

# THE INTELLIGENCE OF HIGH SCHOOL SENIORS

AS REVEALED BY

A STATE-WIDE MENTAL SURVEY OF  
INDIANA HIGH SCHOOLS

BY

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## PREFACE

AMONG the contributions that the humanistic sciences have made to twentieth century civilization the method and technique of the survey stand preëminent. By survey is meant the measurement of group traits — physical, social, economic, psychological — the quantitative expression of the amounts of these traits found among the members of any group, and the distribution of such traits among members of the group. The survey has been used in the study of many varieties of group life — schools, social communities (urban and rural), industrial and mercantile establishments, and such particular classes of individuals as moral delinquents, for example, and the feebleminded.

As a result of these surveys much light has been thrown upon the physical, social, economic, and psychological status of groups in which society is greatly interested. We have discovered the true conditions existing in a number of fields and have adopted intelligent means of improving them, such as suitable housing of the poor, sane and curative treatment of criminals, and the classification of school children and college students into homogeneous groups for special educational treatment.

In all these social reforms psychological tests have played a very large and ever increasing part. Though only a few years old, they have been so serviceable in the improvement of various classes and conditions of mankind that when the officials in charge of the education of the

youth of the commonwealth of Indiana wished to discover the intellectual standing of the high school students of the state with a view to providing better means for the conservation and development of individual capacities and talents, they chose the psychological test as their most efficient tool.

The chief purpose of the book is to present in as clear and concise a manner as possible the facts obtained from a rather extensive study of the intelligence of high school seniors and to point out the significance that these facts have, not merely for educators, social workers, and business men, but for all persons interested in the conservation and cultivation of the human resources of the state.

In presenting these facts we have tried to devise a method that would be not merely adequate and reliable for our purpose, but clear and intelligible to laymen, and adapted for use in similar surveys. We have tried to show by an actual example how *extensive* mental surveys may be conducted and to illustrate a method of handling and presenting the results, which may be helpful to those contemplating similar surveys of the human resources of a community or school.

The results of the survey have proved of more than local significance.

1. They are of interest to educators of all communities, who, believing in individualized instruction, desire to inaugurate a *régime* under which they may seek out the peculiar needs and capacities of each pupil and adapt education thereto. The book is, therefore, well adapted for use in teachers' study clubs and for classes in mental measurements.

2. They will interest social workers who see that the social welfare of the individual and the state is closely wrapped up with intellectual endowment, educational opportunity, and the *rapport* between the two.

3. They will interest thoughtful men in business and industry who see that the solution of human problems in the industrial world is intertwined with the factors dealt with in this book.

To all these it is hoped that the general method of this survey and the results obtained will prove helpful for the solution of many of the problems that confront them.

The study was made with the authority and full co-operation and aid of the Indiana State Board of Education, which printed the examiner's guide and all blanks used to obtain detailed reports from individual schools. The Board also furnished the postage and clerical help required to arrange for the giving of the tests and for collecting the data. The Department of Psychology at Indiana University prepared the intelligence scale used in the survey, furnished all the test materials, bearing also the expense of making the tabulations.

Arrangements with teachers and high school principals for conducting the mental examinations were made by Oscar H. Williams, at that time High School Inspector for Indiana. He also collected through his office the returns from individual schools. More than five hundred teachers, high school principals, and superintendents took part in making the survey. The author wishes, therefore, to take this first opportunity of acknowledging his great indebtedness to them for their interest, coöperation,

and personal help, and desires to thank the State Board of Education and its president, L. N. Hines, for their coöperation and financial assistance. It is only through such coöperative work that our most important educational problems can be investigated and eventually solved.

The author is indebted largely to the advice and encouragement of friends for whatever merit this work possesses. Dr. S. L. Pressey, Research Assistant in the Department of Psychology, Indiana University, prepared and verified the intelligence scale used in the survey. H. G. Childs, Professor of Secondary Education and H. D. Kitson, Professor of Psychology, at Indiana University, read the entire manuscript and have given helpful criticisms. Without the coöperation, encouragement, and assistance of Mr. Oscar H. Williams, State Supervisor of Teacher Training, this study could not have been undertaken or finished. Mr. Williams not only sensed from the beginning the practical value and importance of the survey, but was chiefly responsible for interesting the State Board of Education and the school officials of the state in the survey. He helped plan the study, write the examiner's guide, and prepare the report blanks and special helps for teachers. He also read the entire manuscript and in ways too numerous to mention has given valuable assistance throughout the study.

Such extensive and hearty coöperation, rare as it is, augurs well for the future of coöperative research of the type recommended and urged in this book.

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# THE INTELLIGENCE OF HIGH SCHOOL SENIORS

## PART I

### PURPOSE, METHOD, AND SCOPE OF THE SURVEY

#### CHAPTER I

##### AIMS OF THE SURVEY

IN making this state-wide mental survey <sup>1</sup> of high school seniors the writer had in mind certain definite purposes and problems to guide him in the collection of data and in the organization and interpretation of the results.

**1. Location of the ablest seniors.** The original and chief purpose of the study was to locate by means of reliable intelligence tests the ablest students graduating from the high schools of the state during the year, and to suggest means whereby they might be definitely encouraged to attend college and, if need be, aided financially so that they might continue their education beyond the high school stage. The study was planned and carried to completion on the theory that all high school graduates

<sup>1</sup>Planned and made in collaboration with Oscar H. Williams, State Supervisor of Teacher Training for Indiana, Indianapolis, Indiana.

## 2 INTELLIGENCE OF HIGH SCHOOL SENIORS

who possess exceptional mental endowment should be definitely located and encouraged to continue their education in a college or university.

Nothing contributes more directly to the progress of society and the state than the conservation and proper cultivation of the mental capacities and abilities of the most gifted individuals belonging to each succeeding generation. It is these superior individuals who become the leaders of the race, in government, in industry, in religion, in science, and in art. Their abilities should, therefore, be carefully conserved and fully cultivated.

A few attempts have been made by colleges and universities to attract and serve this special group of individuals. Some universities are giving mental tests to those who present themselves for admission and are using the results of such tests as a basis for the selection of students. All colleges eliminate in the freshman year large numbers of students who are not able or willing to profit by the college work. Such methods enable the colleges to select and retain the best young people who actually apply for admission. They can never become an effective means for locating and selecting the most intelligent individuals unless these superior individuals actually present themselves for admission to college. But by giving an intelligence test to *all* high school seniors just before graduation from high school, it should be possible not merely to locate all individuals eligible for college who possess the highest grades of intelligence, but we should be in a position to encourage and help them complete their education and thus develop for the state their superior capacities and talents.

**2. College intentions of this superior group.** It was planned, in the second place, to ascertain to what extent the colleges are now reaching these exceptionally endowed individuals. Arrangements were made, therefore, to ascertain among other things the exact college intentions of each student graduating from the high schools of the state, in order that we might determine whether or not the colleges were attracting the high school seniors who possess the highest grades of intelligence. We desired to obtain, by making a comparison of the intelligence scores of those actually going to college and those not planning to attend, some idea of the mental strength of the young people whom our colleges actually attract.

**3. Educational direction of the brightest seniors.** It was also believed that a reliable intelligence rating would greatly aid deans and college faculties in directing the educational work of freshmen students. It is an indisputable fact that students with superior mental ability often do only average or even inferior work in college. Students of meager or inferior ability, on the other hand, are often expected by their instructors to do a superior grade of work. To give college authorities information along this line, high school principals were asked to have the intelligence score made by each senior student recorded on the permanent school records and sent with his scholarship standing to the college authorities, if the senior expected to attend college, or to his prospective employer if he intended to go to work. In this way college authorities would secure some idea at least of the grade of work that might reasonably be expected from each freshman student.

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Such intelligence ratings would also give university authorities the necessary data for determining whether the applicant for admission to college had sufficient mental ability to profit by a college course. The purpose and advantages of this plan were carefully explained to the members of each senior class when the tests were given.

**4. Extent to which the high schools and colleges are conserving the mental capacities of this exceptional group of young people.** A fourth purpose in making this investigation was to collect facts that would assist in determining the extent to which the high schools of the state *are* succeeding in adapting their work to the mental strength, interests, and needs of this exceptional group of young people. Are the special capacities and mental abilities of these exceptional students being properly cultivated and conserved? This we hoped to ascertain by a study of the scholastic records made in the past by the entire group of seniors taking the tests; by a study of the extent to which they had been accelerated, retarded, or normally promoted by the school; and by a study of their chief scholastic and vocational interests as indicated by their favorite study in high school and by their choice of an occupation.

**5. Native mental endowment and school success.** It was further desired to study in this investigation the relation that exists between native mental capacity or ability to learn and the scholastic success of the special senior groups examined. We desired to determine the extent to which native mental endowment is indicative of actual performance or success in school and to know whether the