

PENNSYLVANIA HIGH SCHOOL SENIORS, 1958

– THEIR MENTAL ABILITY

– THEIR ASPIRATIONS

– THEIR POST-HIGH SCHOOL ACTIVITIES

A TECHNICAL SUPPLEMENT



A Report

of the

JOINT STATE GOVERNMENT COMMISSION

1959

The Joint State Government Commission was created by Act of 1937, July 1, P. L. 2460, as amended 1939, June 26, P. L. 1084; 1943, March 8, P. L. 13; 1956, May 15, P. L. (1955) 1605; 1959, December 8, Act No. 646, as a continuing agency for the development of facts and recommendations on all phases of government for the use of the General Assembly.

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LETTER OF TRANSMITTAL

*To the Members of the General Assembly of the
Commonwealth of Pennsylvania:*

In April 1959, the Commission transmitted to the members of the General Assembly a report titled *Pennsylvania High School Seniors, 1958: Their Mental Ability, Their Aspirations, Their Post-High School Activities*.

The report was based upon a sample of approximately 10,000 Pennsylvania high school seniors in attendance at public, parochial and private high schools in the spring of 1958. It was the purpose of the report to present to the membership of the General Assembly a realistic portrayal of the characteristics of the young men and women who, in the spring of 1958, expressed a preference for college or noncollege training, together with an account as to their activities in the fall of 1958.

The present report, a technical supplement to *Pennsylvania High School Seniors, 1958*, details the methods employed to gather and summarize the data and presents an analysis of variance.

BAKER ROYER, *Chairman*

*Joint State Government Commission
Capitol Building
Harrisburg, Pennsylvania
December 1959*

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Section I

COLLECTION AND CLASSIFICATION OF DATA

Collection of Data

In order to maximize objectivity of response, two separate and distinct sources of information were utilized—the student and the school. The information from both sources was obtained by means of pretested questionnaires.¹

The questionnaire completed in the spring by high school seniors was designed to obtain information on post-high school aspirations and plans. As has been previously observed: "No objective measures of motivation are available; all appraisals of motivation are largely matters of judgment. In the case of resources, which, given access to family records, could be measured in terms of income and assets, subjective evaluations are required to determine the extent to which income or assets are available for education."² In order to facilitate judgment in this area, the questionnaire included queries regarding such background characteristics as education of parents, occupation of father, and size of family.

The questionnaire completed in the spring by the schools was designed to obtain information on the intellectual ability and achievements of seniors by such indices as intelligence test scores, courses pursued, and recommendations of counselors. The follow-up questionnaire completed by the schools

in the fall was designed to ascertain the size of the graduating class and to establish whether or not the senior who had completed a questionnaire had in fact graduated, his final quintile standing, and his actual activities as of the fall of 1958.

Classification of Data

Intelligence Test Scores. Because of the variety of intelligence tests used by Pennsylvania schools,³ equivalence procedures were developed.⁴ Specifically, scores were equated and deviation intervals established by means of distribution and equivalence tables developed by the research departments of interested organizations such as testing companies and school districts. The resulting conversions of test scores into stanine categories were cross-checked by reference to combinations of equivalence studies.⁵

Although 26 different intelligence tests were used by Pennsylvania schools, stanine categories for 97 percent of the seniors were based on 11 of these tests. Stanine categories for 50 percent of the seniors were based on the Otis Test of Mental Ability and categories for 40 percent of the remaining seniors were based on the California Test of Mental Maturity.

¹ For copies of the questionnaires, see Appendix A.

² Joint State Government Commission, *Pennsylvania High School Seniors, 1958: Their Mental Ability, Their Aspirations, Their Post-High School Activities*, (1959) p. 5.

³ See *Pennsylvania High School Seniors, 1958*, p. 5, for a discussion of the measurement of mental ability.

⁴ The American Institute for Research, Pittsburgh, Pennsylvania, was engaged for this purpose.

⁵ See Appendix B for conversion table.

Occupation of Father. The occupational classification shown in *Pennsylvania High School Seniors, 1958: Their Mental Ability, Their Aspirations, Their Post-High School Activities* represents a modification of the United States Bureau of the Census classification.⁶ In order to give greater weight to income characteristics of various occupations, some occupations were separately classified and some were reclassified. For instance, technical workers, who in the census classification were included in the category "Professional, Technical and Kindred Workers," were separately classified in the report. Again, employes in the census category "Sales Workers" were reclassified in the survey as "Managers, Officials and Proprie-

⁶U. S. Bureau of the Census, *1950 Census of Population: Classified Index of Occupations and Industries* (1950).

tors Other Than Farm," "Sales Workers" or "Service Workers, Operatives and Laborers," depending upon expected income levels.

Education of Parents. Although information was obtained on education of both parents, seniors were classified for purposes of the report in terms of the highest educational level attained by either parent as follows:

1. Neither parent completed high school.
2. At least one parent completed high school.
3. At least one parent attended college.
4. Education of both parents was unknown.

Size of Family. Again, for purposes of the report, large families were defined as families with four or more children and small families were defined as families with one, two, or three children.

Section II

DESIGN AND CHARACTERISTICS OF THE SAMPLE

Analysis of distributions of students in national surveys¹ and in area studies within the Commonwealth² indicated that a 10 percent sample of an estimated 100,000 seniors in Pennsylvania's public, parochial and private high schools in 1958 would furnish sufficiently large subsets of students to permit analysis of cross-classifications of such characteristics as stanine category by father's occupation. The same data indicated that certain student characteristics which were of primary importance in the survey were generally more homogeneous in small geographical areas than in larger ones.

A systematic sample drawn from a random list of all students grouped by school of attendance is a practical sample design with comparatively simple point estimates which utilizes this characteristic of geographical homogeneity. Lists of all public and non-Catholic private high schools hav-

ing students in the June graduating class of 1958 were obtained from the Pennsylvania Department of Public Instruction. Lists of Catholic parochial and Catholic private high schools were secured through the Diocese of Harrisburg. Each school was requested to submit a list of all students in its 1958 graduating class as of April 1958. The seniors were ordered alphabetically within schools, the schools alphabetically within counties, and the counties alphabetically within the Commonwealth. A random number less than 10 was drawn, and a 10 percent systematic sample was taken.

A list was made of the seniors drawn in the sample and each was given a code number identifying county, school and student. Student and school questionnaires, each identified by student name and code number, were mailed, together with instructions, to each of the schools.

After May 15, 1958, all schools that had not returned the completed questionnaires were contacted by telephone. By June 30, 1958, 98 percent of the public schools and 88 percent of the private and parochial schools had responded; 98 percent of all questionnaires had been returned, and 94 percent had been completed.

¹ Educational Testing Service, *Background Factors Relating to College Plans and College Enrollment Among Public High School Students* (1957); Dael Wolfe, *America's Resources of Specialized Talent* (1954).

² *Higher Education in the Commonwealth: Report of the Governor's Commission on Higher Education* (1957); L. Kathryn Dice, *The Unmet Needs of High School Students and Their Relation to Technical Education* (1957).

Section III

ANALYSIS OF THE DATA

Point Estimates

Point estimates for the universe sampled may be computed by multiplying sample estimates by ten. The point estimates used in the report reflect a universe including, in addition, the 3,964 members of the January graduating classes of Philadelphia and Pittsburgh, the 563 nonresponse students, and 218 members of the graduating class of a Philadelphia boys' school which was not included on the original list. In determining the inflation factors, the following sets of seniors were presumed to have similar characteristics:

1. The January graduating class and the June graduating class.
2. Nonresponse students and students of the same sex who responded.
3. The students graduating from the Philadelphia boys' school and the male seniors attending other public schools in Philadelphia.

According to the Pittsburgh and Philadelphia school authorities, the January and June classes are comparable. The treatment of nonresponse students may cause a slight bias in the direction of an overestimate of students interested in college.¹ The evidence is conclusive that imputation of characteristics of male seniors attending public schools in Philadelphia to seniors of the boys' school omitted in no way affected state-wide estimates.

¹ See page 8 for a discussion of bias.

Since a count of the universe by sex, by school, was available, point estimates were based on the following table:

| | <i>Philadelphia Public Schools</i> | <i>Pittsburgh Public Schools</i> | <i>All Other Schools</i> |
|-----------------------------------|--|--|----------------------------------|
| Number of Seniors in the sample | | | |
| Male | 185 | 117 | 4,312 |
| Female | 264 | 130 | 4,691 |
| Number of Seniors in the Universe | | | |
| Male | 3,799 | 1,628 | 45,600 |
| Female | 4,432 | 1,723 | 49,560 |
| Inflation Factor | | | |
| Male | 20.54 | 13.91 | 10.58 |
| Female | 16.79 | 13.25 | 10.56 |

In general,

$$\hat{X}^m = 10.58 x_o^m + 20.54 x_{Ph}^m + 13.91 x_{Pi}^m$$

$$\hat{X}^f = 10.56 x_o^f + 16.79 x_{Ph}^f + 13.25 x_{Pi}^f$$

where:

m = male

f = female

Ph = Philadelphia public schools

Pi = Pittsburgh public schools

o = all other schools in the State

x = the number of seniors in the sample having a given characteristic

\hat{X} = the estimate of the number of seniors in the universe having this characteristic

In other words, x_{ph}^m represents the number of male students in the sample of Philadelphia public schools who have the specified characteristic, while \hat{X}^m is the estimate of the number of male students in the universe with that characteristic.

The over-all percentages were calculated by dividing the estimated number of students with a given characteristic by the total number of students in the universe. For example, the estimated percent of all students having this characteristic is $\frac{\hat{X}^m + \hat{X}^f}{106,742}$, while the percent calculated for the male students is $\frac{\hat{X}^m}{51,027}$, and for the female students is $\frac{\hat{X}^f}{55,715}$. Again, the number of male students in the eighth and ninth stanines who attended college in the fall of 1958 (\hat{X}^m) as a percent of all male students in the eighth and ninth stanines (\hat{Y}^m), is:

$$\frac{\hat{X}^m}{\hat{Y}^m} = \frac{10.58 x_o^m + 20.54 x_{ph}^m + 13.91 x_{pi}^m}{10.58 y_o^m + 20.54 y_{ph}^m + 13.91 y_{pi}^m}$$

Variance

In general, a systematic sample of an alphabetically-ordered list may be considered as a random sample, provided the variables under consideration are independent of the names, since independence assures a low serial correlation. Therefore, it may be assumed that the variance of estimates from random samples of each school approximates the variance of estimates from systematic samples of students listed alphabetically for each school. Under the circumstances,

it may be concluded that the sample used in the survey produces variances approximating those of a proportionate stratified random sample where the schools are the strata and where the universe excludes the students from the January graduating classes and from the Philadelphia boys' school.

The point estimates actually used were based on both a grouping of the school strata and an after-sampling stratification by sex. This latter procedure was acceptable because of the magnitude of the sample and the fact that the number of male and female students in the universe was known. As in the case of the point estimates, it was assumed that the variances associated with students in the January graduating classes and the Philadelphia boys' school were comparable to those associated with the students sampled. Therefore, the following formula was used to calculate variances:

$$V_p = \frac{1}{N^2} \sum_h \frac{N_h^2 (N_h - n_h)}{N_h - 1} \frac{p_h q_h}{n_h}$$

where:

V_p = variance of percent estimate p

N = universe number

N_h = universe number in the stratum h

n_h = sample number in stratum h

p_h = percent in stratum h

$q_h = 1 - p_h$

It should be noted that if p is a percent estimate of a subset, the universe values in the formula are estimates based on sample numbers. Because of the size of the sample, these numbers furnish acceptable variance estimates for subsets pertinent to the report.

The standard errors (square root of the variance) shown in Tables 1 and 2 represent an upper limit to the standard errors of the estimates, because they were computed with reference to a simple random sample rather than with reference to a stratified random sample. If the characteristic measured is independent of the strata, such as quintile standing, the sample may be considered as a simple random sample with standard errors as indicated by the tables. For characteristics which vary from school to school, such as the percent of students attending college in the fall, the point estimates and the standard errors

are slightly improved by using estimates based on stratification. The extent of the improvement depends upon the homogeneity of the particular variable within the strata.

Specifically, Table 1 shows that a point estimate equal to 5 percent or less of all students has a maximum standard error of .0022 (first line, column (2)), regardless of the characteristic under review. Table 2 indicates that a point estimate of 30 percent based on a subset of 200 has a standard error less than or equal to .0324 (fourth line, column (3)).

Table 1
UPPER LIMITS FOR STANDARD ERRORS
WITH RESPECT TO PERCENTAGE ESTIMATES
OF ALL STUDENTS, ALL MALE STUDENTS AND ALL FEMALE STUDENTS

| <i>Percentage Estimate</i> | <i>All Students</i> | <i>Male Students</i> | <i>Female Students</i> |
|----------------------------|---------------------|----------------------|------------------------|
| (1) | (2) | (3) | (4) |
| .05 or .95 | .0022 | .0032 | .0031 |
| .10 or .90 | .0030 | .0044 | .0042 |
| .20 or .80 | .0041 | .0059 | .0056 |
| .30 or .70 | .0047 | .0067 | .0064 |
| .40 or .60 | .0050 | .0072 | .0069 |
| .50 | .0051 | .0074 | .0070 |

Table 2
UPPER LIMITS FOR STANDARD ERRORS
WITH RESPECT TO PERCENTAGE ESTIMATES OF SUBSETS
BY SIZE OF SUBSET

| <i>Percentage Estimate</i> | <i>Size of Subset</i> | | | | | |
|----------------------------|-----------------------|-------|-------|-------|-------|-------|
| | 100 | 200 | 300 | 500 | 1,000 | 2,000 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| .05 or .95 | .0218 | .0154 | .0126 | .0097 | .0069 | .0049 |
| .10 or .90 | .0300 | .0212 | .0173 | .0134 | .0095 | .0067 |
| .20 or .80 | .0400 | .0283 | .0231 | .0179 | .0126 | .0089 |
| .30 or .70 | .0458 | .0324 | .0265 | .0205 | .0145 | .0102 |
| .40 or .60 | .0490 | .0346 | .0283 | .0219 | .0155 | .0110 |
| .50 | .0500 | .0354 | .0289 | .0224 | .0158 | .0112 |

Bias

Regardless of sample design, nonresponse—a common cause of bias—is generally encountered in connection with population surveys. The existence of nonresponse bias depends upon differences between respondents and nonrespondents. The extent of the bias depends upon both the degree of difference and the size of the non-response group. Again, the import of a given bias depends upon the objectives of the study.

In the survey of high school seniors, comprehensive follow-up methods were pursued which reduced the nonresponse to 6 percent. The effect of this residual nonresponse upon the distribution

of students by level of intelligence—a critical variable for the purposes of this survey—and upon distributions of associated characteristics, such as post-high school aspirations, interest in college, and probable success in college, was tested.

Specifically, the quintile distribution of high school graduates based upon the sample and the expected quintile distribution adjusted for students who failed to graduate were compared. Table 3 shows these distributions. Examination of the table indicates that the percentage of students in each of the first two quintiles was overestimated by approximately one percentage point; similarly, the percentages in the lowest two quintiles were slightly underestimated.

Table 3
ESTIMATED AND EXPECTED PERCENTAGE DISTRIBUTIONS
OF PENNSYLVANIA HIGH SCHOOL GRADUATES, 1958
BY FINAL QUINTILE STANDING

| Quintile Standing | Percent of Pennsylvania High School Graduates | |
|----------------------|---|------------|
| | Estimated | Expected * |
| (1) | (2) | (3) |
| I | 21.3% | 20.1% |
| II | 21.1 | 20.1 |
| III | 20.7 | 20.1 |
| IV | 19.0 | 20.0 |
| V | 17.9 | 19.7 |

* Distribution reflects the policy of some schools to assign quintile standings to all seniors regardless of whether or not they graduated.

An adjusted stanine distribution of high school seniors based upon the expected quintile distribution is shown in Table 4. Inspection of the table shows that the number of seniors in each of the upper stanines (six to nine) was overestimated by 300 to 500 students. Inferentially, a bias in the number of seniors in the upper stanines reflects a bias in the number of seniors with characteristics which are positively correlated with intelligence. However, it should be

noted that the overestimates of seniors in the upper stanines have but a minimal effect on percentage estimates involving subsets such as the percent of ninth stanine students who expressed a desire to attend college. Analysis of the correlation of various characteristics to quintile standing within stanines and groups of stanine categories indicates that for percentages involving subsets, overestimates due to bias are within the ranges indicated for sampling errors.

The presence of bias coupled with an evaluation of follow-up experience suggests that the response tended to increase with class standing and that this response pattern is, in part, attributable to the attitude of school administrators. In some

schools efforts were made to insure completion of questionnaires by "better than average" students, whereas less effort was made to induce "below average" students to complete questionnaires.

Table 4
ESTIMATED AND ADJUSTED DISTRIBUTIONS
OF PENNSYLVANIA HIGH SCHOOL SENIORS, 1958
BY STANINE CATEGORY

| Stanine Category | Estimated | | Adjusted | |
|------------------|-----------|---------|----------|---------|
| | Number | Percent | Number * | Percent |
| (1) | (2) | (3) | (4) | (5) |
| 1 | 1,500 | 1.4% | 1,500 | 1.4% |
| 2 | 3,600 | 3.4 | 3,700 | 3.5 |
| 3 | 8,700 | 8.2 | 9,200 | 8.6 |
| 4 | 16,000 | 15.0 | 16,700 | 15.6 |
| 5 | 23,600 | 22.1 | 23,900 | 22.4 |
| 6 | 21,500 | 20.1 | 21,200 | 19.9 |
| 7 | 15,200 | 14.2 | 14,700 | 13.8 |
| 8 | 9,600 | 9.0 | 9,200 | 8.6 |
| 9 | 7,000 | 6.6 | 6,600 | 6.2 |
| Total | 106,700 | 100.0 | 106,700 | 100.0 |

$$* \left\{ \hat{S}_i = \sum_{k=0}^5 a_k \hat{S}_{ik} \right\}_{i=1, \dots, 9}$$

where:

\hat{S}_i represents the adjusted number of seniors in the i th stanine

\hat{S}_{i0} represents the estimated number of seniors in the i th stanine who failed to graduate

\hat{S}_{ik} $\left\{ \begin{array}{l} k=1, \dots, 5 \text{ represents the estimated number of seniors} \\ \text{in the } i\text{th stanine and the } k\text{th quintile} \end{array} \right.$

a_k represents the ratio for the k th set of the expected number of seniors to the estimated number of seniors

Appendix A
QUESTIONNAIRES

COMMONWEALTH OF PENNSYLVANIA
JOINT STATE GOVERNMENT COMMISSION
OF THE GENERAL ASSEMBLY

TO: THE HIGH SCHOOL SENIORS OF PENNSYLVANIA

The Pennsylvania Legislature is asking you for information about what you would like to do or are likely to do after you graduate from high school. Many other high school seniors in Pennsylvania are being asked the same questions to find out how the Commonwealth can help you get the type of education and training you want. Think about the following questions and answer them frankly and fully.

1. How many brothers and sisters do you have? Circle the answers below which tell how many you have.

Brothers 0 1 2 3 4 5 6 7

Sisters 0 1 2 3 4 5 6 7

2. (a) What does your father do for a living? Write your answer on the line below and be as exact as you can (for example, runs a lathe, is a doctor, runs a farm, sells insurance, is a janitor.) If he is unemployed, retired or dead, say so and write in what he *did* do.

.....

(b) For what type of business or organization does he work? Write your answer on the line below (for example, steel company, U. S. government, retail store). If your father works for himself write "self-employed."

.....

3. How far did your parents go in school? Circle the numbers of the answers which tell how far they went in school.

Father Mother

- | | | |
|-------|---|---|
| 1 | 1 | Some grade school. |
| 2 | 2 | Finished grade school. |
| 3 | 3 | Some high school. |
| 4 | 4 | Finished high school. |
| 5 | 5 | Some college. |
| 6 | 6 | Finished college. |
| 7 | 7 | Attended graduate school or professional school after college. |
| 8 | 8 | Other formal education. (Write in for father and mother.) |
| | | |
| 9 | 9 | Don't know. |

4. Suppose that if you made a real effort you could be successful in whatever you choose to do. Write on the line below the work you would like to be doing 15 years from now.

.....

5. With this work in mind, what would you *really like* to do after you finish high school? Circle the number of the statement in the following list which tells what you would really like to do if you could carry out your own wishes.

- 0 Go into military service.
- 1 Start working with no present plans for more school work.
- 2 Work for a year or two and then go to college.
- 3 Go to college on a full time basis this Fall.
- 4 Go to college on a part time basis this Fall.
- 5 Go to a trade or business school or take other special training, such as nursing.
- 6 Get married.
- 7 Other (write in)
- 8 Don't know.

6. There are good reasons for wanting to go *or* not wanting to go to college. Circle the numbers of the reasons that are important to you.

(a) I WANT TO GO to college because

- 1 My family expects me to go to college.
- 2 College graduates earn more money.
- 3 I want to see what type of work I am most interested in.
- 4 I like to study and want to continue academic work.
- 5 I need a college degree for the kind of work I want to do.
- 6 My teachers urge me to go to college.
- 7 Business, church, or community leaders tell me I should go to college.
- 8 I want to spend some time at college before entering the service.
- 9 I want to get into college athletics.
- 10 I like the idea of being a college graduate.
- 11 Most of my friends are going to college.
- 12 College life will help me to develop socially.
- 13 It will help me to make good business contacts.
- 14 Other (write in)

(b) I DON'T WANT TO GO to college because

- 1 My family doesn't want me to go to college.
- 2 I want to start earning a living as soon as possible.
- 3 I would rather get married.
- 4 It is more work than it is worth.
- 5 My teachers advise me not to go to college.
- 6 It would cost more than it is worth.
- 7 Most of my friends are not going.
- 8 I do not need a college education for the kind of work I want to do.
- 9 Other (write in)

7. Now go back to question 6(a) or 6(b) and underline the *one most important* reason of those you have circled.

8. In answer to question 5 you told us what you would *really like to do* after you finish high school. Now tell us what you *expect to do* after you finish high school. Circle the number of the answer which describes what you *actually will do*. If you are going into the military service, circle 0 and then the number of the answer which describes what you will probably do after you get out.

- 0 Go into military service.
- 1 Start working with no present plans for more school work.
- 2 Work for a year or two and then go to college.
- 3 Stay in military service.
- 4 Go to college on a full time basis this Fall.
- 5 Go to college on a part time basis this Fall.
- 6 Go to a trade or business school or take other special training, such as nursing.
- 7 Get married.
- 8 Other (write in)
- 9 Don't know.

9. What do your parents think about college? Circle the number of the answer which tells how they feel about your going to college.

- 0 They do *not* want me to go.
- 1 They do not think it will be worth my time.
- 2 They don't care whether I go or not.
- 3 They would approve.
- 4 They are eager for me to go.
- 5 My parents do not agree as to whether or not I should go.
- 6 We haven't talked about it.
- 7 I don't know.

IF YOU ARE NOT INTERESTED AT ALL IN GOING TO COLLEGE, SKIP THE REMAINING QUESTIONS AND CHECK BACK TO BE SURE THAT YOU HAVE ANSWERED EVERY QUESTION FROM 1 to 9.

10. What reasons are preventing you—or *might possibly* prevent you—from entering College this Fall? Circle the number of *each* reason that may apply to you.

- 1 Poor health.
- 2 I need to start earning a living as soon as possible.
- 3 College would cost more than my family can afford.
- 4 I cannot or may not get a scholarship.
- 5 My high school grades are too low.
- 6 There is no college near enough to let me live at home.
- 7 I cannot or may not be able to borrow the money I would need.
- 8 My family does not want me to go.
- 9 I cannot or may not be able to meet the entrance requirements at the college of my choice.
- 10 What I could earn would not be enough to pay the costs.
- 11 I took the wrong course in high school.
- 12 Colleges are overcrowded.
- 13 I am sure I am going to college.
- 14 Other (write in)

11. Now go back to question 10 and underline the *one most important* reason of those you have circled.

12. To what colleges have you applied for entrance this fall? (List the names of the colleges in the order of your preference. If you have not applied, write "none.")

- 1. 4.
- 2. 5.
- 3. 6.

The following questions have to do with paying for college expenses. The cost of going to college depends on what college you go to, whether you live at home or at the college, how much spending money you need, and so on. Tuition or similar charges vary from about \$100 to \$1,000 per year with most colleges over \$500, and if you live away from home there may be an additional cost of from about \$500 to \$1,200 for room and board.

13. How would you change your present plans if you could get a scholarship which paid *all* your tuition or similar charges for *full time* attendance at *any* college of your choice? Circle the number of the answer which applies.

- 0 I would not change my present plans.
- 1 I would enter college full time this Fall instead of not going this Fall or going part time.
- 2 I would go to a different college because it is outstanding in the course of study I am interested in.
- 3 I would go to a different college but for other reasons.
- 4 I don't know.
- 5 Other (write in)

14. Now go back to question 13 and *underline* the answer which tells how you would change your present plans if this scholarship could be used only at colleges *located in Pennsylvania*.

15. How would you change your present plans if you could get a scholarship which paid *half* your tuition or similar charges for *full time* attendance at *any* college of your choice? Circle the number of the answer which applies.

- 0 I would not change my present plans.
- 1 I would enter college full time this Fall instead of not going this Fall or going part time.
- 2 I would go to a different college because it is outstanding in the course of study I am interested in.
- 3 I would go to a different college but for other reasons.
- 4 I don't know.
- 5 Other (write in)

16. Now go back to question 15 and *underline* the answer which tells how you would change your present plans if this scholarship could be used only at colleges *located in Pennsylvania*.

17. Suppose you could not get either of these scholarships but you could borrow money to attend college full time. You would have to pay this money back (in installments if you prefer) with interest a few years after you graduate from college.

(a) Would you borrow to pay part or all of your college expenses? Circle the number of the answer which applies.

- 0 I don't need to borrow.
- 1 I would borrow at an interest rate of% (write in interest rate you would be willing to pay).
- 2 I would *not* borrow.
- 3 I don't know if I would borrow.

(b) If you would borrow, how would you change your present plans? Circle the number of the answer which applies.

- 0 I would not borrow.
- 1 I would not change my present plans.
- 2 I would enter college full time this Fall instead of not going this Fall or going part time.
- 3 I would go to a different college because it is outstanding in the course of study I am interested in.
- 4 I would go to a different college but for other reasons.
- 5 I don't know.
- 6 Other (write in)

(c) To start upon these plans, how much would you need to borrow for *freshman year*?

- 0 I would not borrow.
- 1 I would need about \$..... (write in amount).
- 2 I don't know.

PLEASE LOOK OVER THE QUESTIONS AND MAKE SURE YOU HAVE ANSWERED EVERYTHING THAT APPLIES TO YOU.

STUDENT RECORD – CLASS OF 1958

Data relating to individual students will be regarded as confidential and will be used only for computing over-all averages.

1. Sex (Check) Male 2. Date of Birth
 Female

3. Program of Study in High School (Check one) 4. High School Standing (Show quintile and applicable date)
 Academic Commercial
 General Vocational
 Other

5. Group Intelligence Tests Given in Grade 9 or Earlier:

| Date Given | Exact Designation of Test | I.Q. Score |
|------------|---------------------------|------------|
| | | |
| | | |

6. Group Intelligence Tests Given in Grades 10, 11 or 12:

| Date Given | Exact Designation of Test | I.Q. Score |
|------------|---------------------------|------------|
| | | |
| | | |
| | | |

7. Number of Semesters (including present semester) Student Has Taken of the Following in Grades 9, 10, 11, and 12:

| Subject | Number of Semesters | Subject | Number of Semesters |
|---------------------|---------------------|------------------|---------------------|
| Applied Mathematics | | Advanced Science | |
| Elementary Algebra | | Biology | |
| Plane Geometry | | Chemistry | |
| Advanced Algebra | | General Science | |
| Solid Geometry | | Physics | |
| Trigonometry | | Other Science | |
| Other Mathematics | | | |

8. Considering this student's potential, what would you recommend that he do following graduation?

- Work, no further training.
- Take special training such as trade or business school or nurses' training.
- Armed forces.
- Apprenticeship.
- College.
- Other (specify)
- No recommendation.

9. Would you advise this student to apply for a competitive scholarship to a college or university?

- Yes No No recommendation

10. Comments: (Any additional information which will help characterize the student.)

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Appendix B

STANINE CONVERSION TABLE

STANINE CONVERSION TABLE FOR SPECIFIED INTELLIGENCE TESTS

| <i>Stanine Category</i> | <i>Otis Test of Mental Ability (Deviation I. Q.)</i> | <i>California Test of Mental Maturity (Total I. Q.)</i> | <i>Henmon-Nelson Tests of Mental Ability (Ratio I. Q.)</i> | <i>SRA Primary Mental Abilities Tests (I. Q.)</i> | <i>Philadelphia Mental Ability Test (I. Q.)</i> |
|-------------------------|--|---|--|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1 | 78 and below | 76 and below | 77 and below | 63 and below | 79 and below |
| 2 | 79- 84 | 77- 83 | 78- 84 | 64- 71 | 80- 85 |
| 3 | 85- 90 | 84- 90 | 85- 91 | 72- 79 | 86- 91 |
| 4 | 91- 96 | 91- 97 | 92- 98 | 80- 87 | 92- 98 |
| 5 | 97-103 | 98-104 | 99-105 | 88- 95 | 99-105 |
| 6 | 104-109 | 105-111 | 106-112 | 96-103 | 106-112 |
| 7 | 110-115 | 112-118 | 113-119 | 104-111 | 113-118 |
| 8 | 116-121 | 119-125 | 120-126 | 112-119 | 119-124 |
| 9 | 122 and above | 126 and above | 127 and above | 120 and above | 125 and above |
| Percent of Seniors * | 51.4% | 18.9% | 8.1% | 4.1% | 3.7% |

* Represents percent assigned a stanine on the basis of the specified test. Other tests for which equivalence procedures were developed were: American Council on Education Psychological Examination, Kuhlmann-Anderson Intelligence Tests, Kuhlmann-Finch Intelligence Tests, Lorge-Thorndike Intelligence Tests, Pintner General Ability Tests, and Terman-McNemar Test of Mental Ability. Each of these tests was used to determine stanines for less than 3 percent of the students.

SOURCE: American Institute for Research, Pittsburgh, Pennsylvania.

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