at the persistence levels below that at which the mean occurred, were the offspring of

parents the average of whose education was the equivalent of the ability to read and write and also the completion of the elementary school course.

The results of the examination of these data lead to the conclusion that the students at the higher levels of persistence in college are the offspring of parents the average of whose education is higher than that of the parents whose offspring are found at the lower levels of persistence in college.

PERSISTENCE IN COLLEGE AS RELATED TO THE  
POSSESSION OF A TELEPHONE, ELECTRICITY AND INSURANCE

Although telephones have grown commonplace in America, and electricity has been extended to remote rural areas, yet the presence of these in the home is still regarded as the evidence of high standards of living. Obviously, the possession of these utilities and of insurance is not a complete and adequate index of the cultural level of the home. The complex elements of culture cannot be disregarded by such a process which would reduce the whole matter to the simple basis of the homes that possess these factors and those that do not. By the same token the possession of them is not an infallible index of culture. Certain needs and occupations require the presence of these factors in the home, others do not. Certainly many homes that are on a high cultural plane do not possess them, and the opposite situation is equally true. Yet, it must be accepted that telephone, electricity, and insurance are among the many elements that indicate the cultural status of the home.

The data concerning the possession of a telephone, electricity and insurance were taken from the answers to the three final questions on the Information Blank for High School Seniors.<sup>11</sup> If the answer to the question concerning the possession of the utility in the home was "yes", the number, 1, was set down, if the answer was "no", a zero was set down. The numbers representing the factors being considered, for the homes of all the students at each level of persistence were determined and the average taken. The decimal fraction, representing the average of all the factors in all the homes represented by the students at each level of persistence, was assigned to that level.

Reference is made again to Table IV. The sixth column presents the data concerning the possession of these factors. At the highest level of persistence, it appeared that nine-tenths of the homes represented possessed these factors. This appeared to be true also for the four subsequent levels in descending order. From the three-year level of persistence, to and including the one-year level of persistence, it was apparent that eight-tenths of the homes possessed these factors. At the one-half year level, six-tenths of the homes possessed them, while at the one-fourth year level only four-tenths of the homes possessed them.

Above the level of persistence at which the mean years of persistence for the whole group, 2.37, occurred, the four hundred

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<sup>11</sup> Appendix B.



twenty-three students who represented 57.3 per cent of the whole group and who have persisted for the greater periods of time, came from homes, nine-tenths of which possessed these factors. Below the level of the mean years of persistence for the whole group, the three hundred eleven students, who represent 42.7 per cent of the whole group and who have persisted for the lesser periods of time, came from homes eight-tenths of which possessed these factors except for the two lowest levels at which six-tenths and four-tenths of the homes, in the next lowest and lowest levels respectively, possessed these factors.

It appeared, from this examination, that the students who persisted in college for the longer periods of time came from homes which possessed these factors in greater proportion than did the homes from which the students came who persisted in college for shorter periods of time.

The relation between persistence in college and the possession of a telephone, electricity and insurance in the home of the students is not close and direct nor is it perfect. The one is not the direct cause of the other. The acquisition of these factors by the home would not in some occult way cause the students from that home to remain in college for greater periods of time than before the installation. It is more probable that the two phenomena are the effects of a common cause. The presence of telephone, electricity and insurance in greater proportions in the homes of those students who remained in college for longer periods of time, than in the homes of those students who remained in college for shorter periods of time, leads to the conclusion that

the homes which possess these conveniences are better able to send to college students who can stay there and secure the benefits provided than can those homes which do not possess them. The data on this phase of the economic background of the students may be too limited to justify conclusive findings. Relation appears to exist between persistence in college and the possession by the home of a telephone, electricity and insurance.

COMPARISON OF URBAN AND RURAL GROUPS OF STUDENTS ON THE  
BASIS OF PERSISTENCE IN COLLEGE WITH RESPECT TO THE  
POSSESSION OF A TELEPHONE, ELECTRICITY AND INSURANCE

In this phase of the analysis, the terms, urban and rural, are applied to groups in school populations rather than to individual students who live in the city or in the country. The students, who were graduates of the large schools, belonged to groups the greater proportion of which were domiciled in surroundings characterized by urban advantages. While it appeared that the greater number of the students from the large high schools were surrounded by the conditions and advantages of urban areas, it should also be admitted that some of the students lived in surroundings devoid of such advantages. The students, who were graduates of the small high schools, belonged to groups the greater proportion of which lived in surroundings which were marked as rural. In some instances, it could be said that students from the small high schools lived in surroundings that possessed all the advantages of urban life. However, the greater number of the students were from areas that were removed from the advantages that are

usually found in cities. For this part of the study, all of the students, who graduated from the large high schools and attended college are designated as the urban group, while all of the students who graduated from the small high schools and who attended college are designated as the rural group. This division appears to be arbitrary and inexact yet it is as definite as possible when data of this nature are used. In the large high schools the sizes of the graduating classes ranged from sixty-eight to one hundred eighty-three, while in the small high schools the sizes of the graduating classes ranged from four to forty-two. The report of the State Board of Education<sup>12</sup> showed that there were seven thousand thirty-six graduates of the three hundred fifty-three high schools in the state for the year 1930, yielding an average of twenty graduates for each high school. In comparison with this average, the large high schools appear to be properly classified and the small high schools have graduating classes that range downward far below the average for the state.

This part of the analysis of the relation between persistence in college and economic background is directed toward a comparison of the urban and rural groups to determine whether or not any differences exist in the possession of telephones, electricity and insurance by the two groups. The factors, telephone, electricity and insurance are considered separately.

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<sup>12</sup> Eighty-first Annual Report for the Session 1929-1930, State Department of Education, Bulletin, No. 186, (Baton Rouge, Louisiana, 1930) p. 11.

TABLE V

PERSISTENCE IN COLLEGE AS RELATED TO THE PRESENCE  
OF A TELEPHONE, ELECTRICITY, AND INSURANCE  
IN THE HOMES OF URBAN AND RURAL STUDENTS

Persistence in college expressed in years	Urban Students					Rural Students					
	Number of cases	Percent of cases	Tele- phone	Elec- tricity	Insu- rance	Number of cases	Percent of cases	Tele- phone	Elec- tricity	Insu- rance	
4.0	278	54.9	.9	.9	1.0	18	7.9	.9	.9	.9	
3.67	10	1.9	.9	.9	1.0	0	0.0				
3.5	14	2.8	.9	1.0	1.0	6	2.7	.8	.8	.9	
3.25	36	7.1	.9	.9	.9	0	0.0				
3.0	45	8.9	.9	.9	1.0	16	7.0	.7	.6	.8	
2.67	9	1.8	.8	.9	1.0	2	.8	.7	.7	.8	
2.5	16	3.2	.8	.9	.9	6	2.7	.7	.7	.8	
2.0	56	11.1	.8	.9	.9	106	46.5	.7	.7	.6	
1.5	4	.8	.7	.8	.9	8	3.5	.7	.7	.8	
1.0	22	4.3	.7	.8	.9	47	20.6	.6	.7	.6	
.5	9	1.8	.4	.6	.8	11	4.8	.5	.6	.7	
.25	7	1.4	.2	.5	.6	6	2.5	.1	.4	.5	
Total:	506	100.0				226	100.0				
Mean years of persistence for the whole group											2.67
Mean years of persistence above mean year of persistence		3.25									2.02
Below mean year of persistence	302	59.6				48	21.1				
	204	40.4				180	78.9				

Table V presents the data concerning the urban and rural groups, who persisted in college, with reference to the possession of a telephone, electricity and insurance considered separately as indices of economic status. The first column contains the twelve levels of persistence in college. In the first section are found the data concerning the urban students. The first column, in this section, presents the number of cases at each level of persistence and the second column presents the percentage of the cases. The next three columns present the averages of the numbers of telephone, electricity and insurance, respectively, found in the homes of the students at each level of persistence. In the second section, parallel data are presented for the rural group.

For the urban students, the number that persisted in college was five hundred six, while for the rural group, the number that persisted in college was two hundred twenty-eight. The number of rural students represents less than one-half of the number of the urban students in college. Of the urban students, the greatest number at any level, two hundred seventy-eight, or 54.9 per cent, persisted for four years, while for the rural group, one hundred six, or 46.5 per cent, the greatest number at any level, persisted for two years. Again, for the urban group, the next largest number, fifty-six or 11.1 per cent, occurred at the two-year level, while for the rural group, the next largest number, forty-seven or 20.6 per cent, occurred at the one-year level. In the rural group, no cases occurred at the three and two-thirds and the three and one-fourth-year levels.

In the matter of telephones, for the urban group at the five highest levels of persistence, the average number of telephones was nine-tenths, and in the descending order of the levels of persistence the decimal fractions diminished from eight-tenths to seven-tenths to four-tenths and finally to two-tenths, the lowest decimal fraction, and it occurred at the lowest persistence level. For the rural group, at the four-year level the average number of telephones was nine-tenths; for the three and one-half year level, the average number was eight-tenths, and for the three-year level and the next four lower levels, the average number of telephones was seven-tenths. At the one-year, the one-half-year and the one-fourth-year levels, the averages were six-tenths, three-tenths and one-tenth, respectively. At every level, except at the fourth-year level and the one and one-half-year levels where they are the same, the averages of the numbers of telephones for the urban group were larger than were those for the rural group.

In a manner similar to that of the averages of telephones, the averages of electricity in the homes for the urban and the rural groups were found to occur in diminishing value at each of the levels in descending order, except at the three and one-half year level where the fourteen homes represented all possessed electricity. For the urban group, the highest average was one and it occurred at the three and one-half-year level or one of the higher persistence levels and the lowest average was five-tenths and it occurred at the lowest persistence level. For the rural group, the highest average was nine-tenths and it occurred at the highest persistence level, while the lowest average was four-tenths and it occurred at the lowest persistence level.

In the matter of insurance, the averages at each level were found to be higher for the most part, than they were for the utilities in each group. For the urban group, at the six highest levels the averages were one, showing complete possession, except at the three and one-fourth-year level where nine-tenths of the home have insurance. At the lower levels the averages were nine-tenths, except at the one-half and one-fourth-year levels where the averages were eight-tenths and six-tenths respectively.

For the rural group, at the four highest levels, the averages were nine-tenths, while at the lower levels the averages were eight-tenths except at the one-half and one-fourth-year levels where the averages were seven-tenths and five-tenths, respectively.

For both groups, the averages for insurance were greater, on the whole, than were the averages for telephones or for electricity. The explanation may lie in the individual and personal aspects of insurance and the community aspects of telephone and electrical services. In this study no differentiation was made between life and property insurance. At the time these data were being secured, an inexpensive form of group insurance was being sold widely throughout the state.

For the urban group, the mean years of persistence in college is 3.28. Above the mean years of persistence, the average of the number of telephones possessed by this group is nine-tenths; for electricity it is nine-tenths except at the three and one-half-year level where it is one; and for insurance it is one. Below the mean years of persistence for this group, the highest average for telephones is nine-tenths while the

lowest is two-tenths. For electricity, the highest average is nine-tenths and the lowest is six-tenths. The highest average for insurance is one and the lowest is six-tenths.

For the rural group, the mean years of persistence in college is 3.2. Above the level of the mean years of persistence, the highest average for telephones is nine-tenths and the lowest is seven-tenths. For electricity the highest average is nine-tenths and the lowest is seven-tenths. The highest average for insurance is nine-tenths and the lowest is eight-tenths. Below the level of the mean years of persistence, for telephones, the highest average is seven-tenths and the lowest is one-tenth. For electricity, the highest average is seven-tenths and the lowest average is four-tenths. The highest average for insurance is eight-tenths and the lowest is five-tenths.

Above the mean years of persistence for the urban group, there are three hundred students, or 59.6 per cent, while below it are two hundred four students, or 40.4 per cent. For the rural group, there are forty-eight students, or 21.1 per cent, above the mean years of persistence, while below it are one hundred eighty, or 78.9 per cent, of the students. The mean years of persistence for the urban group is .41 greater than the mean years of persistence for the whole group, while the mean years of persistence for the rural group is .35 less than the mean years of persistence for the whole group. The mean years of persistence in college for the urban group is 1.25 greater than that for the rural group.



A comparison of the data concerning the urban group and the rural group leads to the conclusion that with respect to the possession of telephones, electricity and insurance, the urban group ranks higher than the rural group. In the matter of the mean years of persistence in college and the number of cases, the urban group is superior to the rural group.

#### SUMMARY

This chapter considered the matter of the relation between persistence in college and the economic background of the students. A study of four phases of the problem led to the following conclusions:

The students who persisted in college for the greater periods of time were the offspring of fathers the average of whose occupational rank was higher than that of the fathers whose offspring persisted in college for lesser periods of time.

The students at the higher levels of persistence in college were the offspring of parents the average of whose education was higher than that of the parents whose offspring persisted at the lower levels in college.

The students who persisted in college for the longer periods of time came from homes which possessed telephones, electricity and insurance in greater proportions than did the homes from which the students came who persisted in college for shorter periods of time.

With respect to the possession of telephones, electricity, and insurance, the urban group of students ranked higher than did the rural group. In the matter of the mean years of persistence in college and the number of cases, the urban group was superior to the rural group.

**CHAPTER V**

**PERSISTENCE IN COLLEGE AS  
RELATED TO PRESENT OCCUPATION**

## CHAPTER V

### PERSISTENCE IN COLLEGE AS RELATED TO PRESENT OCCUPATION

This chapter is concerned with the third division of the problem of this study and it considers the relationship between persistence in college and present occupation in three phases: first, an analysis of present occupation on the basis of persistence in college; second, a comparison of present occupation with occupational choices; and third, a comparison of present occupation with the occupation of the father.

Through the arrangements made at the beginning of the investigation with the teachers of the students while they were in high school, information concerning the employment and occupations of the students was secured. The teachers assisted in locating the students. The organizations employing them and the students themselves gave information concerning their work. When it was possible, the three sources of information were used in order to secure as accurate and as reliable data as possible. The period during which the occupational information was sought extended to the end of the year 1938. This interval between 1934, when the facts concerning college attendance were secured and 1938, when the accumulation of information concerning employment was concluded gave the opportunity for ascertaining the employment of those students who continued in courses beyond four years of college work, such as medicine.

During these years, the depression was prevalent, and unemployment was widespread. Myers and Williams discussed it as one of the

problems challenging education and made the following statement:

The depression which began in 1929 in the United States, and which reached its greatest depths in 1932, caused the people to become more keenly aware than they had ever been before of the necessity for taking constructive action regarding the problems of economic insecurity.<sup>1</sup>

Notwithstanding the economic situation, many of the students were employed. Teaching, stenography, bookkeeping, clerking in stores and filling station service were the occupations that were represented in the greatest numbers. Medicine, law, engineering, and a diplomatic career were represented by smaller numbers. The occupations were classified according to Tausig in the manner described for the father's occupations and the occupational rank was assigned.

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<sup>1</sup> Alonzo F. Myers and Clarence O. Williams, Education in A Democracy (New York: Prentice-Hall, Inc., 1937) p. 233.

TABLE VI  
PERSISTENCE IN COLLEGE AS RELATED TO  
PRESENT OCCUPATION

Persistence in college	Number of cases	Per cent of cases	Present occupation*
4.0	896	59.3	3.6
3.67	10	1.2	3.4
3.5	20	3.0	2.5
3.25	36	5.5	2.5
3.0	61	8.3	2.4
2.67	11	1.5	2.3
2.5	22	3.0	2.2
2.0	162	22.0	2.4
1.5	12	2.0	2.0
1.0	69	9.4	2.0
.5	20	3.0	1.1
.25	15	2.0	.8
<b>TOTAL:</b>	<b>734</b>	<b>100.0</b>	
Mean years of persistence in college		2.87	
Above mean years of persistence in college	423	57.3	
Below mean years of persistence in college	311	42.7	

\* Based on Tausig's classification

- 5 Professional
- 4 Semi-professional
- 3 Skilled
- 2 Semi-skilled
- 1 Unskilled

Table VI presents the data concerning the present occupation of the students. The first column presents the twelve levels of college persistence. Columns two and three give the number and percentage of cases at each level of persistence in college. Column four gives the average of the occupational ranks of the students at each persistence level.

The number of cases is seven hundred thirty-four. The largest number of cases, two hundred ninety-six, or 39.3 per cent of all the students, occurs at the four-year level, the highest persistence level, where the average of the occupational rank is 3.8, or two-tenths less than the semi-professional rank. The second largest number of cases, one hundred sixty-two, or 22 per cent of all the students, occurs at the two-year level, where the occupational rank is 2.4, or four-tenths above the semi-skilled rank. At the one-year persistence level there are sixty-nine students, or 9.4 per cent of the cases, and the occupational rank is 2, or the semi-skilled classification.

For the whole group of students, the occupational ranks diminish slowly though not uniformly as the levels of persistence decrease, the highest occupational rank, 3.8 being at the highest persistence level, four years, and the lowest occupational rank, .8 being at the lowest persistence level, one-fourth year. The exception is at the two-year level where the occupational rank is 2.4.

The mean years of persistence in college was computed and found to be 2.87. Above the level of the mean years of persistence in college are found five levels of persistence at which are located four hundred

twenty-three, or 57.3 per cent of the students. For these, the highest occupational rank is 3.8, or two-tenths less than semi-professional rank, while the lowest occupational rank is 2.4, or six-tenths less than the skilled rank. Below the mean years of persistence, there are seven levels of persistence at which are located three hundred eleven, or 48.7 per cent of the students. For these, the highest average occupational rank is 2.4, or six-tenths below the skilled rank, while the lowest average occupational rank is .8, or two-tenths below the unskilled rank.

The explanation for the fact that the occupational rank at the lowest persistence level is lower than the rank assigned to the lowest occupational category lies in the fact that some of the students were unemployed and some had only part-time employment. This is also the explanation for the relatively low occupational ranks at the other levels of persistence, together with the fact that frequently a period of apprenticeship is required in some occupations.

The analysis of present occupation on the basis of persistence in college expressed in years makes it appear that there is a direct relation between persistence in college and present occupation, the occupational ranks of those persisting for longer periods in college being higher than the occupational ranks of those persisting for shorter periods of time in college.

#### COMPARISON OF PRESENT OCCUPATION WITH OCCUPATIONAL CHOICES

The students had expressed their occupational choices in their answers to the eighth question on the Information Blank for High School

Seniors filled out by them in high school. These choices were classified and given occupational rankings as in the case of the present occupations of the students and these data were used for this phase of the study of the relation of persistence in college to present occupation.



TABLE VII  
COMPARISON OF PRESENT OCCUPATION  
WITH OCCUPATIONAL CHOICES

Persistence in college expressed in years	Number of cases	Per cent of cases	Present occupation*	Occupational choice*
4.0	296	39.3	3.8	4.5
3.67	10	1.2	3.4	4.3
3.5	20	2.6	2.5	4.2
3.25	56	7.5	2.5	4.0
3.0	61	8.3	2.4	4.0
2.67	11	1.5	2.3	3.8
2.5	22	3.0	2.2	3.5
2.0	168	22.0	2.4	3.3
1.5	12	1.6	2.0	3.0
1.0	69	9.4	2.0	2.6
.5	20	2.6	1.1	2.5
.25	15	2.0	.8	2.1
<b>TOTAL:</b>	<b>734</b>	<b>100.0</b>		
Mean years of persistence in college		3.67		
Above mean years of persistence in college	423	57.5		
Below mean years of persistence in college	311	42.7		

\* Based on Taussig's classification

- 5 Professional
- 4 Semi-professional
- 3 Skilled
- 2 Semi-skilled
- 1 Unskilled

Table VII presents the data for the comparison of present occupation with occupational choices. The first column gives the twelve persistence levels. Columns two and three contain the number of cases and percentage of the students at each persistence level. The fourth column presents the averages of the present occupational ranks of the students at each persistence level and the fifth column gives the averages of the ranks of the occupations which the students indicated as their choices while they were still in high school.

The averages of the ranks of the occupational choices range from 4.5 which is five-tenths below the highest occupational rank and is found at the highest persistence level, to 2.1, which is one-tenth above the second occupational rank, the semi-skilled, and which is found at the lowest persistence level. The averages of the ranks of the occupational choices diminish with a measure of regularity from the highest to the lowest persistence levels.

At the highest persistence level, the average of the ranks of the present occupations is 3.3, while that of the occupational choices is 4.5, or seven-tenths higher. At the lowest persistence level, the average of the ranks of the present occupations is 3.4, while that of the occupational choices is 4.3, or nine-tenths higher.

For the five levels of persistence above that at which the mean years of persistence is found, the averages of the ranks of the present occupations range from slightly higher than semi-skilled to slightly higher than skilled while the averages of the ranks of the occupational choices range from semi-professional to the midpoint above semi-professional.

For the seven levels below that at which the mean years of persistence in college occurs, the averages of the ranks of the present occupations range from a rank lower than unskilled to a rank slightly higher than semi-skilled, while the averages of the ranks of the occupational choices range from semi-skilled, to slightly higher than skilled. The superiority of the averages of the ranks of the occupational choices over the averages of the ranks of the present occupations may be accounted for in the difference in the achievement of occupational aims in the early and unexperienced years of the beginning career and the goals striven for or attained in the later years of experience.

The result of the comparison of the averages of the ranks of present occupations and those of the occupational choices reveals that at each level, those of the occupational choices are higher than those of the present occupations.

#### COMPARISON OF PRESENT OCCUPATION WITH

#### THE OCCUPATION OF THE FATHERS

In chapter three, the occupations of the fathers of the students were studied as a factor in the economic background of the students. The facts concerning the occupations of the fathers are employed in this phase of the study for comparison with those of their offspring, and are found in Table VIII.

TABLE VIII  
COMPARISON OF OCCUPATION OF OFFSPRING  
WITH OCCUPATION OF FATHER

Persistence in college expressed in years	Number of cases	Per cent of cases	Occupation of offspring*	Occupation of father*
4.0	296	39.3	3.5	3.7
3.67	10	1.3	3.4	2.8
3.5	20	2.6	2.8	2.7
3.25	35	4.6	2.5	2.7
3.0	61	8.1	2.4	2.6
2.67	11	1.5	2.3	2.5
2.5	22	2.9	2.2	2.5
2.0	182	24.0	2.4	2.4
1.5	12	1.6	2.0	2.0
1.0	69	9.1	2.0	2.0
.5	20	2.6	1.1	1.9
.25	15	2.0	.6	1.3
<b>TOTAL:</b>	<b>734</b>	<b>100.0</b>		
Mean years of persistence in college		2.87		
Above mean years of persistence in college	423	57.3		
Below mean years of persistence in college	311	42.7		

\* Based on Taussig's classification

- 5 Professional
- 4 Semi-professional
- 3 Skilled
- 2 Semi-skilled
- 1 Unskilled

Table VIII presents the data concerning the occupations of the offspring and their fathers. Again, columns one, two, and three present the numbers and percentages of cases at the twelve levels of persistence. Column four presents the data concerning present occupation under the caption, "Occupation of offspring." The occupations of the fathers are presented in the last column.

The average ranks of the occupations of the fathers are higher at each level of persistence than the corresponding ranks of the occupations of the offspring, except at the two highest levels of persistence. At the four-year level of persistence, the average of the ranks of the occupations of the fathers is 3.7, while that of the offspring is 3.8, or one-tenth higher. At the three and sixty-seven hundredths-year persistence level, the average rank of the occupation of the father is 2.8, while that of the offspring is 3.4, or six-tenths higher. At all other persistence levels in descending order the average ranks of the occupations of the fathers is higher than that of the offspring, except at the two-year, the one and one-half-year and the one-year levels, where it is the same.

From this analysis, it appears that the occupational classifications of the fathers are higher than those of their offspring.

Neither credit nor discredit attaches to the fact of the superior classifications of the fathers' occupations over those of their offspring. It is reasonable that the occupational classifications of the fathers should be higher than those of their offspring because of the prestige and promotion that experience carries. It must be noted that the data

concerning the occupations of the fathers were secured in 1930 while those concerning the occupations of the offspring were secured several years later. The differences in the ages of the parents and their offspring entered into and affected the kinds of occupations in which the two groups became engaged.

Pintner indicates the relationship between the occupations of fathers and the occupations of their offspring through the factor of intelligence in the following statements:

In the long run, those children possessing superior intelligence will, in general, tend to occupy the higher types of positions in the world, and those possessing inferior intelligence will tend to gravitate towards the lower occupations. Since children tend to inherit the same kind of intelligence as their parents, we ought to find differences in the intelligence of children as we proceed from the lower to the higher occupations of their parents. The results of many workers show this to be the case.<sup>2</sup>

Rainey in his study of the problems of American youth makes this important observation:

It will be necessary to raise the status of many occupations. Working conditions will have to be improved, wages increased, security of employment provided. When these things are done, the objection to manual labor and other unskilled work will, in large measure, have disappeared and any considerable feeling against them, which may remain will be simply an irrational retention of the ill favor which they have so long merited. If any such residuum exists, it must be the business of education to remove it.<sup>3</sup>

A comparison of occupational choices, present occupations and occupations of parents is presented in Figure 4 which requires no explanation.

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<sup>2</sup> Rudolph Pintner, Intelligence Testing. (New York: Henry Holt and Company, 1930) p. 513.

<sup>3</sup> Homer P. Rainey, and others, How Fare American Youth. (New York: D. Appleton Century, 1937) p. 31.

Persistence  
in college  
expressed  
in years

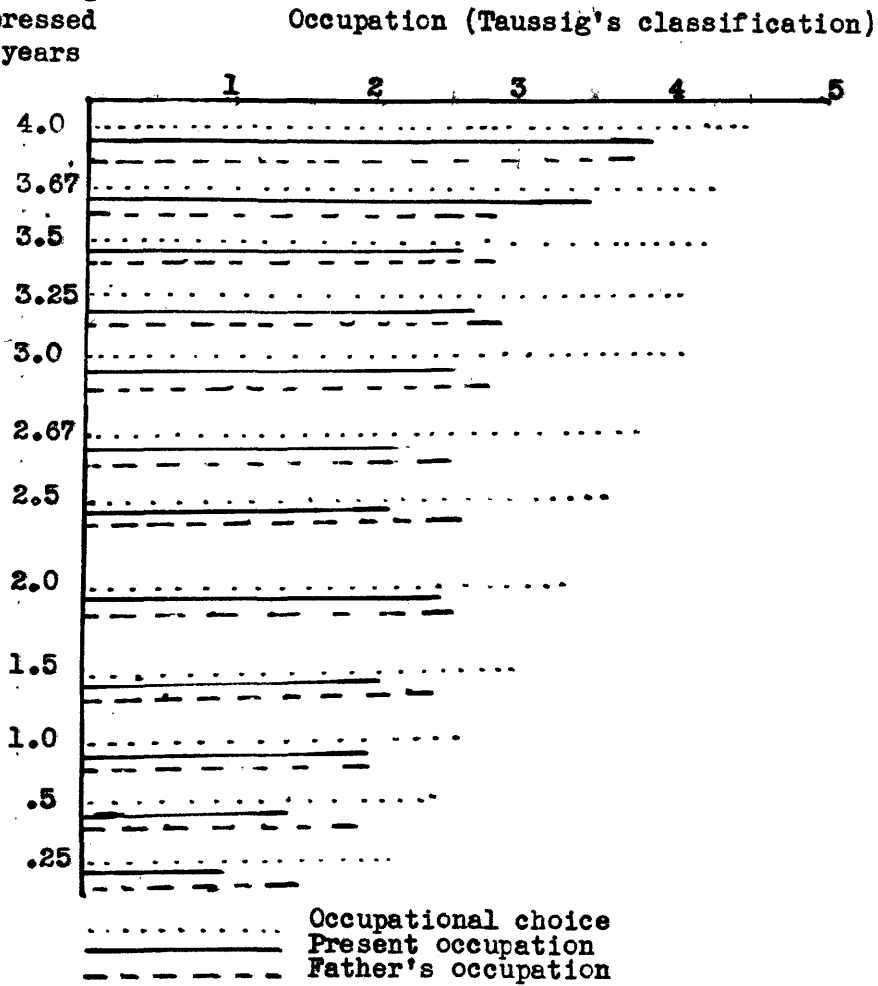


FIGURE 4

PRESENT OCCUPATIONS WITH REFERENCE TO VARIOUS  
LEVELS OF PERSISTENCE IN COLLEGE AS COMPARED  
WITH OCCUPATIONAL CHOICES, EXPRESSED BY HIGH  
SCHOOL GRADUATES, AND THE OCCUPATIONS OF  
THEIR FATHERS

## SUMMARY

Persistence in college as related to present occupation was considered in this chapter under three phases, the analysis of present occupation on the basis of persistence in college, the comparison of the present occupation of the students with the occupational choices they expressed in high school and the comparison of the occupations of offspring with the occupations of the fathers.

From the study of the data, these conclusions were drawn:

There is a direct relation between persistence in college and present occupation, the occupational ranks of those persisting in college for longer periods of time being higher than the occupational ranks of those persisting for shorter periods of time.

The result of the comparison of the averages of the ranks of present occupations and those of the occupational choices reveals that, at each level, the average of the occupational choices are higher than those of the present occupations.

The result of the comparison of the averages for the occupational ranks of the fathers and offspring shows that the occupational classifications of the occupations of the fathers are higher than those of the offspring.



**CHAPTER VI**

**PERSISTENCE IN COLLEGE AS**

**RELATED TO OTHER FACTORS**

## CHAPTER VI

### PERSISTENCE IN COLLEGE AS RELATED TO OTHER FACTORS

The purpose of this chapter is to consider two phases of college attendance which may influence the number of years of persistence of the students. The first is the relation between persistence and the location of the college, and the second is the relation between persistence in college and the continuous and discrete attendance of certain students.

The college students were divided into two groups with reference to the location of the colleges. In the first group were those students who attended colleges within their communities, and in the second were those students who attended colleges away from their communities. Explanation must be made of the expressions "within their communities" and "away from their communities." In this connection, "within their communities" implies the location of the college so that the students may return to their homes each evening. This condition obtained in the instance of the students from Alexandria who attended Louisiana College in Pineville, the Baton Rouge students whose dormitories were at some distance from the State University and the students in the communities near Lafayette who attended the Southwestern Louisiana Institute and who were able to return to their homes each evening. "Away from their communities" connotes distances great enough within the state or without it so that the students may not return to their homes each evening.

Illustration of this situation was found in the instance of the students from Lake Charles who attended the Southwestern Louisiana Institute and the Louisiana State University and were domiciled at those institutions.

**TABLE IX**  
**PERSISTENCE IN COLLEGE AS RELATED TO THE**  
**LOCATION OF THE COLLEGE**

Persistence in college	Students who attended colleges within their communities		Students who attended colleges away from their communities	
	Number	Per cent	Number	Per cent
4.0	264	41.0	38	35.6
3.67	6	1.2	2	2.2
3.5	16	2.4	4	4.4
3.25	28	4.3	6	5.9
3.0	54	8.3	7	7.8
2.67	9	1.4	2	2.2
2.5	20	3.1	2	2.2
2.0	129	20.0	33	30.7
1.5	12	1.9		
1.0	69	11.0		
.5	20	3.1		
.25	15	2.3		
<b>TOTAL:</b>	<b>644</b>	<b>100.0</b>	<b>90</b>	<b>100.0</b>
Mean years of persistence in college		<b>2.53</b>		<b>3.23</b>
Above mean years of persistence in college				
Below mean years of persistence in college	<b>390</b>	<b>59.2</b>	<b>38</b>	<b>42.2</b>
	<b>274</b>	<b>41.8</b>	<b>52</b>	<b>57.8</b>

Table IX presents the data concerning the students who attended colleges within their communities and the students who attended colleges away from their communities. The first column contains the twelve levels of persistence. The second and third columns give the numbers and percentages of the students who attended colleges within their communities. The fourth and fifth columns give the numbers and percentages of the students who attended colleges away from their communities.

It is seen that six hundred forty-four students attended colleges within their communities and ninety attended colleges away from their communities. For the former group, there are representatives at each of the levels of persistence, while for the latter there are no representatives below the two-year level of persistence. Of the former group, the greatest number of students at any persistence level is two hundred sixty-four, or 41.0 per cent, and it occurs at the four-year level, the highest persistence level, while for the latter group, the greatest number of students occurs at the two-year level, or the lowest for the group and it represents 35.7 per cent, or thirty-three students. The second largest number of students is one hundred twenty-nine, or 20.0 per cent of the former group, and it occurs at the two-year level, while in the latter group, the second largest number is thirty-two, or 35.6 per cent, and it occurs at the four-year level, the highest level of persistence.

For the students who attended colleges within their communities, the mean years of persistence was found to be 3.83, while for the

students who attended colleges away from their communities, the mean years of persistence was found to be 3.28, or .45 years greater. In the former group, it was found that at the persistence levels above the mean years, there were three hundred seventy students, or 58.8 per cent, while in the latter group, it was found that at the persistence levels above the mean years, there were thirty-eight students, or 42.2 per cent. Below the level at which the mean years of persistence occurred, it was found, for the first group, that there were two hundred seventy-four, or 41.8 per cent of the students, while for the second group, it was found that there were fifty-two students, or 37.2 per cent.

It must be concluded that the number of students who attended colleges located within their communities was greater than the number of those who attended colleges away from their communities, but the students in the latter group persisted in college longer than did those students in the former group.

#### PERSISTENCE IN COLLEGE AS RELATED TO THE CONTINUOUS AND DISCRETE ATTENDANCE OF STUDENTS

In this phase of the study, the attendance of the students being considered, was examined for those who matriculated during the years between 1930 and 1934 at the Southwestern Louisiana Institute at Lafayette. That college was designated because in it were found, during the period indicated, many of the situations that have been mentioned in connection with the educational institutions which the students attended. The situations are reviewed here. This institution is composed of two colleges, a college of arts and sciences and a college

of education, each granting Bachelor of Arts and Bachelor of Science degrees. A division of extension conducts courses by extension and by correspondence. At the time being considered in this study, a two-year teacher's course and a one-year commercial course were offered. Certificates were given at the completion of these courses declaring the qualification of the holders to teach in the public elementary schools of Louisiana or to serve as bookkeeper or as stenographer. The summer schools of 1930 and 1931 were composed of twelve weeks with two six-week terms. In the fall of 1932, a change was made and from that time on the summer school has consisted of one term of nine weeks. The possibilities, as shown in the catalogs and summer school bulletins for this institution, offered to the students being considered, in the matter of periods of matriculation, were the four-year college course, the two-year teacher's course, the one-year commercial course, courses by extension and correspondence, and the six, nine, and twelve-week terms of the summer schools.

Data concerning the attendance of the students included in this study who had matriculated at the Southwestern Louisiana Institute during the school sessions from 1930 to 1934 were assembled and arranged in Table I.

TABLE X

PERSISTENCE AT SOUTHWESTERN LOUISIANA INSTITUTE  
 SHOWING NUMBERS AND PERCENTAGES OF STUDENTS  
 WITH CONTINUOUS AND DISCRETE ATTENDANCE RECORDS

Persistence in college expressed in years	Continuous attendance		Discrete attendance	
	Number of cases	Per cent of cases	Number of cases	Per cent of cases
4.0	24	49	15	26
3.67	0	0	0	0
3.5	1	1	0	0
3.25	1	1	0	0
3.0	5	6	8	22
2.67	0	0	0	0
2.5	1	1	2	5
2.0	19	24	6	14
1.5	1	1	4	11
1.0	10	13	1	3
.5	1	1	3	8
.25	3	3	0	0
<b>TOTAL:</b>	<b>76</b>	<b>100</b>	<b>27</b>	<b>100</b>



Table I presents the data with reference to the attendance of the students being considered in this part of the study. The first column contains the twelve levels of persistence in college. Columns two and three give the number and percentage of the cases at the various persistence levels of those students whose attendance was continuous up to the level indicated within the years specified. Columns four and five give the number and percentage of those students at the various levels of persistence whose attendance was discrete within the years indicated in this study.

The number of students in continuous attendance is seventy-six while the number of those whose attendance was discrete is thirty-seven. The greatest number of students in continuous attendance is thirty-four, or 49 per cent, and it is found at the four-year level, the highest persistence level. For those students whose attendance was discrete the largest number is thirteen, or 35 per cent, and it occurs also at the highest persistence level. The second largest number of those whose attendance was continuous is nineteen, or 24 per cent, and it is found at the two-year level, while the second largest number of those whose attendance was discrete is eight, or 22 per cent, and it is located at the three-year level. The third largest group of those whose attendance was continuous is at the one-year level where the number is ten, or 13 per cent of the group. The third largest number of those whose attendance was discrete is six, or 16 per cent, and it occurs at the two-year level.

The number of students in the group having continuous attendance and in the group having discrete attendance is too small to warrant

generalizations. At two levels of persistence, there are no cases for the larger group, the group with continuous persistence, while at five levels of persistence, there are no cases for the group having discrete attendance. There is the possibility that the students in the group having continuous attendance who are at the lower levels may continue their college work to the point of achieving a degree. This possibility is open also to the students whose attendance was discrete who are found at the lower levels. The explanation for the thirteen cases found at the four-year level of persistence having discrete attendance, lies in the fact that it was possible within the four years specified for certain students to complete the teacher's course, enter employment, attend summer schools, complete extension and correspondence courses and receive a college degree representing four years of college work.

From this examination, it appears that of the students being considered, who matriculated at the Southwestern Louisiana Institute, the greater number belonged to the group having continuous attendance, while the lesser number belonged to the group having discrete attendance. Those whose attendance was continuous persisted for longer periods of time than did those whose attendance was discrete.

#### SUMMARY

The consideration of the relation between persistence in college and the location of the college and the continuous and discrete attendance of students has led to these conclusions:

The number of students who attended college located in their communities was greater than the number of those who attended colleges

away from their communities, but the students in the latter group persisted in college longer than did those students in the former group.

Of the students being studied, who matriculated at Southwestern Louisiana Institute, the greater number belonged to the group having continuous attendance, while the lesser number belonged to the group having discrete attendance.

Those whose attendance was continuous persisted for longer periods of time than did those whose attendance was discrete.

**PART III**

**SUMMARY AND CONCLUSIONS**

## **CHAPTER VII**

### **SUMMARY AND CONCLUSIONS**

## CHAPTER VII

### SUMMARY AND CONCLUSIONS

This study presents an analysis of the relationship between persistence in college and intelligence, economic background, present occupation, and other factors. Data concerning eleven hundred forty high school graduates of eighteen high schools in Louisiana in 1930 were secured and with the assistance of school officers and teachers facts concerning attendance at college and subsequent employment were obtained for seven hundred thirty-four students. The Otis Self-Administering Test of Mental Ability, Higher Examination, Form A and an Information Blank for High School Seniors were employed to collect the data concerning intelligence, economic background and occupational choices.

Summary. The analysis of the problem of persistence in college as related to intelligence, economic background and present occupation was made in four parts, namely, persistence in college as related to intelligence, persistence in college as related to economic background, persistence in college as related to present occupation and persistence in college as related to other factors. Each of these parts was studied in the light of two or more phases and the results are presented in the paragraphs that follow.

Persistence in college as related to intelligence. In the comparison of the graduates who attended college and those who did not, it

was found that the mean intelligence quotient of the former was 109.2, while that of the latter was 95 or 14.2 points lower. In the matter of high school marks, the average for the former group was 8.3, while that of the latter group was 1.8 or five-tenths points less. In the matter of intelligence and levels of persistence, it was found that the mean intelligence quotient of the students at the four-year, or highest persistence level, was 114.3 and that as the levels of persistence decreased, the corresponding mean intelligence quotients of the students diminished until at the lowest of the twelve levels of persistence, the one-fourth-year level, the mean intelligence quotient was 91.2, or 23.1 points lower. With respect to the expression of the intention of attending college, it was found the number of those expressing the intention of attending college was greater than the number of those expressing no intention and the mean years of attendance for the former group was 5.05 years while that for the latter was 1.73 or 1.32 less.

Persistence in college as related to economic background. As an index to the economic status of the students, an examination of the occupations of the fathers of students at the various levels of persistence revealed that the students who persisted in college for the greater periods of time were children of fathers the average rank of whose occupations approximated the semi-professional or second highest category in the classification of the occupations, while those students who persisted at the lower levels had fathers whose occupations ranked in the unskilled or lowest occupational category. In the matter of the education of the parents, it was found that those students who persisted in

college for the greatest period of time were the offspring of parents, the average of whose education was slightly above high school graduation, while the students who persisted for the least period of time in college were the offspring of parents, the average of whose education was slightly above the ability to read and write. With respect to the possession of telephones, electricity and insurance, it was seen that the students who persisted in college for the longest period of time came from homes, nine-tenths of which possessed these factors, while the students who persisted for the shortest period of time in college came from homes, four-tenths of which possessed these factors. In the comparison of the urban and rural groups of students on the basis of persistence in college with reference to the presence in their homes of telephones, electricity and insurance, it was evident that the urban group had greater representation in college and their homes possessed the greater proportion of these factors than did the rural group.

Persistence in college as related to present occupation. In the analysis of present occupation on the basis of persistence in college, it was found that the students who had persisted for the longest period of time were engaged in occupations, the average of the rank of which was 3.8, or two-tenths less, than the semi-professional category, while the students who had persisted in college for the shortest period of time were employed in occupations, the average rank of which was .8, or two-tenths less than the unskilled category. The comparison of present occupation with occupational choices showed that the occupational choices ranked higher than the present occupation of the students, at the highest



level of persistence, the average rank of the occupational choice being seven-tenths higher than that of the average rank of present occupation, while at the lowest persistence level the average occupational rank of the occupational choices was three-tenths higher than that of the present occupations. In comparison with the occupations of their offspring, the average occupational ranks of the fathers was slightly higher than that of their offspring except at the two highest levels of persistence where the averages are slightly less and at the one-year, one and one-half-year and two-year levels where they were identical.

Persistence in college as related to other factors. With reference to the location of the college, it appears that the greater number of students attended colleges located within their communities, while a lesser number attended colleges away from their communities but the latter group persisted for longer periods of time, as a group, than did the former. A study of continuous and discrete attendance at one college showed that the greater number of students belonged to the group having continuous attendance, while the lesser number belonged to the group having discrete attendance, those in the former group persisting for greater periods of time in college than those in the latter group.

Limitations of the study. Of the seventhousand thirty-six graduates of the high schools of Louisiana in 1930, eleven hundred forty were considered in this study and college attendance records were obtained for seven hundred thirty-four. The data concerning intelligence were secured through the use of a group intelligence test the results of which are not as reliable as individual intelligence tests.

The high school marks represent, in large measure, the opinions of teachers and are marked by variability. The information secured through the use of the information blank represents accuracy and completeness in so far as the students and teachers were willing and able to cooperate. The reliability of the information concerning the occupation of the students is measured by the knowledge, the veracity, and the integrity of the school officials and teachers, the students, and their employers. The very nature of the data subjects it to these limitations.

Conclusions. On the basis of the results secured through the analysis of the problem of persistence in college as related to intelligence, economic background, present occupation, and other factors, the following conclusions appear to be justified:

1. Persistence in college is related to intelligence, for,
  - a. The high school graduates who went to college had higher intelligence quotients and achieved higher school marks than did those graduates who did not attend college.
  - b. The students who persisted in college for four years had mean intelligence quotients 23.1 points higher than did those students who persisted for only one-fourth year.
  - c. A greater number of the students had expressed the intention of attending college than had not expressed the intention, and for the former group the mean years of persistence in college was 1.32 years greater than that of the latter.
2. Persistence in college is related to economic background, for,
  - a. Students who persisted in college for the greatest period

of time were the offspring of fathers the average of whose occupational rank was that of the semi-professional or second highest occupational category, while the students who persisted for the least period of time were the offspring of fathers, the average of whose occupational rank was the unskilled, or the lowest category.

b. The students who persisted in college for the greatest period of time were the offspring of parents the average of whose education was slightly above high school graduation, while the students who persisted in college for the least period of time were the offspring of parents, the average of whose education was slightly above the ability to read and write.

c. The students who persisted in college for the longest period of time came from homes, nine-tenths of which possessed telephones, electricity and insurance, while the students who persisted in college for the shortest period of time came from homes, four-tenths of which possessed them.

3. Persistence in college is related to present occupation, for,

a. At the highest level of persistence in college the average rank of present occupations approximates the semi-professional category, while at the lowest level of persistence, the average occupational rank approximates the unskilled category.

b. The average of the ranks of occupational choices is higher than that of the present occupations.

- c. The average of the occupational ranks of the fathers is slightly above that of their offspring.
4. Persistence in college shows relation to other factors, for,
- a. A greater number of students attended colleges located within their communities than the number of those who attended colleges away from their communities but the latter students persisted in college for longer periods of time than the former students.
  - b. At one college, the greater number of students were in continuous attendance and persisted for longer periods of time than did the smaller number of students whose attendance was discrete and who persisted for shorter periods of time.

Questions arising out of this study. The study of the problem of persistence in college as related to the intelligence, economic background, present occupation and other factors provokes the following questions that have bearing upon the relationships being considered:

1. Are the secondary schools aiding their graduates to appraise their mental and physical equipment in terms of the need for college training in achieving their purposes in life?

Is there any planned or systematic assistance available to students in the secondary schools for analyzing their aims in terms of the preparation required for fulfilling them which the college experience would provide?

2. Are the colleges attracting those students who can profit most greatly from the academic training offered there?

Why are some of the ablest high school students turning away from the colleges and some of the poorest entering them?

3. Are the colleges admitting these students best equipped to profit by the offerings of the institution?

What account can be made of the high incidence of withdrawals from college?

Is withdrawal from college synonymous with failure?

Does the completion of the college course assure success in achieving purposes?

4. What are the most important factors that are related to persistence in college?

Can enthusiasm, zeal, ambition, and determination compensate for the inadequacies in the material factors that are associated with persistence in college?

These are some of the perplexing problems that arise in connection with the study of persistence in college as related to intelligence, economic background and present occupation.

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**APPENDIX A**

**MAP OF LOUISIANA SHOWING LOCATION  
OF HIGH SCHOOLS**



MAP OF LOUISIANA  
Showing Location of High Schools

○ Large High Schools

1. Alexandria
2. Baton Rouge
3. Lafayette
4. Lake Charles
5. Natchitoches
6. Shreveport

• Small High Schools

1. Abbeville
2. Bastrop
3. Broussard
4. Bunkie
5. Homer
6. Jeanerette
7. Jennings
8. Lecompte
9. New Iberia
10. Scott
11. St. Martinville
12. Welsh



**APPENDIX B**

**MATERIALS USED IN THE COLLECTION OF DATA**

- 1. Information Blanks for High School Seniors**
- 2. Otis Self-Administering Test of Mental Ability,  
Higher Examination, Form A**
- 3. Directions to Teachers**

**APPENDIX B**

**MATERIALS USED IN THE COLLECTION OF DATA**

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INFORMATION BLANK FOR HIGH SCHOOL SENIORS

149

Name

Do you intend to attend college?

At what institution?

What course will you take?

What will be your major subject?

What high school subject do you like most?

What high school subject do you like least?

How many times have you failed in high school?

What is your vocational choice?

What is your father's occupation?

What education has your father?

What education has your mother?

Have you a telephone in your home?

Have you electricity in your home?

Has your father life or property insurance?

# OTIS SELF-ADMINISTERING TESTS OF MENTAL ABILITY

By ARTHUR S. OTIS

Formerly Development Specialist with Advisory Board, General Staff, United States War Department

## HIGHER EXAMINATION: FORM A

150

20

For High Schools and Colleges

Score.....

*Read this page. Do what it tells you to do.*

*Do not open this paper, or turn it over, until you are told to do so. Fill these blanks, giving your name, age, birthday, etc. Write plainly.*

Name.....Age last birthday.....years  
First name, initial, and last name

Birthday.....Class.....Date.....192...  
Month Day

School or College.....City.....

This is a test to see how well you can think. It contains questions of different kinds. Here is a sample question already answered correctly. Notice how the question is answered :

Which one of the five words below tells what an apple is?

1 flower, 2 tree, 3 vegetable, 4 fruit, 5 animal.....( 4 )

The right answer, of course, is "fruit"; so the word "fruit" is underlined. And the word "fruit" is No. 4; so a figure 4 is placed in the parentheses at the end of the dotted line. This is the way you are to answer the questions.

Try this sample question yourself. Do not write the answer; just draw a line under it and then put its number in the parentheses :

Which one of the five words below means the opposite of north?

1 pole, 2 equator, 3 south, 4 east, 5 west.....( )

The answer, of course, is "south"; so you should have drawn a line under the word "south" and put a figure 3 in the parentheses. Try this one :

A foot is to a man and a paw is to a cat the same as a hoof is to a — what?

1 dog, 2 horse, 3 shoe, 4 blacksmith, 5 saddle.....( )

The answer, of course, is "horse"; so you should have drawn a line under the word "horse" and put a figure 2 in the parentheses. Try this one :

At four cents each, how many cents will 6 pencils cost?.....( )

The answer, of course, is 24, and there is nothing to underline; so just put the 24 in the parentheses. If the answer to any question is a number or a letter, put the number or letter in the parentheses without underlining anything. Make all letters like printed capitals.

The test contains 75 questions. You are not expected to be able to answer all of them, but do the best you can. You will be allowed half an hour after the examiner tells you to begin. Try to get as many right as possible. Be careful not to go so fast that you make mistakes. Do not spend too much time on any one question. No questions about the test will be answered by the examiner after the test begins. Lay your pencil down.

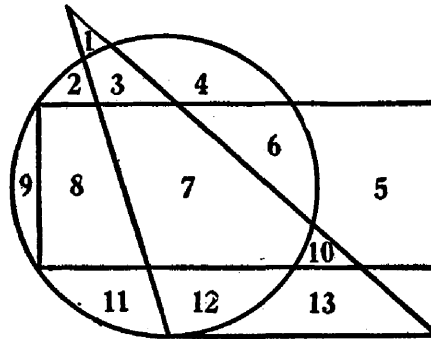
*Do not turn this page until you are told to begin.*

## EXAMINATION BEGINS HERE:

1. The opposite of hate is (?)  
1 enemy, 2 tear, 3 love, 4 friend, 5 joy..... ( 3 )
2. If 3 pencils cost 5 cents, how many pencils can be bought for 50 cents?..... ( 30 )
3. A bird does not always have (?)  
1 wings, 2 eyes, 3 feet, 4 a nest, 5 a bill..... ( 4 )
4. The opposite of honor is (?)  
1 glory, 2 disgrace, 3 cowardice, 4 fear, 5 defeat..... ( 2 )
5. A fox most resembles a (?)  
1 wolf, 2 goat, 3 pig, 4 tiger, 5 cat..... ( 1 )
6. Quiet is related to sound in the same way that darkness is related to (?)  
1 a cellar, 2 sunlight, 3 noise, 4 stillness, 5 loud..... ( 2 )
7. A party consisted of a man and his wife, his two sons and their wives, and four children in each son's family. How many were there in the party?..... ( 14 )
8. A tree always has (?)  
1 leaves, 2 fruit, 3 buds, 4 roots, 5 a shadow..... ( 4 )
9. The opposite of economical is (?)  
1 cheap, 2 stingy, 3 extravagant, 4 value, 5 rich..... ( 3 )
10. Silver is more costly than iron because it is (?)  
1 heavier, 2 scarcer, 3 whiter, 4 harder, 5 prettier..... ( 2 )
11. Which one of the six statements below tells the meaning of the following proverb? "The early bird catches the worm."..... ( 5 )
  1. Don't do the impossible.
  2. Weeping is bad for the eyes.
  3. Don't worry over troubles before they come.
  4. Early birds like worms best.
  5. Prompt persons often secure advantages over tardy ones.
  6. It is foolish to fret about things we can't help.
12. Which statement above tells the meaning of this proverb? "Don't cry over spilt milk.".... ( 6 )
13. Which statement above explains this proverb? "Don't cross a bridge till you get to it.".... ( 3 )
14. An electric light is related to a candle as an automobile is to (?)  
1 a carriage, 2 electricity, 3 a tire, 4 speed, 5 glow..... ( 1 )
15. If a boy can run at the rate of 6 feet in  $\frac{1}{4}$  of a second, how many feet can he run in 10 seconds? ( 24 )
16. A meal always involves (?)  
1 a table, 2 dishes, 3 hunger, 4 food, 5 water..... ( 4 )
17. Of the five words below, four are alike in a certain way. Which is the one not like these four?  
1 bend, 2 shave, 3 chop, 4 whittle, 5 shear..... ( 1 )
18. The opposite of never is (?)  
1 often, 2 sometimes, 3 occasionally, 4 always, 5 frequently..... ( 4 )
19. A clock is related to time as a thermometer is to (?)  
1 a watch, 2 warm, 3 a bulb, 4 mercury, 5 temperature..... ( 5 )
20. Which word makes the truest sentence? Men are (?) shorter than their wives.  
1 always, 2 usually, 3 much, 4 rarely, 5 never..... ( 2 )
21. One number is wrong in the following series. What should that number be?  
1 4 2 5 3 6 4 7 5 9 6 9..... ( 8 )
22. If the first two statements following are true, the third is (?) All members of this club are Republicans. Smith is not a Republican. Smith is a member of this club.  
1 true, 2 false, 3 not certain..... ( 2 )
23. A contest always has (?)  
1 an umpire, 2 opponents, 3 spectators, 4 applause, 5 victory..... ( 2 )
24. Which number in this series appears a second time nearest the beginning?  
6 4 5 3 7 8 0 9 5 9 8 8 6 5 4 7 3 0 8 9 1..... ( 5 )
25. The moon is related to the earth as the earth is to (?)  
1 Mars, 2 the sun, 3 clouds, 4 stars, 5 the universe..... ( 2 )
26. Which word makes the truest sentence? Fathers are (?) wiser than their sons.  
1 always, 2 usually, 3 much, 4 rarely, 5 never..... ( 2 )

27. The opposite of awkward is (?)  
1 strong, 2 pretty, 3 short, 4 graceful, 5 swift. . . . . (4)
28. A mother is always (?) than her daughter.  
1 wiser, 2 taller, 3 stouter, 4 older, 5 more wrinkled. . . . . (4)
29. Which one of the six statements below tells the meaning of the following proverb? "The burnt child dreads the fire." . . . . . (2)
1. Frivolity flourishes when authority is absent.
  2. Unhappy experiences teach us to be careful.
  3. A thing must be tried before we know its value.
  4. A meal is judged by the dessert.
  5. Small animals never play in the presence of large ones.
  6. Children suffer more from heat than grown people.
30. Which statement above explains this proverb? "When the cat is away, the mice will play." (1)
31. Which statement above explains this proverb? "The proof of the pudding is in the eating." (3)
32. If the settlement of a difference is made by mutual concession, it is called a (?)  
1 promise, 2 compromise, 3 injunction, 4 coercion, 5 restoration. . . . . (2)
33. What is related to disease as carefulness is to accident?  
1 doctor, 2 surgery, 3 medicine, 4 hospital, 5 sanitation. . . . . (5)
34. Of the five things below, four are alike in a certain way. Which is the one not like these four?  
1 smuggle, 2 steal, 3 bribe, 4 cheat, 5 sell. . . . . (5)
35. If 10 boxes full of apples weigh 400 pounds, and each box when empty weighs 4 pounds, how many pounds do all the apples weigh? . . . . . (360)
36. The opposite of hope is (?)  
1 faith, 2 misery, 3 sorrow, 4 despair, 5 hate. . . . . (4)
37. If all the odd-numbered letters in the alphabet were crossed out, what would be the tenth letter not crossed out? Print it. *Do not mark the alphabet.*  
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z. . . . . (T)
38. What letter in the word SUPERFLUOUS is the same number in the word (counting from the beginning) as it is in the alphabet? Print it. . . . . (F)
39. What people say about a person constitutes his (?)  
1 character, 2 gossip, 3 reputation, 4 disposition, 5 personality. . . . . (3)
40. If  $2\frac{1}{2}$  yards of cloth cost 30 cents, how many cents will 10 yards cost? . . . . . (120)
41. If the words below were arranged to make a good sentence, with what letter would the second word of the sentence begin? Make it like a printed capital.  
same means big large the as. . . . . (M)
42. If the first two statements following are true, the third is (?) George is older than Frank. James is older than George. Frank is younger than James.  
1 true, 2 false, 3 not certain. . . . . (1)
43. Suppose the first and second letters in the word CONSTITUTIONAL were interchanged, also the third and fourth letters, the fifth and sixth, etc. Print the letter that would then be the twelfth letter counting to the right. . . . . ( )
44. One number is wrong in the following series. What should that number be?  
0 1 3 6 10 15 21 28 34. . . . . (36)
45. If  $4\frac{1}{2}$  yards of cloth cost 90 cents, how many cents will  $2\frac{1}{2}$  yards cost? . . . . . (50)
46. A man's influence in a community should depend upon his (?)  
1 wealth, 2 dignity, 3 wisdom, 4 ambition, 5 political power. . . . . (3)
47. What is related to few as ordinary is to exceptional?  
1 none, 2 some, 3 many, 4 less, 5 more. . . . . (3)
48. The opposite of treacherous is (?)  
1 friendly, 2 brave, 3 wise, 4 cowardly, 5 loyal. . . . . (5)
49. Which one of the five words below is most unlike the other four?  
1 good, 2 large, 3 red, 4 walk, 5 thick. . . . . (4)
50. If the first two statements following are true, the third is (?) Some of Brown's friends are Baptists. Some of Brown's friends are dentists. Some of Brown's friends are Baptist dentists.  
1 true, 2 false, 3 not certain. . . . . (3)
51. How many of the following words can be made from the letters in the word LARGEST, using any letter any number of times?  
great, stagger, grasses, trestle, struggle, rattle, garage, strangle. . . . . (6)
52. The statement that the moon is made of green cheese is (?)  
1 absurd, 2 misleading, 3 improbable, 4 unfair, 5 wicked. . . . . (1)

53. Of the five things following, four are alike in a certain way. Which is the one not like these four?  
 1 tar, 2 snow, 3 soot, 4 ebony, 5 coal..... (2)
54. What is related to a cube in the same way in which a circle is related to a square?  
 1 circumference, 2 sphere, 3 corners, 4 solid, 5 thickness..... (2)
55. If the following words were seen on a wall by looking in a mirror on an opposite wall, which word would appear exactly the same as if seen directly?  
 1 OHIO, 2 SAW, 3 NOON, 4 MOTOR, 5 OTTO..... (5)
56. If a strip of cloth 24 inches long will shrink to 22 inches when washed, how many inches long will a 36-inch strip be after shrinking?..... (3)
57. Which of the following is a trait of character?  
 1 personality, 2 esteem, 3 love, 4 generosity, 5 health..... (4)
58. Find the two letters in the word DOING which have just as many letters between them in the word as in the alphabet. Print the one of these letters that comes first in the alphabet.  
 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z..... (D)
59. Revolution is related to evolution as flying is to (?)  
 1 birds, 2 whirling, 3 walking, 4 wings, 5 standing..... (3)
60. One number is wrong in the following series. What should that number be?  
 1 3 9 27 81 108..... (243)
61. If Frank can ride a bicycle 30 feet while George runs 20 feet, how many feet can Frank ride while George runs 30 feet?..... (45)
62. Count each N in this series that is followed by an O next to it if the O is not followed by a T next to it. Tell how many N's you count.  
 N O N T Q M N O T M O N O O N Q M N N O Q N O T O N A M O N O M..... (4)
63. A man who is averse to change and progress is said to be (?)  
 1 democratic, 2 radical, 3 conservative, 4 anarchistic, 5 liberal..... (3)
64. Print the letter which is the fourth letter to the left of the letter which is midway between O and S in the alphabet..... (M)
65. What number is in the space which is in the rectangle and in the triangle but not in the circle? (18)



66. What number is in the same geometrical figure or figures as the number 8?..... (6)
67. How many spaces are there that are in any two but only two geometrical figures?..... ( )
68. A surface is related to a line as a line is to (?)  
 1 solid, 2 plane, 3 curve, 4 point, 5 string..... (4)
69. If the first two statements following are true, the third is (?) One cannot become a good violinist without much practice. Charles practices much on the violin. Charles will become a good violinist.  
 1 true, 2 false, 3 not certain..... (3)
70. If the words below were arranged to make the best sentence, with what letter would the last word of the sentence end? Print the letter as a capital.  
 sincerity traits courtesy character of desirable and are..... (C)
71. A man who is influenced in making a decision by preconceived opinions is said to be (?)  
 1 influential, 2 prejudiced, 3 hypocritical, 4 decisive, 5 impartial..... (2)
72. A hotel serves a mixture of 2 parts cream and 3 parts milk. How many pints of cream will it take to make 15 pints of the mixture?..... (6)
73. What is related to blood as physics is to motion?  
 1 temperature, 2 veins, 3 body, 4 physiology, 5 geography..... (4)
74. A statement the meaning of which is not definite is said to be (?)  
 1 erroneous, 2 doubtful, 3 ambiguous, 4 distorted, 5 hypothetical..... (3)
75. If a wire 20 inches long is to be cut so that one piece is  $\frac{2}{3}$  as long as the other piece, how many inches long must the shorter piece be?..... (5)

Lafayette, Louisiana  
November 24, 1929

**Directions For Teachers:**

Following up our recent conference, relative to the administration of the mental tests and filling in the Information Blanks for High School Seniors, let us keep in mind the points we agreed upon.

1. Mental Tests--Otis Self-Administering Tests of Mental Ability, Higher Examination, Form A.
  - a. The tests should be in your principal's office by now. Kindly read carefully the Manual of Directions and follow it carefully even in the matter of taking the test before you administer it.
  - b. See that all your seniors are present when you administer it and that conditions are normal.
2. Purpose of Study.
  - a. Explain to your class the purpose and plan of this study and make it clear that the value of it lies in complete and accurate information. Assure the students that all information will be held in complete confidence and that their names are being given simply that later information may be added properly.
3. Information Blank for High School Seniors.
  - a. These blanks are brief and concise as you suggested. Read them with the students, explain any parts and answer any questions concerning them. If the students request added time to secure further information, allow it.
  - b. See that all blanks are complete and examine them to clear up any ambiguities as to occupation and education of parents. Definite information is desired concerning the occupations. Such answers as "In a store" or "On the railroad" must be classified and the exact nature of the employment given. The number of years of education the parents have had at any of the levels should be made clear--as "completed eighth grade" or "completed one year of work in college."
4. As soon as the tests and blanks are complete, send them to me by express collect, please.

As I suggested, I shall be happy to make any of this information available to you in your work. Please keep in close touch with these students as we wish to follow them through the years into college and into employment.

I had hoped to get to the Teachers Association meeting for a further conference with you, but my plans were changed.



Have you ever before experienced anything like the recent freeze?  
My heartiest good wishes to you.

Gratefully,

Grace Agate

**APPENDIX C**

**MATERIALS USED IN THE COMPILATION OF DATA**

- 1. Photostatic Copy of Work Sheets**
- 2. Photostatic Copy of Master Sheet**



APPENDIX D

MATERIALS USED IN THE CLASSIFICATION OF DATA

1. Taussig's Classification of Occupations
2. Count's Modification of Taussig's Classification

### TAUSSIG'S FIVE OCCUPATIONAL GROUPS

We may enumerate, for simplicity and convenience of exposition, five such groups. They are not distinguished by sharp demarcation, for they shade one into another by continuous gradations; but they are distinguished sufficiently to bring into relief some important questions as to the relations between social classes and the fundamental causes acting on distribution and on values.

(1) In the lowest group belong the day laborers, so called: the diggers and carriers who have nothing to offer but their bodily strength. No doubt, among these, there are some gradations. The very capacity and willingness to labor continuously, even at the simplest tasks, through, nine, ten, eleven hours a day, are not possessed by all men, still less by all races, and mark something beyond the quite unskilled grade of common labor. But labor of this sort is common enough. Almost any adult is able to do the work. For this group, even in the most advanced countries, education is rarely carried beyond the minimum which the law requires. Children are set to work at the earliest age at which they can earn something. The maximum wages of any individual are earned as soon as he is full grown, and become less rather than greater as middle age is reached.

In the same group belong those factory employees whose work is of the simplest sort. In every factory there is a certain amount of "heavy work" to be done, for which the common laborer is needed. In agriculture, there is always a sharp demand for such labor at harvest time, and some demand for it throughout the year; though the planning and direction of farm work calls for much more than simple muscular effort.

(2) In the next group belong those who, while not needing specialized skill, yet bear some responsibility, and must have some alertness of mind. Such, for example, are motormen on the street railways. Most miners belong here, certainly in England and in Germany. In the United States, there has indeed been a tendency (except where machinery is under ground) to put coal mining into the hands of unskilled workers. The development of machinery and of large-scale establishments has created a demand for an immense number of factory workers whose tasks are comparatively simple, and often are desperately monotonous, but who yet must have some intelligence in watching and applying machinery. Wages in this group are commonly paid by the week, not by the day; a circumstance marking a greater continuity of employment which in itself constitutes a considerable advance over the situation of the first group.

(3) In the third group belong the aristocracy of the manual laboring class: the skilled workmen. Such are carpenters, bricklayers, plumbers, machinists; the whole range of occupations where there is need

for a sure eye, familiarity with tools, a deft and trained hand. Though machine processes have displaced in large degree the handicrafts, the workman skilled at a trade is still in many directions indispensable. Further, the development of machinery has itself called for a great class of workmen capable of making, repairing, and adapting machines. Specialized skill at a particular trade may be less certain to command as high a reward as in former days, because so largely threatened by competition from the machines; but general mechanical ability that trade unions are strongest. Some accumulation of property is possible, by deposit in the savings banks or by ownership of a dwelling. Some pride in the occupation is developed, and a strong spirit of independence. Education, too, is carried further than in the lower classes. The children are usually put through the entire curriculum of the elementary (grammar) school, and are prepared by apprenticeship or otherwise for a particular trade.

(4) Next comes the group that approaches the well-to-do; the lower middle class, which avoids rough and dirty work, and aims at some sort of clerical or semi-intellectual occupation. Here are clerks, bookkeepers, salesmen, small tradesmen, railway conductors, foremen, superintendents, teachers of the lower grades. Education in this group is carried further; for parents are more ready and better able to support children through a long period. The secondary school (high school or academy) is usually entered, and very often attended through its entire course. Marriage takes place at a somewhat later age; and some endeavor at saving or accumulation is almost always made. There is commonly a feeling of contempt for the manual laborers of all sorts, whether skilled or unskilled, and a demarcation of social feeling that does not correspond to differences in wages; for the rate of pay in this fourth class is, in modern communities, often little different from that in the third class.

(5) Finally, we reach the class of the well-to-do; those who regard themselves as the highest class, and certainly are the most favored class. Here are the professions, so called--lawyers, physicians, clergymen; teachers of the higher grades; salaried officials, public and private, in positions of responsibility and power; not least, the class of business men and managers of industry, who form in democratic communities the backbone of the whole group. The associations are with property and accumulation, and the common aim is not merely to procure a suitable support, but to save money or to make money. Education is carried to the highest level, commonly through the secondary school, often through the college or university. Earning power does not begin early. Not only is there a long period of training and education, but an additional stage of slow start and slender beginnings; while an increase of earning power through life, or at least through middle age, is confidently expected. Marriage is delayed until late,--often too late for full happiness. The wives are largely ornamental; they are not expected to do household work, or even to undertake the full care of their children, but are given to the aid of servants.

The first three groups, including the manual laborers of all kinds, constitute a class by themselves, not only because the gradations of wages are continuous, but because their members have the same point of view and the same prejudices. They expect usually to live on their wages, not looking to the accumulation of property or to an income derived from property. There is a common sense of dependence on manual labor, and a common sense of separation from the well-to-do and possessing classes. The last two groups have similar feelings of solidarity. Even though there are great variations in possessions and income among them, they all have the habits and hopes and prejudices of the well-to-do. They share a feeling that manual labor is beneath them, and their garb indicates their freedom from it,—no jumpers or overalls. Their hope is for accumulation and investment, and their ambition is primarily for swinging themselves into the position of the leisure class. Business—that is the management and direction of industry, and work that is close to such management—is the core of their doings. We may thus divide the workers into two great classes of the soft handed and the hard handed. Those who do not labor at all—the owners of property yielding income,—belong in the strict economic sense in a group by themselves: their income is not wages of any sort, but interest or rent or monopoly gain. But in a larger sense, they are in the same class as the upper groups of the wage earners, and especially with the highest and most favored group, sharing the same traditions, and, not least, intermarrying with the members of that group.

Frank W. Taussig, Principles of Economics (3rd edition, revised, New York: Macmillan Company, 1927) pp. 134-136.

COHEN'S MODIFICATION OF  
TAUSSIG'S CLASSIFICATION OF THE OCCUPATIONS

The ideal classification would be Taussig's famous classification into the five non-competing groups, viz., professional, semi-professional, skilled, semi-skilled, and unskilled occupations. And at the outset of the investigation this classification was chosen, but as the work proceeded it was abandoned. The reasons for this were several. As already indicated this classification is ideal, but it was found exceedingly difficult to use. The lines between the groups are not clearly defined in industry, to say the least. The division between the skilled and the unskilled is certainly no longer altogether clear. However, with relatively complete information for each case, this classification could be attempted with some measure of success; but with the relatively meager information obtained in this study, it was found unworkable without resorting to many arbitrary decisions. It was therefore decided to abandon the attempt at the ideal and adopt a classification that would not give the impression of greater accuracy than the facts would warrant.

The classification finally adopted takes the census classification as a basis, but goes considerably further by breaking up the more complex groups and recognizing certain other groups running directly across the great occupational divisions of the census. The aim is to get classes of reasonable homogeneity from the standpoint of social status, position in the economic order, and intellectual outlook. The result is not altogether satisfactory, and it is far from the ideal, but facts to be presented later show the classification to possess some merit. The groups recognized are as follows:

I. Proprietors.----Bankers, brokers, druggists, hotel-owners, landlords, laundry-owners, lumbermen, manufacturers, merchants, mine-owners, publishers, shopkeepers, undertakers, etc.

II. Professional service.----Actors, architects, artists, authors, cartoonists, clergymen, dentists, engineers (civil, chemical, electrical, mechanical, mining), journalists, lawyers, librarians, musicians, pharmacists, photographers, physical directors, physicians, social workers, surgeons, teachers, etc.

III. Managerial service.----Agents (express, railroad, steamship, telegraph), contractors, foremen, managers, officials and inspectors (private), officials and inspectors (public), superintendents, etc.

IV. Commercial service.----Agents (real estate and insurance), buyers, clerks in stores, commercial travelers, salesmen, etc.



V. Clerical service.----Accountants, bookkeepers, canvassers, cashiers, clerks (except in stores), collectors, etc.

VI. Agricultural service.----Dairymen, farmers, fruit-growers, gardeners, nurserymen, ranchmen, stockraisers, etc.

VII. Artisan-proprietors.----All artisans who own the shops in which they work, including bakers, barbers, blacksmiths, cabinet-makers, cleaners and dyers, cobblers, draftsmen, electricians, machinists, milliners, plumbers, printers, tailors, tanners, etc.

VIII. Building and related trades.----Cabinet-makers, carpenters, electricians, glaziers, lathers, masons, plasterers, plumbers, sheet-metal workers, structural iron workers, etc.

IX. Machine and related trades.----Anglemiths, blacksmiths, coppermiths, designers, draftsmen, engineers (stationary), firemen (except locomotive and fire department), forgers, founders, machinists, mechanics, millwrights, molders, pattern-makers, tinmiths, tool-makers, etc.

X. Printing trades.----bookbinders, compositors, electrotypers, engravers, linotypers, pressmen, printers, typesetters, etc.

XI. Miscellaneous trades in manufacturing and mechanical industries.----Bakers, bottlers, brewers, cigar-makers, cobblers, coopers, corset-cutters, cutlers, dyers, glass-blowers, grinders, meat-cutters, milliners, platers, shoe-cutters, tailors, tanners, weavers, etc., and machine operatives.

XII. Transportation service.----Baggage-men, brakemen, chauffeurs, conductors, draymen, engineers (locomotive and marine), firemen (locomotive and marine), longshoremen, mail carriers, mariners, motormen, sailors, switchmen, yardmen, etc.

XIII. Public service.----Detectives, firemen (fire department), guards, marines, marshals, policemen, sailors, soldiers, watchmen, etc.

XIV. Personal service.----Barbers, chefs, cooks, doorkeepers, janitors, launderers, porters, sextons, waiters, etc.

XV. Miners, lumber-workers, and fishermen.

XVI. Common labor.

XVII. Occupation unknown.

## BIOGRAPHY

Grace Bordelon Agate received her early education at Bordelonville, the family settlement on Bayou Des Claizes in Avoyelles Parish of Louisiana. Her mother was Emily Kilpatrick Branch and her father was Ferdinand Marcelin Bordelon. Among her first instructors were her parents, a tutress and the teacher of the one-room school of the community.

The family moved to Bunkie in her tenth year, where Grace Bordelon Agate completed her elementary education. She graduated from the Bunkie High School as valedictorian in May, 1911. On December 30, 1912, she completed the two-year course at the Louisiana State Normal College, with the honor of being designated as the Faculty Representative of the class. She received the baccalaureate degree from the University of Wisconsin in 1919 with honors and the Master's degree from the Louisiana State University in 1926. The subject of the thesis for the baccalaureate degree was The Influence of Cooper Upon Balzac, and that of the thesis for the Master's degree was The Relation Between the Economic Status of the Home and the Intelligence of Its Children.

For twenty-five years, Grace Bordelon Agate has taught in the schools of Louisiana. In 1913, she was principal of the elementary school at Iivonia. She was a teacher at the Louisiana State Normal College from 1913 to 1921. In 1920, she conducted the Teacher's Institute for Beauregard Parish. On August 10, 1921, she married Ralph Holden Agate, member of the faculty and business manager of Southwestern Louisiana Institute from the earliest years of the founding of the school.

She taught English and Latin in the Lafayette High School in 1921 and was a supervisor in the training of teachers at Southwestern Louisiana Institute from 1922 to 1936. During the summer of 1927, she taught at the Louisiana State University and served as the director of the Louisiana State University Book Circle for the session 1939-1940.

As a member and officer, Grace Bordelon Agate has served in many organizations. She was president of the Louisiana Division of the American Association of University Women; state president of Delta Kappa Gamma; member and officer in the Business and Professional Women's Club; Worthy Grand of the Order of the Eastern Star, president of the Louisiana Federation of Women's Clubs; first state vice-regent of the Daughters of the American Revolution; state representative to the White House Conference on Child Welfare under President Hoover; and now holds the office of first vice-president of the national organization of Delta Kappa Gamma.

Articles, stories, and poems by Grace Bordelon Agate have been published in The Instructor, The Grade Teacher, Insurance, Louisiana Schools, The Delta Kappa Gamma Bulletin, The New Orleans Times-Picayune, The National Parent Teacher, The Louisiana Parent Teacher, The Daughters of the American Revolution Magazine, The Louisiana Conservation Review, The American Scene, compilation of American short stories by Kenneth Houston, Calleen Press, New York, 1936, and The White Heron, an anthology of Louisiana poems, the Shreveport Journal Press, 1937. She is listed in Who's Who Among American Women.

EXAMINATION AND THESIS REPORT

Candidate: **Mrs. Grace B. Agate**

Major Field: **Education**

Title of Thesis: **Persistence in College as Related to Intelligence  
Economic Background and Present Occupation**

Approved:

*E. B. Robert*  
Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

*J. M. Cracher*

*Amos P. Pritch*

*J. O. Pethers*

*Thomas L. Garrett*

Date of Examination:

*May 10, 1941*