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# A Statistical Analysis of Certain Data of Performance Achieved by Brockport State Teachers College Freshmen, 1949-57

Sigmund A. Smith  
*The College at Brockport*

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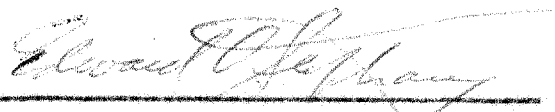
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A STATISTICAL ANALYSIS OF CERTAIN DATA OF PERFORMANCE  
ACHIEVED BY BROCKPORT STATE TEACHERS COLLEGE FRESHMEN, 1949-57

by  
SIGMUND A. SMITH

Submitted in fulfillment of the require-  
ments for Research 700 and in partial  
fulfillment of the requirements for the  
Degree of Master of Science in Education



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February 1958

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Where the research of others has been incorporated in this paper, credit has been given in the body of the text.

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## INTRODUCTION

### Need for the Study

It is apparent that admission programs and revisions in curricula in colleges and universities should be planned in terms of the students in attendance. Colleges in their admission procedures usually administer to all incoming students a series of tests. This series of tests frequently includes an intelligence test, a reading test, a speech test, an English achievement test, and a personality test. The latter often times is replaced or supplemented by an interview.

A testing program involving all of these instruments is not only expensive in terms of financial outlay, but it is also expensive in terms of the hours of time and the amount of energy expended by the students who take the tests. In order to justify the financial outlay and expenditure of time and energy in extensive testing, the results must be carefully analyzed and organized.

At Brockport State Teachers College there is a vast amount of data of the scholastic aptitude and achievement possessed by the students. Very often teachers, students and laymen make rash generalizations about the quality of students in attendance at Brockport State Teachers College. Many times these generalizations are based upon hearsay, or specific cases, or on data gathered in studies made on other campuses.

Recognizing the need for organized information concerning the

type of students in attendance at Brockport State Teachers College the writer decided to make the present study.

### Statement of the Problem

The purpose of this study was to organize and analyze certain data of performance achieved by Brockport State Teachers College freshmen from September 1949 through September 1957. The statistical analysis of the entire entering freshmen population from 1949-1957 is an attempt to obtain organized data that might serve as a guide for the admission of future students and, in addition, provide information that would facilitate the work of the Curriculum Committee. Specifically the research includes an analysis of the students' high school averages and the freshman year college grades. The research includes also an analysis of the achievement of the entering freshmen population as measured by the American Council on Education Psychological Examination for College Freshmen and the Cooperative English Examination (Part I, Reading Comprehension). The results of the School and College Ability Tests are analyzed for the freshmen who entered Brockport State Teachers College in September 1957.

### Population of the Study

This research concerned itself with each of the entering freshmen classes from September 1949 (Class of 1953) through September 1957 (Class of 1961). Any student having a high school average, an ACE score, a Cooperative English reading score, a SCAT score, and a college

"index" at the end of the freshman year is included in this research. Discrepancies in the number of students for any class are accounted for by "drop-outs", "transfers in-and-out", and "incomplete records".

#### High School Averages

The high school average for each student was obtained from the records on file in the office of the director of admissions. Every student who enters Brockport State Teachers College has a high school average on his permanent record. The director of admissions gets this average from the student's high school at the time he applies for admission to the college. Those students who do not have a high school average are either veterans with an equivalency diploma or transfers whose transcripts do not include a high school average. No attempt has been made in this research to equate high school averages achieved in different schools.

#### A.C.E. Scores

Percentile scores on the American Council on Education Psychological Examination for College Freshmen were also obtained from the records in the office of the director of admissions. The recorded raw scores were converted to percentiles using "Norms" published by the American Council on Education.<sup>1</sup> Many students who have entered Brock-

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<sup>1</sup>Thurstone, L. L., Thurstone, T.G., "Psychological Examination for College Freshmen Norms", American Council on Education, 1947, 1948, 1949.

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port State Teachers College have not been required to take the A.C.E. Psychological Examination.

### Cooperative English Scores

The total reading percentile scores on the Cooperative English Test, Part I, Reading Comprehension, were obtained from Dr. Armand Burke of the English department. The entering freshmen are tested at the beginning of the school year. The norms used for determining the percentiles were based on the Cooperative English Test Percentile Ranks for College Students.<sup>1</sup> The type of norms reported on the Cooperative English Test by the Educational Testing Service are defined in terms of performance on the American Council on Education Psychological Examination. A percentile score for each student in the entire entering freshmen population from 1949 through 1957 was included in this research.

### S.C.A.T. Scores

The freshmen who entered Brockport State Teachers College in September 1957 were not required to take the A.C.E. Psychological Examination. Instead, all of the entering freshmen were required to take the Cooperative School and College Ability Tests. Percentile scores on the S.C.A.T. for each of the entering freshmen were obtained

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<sup>1</sup>Cooperative Test Division, Educational Testing Service, "Cooperative English Test Percentile Ranks for College Students", Princeton, New Jersey, 1950.

from the records on file in the office of the director of admissions. The score achieved by each student on the S.C.A.T. was converted to a percentile using the 1957 S.C.A.T. Norms.<sup>1</sup>

College Grades

The college grades earned by the students at the end of the freshmen year are reported in this research as an "Index". A student's index is computed by dividing the number of quality credits by the number of credit hours completed.<sup>2</sup> Quality credits are earned as follows:

	<u>Grade</u>	<u>Quality Credits Per Credit Hour</u>
	A	4
	B	3
	C	2
	D	1

In interpreting the academic indices which are reported in this research, it must be kept in mind that the true picture of achievement is not represented by the index since no quality credits are earned for the following grades: E, failure; I, incomplete; W, withdrawal; and D.E.A., dropped for excessive absences. The index for every student who completed the freshmen year was obtained from the permanent records

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<sup>1</sup>Cooperative Test Division, Educational Testing Service, "Cooperative School and College Ability Tests: Technical Report", Princeton, New Jersey, 1957.

<sup>2</sup>State University of New York, "Undergraduate Bulletin, 1956-57, 1957-58, 1958-59", Teachers College at Brockport.

in the office of the registrar. The computations of the students' indices were done by the registrar and her staff.

### Procedures

The students in each of the entering freshmen classes were divided into three major groups: General Elementary, Physical Education Men, and Physical Education women. The means and standard deviations for high school averages and college indices were computed for each of these groups. In each of the above categories for the three main groups, the score corresponding to one standard deviation above and one standard deviation below the mean was computed to determine the distribution of scores for the middle 68% of the students.

Medians and quartiles were computed for A.C.E. scores, Cooperative English Reading scores, and S.C.A.T. scores.

The statistical methods of tabulating the data and the computation of the means, medians, standard deviations, and quartiles are explained in Appendix A. A complete summary of the number of students, the means, the medians, standard deviations and quartiles for each of the major groups is given in Appendix B.

Each of the first nine chapters concerns itself with an analysis of a specific class. The research concludes with a summary of tentative generalizations based upon the data gathered and some recommendations for further study. The summary includes tables for comparisons between norms for teachers colleges and the median scores achieved by each of the entering freshmen classes on the A.C.E. test, Cooperative English Test and the S.C.A.T.

CHAPTER I

Entering Freshmen in September 1949  
Class of 1953

High School Averages

TABLE I  
High School Averages for 1949 Freshmen<sup>1</sup>

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	261	47	31
Mean	81.67	82.95	80.21
Sigma	5.34	5.29	4.46

Reference to Table I discloses the mean average of physical education men (82.95) to be higher than the general elementary students (81.67) and the physical education women (80.21). Approximately two-thirds of the general elementary students' averages lie between 76.23 and 87.01; approximately two-thirds of the physical education men's averages lie between 77.66 and 88.24; and approximately two-thirds of the physical education women's averages lie between 75.75 and 84.67. From the original data, 11.7% of the general elementary students had a high school average of 75 and below; 7.9% of the physical education men had a high school average of 75 and below; and 16% of the physical education women had a high school average of 75 and below.

<sup>1</sup>Gould, Henry, and Raye Conrad, "Analysis of Qualifications of Freshmen Entering Brockport State Teachers College in September 1949 and September 1950", Brockport State Teachers College, December 1951, p. 2.



A.C.E. SCORES

TABLE II  
A.C.E. Scores for 1949 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of Students	193	45	31
Q <sub>1</sub>	26.92	28.17	25.86
Median	47.56	45.33	46.81
Q <sub>3</sub>	67.44	69.17	61.17

Reference to Table II discloses that the median percentile for general elementary students (47.56) is higher than the median percentile for physical education men (45.32) and the physical education women (46.81). The middle 50% of the general elementary students' percentiles lie between 26.92 and 67.44; the middle 50% of the physical education men's percentiles lie between 28.17 and 69.17; and the middle 50% of the physical education women's percentiles lie between 25.86 and 61.17.

Cooperative English Scores

TABLE III  
Total English Reading Scores for 1949 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	284	63	40
Q <sub>1</sub>	26.63	34.55	40.50
Median	64.13	51.00	63.00
Q <sub>3</sub>	77.62	59.30	76.50

Reference to Table III discloses the median percentile for general elementary students (64.13) to be higher than either the physical educat-

ion men (51.00) or the physical education women (63.00). It is evident that the median percentile for women physical education students is higher than the median percentile for physical education men. The middle 50% of the general elementary students' percentiles lie between 26.63 and 77.62; the middle 50% of the physical education men's percentiles lie between 34.55 and 59.30; and the middle 50% of the physical education women's percentiles lie between 40.50 and 76.50.

College Grades

TABLE IV  
College Indices for 1949 Freshmen<sup>1</sup>

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	192	42	30
Mean Index	2.40	2.41	2.41
<u>Sigma</u>	.48	.51	.53

Reference to Table IV indicates that there is very little difference among the three groups with reference to the college index achieved at the end of the freshman year. Approximately two-thirds of the general elementary students' mean indices lie between 1.92 and 2.88; approximately two-thirds of the physical education men's mean indices lie between 1.90 and 2.91; and approximately two-thirds of the physical education women's mean indices lie between 1.88 and 2.94. From the original data, 23%, 21%, and 23% of the general elementary students, physical education men, and physical education women respectively had college indices between 1.75 and 1.99 at the end of the freshman year.

<sup>1</sup>Gould and Conrad, loc. cit., p. 8.

CHAPTER II

Entering Freshmen in September 1950  
Class of 1954

High School Averages

TABLE V  
High School Averages for 1950 Freshmen<sup>1</sup>

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	194	49	33
Mean Average	79.51	81.80	80.67
Sigma	4.78	5.41	5.26

Reference to Table V discloses the mean average (81.80) for the physical education men to be slightly higher than the mean average (80.67) for the physical education women. Approximately two-thirds of the general elementary students' mean averages lie between 74.73 and 84.29; approximately two-thirds of the physical education men's mean averages lie between 76.39 and 87.21; and approximately two-thirds of the physical education women's mean averages lie between 75.41 and 85.93. From the original data, 26%, 15%, and 18% of the general elementary students, physical education men, and physical education women respectively had a high school average of 75 and below. Of the three groups, the general elementary students had the largest percent of students (.8%) with a high school average between 97 and 99.

<sup>1</sup>Gould and Conrad, loc. cit., p. 2.

A.C.E. SCORES

TABLE VI  
A.C.E. Scores for 1950 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	183	46	32
Q <sub>1</sub>	22.55	20.50	22.68
Median	40.98	42.22	39.66
Q <sub>3</sub>	62.19	63.40	62.16

Reference to Table VI discloses that the median percentile (42.22) for physical education men is slightly higher than the median percentile (40.98) for general elementary students and the median percentile (39.66) for physical education women. The middle 50% of the general elementary students' percentiles lie between 22.55 and 62.19; the middle 50% of the physical education men's percentiles lie between 20.50 and 63.40; and the middle 50% of the physical education women's percentiles lie between 22.68 and 62.16.

Cooperative English Scores

TABLE VII  
Total English Reading Scores for 1950 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	221	59	37
Q <sub>1</sub>	26.42	23.39	30.65
Median	59.38	54.16	52.63
Q <sub>3</sub>	77.18	69.27	69.18

Reference to Table VII discloses that the median percentile (59.38) for general elementary students to be higher than either the median per-

centile (54.16) for physical education men or the median percentile (52.63) for physical education women. The middle 50% of the general elementary students' percentiles lie between 26.42 and 77.18; the middle 50% of the physical education men's percentiles lie between 23.39 and 69.27; and the middle 50% of the physical education women's percentiles lie between 30.65 and 69.18.

College Grades

TABLE VIII  
College Indices for 1950 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	187	43	31
Mean Index	2.38	2.40	2.39
Sigma	.51	.58	.56

Reference to Table VIII above discloses that there is very little difference among the three groups with reference to the college index achieved at the end of the freshmen year. Approximately two-thirds of the general elementary students' indices lie between 1.87 and 2.89; approximately two-thirds of the physical education men's indices lie between 1.82 and 2.98; and approximately two-thirds of the physical education women's indices lie between 1.83 and 2.95. From the original data 23%, 19%, and 25% of the general elementary students, physical education men, and physical education women respectively had college indices between 1.75 and 1.99 at the end of the freshman year.

CHAPTER III

Entering Freshmen in September 1951  
Class of 1955

High School Averages

TABLE IX  
High School Averages for 1951 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	212	43	45
Mean Average	81.13	79.17	80.60
<u>Sigma</u>	5.43	3.65	5.38

Reference to Table IX discloses that the mean average (81.13) for the general elementary students is higher than either the mean average (79.17) for the physical education men or the mean average (80.60) for the physical education women. Approximately two-thirds of the general elementary students' averages lie between 75.70 and 86.56; approximately two-thirds of the physical education men's averages lie between 75.52 and 82.82; and approximately two-thirds of the physical education women's averages lie between 75.22 and 85.98. From the original data 12%, 7% and 16% of the general elementary students, physical education men, and physical education women respectively had a high school average of 75 and below. Of the three groups, the physical education men had the fewest number of students (4) with a high school average above 85. There were 3 general elementary students who had a high school average of 94 or above.

A.C.E. Scores

TABLE X  
A.C.E. Scores for 1951 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of Students	197	36	47
Q <sub>1</sub>	25.47	36.00	22.12
Median	46.40	54.90	33.43
Q <sub>3</sub>	72.78	70.47	41.60

Reference to Table X discloses that the median percentile (54.90) for physical education men is slightly higher than the median percentile (46.40) for general elementary students and much higher than the median percentile (33.43) for physical education women. The middle 50% of the general elementary students' percentiles lie between 25.47 and 72.78; the middle 50% of the physical education men's percentiles lie between 36.00 and 70.47; and the middle 50% of the physical education women's percentiles lie between 22.12 and 41.60.

Cooperative English Scores

TABLE XI  
Total English Reading Scores for 1951 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	147	22	40
Q <sub>1</sub>	33.39	44.24	31.50
Median	56.16	58.50	53.50
Q <sub>3</sub>	76.59	75.33	73.53

Reference to Table XI, page 14, discloses that the median percentile (58.50) for the physical education men is higher than either the median percentile (56.16) for the general elementary students or the median percentile (53.50) for the physical education women. The middle 50% of the general elementary students' percentiles lie between 33.39 and 76.59; the middle 50% of the physical education men's percentiles lie between 44.24 and 75.33; and the middle 50% of the physical education women's percentiles lie between 31.50 and 73.53.

College Grades

TABLE XII  
College Indices for 1951 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	90	35	31
Mean Index	2.44	2.48	2.11
Sigma	.54	.59	.72

Reference to Table XII discloses that the mean index (2.48) for physical education men is higher than the mean index (2.44) for general elementary students and the mean index (2.11) for physical education women. Approximately two-thirds of the general elementary students' indices lie between 1.90 and 2.98; approximately two-thirds of the physical education men's indices lie between 1.89 and 3.07; and approximately two-thirds of the physical education women's indices lie between 1.39 and 2.83. At the end of the freshman year 12 of the physical education women had a college index at or below 1.50.



CHAPTER IV

Entering Freshmen in September 1952  
Class of 1956

High School Averages

TABLE XIII  
High School Averages for 1952 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	174	53	43
Mean Average	81.62	78.59	81.59
Sigma	5.34	4.56	5.64

Reference to Table XIII above discloses that the mean average (81.62) for general elementary students is slightly higher than the mean average (81.59) for physical education women and 3.03 points higher than the mean average (78.59) for physical education men. Approximately two-thirds of the general elementary students' averages lie between 76.28 and 86.96; approximately two-thirds of the physical education men's averages lie between 74.03 and 83.15; and approximately two-thirds of the physical education women's averages lie between 75.95 and 87.23. From the original data 14%, 31%, and 12% of the general elementary students, physical education men, and physical education women respectively had a high school average of 75 and below. Of the three groups, the physical education men had the fewest number of students (2) with a high school average at or above 85.

A.C.E. Scores

TABLE XIV  
A.C.E. Scores for 1952 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	170	54	42
Q <sub>1</sub>	20.88	15.23	13.00
Median	37.22	27.00	26.60
Q <sub>3</sub>	58.19	54.00	42.25

Reference to Table XIV discloses that the median percentile (37.22) for the general elementary students is higher than either the median percentile for physical education men (27.00) or the median percentile for physical education women (26.60). The middle 50% of the general elementary students' percentiles lie between 20.88 and 58.19; the middle 50% of the physical education men's percentiles lie between 15.23 and 54.00; and the middle 50% of the physical education women's percentiles lie between 13.00 and 42.25. The low median percentiles for each of the three groups may be accounted for by the following: 42%, 56%, and 64% of the general elementary students, physical education men, and physical education women respectively achieved scores at or below the 25th percentile on the A.C.E. examination.. Also only 1.7%, 0%, and 5% of the general elementary students, physical education men, and physical education women respectively achieved scores at or above the 95th percentile. The physical education women had only 9 out of 42 with scores at or above the 50th percentile.

Cooperative English Scores

TABLE XV  
Total English Reading Scores for 1952 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	142	33	34
$Q_1$	26.64	26.10	21.74
Median	52.26	38.25	35.50
$Q_3$	65.07	54.45	52.88

Reference to Table XV above discloses that the median percentile (52.26) for the general elementary students is higher than both the median percentile (38.25) for physical education men and the median percentile (35.50) for physical education women. The middle 50% of the general elementary students' percentiles lie between 26.64 and 65.07; the middle 50% of the physical education men's percentiles lie between 26.10 and 54.45; and the middle 50% of the physical education women's percentiles lie between 21.74 and 52.88. From the original data 35%, 36%, and 38% of the general elementary students, physical education men, and physical education women respectively achieved scores at or below the 25th percentile. None of the physical education women achieved a total reading score at or above the 85th percentile. Only one physical education man achieved a total reading score above the 75th percentile.

College Grades

TABLE XVI  
College Indices for 1952 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	136	26	23
Mean Index	2.48	2.16	2.57
Sigma	.46	.48	.48

Reference to Table XVI discloses that the mean index (2.57) for the physical education women is higher than both the mean index (2.48) for the general elementary students and the mean index (2.16) for the physical education men. Approximately two-thirds of the general elementary students' indices lie between 2.02 and 2.94; approximately two-thirds of the physical education men's indices lie between 1.68 and 2.64; and approximately two-thirds of the physical education women's indices lie between 2.09 and 3.05. At the end of the freshman year, 6 general elementary students, 1 physical education man, and 1 physical education woman had a college index at or below 1.50.

CHAPTER V

Entering Freshmen in September 1953  
Class of 1957

High School Averages

TABLE XVII  
High School Averages for 1953 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	181	63	46
Mean Average	81.80	77.57	80.99
Sigma	5.40	3.74	4.62

Reference to Table XVII above discloses the mean average (81.80) for general elementary students to be higher than both the mean average (77.57) for physical education men and the mean average (80.99) for physical education women. Approximately two-thirds of the general elementary students' averages lie between 76.40 and 87.20; approximately two-thirds of the physical education men's averages lie between 73.83 and 81.31; and approximately two-thirds of the physical education women's averages lie between 76.37 and 85.61. From the original data 12%, 29%, and 15% of the general elementary students, physical education men, and physical education women respectively had a high school average of 75 and below. The physical education men had the fewest number of students (3) with a high school average at or above 85.

A.C.E. Scores

TABLE XVIII  
A.C.E. Scores for 1953 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	172	64	45
Q <sub>1</sub>	19.40	19.50	15.35
Median	39.86	32.79	25.31
Q <sub>3</sub>	61.31	61.09	42.18

Reference to Table XVIII above discloses the median percentile (39.86) for general elementary students to be slightly higher than the median percentile (32.79) for physical education men and substantially higher than the median percentile (25.31) for physical education women. The middle 50% of the general elementary students' percentiles lie between 19.40 and 61.31; the middle 50% of the physical education men's percentiles lie between 19.50 and 61.09; and the middle 50% of the physical education women's percentiles lie between 15.35 and 42.18. The physical education women had only 8 out of 45 (17.8%) with scores at or above the 50th percentile on the A.C.E. examination. Also, 42%, 48%, and 61% of the general elementary students, physical education men, and physical education women respectively achieved scores at or below the 25th percentile. Only one physical education woman achieved a score above the 75th percentile.

Cooperative English Scores

TABLE XIX  
Total English Reading Scores for 1953 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	213	34	43
$Q_1$	16.60	7.71	24.74
Median	34.59	29.25	31.15
$Q_3$	50.48	48.36	38.60

Reference to Table XIX above discloses that the median percentile (34.59) for general elementary students is higher than both the median percentile (29.25) for physical education men and the median percentile (31.15) for physical education women. The middle 50% of the general elementary students' percentiles lie between 16.60 and 50.48; the middle 50% of the physical education men's percentiles lie between 7.71 and 48.36; and the middle 50% of the physical education women's percentiles lie between 24.74 and 38.60. From the original data 42%, 53%, and 16% of the general elementary students, physical education men, and physical education women respectively achieved scores at or below the 25th percentile. None of the physical education men achieved a score above the 75th percentile. Also, none of the physical education women achieved a score above the 60th percentile. It should be pointed out that 4 out of 34 physical education men had scores at or below the 4th percentiles on the Reading Comprehension part of the Cooperative English Test.

College Grades

TABLE XX  
College Indices for 1953 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	98	28	27
Mean Index	2.52	2.45	2.41
Sigma	.52	.42	.59

Reference to Table XX above discloses that the mean index (2.52) for the general elementary students is higher than both the mean index (2.45) for the physical education men and the mean index (2.41) for the physical education women. Approximately two-thirds of the general elementary students' indices lie between 2.00 and 3.04; approximately two-thirds of the physical education men's indices lie between 2.03 and 2.87; and approximately two-thirds of the physical education women's indices lie between 1.82 and 3.00. At the end of the freshman year, 6 general elementary students, 0 physical education men, and 4 physical education women had a college index at or below 1.50.



CHAPTER VI

Entering Freshmen in September 1954  
Class of 1958

High School Averages

TABLE XXI  
High School Averages for 1954 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	229	98	52
Mean Average	81.47	79.19	80.59
Sigma	5.91	4.47	4.68

Reference to Table XXI above discloses that the mean average (80.59) for physical education women is slightly higher than both the mean average (79.19) for physical education men and the mean average (81.47) for general elementary students. Approximately two-thirds of the general elementary students' averages lie between 75.56 and 87.38; approximately two-thirds of the physical education men's averages lie between 74.72 and 83.66; and approximately two-thirds of the physical education women's averages lie between 75.91 and 85.27. From the original data 15%, 26%, and 11% of the general elementary students, physical education men, and physical education women respectively had a high school average of 75 and below. Also, 7 general elementary students, 4 physical education men, and 1 physical education woman had a high school average between 70 and 72.

A.C.E. Scores

TABLE XXII  
A.C.E. Scores for 1954 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	227	99	53
Q <sub>1</sub>	16.42	23.81	14.89
Median	32.06	32.91	36.75
Q <sub>3</sub>	61.34	64.96	55.12

Reference to Table XXII above discloses that the median percentile (36.75) for physical education women is higher than both the median percentile (32.06) for general elementary students and the median percentile (32.91) for physical education men. The middle 50% of the general elementary students' percentiles lie between 16.42 and 61.34; the middle 50% of the physical education men's percentiles lie between 23.81 and 64.96; and the middle 50% of the physical education women's percentiles lie between 14.89 and 55.12.

Cooperative English Scores

TABLE XXIII  
Total English Reading Scores for 1954 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	175	71	37
Q <sub>1</sub>	33.65	36.67	33.75
Median	51.66	55.00	46.14
Q <sub>3</sub>	71.01	73.40	55.83

Reference to Table XXIV above discloses that the median percentile (55.00) for physical education men is higher than both the median percent-

ile ((51.66) for general elementary students and the median percentile (46.14) for physical education women. The middle 50% of the general elementary students' percentiles lie between 33.65 and 71.01; the middle 50% of the physical education men's percentiles lie between 36.67 and 73.40; and the middle 50% of the physical education women's percentiles lie between 33.75 and 55.83.

College Grades

TABLE XXIV  
College Indices for 1954 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	167	53	30
Mean Index	2.57	2.36	2.40
Signa	.58	.48	.50

Reference to Table XXIV above discloses that the mean index (2.57) for general elementary students is higher than both the mean index (2.36) for physical education men and the mean index (2.40) for physical education women. Approximately two-thirds of the general elementary students' indices lie between 1.99 and 3.15; approximately two-thirds of the physical education men's indices lie between 1.88 and 2.84; and approximately two-thirds of the physical education women's indices lie between 1.90 and 2.90. From the original data 11 general elementary students, 5 physical education men, and 2 physical education women had a college index at or below 1.50 at the end of the freshman year. Also, 19 general elementary students, 10 physical education men, and 6 physical education women had a college index between 1.76 and 2.00 at the end of the freshman year.

CHAPTER VII

Entering Freshmen in September 1955  
Class of 1959

High School Averages

TABLE XXV  
High School Averages for 1955 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	187	77	39
Mean Average	80.84	80.46	79.85
Sigma	5.43	5.09	4.40

Reference to Table XXV above discloses that the mean average (80.84) for general elementary students is higher than both the mean average (80.46) for physical education men and the mean average (79.85) for physical education women. Approximately two-thirds of the general elementary students' averages lie between 75.41 and 86.27; approximately two-thirds of the physical education men's averages lie between 75.37 and 85.55; and approximately two-thirds of the physical education women's averages lie between 75.45 and 84.25. From the original data 12%, 9%, and 15% of the general elementary students, physical education men, and physical education women respectively had a high school average of 75 and below.

A.C.E. Scores

TABLE XXVI  
A.C.E. Scores for 1955 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	187	76	39
Q <sub>1</sub>	26.70	21.63	18.67
Median	44.70	43.75	41.01
Q <sub>3</sub>	65.17	62.29	60.31

Reference to Table XXVI above discloses that the median percentile (44.70) for general elementary students is higher than both the median percentile (43.75) for physical education men and the median percentile (41.01) for physical education women. The middle 50% of the general elementary students' percentiles lie between 26.70 and 65.17; the middle 50% of the physical education men's percentiles lie between 21.63 and 62.29; and the middle 50% of the physical education women's percentiles lie between 18.67 and 60.31.

Cooperative English Scores

TABLE XXVII  
Total English Reading Scores for 1955 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	146	77	53
Q <sub>1</sub>	35.82	26.58	31.52
Median	51.16	37.06	43.64
Q <sub>3</sub>	67.76	52.32	61.13

Reference to Table XXVII, page 28, discloses that the median percentile (51.16) for general elementary students is higher than both the median percentile (37.06) for physical education men and the median percentile (43.64) for physical education women. The middle 50% of the general elementary students' percentiles lie between 35.82 and 67.76; the middle 50% of the physical education men's percentiles lie between 26.58 and 52.32; and the middle 50% of the physical education women's percentiles lie between 31.52 and 61.13. Only 4 of the physical education men achieved a score at or above the 75th percentile on the Reading Comprehension part of the Cooperative English Test.

College Grades

TABLE XXVIII  
College Indices for 1955 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	124	47	28
Mean Index	2.76	2.38	2.54
Sigma	.56	.55	.48

Reference to Table XXVIII above discloses that the mean index (2.76) for general elementary students is higher than both the mean index (2.38) for physical education men and the mean index (2.54) for physical education women. Approximately two-thirds of the general elementary students' indices lie between 2.29 and 3.32; approximately two-thirds of the physical education men's indices lie between 1.83 and 2.93; and approximately two-thirds of the physical education women's indices lie between 2.06 and 3.02. From the original data 7 general elementary students,

5 physical education men, and 1 physical education woman had a college index at or below 1.50 at the end of the freshman year. Also, 19 general elementary students, 9 physical education men, and 3 physical education women had a college index between 1.76 and 2.00 at the end of the freshman year.

CHAPTER VIII

Entering Freshmen in September 1956  
Class of 1960

High School Averages

TABLE XXIX  
High School Averages for 1956 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	180	81	49
Mean Average	80.33	77.44	80.31
Sigma	5.13	3.21	6.40

Reference to Table XXIX above discloses that the mean average (80.33) for general elementary students is higher than both the mean average (77.44) for physical education men and the mean average (80.31) for physical education women. Approximately two-thirds of the general elementary students' averages lie between 75.20 and 85.46; approximately two-thirds of the physical education men's averages lie between 74.23 and 80.65; and approximately two-thirds of the physical education women's averages lie between 73.91 and 86.71. From the original data 20%, 28%, and 6% of the general elementary students, physical education men, and physical education women respectively had a high school average of 75 and below. Also, 4 general elementary students, 2 physical education men, and 1 physical education woman had a high school average between 70 and 72.



A.C.E. Scores

TABLE XXX  
A.C.E. Scores for 1956 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	186	82	48
Q <sub>1</sub>	28.70	25.82	32.50
Median	46.29	42.44	39.25
Q <sub>3</sub>	60.52	65.00	77.50

Reference to Table XXX above discloses that the median percentile (46.29) for general elementary students is higher than both the median percentile (42.44) for physical education men and the median percentile (39.25) for physical education women. The middle 50% of the general elementary students' percentiles lie between 28.70 and 60.52; the middle 50% of the physical education men's percentiles lie between 25.82 and 65.00; and the middle 50% of the physical education women's percentiles lie between 32.50 and 77.50.

Cooperative English Scores

TABLE XXXI  
Total English Reading Scores for 1956 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	176	63	40
Q <sub>1</sub>	35.30	25.88	34.20
Median	52.08	40.05	49.50
Q <sub>3</sub>	73.69	57.80	67.50

Reference to Table XXXI, page 32, discloses that the median percentile (52.08) for general elementary students is higher than both the median percentile ((40.05) for physical education men and the median percentile (49.50) for physical education women. The middle 50% of the general elementary students' percentiles lie between 35.30 and 73.69; the middle 50% of the physical education men's percentiles lie between 25.88 and 57.80; and the middle 50% of the physical education women's percentiles lie between 34.20 and 67.50.

College Grades

TABLE XXXII  
College Indices for 1956 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	119	63	46
Mean Index	2.32	2.13	2.37
Sigma	.61	.45	.48

Reference to Table XXXII above discloses that the mean index (2.37) for physical education women is higher than both the mean index (2.32) for general elementary students and the mean index (2.13) for physical education men. Approximately two-thirds of the general elementary students' indices lie between 1.71 and 2.93; approximately two-thirds of the physical education men's indices lie between 1.68 and 2.58; and approximately two-thirds of the physical education women's indices lie between 1.89 and 2.85. From the original data 22 general elementary students, 18 physical education men, and 4 physical education women

had a college index at or below 1.50 at the end of the freshman year. Also, 18 general elementary students, 9 physical education men, and 5 physical education women had a college index between 1.76 and 2.00 at the end of the freshmen year. Eighty percent of the physical education women had a college index at or above 2.00 and 65% of the general elementary students had a college index at or above 2.00 at the end of the freshman year.

CHAPTER IX

Entering Freshmen in September 1957  
Class of 1961

High School Averages

TABLE XXXIII  
High School Averages for 1957 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	201	103	73
Mean Average	81.05	78.89	82.61
Signa	4.86	4.38	4.17

Reference to Table XXXIII above discloses that the mean average (82.61) for physical education women is higher than both the mean average (81.05) for general elementary students and the mean average (78.89) for physical education men. Approximately two-thirds of the general elementary students' averages lie between 76.19 and 85.91; approximately two-thirds of the physical education men's averages lie between 74.51 and 83.27; and approximately two-thirds of the physical education women's averages lie between 78.44 and 86.78. From the original data 14%, 23%, and 0% of the general elementary students, physical education men, and physical education women respectively had a high school average of 75 and below. Also, 1 general elementary student and 1 physical education man had a high school average between 70 and 72.

S.C.A.T. Scores

TABLE XXXIV  
S.C.A.T. Scores for 1957 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	209	105	69
Q <sub>1</sub>	44.55	54.18	55.56
Median	61.60	67.26	64.85
Q <sub>3</sub>	77.88	82.20	78.25

Reference to Table XXXIV above discloses that the median percentile (67.26) for physical education men is higher than both the median percentile (61.60) for general elementary students and the median percentile (64.85) for physical education women. The middle 50% of the general elementary students' percentiles lie between 44.55 and 77.88; the middle 50% of the physical education men's percentiles lie between 54.18 and 82.20; and the middle 50% of the physical education women's percentiles lie between 55.56 and 78.25. Only one physical education man out of the total group of entering freshmen in September 1957 achieved a score on the S.C.A.T. falling below the 14th percentile. Also, 11 general elementary students, 5 physical education men, and 0 physical education women achieved a score falling at or above the 95th percentile.

Cooperative English Scores

TABLE XXXIV  
Total English Reading Scores for 1957 Freshmen

	General Elementary	Phys. Ed. Men	Phys. Ed. Women
No. of students	196	86	58
Q <sub>1</sub>	32.71	33.62	31.87
Median	49.00	51.54	43.50
Q <sub>3</sub>	66.30	62.55	55.89

Reference to Table XXXIV above discloses that the median percentile (51.54) for physical education men is higher than both the median percentile (49.00) for general elementary students and the median percentile (43.50) for physical education women. The middle 50% of the general elementary students' percentiles lie between 32.71 and 66.30; the middle 50% of the physical education men's percentiles lie between 33.62 and 62.55; and the middle 50% of the physical education women's percentiles lie between 31.87 and 55.89.

## CHAPTER X

### Summary

#### Validity of the Data

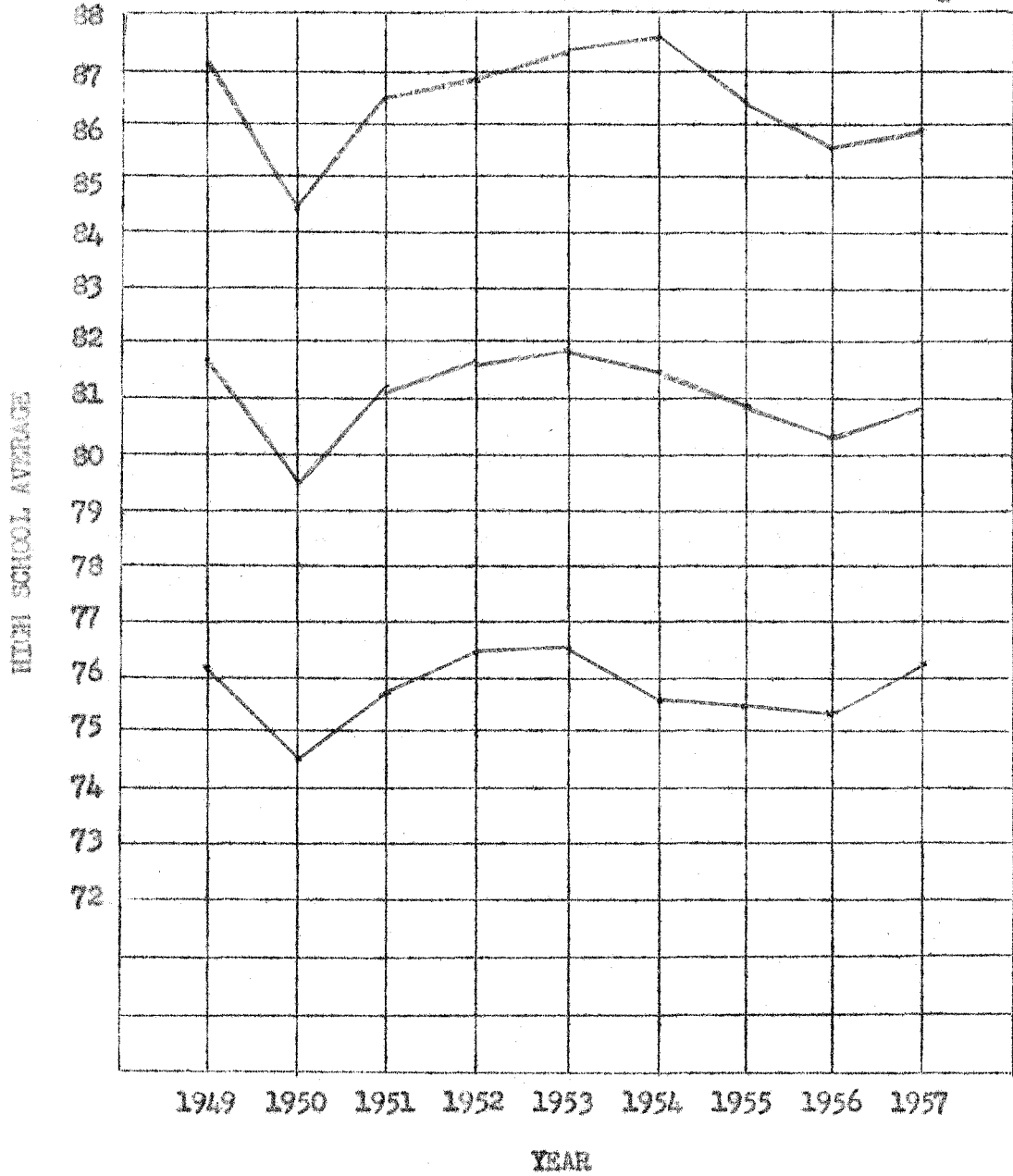
The data included in this study are drawn from records of the office of the Director of Admissions and from the Registrar's office for the period 1949-1957. Records during these years were compiled by various people. An inspection of the recording procedures suggests that test scores and high school averages recorded in more recent years have been kept in a more consistent form and are more precise than some recorded in earlier years of this period. Hence it appears more appropriate to place more faith in conclusions drawn from about 1952-1957 than conclusions based on earlier data.

#### High School Averages

Reference to Table XXXVI, page 39, discloses that the mean high school average for general elementary students has fluctuated between 80 and 82. The only deviation from this pattern was in 1950 when the mean average for general elementary students was 79.51. From 1953 to 1956 the mean high school average achieved by general elementary students was on the decline. Generally, the range of averages achieved by general elementary students for the middle 68% of the cases was between 75 and 87. Again, the only class that deviated from this pattern was the group of general elementary students who entered Brockport State Teachers College in September, 1950.

TABLE XXXVI

Comparison of High School Averages Achieved by General Elementary Students Entering Brockport State Teachers College



- One Standard Deviation Above the Mean
- Mean Average
- One Standard Deviation Below the Mean



Reference to Table XXXVII, page 41, indicates that the high school average for physical education men was on the decline from 1949 to 1953. From 1953 to 1957 the mean high school average for physical education men has fluctuated between 77 and 81. Generally, the range of averages for the middle 68% of the physical education men has been between 73 and 85. It should be noted that 16% of the physical education men who entered Brockport in 1953 had a high school average below 74. The highest high school average achieved by entering physical education men is 82.95 (1949), and the lowest high school average achieved by entering physical education men is 77.44 (1956).

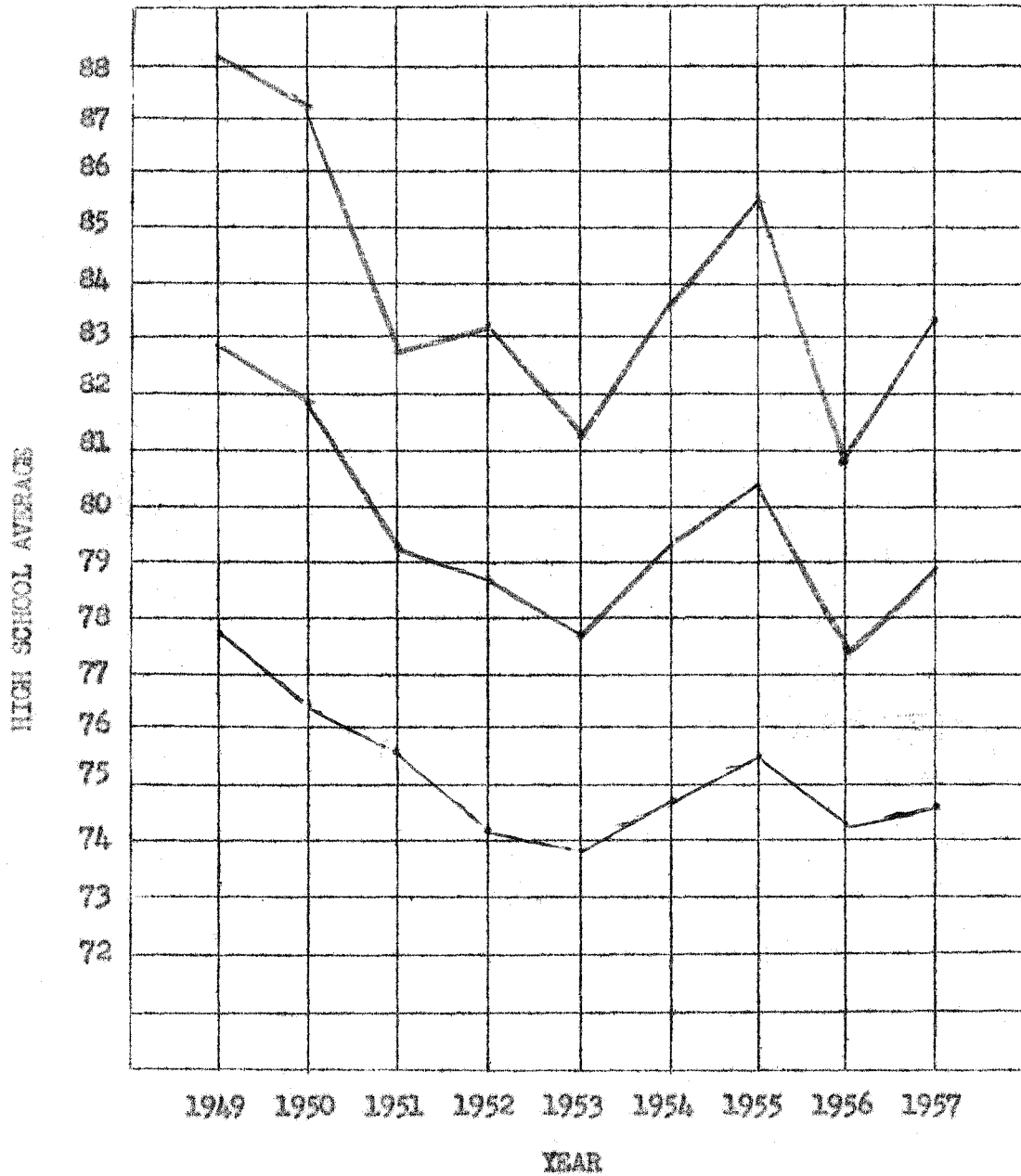
Reference to Table XXXVIII, page 42, indicates that the mean high school average for physical education women has been fairly constant from 1949 to 1956. The high school average for physical education women has always been above 80 except for 1955 when it was 79.85. Generally, the middle 68% of the entering physical education women from 1949 to 1956 achieved high school averages between 75 and 86. The highest mean high school average (82.61) for physical education women was achieved by the freshmen who entered Brockport in September 1957.

In considering all of the entering freshmen classes as a group, the high school average has usually been around 80 with slight deviations above and below during specific years. The middle 68% of the classes has generally achieved a high school average between 73 and 86.

Since 1952, the physical education women have averaged one or two points above physical education men. Between 1953 and 1956, the high school average for general elementary students tended to decline.

TABLE XXXVII

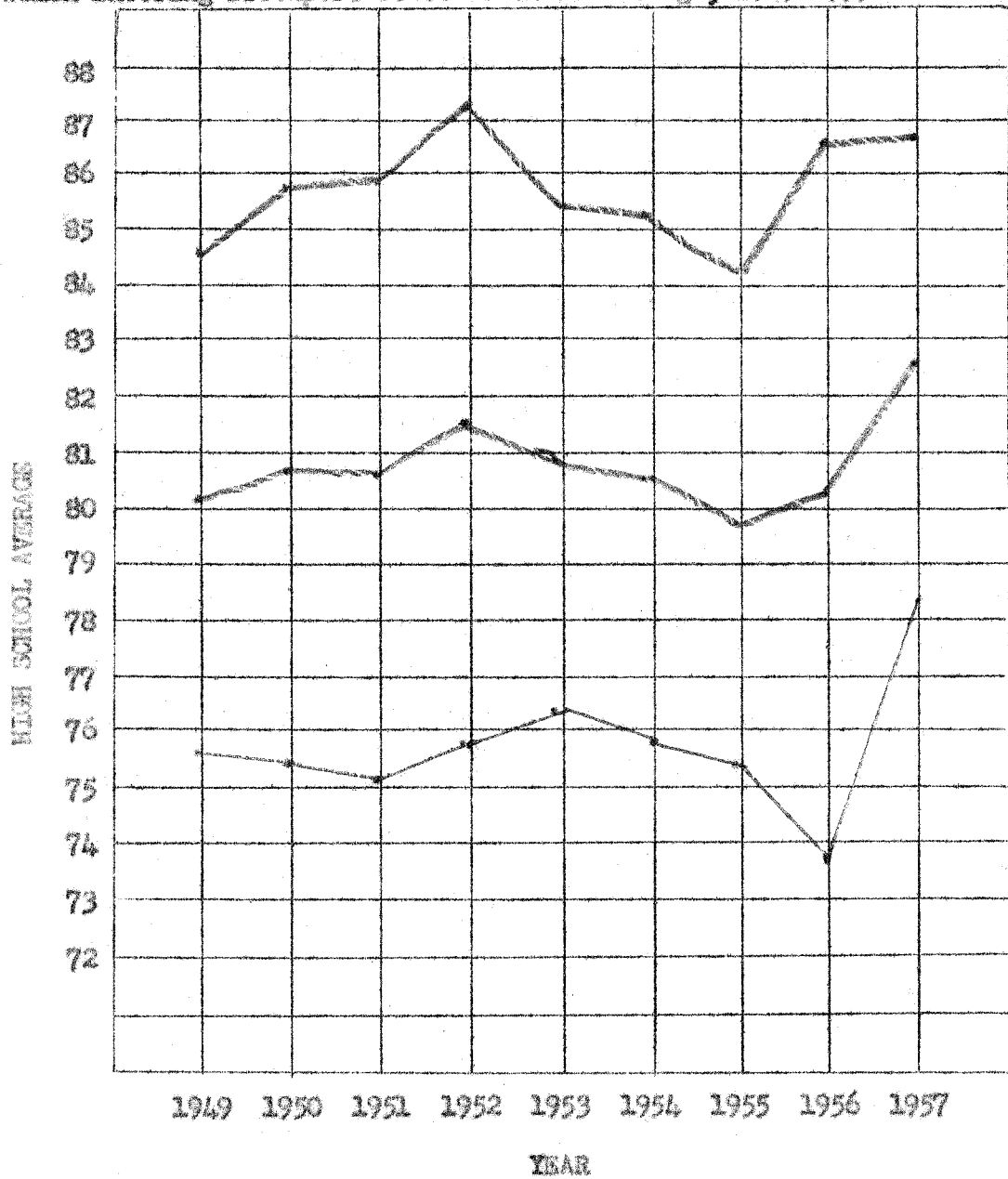
Comparison of High School Averages Achieved by Physical Education Men Entering Brockport State Teachers College, 1949-1957



- One Standard Deviation Above the Mean
- Mean Average
- One Standard Deviation Below the Mean

TABLE XXXVIII

Comparison of High School Averages Achieved by Physical Education Women Entering Brockport State Teachers College, 1949-1957



- One Standard Deviation Above the Mean
- Mean Average
- One Standard Deviation Below the Mean

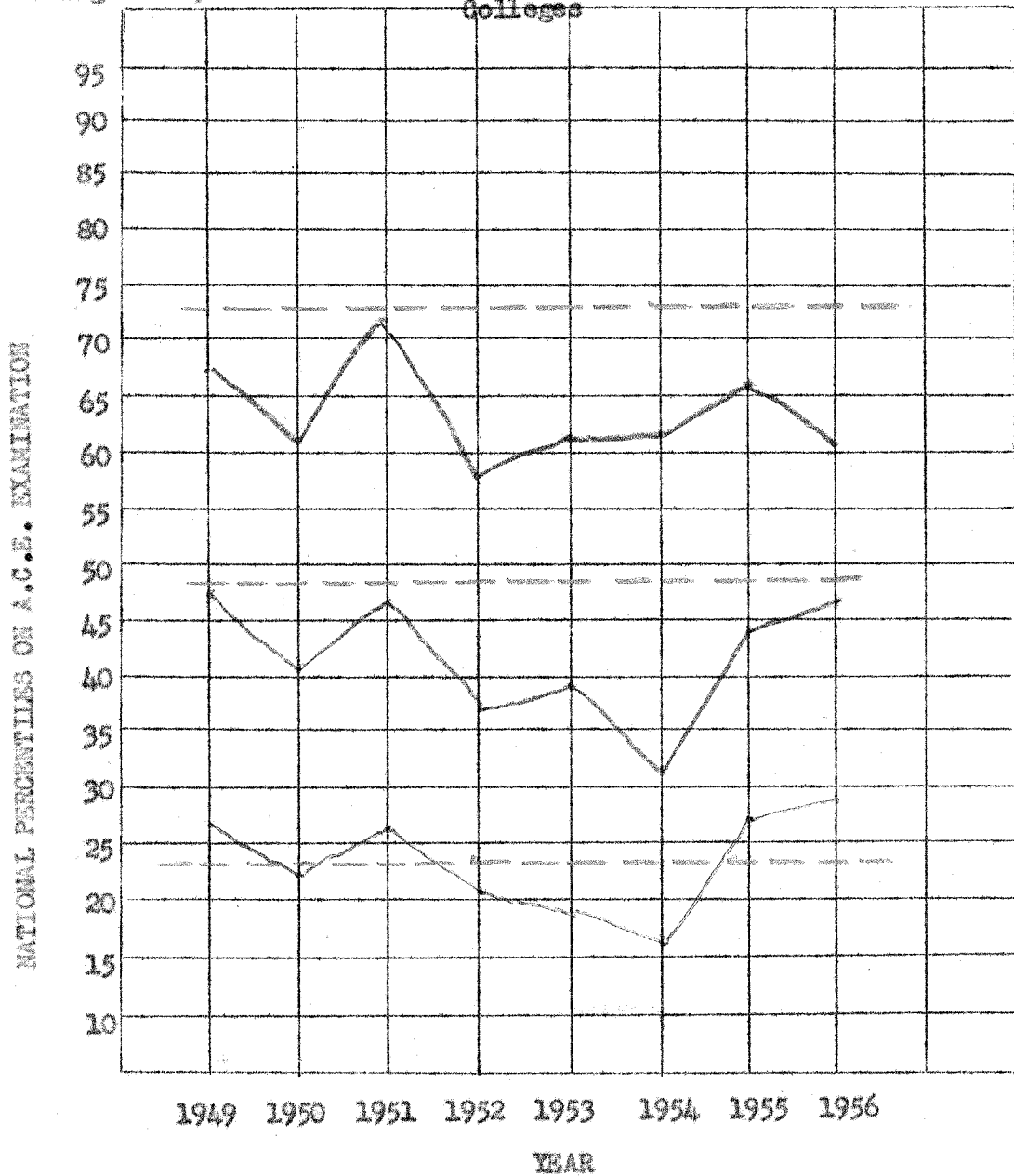
A.C.E. Scores

The American Council on Education Test is a "College Aptitude Test." The scores recorded in this study apply to freshmen entering Brockport from 1949 through 1956. There is no data since 1956 because the test at Brockport has been discontinued. Norms used in judging Brockport students were established on tests given to 7,056 students in 33 teachers colleges in 1947. The general elementary students are compared with the national group of men and women; the physical education men are compared with the national group of men; and the physical education women are compared with the national group of women.

From the data in tables XXXIX, XL, and XLI that follow, the following conclusions are drawn:

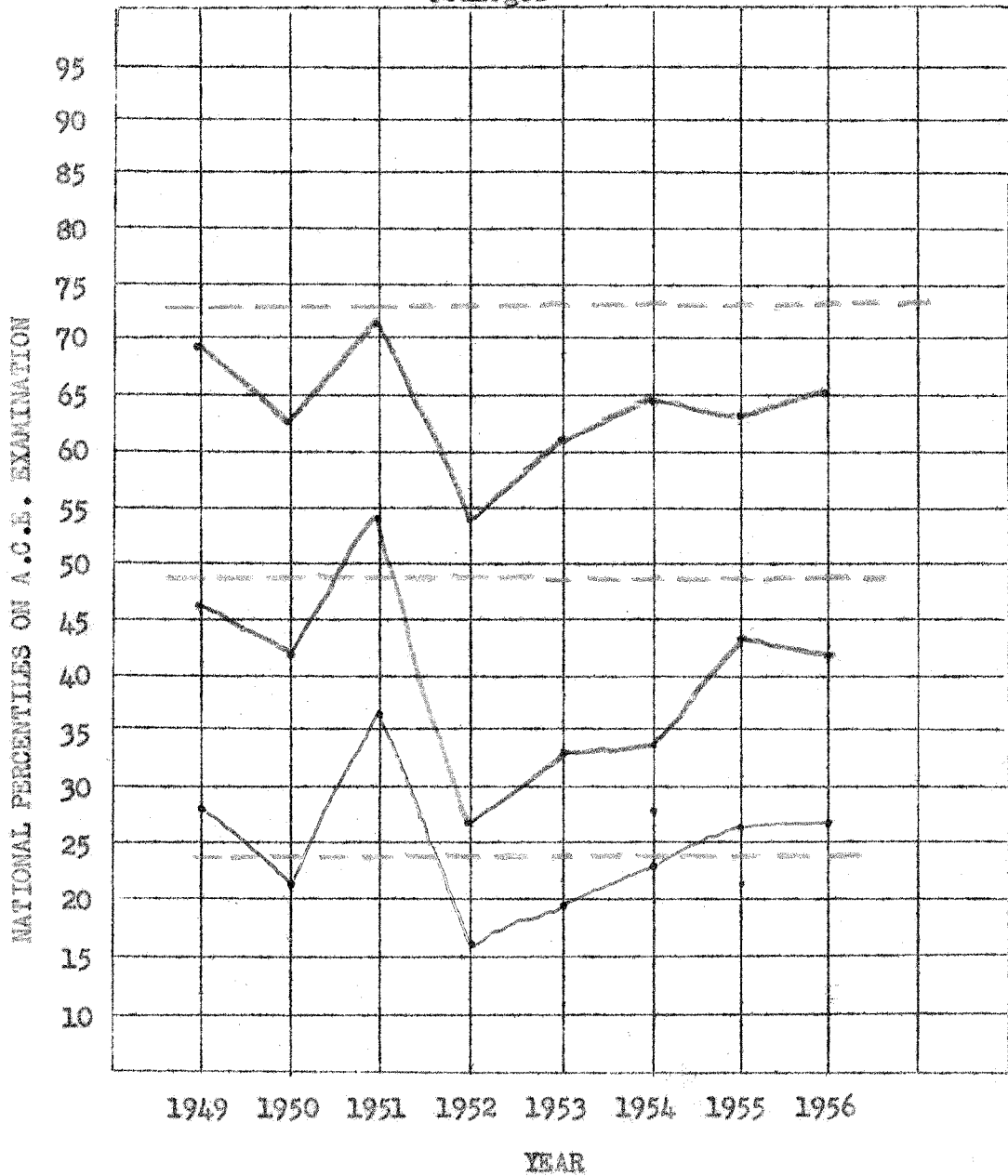
1. For each year, 1949-1956, the average (median) of the Brockport freshmen was generally one or two percentile points above or below the median for the 33 teachers colleges. Hence, the average student entering Brockport during this period was comparable to the average student in the national sample on the A.C.E. test.
2. However, the top 25% of students entering Brockport (1949-1956) did not score as high as the top 25% of the students in the national sample.
3. On the other hand, the lowest 25% of the Brockport entering freshmen (1949-1956) achieved a higher score than the lowest 25% of the national group.
4. Hence, the Brockport students, as measured by the A.C.E. Test, bunch around the average (median) or are more homogeneous than the students in the national norms group.

TABLE XXXIX  
Comparison of A.C.E. Percentiles Achieved by General Elementary Students  
Entering Brockport with Percentiles Achieved by Students in 33 Teachers  
Colleges



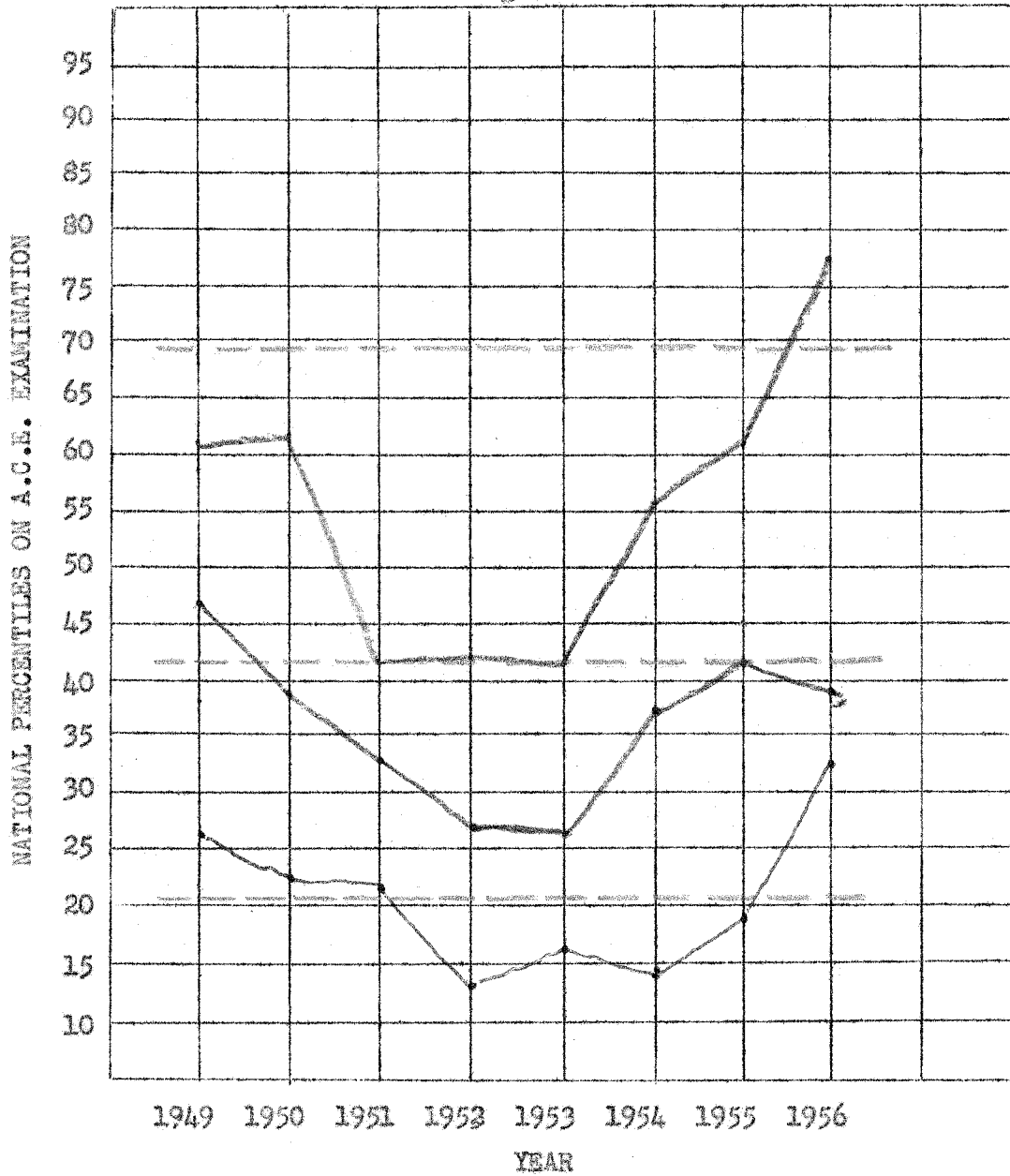
— Q<sub>1</sub>  
— Median  
— Q<sub>3</sub>  
- - - Norms for Teachers Colleges

TABLE XL  
Comparison of A.C.E. Percentiles Achieved by Physical Education Men  
Entering Brockport with Percentiles Achieved by Students in 33 Teachers  
Colleges



— Q<sub>1</sub>  
— Median  
— Q<sub>3</sub>  
— Norms for Teachers College Men

TABLE XLI  
Comparison of A.C.E. Percentiles Achieved by Physical Education Women  
Entering Brockport with Percentiles Achieved by Students in 33 Teachers  
Colleges



— Q<sub>1</sub>

— Median

— Q<sub>3</sub>

--- Norms for Teachers College Women

### Cooperative English Scores

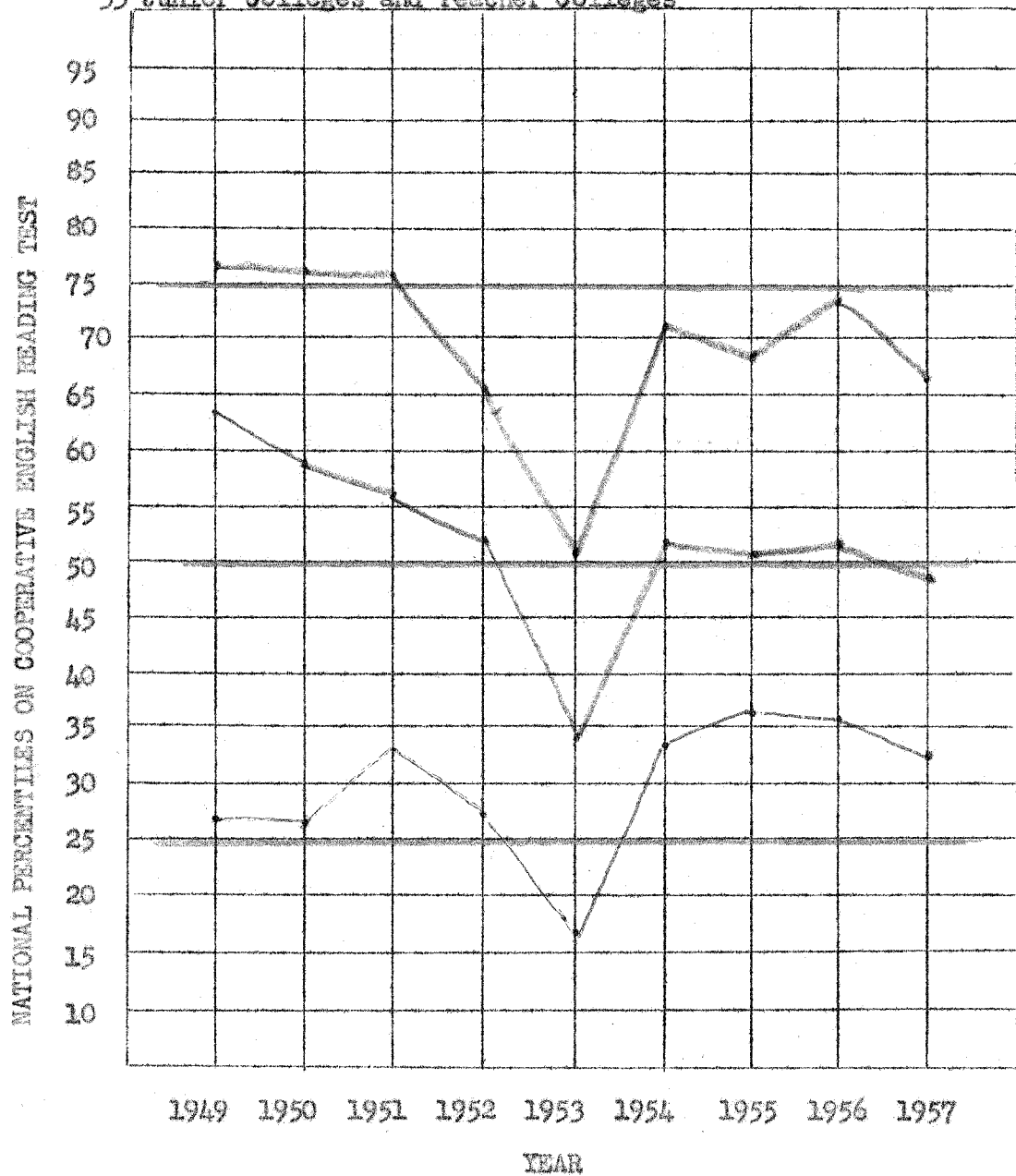
The norms used in judging Brockport students were established on tests given to 14,000 students in 33 junior colleges and teachers colleges. Since the norms are not broken-down according to men and women the general elementary students, physical education men, and physical education women will all be compared with the same norms. It should be recognized that if teachers colleges alone had been used in establishing the norms (as was true in the case of the A.C.E. test) then the norms would probably be different. With the present norms, we cannot confidently predict whether norms based only on teachers colleges would indicate that our entering freshmen have better or poorer preparation in English reading than students entering other teachers colleges.

From the data in Tables XLII, XLIII, and XLIV on pages 48, 49, and 50 respectively, the following conclusions are drawn:

1. There has been marked variation of the success of entering freshmen classes as a whole on the Reading Comprehension Part of the Cooperative English Test.
2. There have been marked differences in success among the three sub-groups of freshmen (general elementary, physical education men, and physical education women) for any given year.
3. However, in considering the average success of entering freshmen throughout the years, 1949-1957, the Brockport students score at about the expected average (median) for the national group.



TABLE XLII  
Comparison of Cooperative English Percentiles Achieved by Brockport  
General Elementary Students with Percentiles Achieved by Students in  
33 Junior Colleges and Teacher Colleges



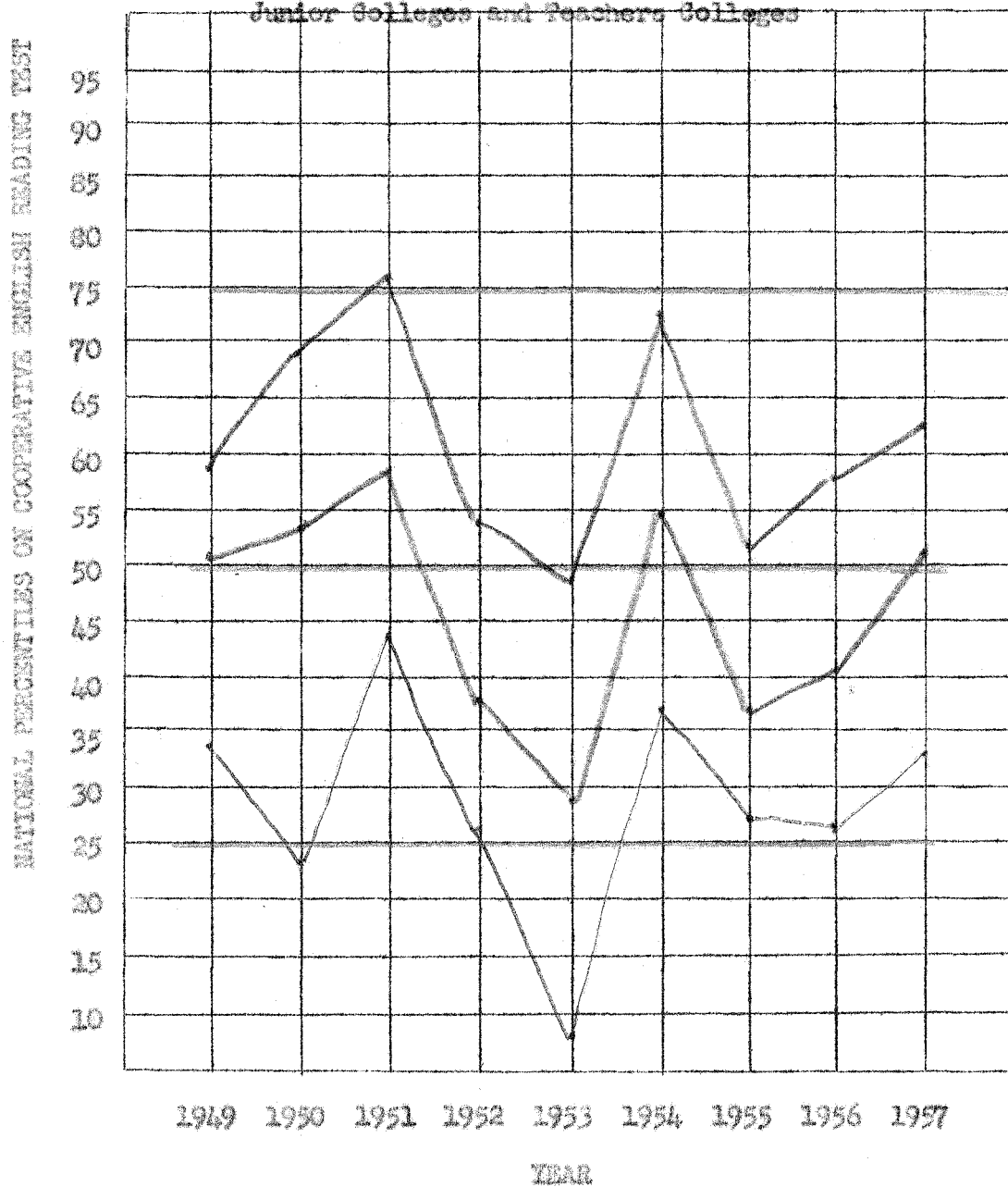
— Q<sub>1</sub>

— Median

— Q<sub>3</sub>

— Norms for 33 Junior Colleges and Teachers Colleges

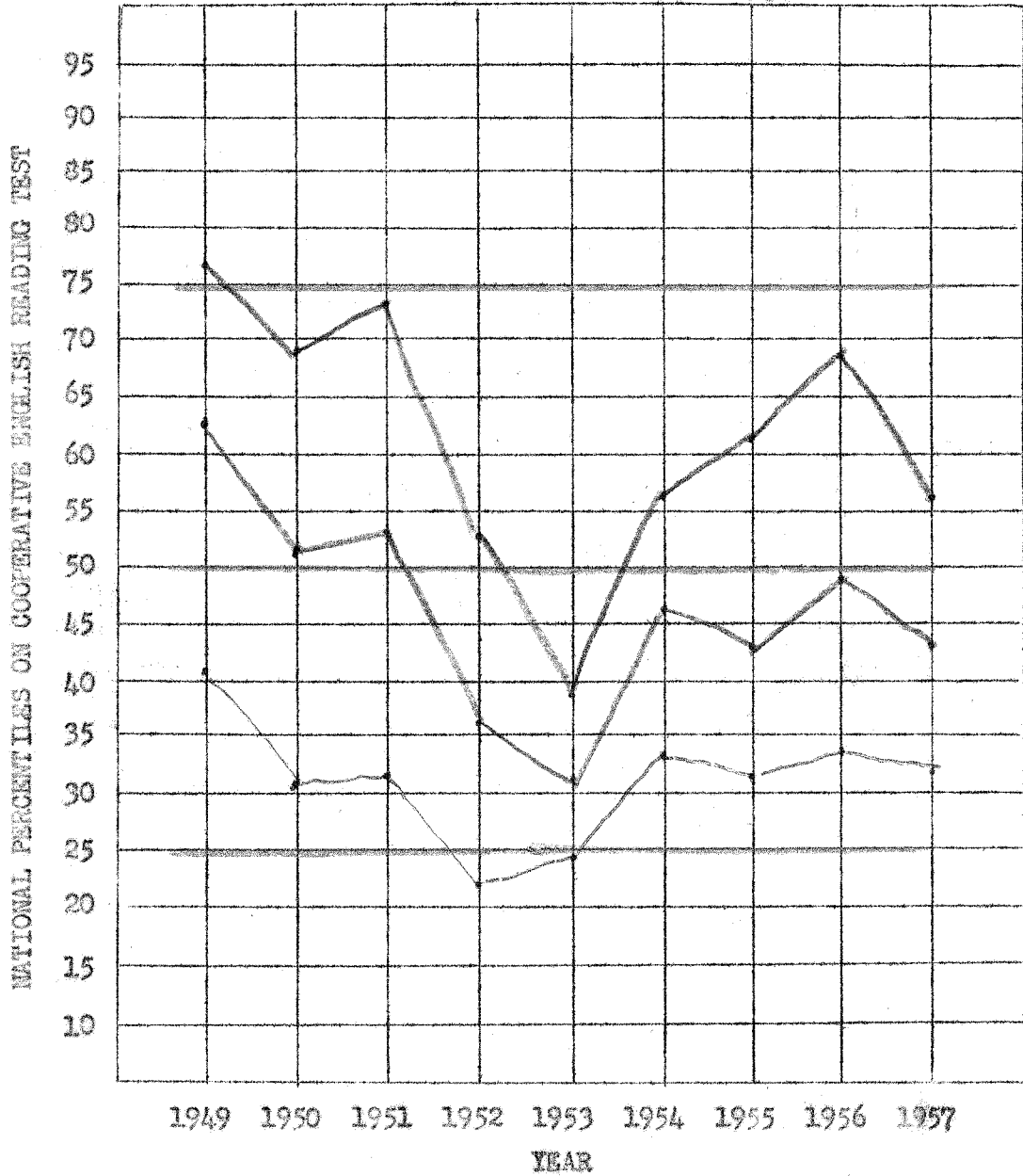
TABLE XLIII  
Comparison of Cooperative English Percentiles Achieved by Brockport  
Physical Education Men with Percentiles Achieved by Students in 33  
Junior Colleges and Teachers Colleges



— Q<sub>1</sub>  
— Median  
— Q<sub>3</sub>

— Norms for 33 Junior Colleges and Teachers Colleges

TABLE XLIV  
Comparison of Cooperative English Percentiles Achieved by Brockport  
Physical Education Women with Percentiles Achieved by Students in  
33 Junior Colleges and Teachers Colleges



— Q<sub>1</sub>

— Median

— Q<sub>3</sub>

— Norms for 33 Junior Colleges and Teachers Colleges

College Grades

Reference to Table XLV, page 53, indicates that the college index for general elementary students at the end of the freshman year was on the increase from 1949 to 1954. Since 1954, the mean index for general elementary students has been going down. The lowest mean index was achieved by the general elementary students who entered Brockport in September 1956. Generally, the mean index for general elementary students was between 2.40 and 2.50 up until 1954. The highest mean index was achieved by the general elementary students who entered Brockport in September 1954. Generally, the top 16% of the General elementary students achieve an index of 2.90 and higher. The lowest 16% of the general elementary students achieved an index of 1.90 and lower.

Reference to Table XLVI, page 54, indicates a great deal of fluctuation in the mean index achieved by physical education men at the end of their freshman year. The two biggest decreases in the mean index for physical education men occurred in the classes that entered Brockport in 1952 and 1956. Since 1953, the mean index for physical education men has been on the decline. The physical education men that entered Brockport in September 1956 had the lowest mean index.

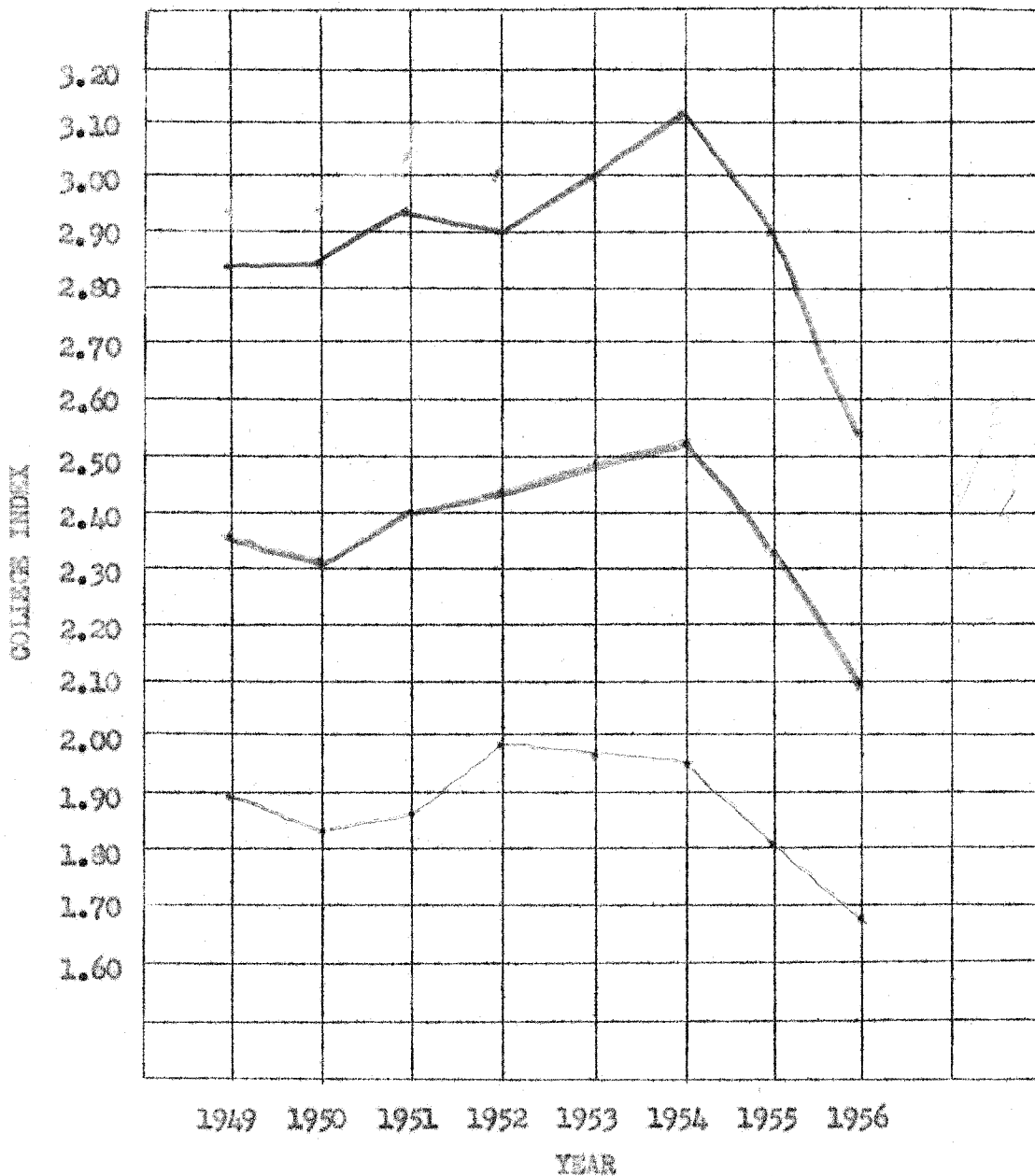
Reference to Table XLVII, page 55, indicates that the mean index for physical education women has generally been between 2.40 and 2.50. The lowest mean index for physical education women was achieved by the women who entered Brockport in September 1951. Of that group of

physical education women, 16% had a college index at or below 1.38. Generally, the top 16% of the physical education women have achieved a college index between 2.90 and 3.00. The lowest 16% of the physical education women have achieved a college index of approximately 1.90

The following are statements with regard to the trends that have occurred in the college indices (grade-point-average) of Brockport students at the end of their freshman year:

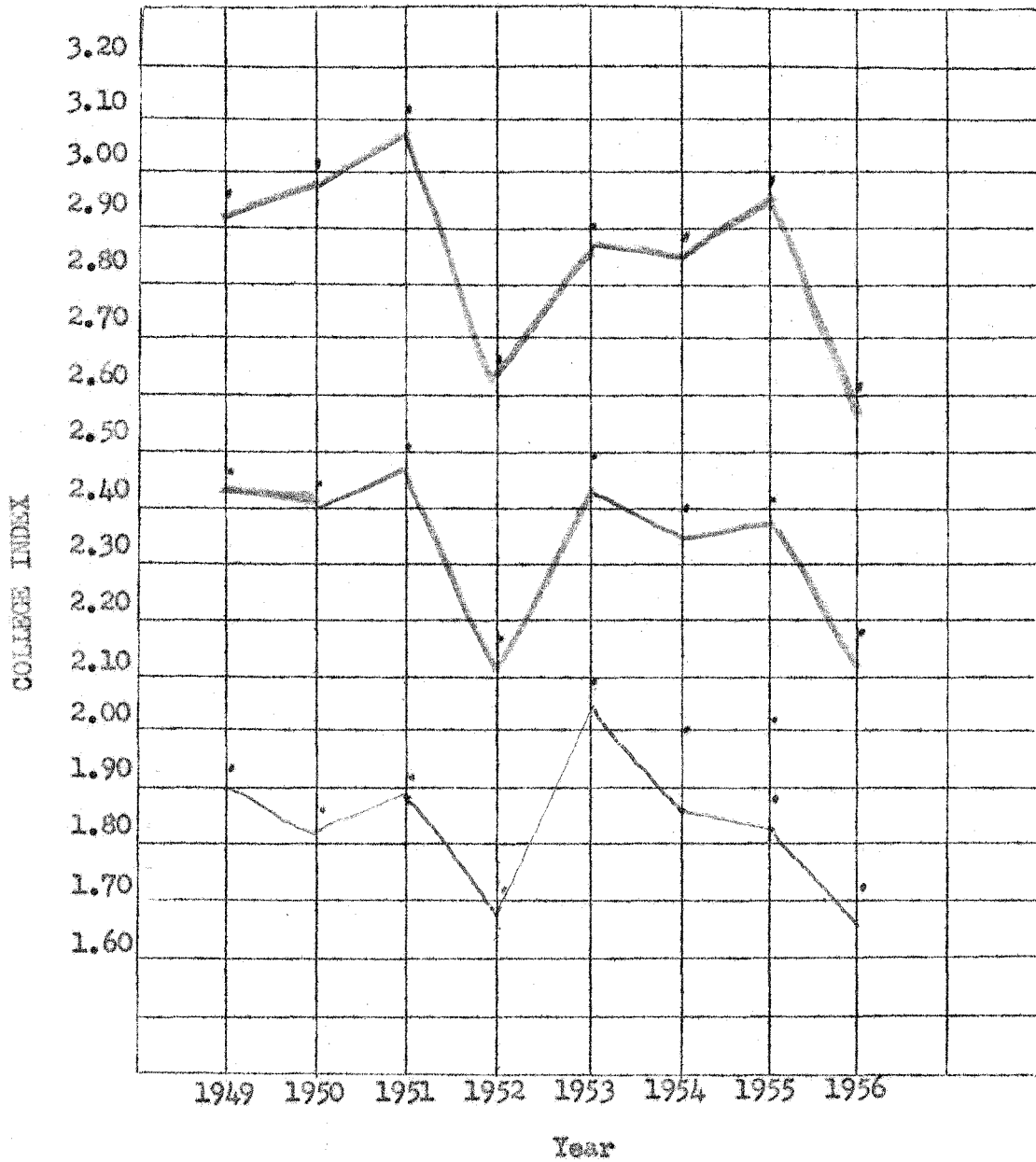
1. The grade-point average for the freshman classes as a whole at the end of their first year has consistently remained between 2.30 and 2.50. That is, the average grade received by freshmen is C+.
2. Slight variation in grade-point average exist between physical education men and physical education women for individual years.
3. General education students as a group consistently have achieved a higher grade-point average than have physical education students.

TABLE XLV  
Comparison of College Indices Achieved by General Elementary  
Students Entering Brockport State Teachers College, 1949-1956



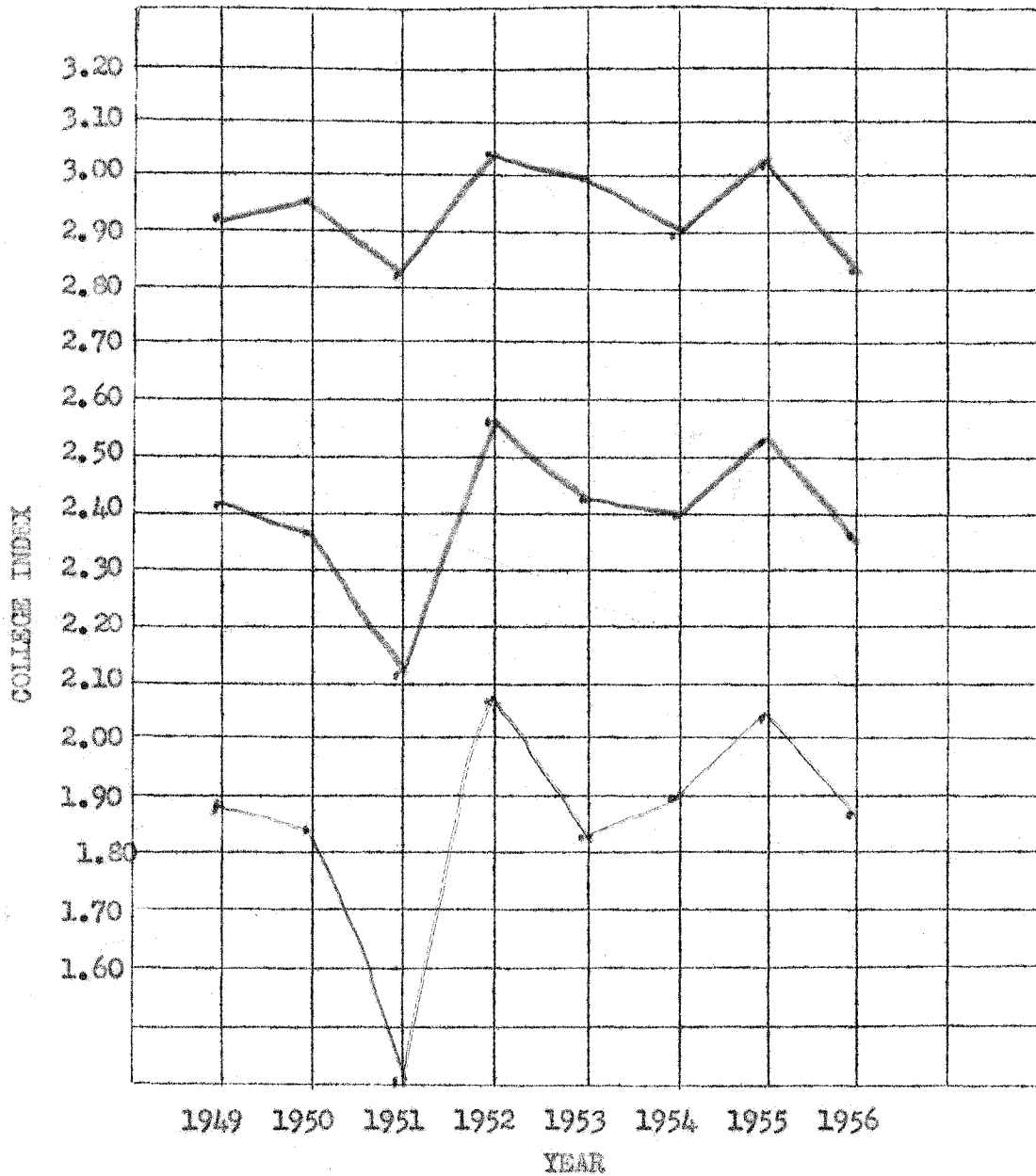
— One Standard Deviation Above the Mean  
— Mean Index  
— One Standard Deviation Below the Mean

TABLE XLVI  
Comparison of College Indices Achieved by Physical Education Men  
Entering Brockport State Teachers College, 1949-1956



— One Standard Deviation Above the Mean  
— Mean Index  
— One Standard Deviation Below the Mean

TABLE XLVII  
Comparison of College Indices Achieved by Physical Education  
Women Entering Brockport State Teachers College, 1949-1956



— One Standard Deviation Above the Mean  
— Mean Index  
— One Standard Deviation Below the Mean



S.C.A.T. Scores

Reference to Table XLVIII below indicates that each of the three groups of freshmen who entered Brockport in September 1957 achieved scores on the S.C.A.T. which were higher than the norms for the State University Teachers Colleges. It can be seen that the median percentile achieved by the three groups of entering freshmen in 1957 was nearly as high as the score achieved by the top 25% of the norms group. The lowest 25% of the Brockport students achieved scores which are comparable to the median score achieved by the norms group. Since this was the first year (1957) that the S.C.A.T. has been given to Brockport freshmen, no further statements can be made until there is more data available.

TABLE XLVIII

Comparison of S.C.A.T. Percentiles Achieved by Brockport Students with Percentiles Achieved by Students in Teachers Colleges

		Q <sub>1</sub>	Median	Q <sub>3</sub>
1957	General Elementary	44.55	61.60	77.83
	Physical Ed. Men	54.18	67.26	74.85
	Physical Ed. Women	55.56	64.85	78.25
SUNY Trchs. Colleges	Men & Women	25.00	50.00	75.00

Recommendations for Further Study

On the basis of the evidence revealed in this research, the following recommendations are made for further study:

1. In order to more accurately evaluate the relationship between admission data and success in college, each freshman class should be studied intensively to graduation.

2. With reference to high school averages and college indices, "t" tests should be computed in order to determine significant differences (if any) between the mean for general elementary students, physical education men, and physical education women.

3. It might be helpful in final comparisons to separate the general elementary students in men and women.

4. Compare the admission data of entering freshmen at Brockport with admission data of students in other teachers colleges.

5. A four-year follow-up study be made of each of the entering freshmen classes in order to obtain, if possible, answers to the following questions?

a. What relationship exists between admission data and achievement on the National Teacher Examinations?

b. What relationships exists between high school averages, percentile scores on the A.C.E. test, percentile scores on the Cooperative English test, percentile scores on the S.C.A.T., and the academic index during a student's four years at Brockport?

c. Are there critical scores on the various admission tests below which a student is likely to be "unsuccessful" at Brockport?

d. Can reliable "regression equations" be determined to predict most probable college indices from various combinations of high school averages and test scores?

APPENDIX A

Statistical Techniques

The basic data used in this study were recorded on individual charts. Each chart was set up in such a way as to facilitate ease in computation and at the same time affording convenient checks on the accuracy of the numerical summaries.

The scores were classified or divided into "class intervals" by procedures recommended by Garrett.<sup>1</sup> The scores for each of the variables used in this study were tabulated within their proper interval.

After the data had been assembled and summarized, standard statistical techniques<sup>2</sup> were employed to determine means, medians, standard deviations, and quartiles. All computations were performed and checked on a modern calculating machine.

The "Short Method" was used for computing the means<sup>2</sup> and standard deviations.<sup>3</sup>

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<sup>1</sup> Garrett, Henry E., Statistics in Psychology and Education, (New York: Longmans, Green, and Co., 1953), pp. 4-9.

<sup>2</sup> Ibid., p. 36.

<sup>3</sup> Ibid., pp. 52-53.

## APPENDIX B

Number of Students, Means, and  
Standard Deviations for High School Averages

		Number of Students	Mean Average	Standard Deviation
1949	General Elementary	261	81.67	5.34
	Phys. Ed. Men	47	82.95	5.29
	Phys. Ed. Women	31	80.21	4.46
1950	General Elementary	194	79.51	4.78
	Phys. Ed. Men	49	81.80	5.41
	Phys. Ed. Women	33	80.67	5.26
1951	General Elementary	212	81.13	5.43
	Phys. Ed. Men	43	79.17	3.65
	Phys. Ed. Women	45	80.60	5.38
1952	General Elementary	174	81.62	5.34
	Phys. Ed. Men	53	78.59	4.56
	Phys. Ed. Women	43	81.59	5.64
1953	General Elementary	181	81.80	5.40
	Phys. Ed. Men	63	77.57	3.74
	Phys. Ed. Women	46	80.99	4.62
1954	General Elementary	229	81.47	5.91
	Phys. Ed. Men	98	79.19	4.47
	Phys. Ed. Women	52	80.59	4.68
1955	General Elementary	187	80.84	5.43
	Phys. Ed. Men	77	80.46	5.09
	Phys. Ed. Women	39	79.85	4.40
1956	General Elementary	180	80.33	5.13
	Phys. Ed. Men	81	77.44	3.21
	Phys. Ed. Women	49	80.31	6.40
1957	General Elementary	201	81.05	4.86
	Phys. Ed. Men	103	78.89	4.38
	Phys. Ed. Women	73	82.61	4.17

APPENDIX B (continued)

Number of Students, Quartiles , and Medians for  
A.C.E. Scores\*

		Number of Students	Q <sub>1</sub>	Median	Q <sub>3</sub>
1949	General Elementary	193	26.92	47.56	67.44
	Phys. Ed. Men	45	28.17	45.32	69.17
	Phys. Ed. Women	31	25.86	46.81	61.17
1950	General Elementary	183	22.55	40.98	62.19
	Phys. Ed. Men	46	20.50	42.22	63.40
	Phys. Ed. Women	32	22.68	39.66	62.16
1951	General Elementary	197	25.47	46.40	72.78
	Phys. Ed. Men	36	36.00	54.90	70.47
	Phys. Ed. Women	47	22.12	33.43	41.60
1952	General Elementary	170	20.88	37.22	58.19
	Phys. Ed. Men	54	15.23	27.00	54.00
	Phys. Ed. Women	42	13.00	26.60	42.25
1953	General Elementary	172	19.40	39.86	61.31
	Phys. Ed. Men	64	19.50	32.79	61.09
	Phys. Ed. Women	45	15.35	25.31	42.18
1954	General Elementary	227	16.42	32.06	61.34
	Phys. Ed. Men	99	23.81	32.91	64.96
	Phys. Ed. Women	53	14.89	36.75	55.12
1955	General Elementary	187	26.70	44.70	65.17
	Phys. Ed. Men	76	21.63	43.75	62.29
	Phys. Ed. Women	39	18.67	41.01	60.31
1956	General Elementary	186	28.70	46.29	60.52
	Phys. Ed. Men	82	25.82	42.44	65.00
	Phys. Ed. Women	48	32.50	39.25	77.50
Students in 33 Teachers Colleges	Men	3675	24.10	48.70	73.80
	Women	3381	20.90	42.20	69.80
	Men & Women	7056	24.40	45.30	75.20

\*Scores recorded as Percentiles

1957

241	39.04	51.15	75.19
30	37.34	49.06	73.28
61	27.49	47.05	70.32

APPENDIX B (continued)

Number of Students, Quartiles, and Medians for  
Total English Reading Scores\* on the Cooperative  
English Test

	Number of Students	Q <sub>1</sub>	Median	Q <sub>3</sub>	
1949	General Elementary	284	26.63	64.13	77.62
	Phys. Ed. Men	63	34.55	51.00	59.40
	Phys. Ed. Women	40	40.50	63.00	76.50
1950	General Elementary	221	26.42	59.38	77.18
	Phys. Ed. Men	59	23.39	54.16	69.27
	Phys. Ed. Women	37	30.65	52.63	69.18
1951	General Elementary	147	33.39	56.16	76.59
	Phys. Ed. Men	22	44.24	58.50	75.33
	Phys. Ed. Women	40	31.50	53.50	73.53
1952	General Elementary	142	26.64	52.26	65.07
	Phys. Ed. Men	33	26.10	38.25	54.45
	Phys. Ed. Women	34	21.74	35.50	52.88
1953	General Elementary	213	16.60	34.59	50.48
	Phys. Ed. Men	34	7.71	29.25	48.36
	Phys. Ed. Women	43	24.74	31.15	38.60
1954	General Elementary	175	33.65	51.66	71.01
	Phys. Ed. Men	71	36.67	55.00	73.40
	Phys. Ed. Women	37	33.75	46.14	55.83
1955	General Elementary	146	35.82	51.16	67.76
	Phys. Ed. Men	77	26.58	37.06	52.32
	Phys. Ed. Women	53	31.52	43.64	61.13
1956	General Elementary	176	35.30	52.08	73.69
	Phys. Ed. Men	63	25.88	40.05	57.80
	Phys. Ed. Women	40	34.20	49.50	67.50
1957	General Elementary	196	32.71	49.00	66.30
	Phys. Ed. Men	86	33.62	51.54	62.55
	Phys. Ed. Women	58	31.87	43.50	55.89
Type III Entering Freshmen in Junior Colleges and Teachers Colleges	33 Colleges 14,000		25.00	50.00	75.00

\*Scores recorded as Percentiles

## APPENDIX B (continued)

Number of Students, Means, and  
Standard Deviations for College Indices

		Number of Students	Mean Index	Standard Deviation
1949	General Elementary	192	2.40	.48
	Phys. Ed. Men	42	2.41	.51
	Phys. Ed. Women	30	2.41	.53
1950	General Elementary	187	2.38	.51
	Phys. Ed. Men	43	2.40	.58
	Phys. Ed. Women	31	2.37	.56
1951	General Elementary	90	2.44	.54
	Phys. Ed. Men	35	2.48	.59
	Phys. Ed. Women	31	2.11	.72
1952	General Elementary	136	2.43	.46
	Phys. Ed. Men	26	2.16	.48
	Phys. Ed. Women	23	2.57	.48
1953	General Elementary	98	2.52	.52
	Phys. Ed. Men	28	2.45	.42
	Phys. Ed. Women	27	2.41	.59
1954	General Elementary	167	2.57	.58
	Phys. Ed. Men	53	2.36	.48
	Phys. Ed. Women	30	2.40	.50
1955	General Elementary	124	2.76	.56
	Phys. Ed. Men	47	2.38	.55
	Phys. Ed. Women	28	2.54	.48
1956	General Elementary	119	2.32	.61
	Phys. Ed. Men	63	2.13	.45
	Phys. Ed. Women	46	2.37	.48

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