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A COMPARISON OF GRADE POINT AVERAGES OF
PARTICIPANTS AND NON-PARTICIPANTS IN THE INTRAMURAL PROGRAM
(TITLE)

BY

William R. Hardin

PLAN B PAPER

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE MASTER OF SCIENCE IN EDUCATION
AND PREPARED IN COURSE

Physical Education 530

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY,
CHARLESTON, ILLINOIS

1963
YEAR

I HEREBY RECOMMEND THIS PLAN B PAPER BE ACCEPTED AS
FULFILLING THIS PART OF THE DEGREE, M.S. IN ED.

2 Aug. 1963
DATE

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DEPARTMENT HEAD

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TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.	1
II. SURVEY OF RELATED LITERATURE.	6
III. INTERPRETATION OF DATA.	12
IV. CONCLUSION AND SUGGESTIONS	17
APPENDIX I	
LIST OF STUDENTS' MAJORS, COLLEGE FRESHMEN AVERAGES, COLLEGE OVER-ALL AVERAGES, AND SUMMATION DIFFERENCE BETWEEN FRESHMAN YEAR AND OVER-ALL AVERAGES OF PARTICIPANTS	20
APPENDIX II	
LIST OF STUDENTS' MAJORS, COLLEGE FRESHMEN AVERAGES, COLLEGE OVER-ALL AVERAGES, AND SUMMATION DIFFERENCE BETWEEN FRESHMAN YEAR AND OVER-ALL AVERAGES OF NON-PARTICIPANTS.	21
BIBLIOGRAPHY	22

LIST OF TABLES

Table	Page
1. Major Fields and Number of Participants and Non-Participants in Each Field	12
2. Mean Grade Point Average and Difference in Mean Grade Point Average Between Freshman and Over-All Grade Point Average of Participants and Non-Participants	13
3. Graph Form of a Comparison of Freshman Grade Point Averages of Participants and Non-Participants	15
4. Graph Form of a Comparison of Over-All Averages of Participants and Non-Participants	16

CHAPTER I

INTRODUCTION

The present intramural program, resulting primarily from the demands of the students, originated in the early 1860's when university students associated in clubs and engaged in athletic competition in a more or less informal way. Since the beginning, the program has grown as to require the help and supervision of the school administration. Intramural activities are now a part of the physical education program for many high schools, colleges, and universities.¹

Modern education is concerned with the total growth and development of every child. Each phase of the school program affects the total growth and development to varying levels. Physical education is a part of education and has aims and objectives contrasting with those of education. The intramural program, as a part of physical education and education, has aims and objectives similar to those of physical education.²

¹Madeline R. Soners, "A Comparative Study of Participation in Extra-Curricular Sports and Academic Grades," Research Quarterly, XXII (March, 1951), p. 84.

²Pat Mueller and Elmer D. Mitchell, Intramural Sports (3rd ed.; New York: Ronald Press Company, 1960), p. 6.

As described by Mueller and Mitchell,³ the objectives of the intramural program are as follows:

1. Physical Fitness
2. Permanent Interest in Sports
3. Recreation
4. Social Contacts
5. Mental and Emotional Health
6. Group Loyalty

The desirable outcomes of the physical education program at Eastern Illinois University which apply to the intramural program are as follows:

1. Development of organic vigor, strength, endurance and coordination.
2. Knowledge of the rules of play in a wide variety of activities which, in many instances, help the individual build a worthwhile recreation program throughout life.
3. Development, under the stress of competition, of such desirable personality traits as perserverance, courage, cooperation, and confidence; all of which help the individual live a more satisfying life in our modern world.
4. Relief of tension through participation in wholesome activities which are enjoyable and revitalizing.
5. Wide spread acquaintanceship and association which becomes a source of pleasure and satisfaction during college and later life.
6. Development of cultural appreciations which give a great deal of inner satisfaction and pleasure in skilled accomplishments as well as in intelligent viewing of outstanding performances.

³Ibid., pp. 11-14.

7. Practical experience for the prospective teacher by affording opportunities to coach and manage athletic teams.⁴

The purpose of this study was: (1) to study the academic grades of participating and non-participating male students primarily involved in the intramural program at Eastern Illinois University; (2) to present a comparative study of the total population of male students in the intramural sports program in relation to success in academic grades; and (3) to what effect, if any, participation in intramurals had upon academic grades of the compared groups.

It was decided to use the graduating class of 1961, since the complete records of this class were the only three-year record on hand in the files of Dr. John Hodapp, the intramural director at Eastern Illinois University. The writer had attempted to include the freshman year in the study, but found that by doing so, limited the participant group to seven individuals.

As a method of determining what students would be used in the writer's study, which consisted of a total number of 278 male subjects, only the students who had spent three consecutive years (sophomore, junior, and senior) at Eastern Illinois University were selected for the study. By following this procedure, it eliminated students who transferred to the university and students who

⁴Physical Education and Athletic Handbook (Charleston: Eastern Illinois University, 1962-63), pp. 3-4.

dropped from the university during the sophomore, junior or senior years.

In this study, a non-participant is a student who was not in the intramural program for any quarter for three consecutive years at the university, with the exception of one quarter in the senior year for practice teaching. A participant is a student who was involved in the intramural program for two or more quarters per year throughout three consecutive years, with the exception of one quarter in the senior year for practice teaching. If the student was out for a varsity sport and one or more intramural sports during the same year, the student was considered a participant.

Out of the total number of 278 male students of the graduating class of 1961, the eliminating factors determining which students were participants or non-participants and the number of students who spent three consecutive years at the university narrowed the total number to 57 students. Of these, 35 will be considered non-participants and 22 will be considered participants. Among the participants there were 19 students who were not involved with a varsity sport. The remainder of the participants, three in number, were the only subjects the writer used with the combination of a varsity sport and intramural.

The records in the University Record Office were consulted for the grade point average for each year, and for each of the 57 subjects in the class of 1961.

The method used by Eastern Illinois University for changing letter grades into grade points is as follows: A equals 4 points; B equals 3 points; C equals 2 points; D equals 1 point; F equals 0 point. By multiplying the number of grade points by the number of quarter hours the course carries, a grade point total is obtained for each course. Then, by adding the total number of grade points for all of the courses taken by a student during the school year, and dividing the total by the number of quarter hours, the grade point average is obtained for the year.

In order to find the over-all grade point average for the subjects in this study, the writer added the total grade point average of each subject for the three consecutive years and divided by three.

CHAPTER II

SURVEY OF RELATED LITERATURE

Hackensmith and Miller⁵ conducted a study concerning participants and non-participants in intramural athletics at the University of Kentucky. The data was received from the intramural participation record of the 1935-36 school year, the intelligence test records of the Department of Psychology, and the academic records.

The purpose of this investigation was to study the relation of intramural participation and academic grades of freshman, sophomore, junior, and senior university students.

The students, which numbered 161 in each group, were classified as participants or non-participants.

Random sampling from the registrar's records was used to select the non-participants, and the participants were secured directly from the intramural records.

Suggested results of the study were:

1. That freshman participation in intramural athletics does not have marked effect upon the student's academic grade.

⁵C. W. Hackensmith and L. Miller, "A Comparison of the Academic Grades and Intelligence Scores of Participants and Non-Participants in Intramural Athletics at the University of Kentucky," Research Quarterly, IX (March, 1938), pp. 94-95.

2. That participants in intramural athletics as a whole have a higher mean intelligence ranking than those who do not participate.
3. That sophomore participants show a slightly higher mean academic grade and that junior and senior intramural participants demonstrate a definitely higher mean academic grade than do the non-participants of the same class.⁶

The purpose of a study conducted by Washke from 1931 through 1934 was to determine what effect, if any, intramural athletics had on the grades of certain male students at the University of Oregon.

Resulting from this study, Washke⁷ had the following conclusions:

1. Intramural program did not have harmful effects on the participants' scholastic attainment.
2. Intramural participants show a slightly higher grade point average over the non-participants in each year except 1932-1933.

Another article, written by Monroe, reported briefly two investigations. The first investigation was from the Senior High School of Kenosha, Wisconsin, which was limited to pupils in the eleventh and twelfth grades during the school year 1927-1928.

⁶Ibid., p. 99.

⁷Paul R. Washke, "A Study of Intramural Sports Participation and Scholastic Attainment," Research Quarterly, XI (May, 1940), p. 27.

Concerning this study, Monroe⁸ came to the following conclusions:

1. From the standpoint of averages, the individuals participating in the extra-curricular activities were above average in general intelligence in comparison to those individuals not participating.
2. Concerning grades, the non-participants had lower grades than the participants.
3. Concerning the data, this particular study suggests that participation may be beneficial.

Three schools were involved in the second investigation. These schools were the 1929 class of the Bridgeport Township High School, the 1928 class of the Canton High School, and both the 1928 and 1929 classes of the Robinson Township High School.

Primarily, the same conclusions were stated in this study as were stated in the first investigation.

Tepper⁹ conducted a study in Teaneck, New Jersey, where only the twelfth grade of the junior-senior high school was included. In this study, no attempt was made to classify the activities concerning time and energy spent.

Out of 293 individuals, 85.4 per cent were active in one or more activities, and 14.6 per cent did not participate

⁸Walter S. Monroe, "The Effect of Participation in Extra-Curricular Activities on Scholarship in the High School," School Review, XXXVII (December, 1929), pp. 747-748.

⁹Edith H. Tepper, "Scholarship and Extra-Curricular Participation," School Activities, XIII (October, 1941), pp. 51-52.

in any activity. The average number of activities per individual equaled 2.245. At this particular school, students were not encouraged to be active in more than three activities per year.

This study suggested that:

1. The lack of interest in activities and class work tend to go hand in hand.
2. The interest and needs of most students were met because of the high percentage of participation.
3. Those who tend to be successful outside the classroom tend to be successful inside the classroom.

Ruth M. Short and Richard M. Drake¹⁰ conducted a survey in 1940 in which the records of a senior class of 138 pupils were studied. Activities were assigned a definite number of points for each individual. "Active" or "non-active" status was determined from the total number of points for each individual. An individual had to have 28 or more points to be "active." Individuals having less than 28 points were considered "non-active."

In making comparisons, these four aims were considered:

1. To compare marks of students, active versus non-active.

¹⁰Ruth M. Short and Richard M. Drake, "A Study in Participations," School Activities, XIII (September, 1940), pp. 3-4.

2. To compare marks of a group when it was participating and when it was not participating.
3. To correlate marks of students, active and non-active, and I.Q.'s to see which group more nearly maintained a standing in scholarship that accords with their ability.
4. To discover definite information covering leaders.¹¹

The authors pointed out that the results of this study limits the reliability of the experiment because (1) the survey was made in only one school; and (2) that a small number of cases were involved (75 active pupils and 63 non-active pupils.)

Keeping in mind the above limitations, these conclusions are set forth:

1. Little difference in school achievement between pupils with almost identical I.Q.'s, either active or non-active.
2. There is a higher degree of relationship between intelligence and achievement in school subjects for the active group than for the non-active group.
3. Chances are great that their scholarship will not be affected.
4. The scholastic work of leaders does not seem to suffer because of their active participation in extra-curricular activities.¹²

Twining¹³ conducted an investigation of scholastic marks and extra-curricular activities of a graduating class

¹¹Ibid., p. 3.

¹²Ibid., p. 4.

¹³Charles W. Twining, "The Relationship of Extra-Curricular Activity to School Marks," School Activities, XXVIII (February, 1957), pp. 181, 184.

at Frankford High School, Philadelphia, during the senior year. The activities were conducted voluntarily over and above the regular curriculum in which the students were engaged. The Otis Quick-Scoring Mental Test and the numerical grades, for the senior year, were secured from the individual records of the graduating class totaling 293 male students.

The results of this study indicated that participants in extra-curricular activities received higher averages in the senior year than those not participating. However, the author stated in the conclusion that there is no positive confirmation that extra-curricular involvements will definitely raise a participant's grades.¹⁴

¹⁴Ibid., p. 184.

CHAPTER III

INTERPRETATION OF DATA

Eastern Illinois University, which is located in Charleston, Illinois, was the only institution involved in this study. During the years covered in this study (1958-1961), competition was held in 12 sports: touch football, soccer, wrestling, basketball, volleyball, badminton, table tennis, softball, golf, track, swimming, and tennis.

The writer, wanting to see how many different majors there were in each group, devised Table 1 to show the comparison. It was interesting to note that physical education had two students in each group. Before making the comparison, the writer anticipated that there would be more than two students in the participant group who were physical education majors.

TABLE 1
MAJORS AND NUMBER OF STUDENTS
IN EACH FIELD

MAJORS	
Participants	Chemistry-1; Botany-1; Speech-1; Physical Education-2; Business-7; Zoology-2; Industrial Arts-3; Music-2; Mathematics-1; Social Science-2.
Non-Participants	Music-4; Elementary Education-1; Physical Education-2; Art-1; Business-12; Social Science-4; Mathematics-3; English-2; Geography-1; Zoology-2; Industrial Arts-3.

In Table 2, by adding the total number of grade points for all courses taken by a student during the school year, and dividing the obtained total by the number of quarter hours involved, the grade point average range of 1.58 to 3.94 was obtained.

TABLE 2
MEAN GRADE POINT AVERAGE, DIFFERENCE IN
MEAN GRADE POINT AVERAGE BETWEEN FRESHMEN
AND THE OVER-ALL GRADE POINT AVERAGE

	<u>Mean Grade Pt. Av.</u>		Difference in Mean Grade Pt. Av. Between Freshmen Gr. & Over-All Gr. Pt. Av.
	Freshman Yr.	Over- All	
Participants	2.29	2.38	.11
Non-Participants	2.49	2.64	.15

Using Table 2, which shows a comparison of the mean grade point average of the freshman year and the over-all mean grade point average, the writer determined whether there was any change in the grade point average for each group. Although the greatest actual difference of .04 occurred between the means, the difference was not significant.

Table 3 (page 15) and Table 4 (page 16) were used in order to show a comparison of freshman grade point averages and over-all grade point averages of participants and non-participants. By arranging each grade grade point average of the participants and non-participants in a graph form, the writer determined the letter grade of each individual.

The method used by the writer for changing grade points into letter grades was the following: A equals 4.00; B equals 3.00 to 3.99; C equals 2.00 to 2.99; D equals 1.00 to 1.99; F equals 0.99 and below.

From the comparison in Table 3 (page 15), participants had the following letter grades: Grade of D, 5 students; Grade of C, 15 students; Grade of B, 2 students. For non-participants, the following letter grades were found: Grade of D, 5 students; Grade of C, 24 students; Grade of B, 6 students.

From the comparison in Table 4 (page 16), the following letter grades were found for participants: Grade of C, 19 students; Grade of B, 3 students. The following letter grades were found for non-participants: Grade of C, 29 students; Grade of B, 6 students.

For each participant, Appendix I (page 20) shows the summation and average summation difference between the freshmen year and over-all average. Adding each plus and minus, the writer found 12 students increased and 10 students decreased in summation difference. The total amount of +.09 represents the average summation difference.

For each non-participant, Appendix II (page 21) presents the summation and average summation difference between the freshmen year and over-all averages. After adding each plus and minus, 21 students increased and 14 students decreased in summation difference. The number+.12 is the average summation difference.

TABLE 3

COMPARISON OF FRESHMEN GRADE POINT AVERAGES
OF PARTICIPANTS AND NON-PARTICIPANTS

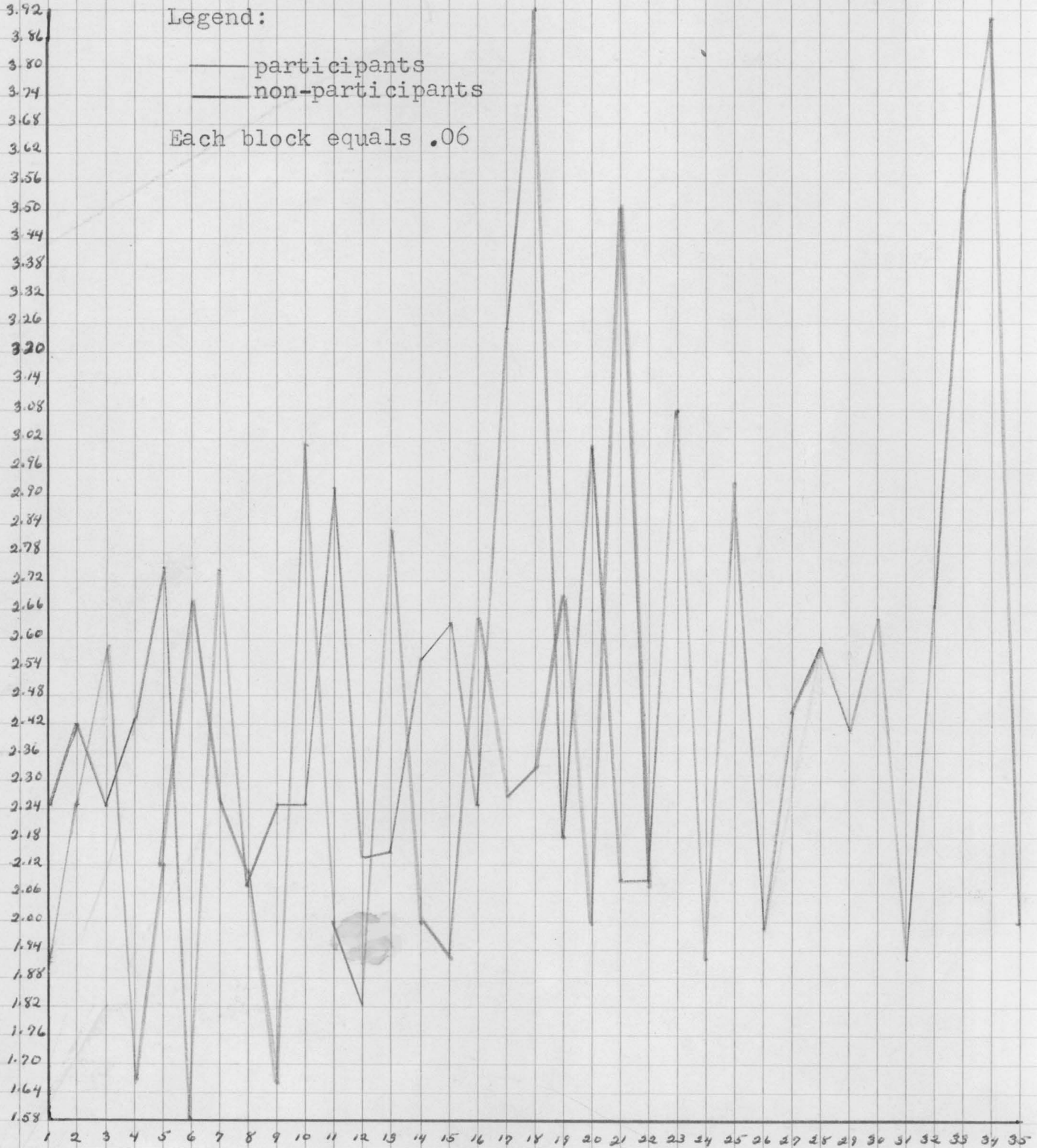
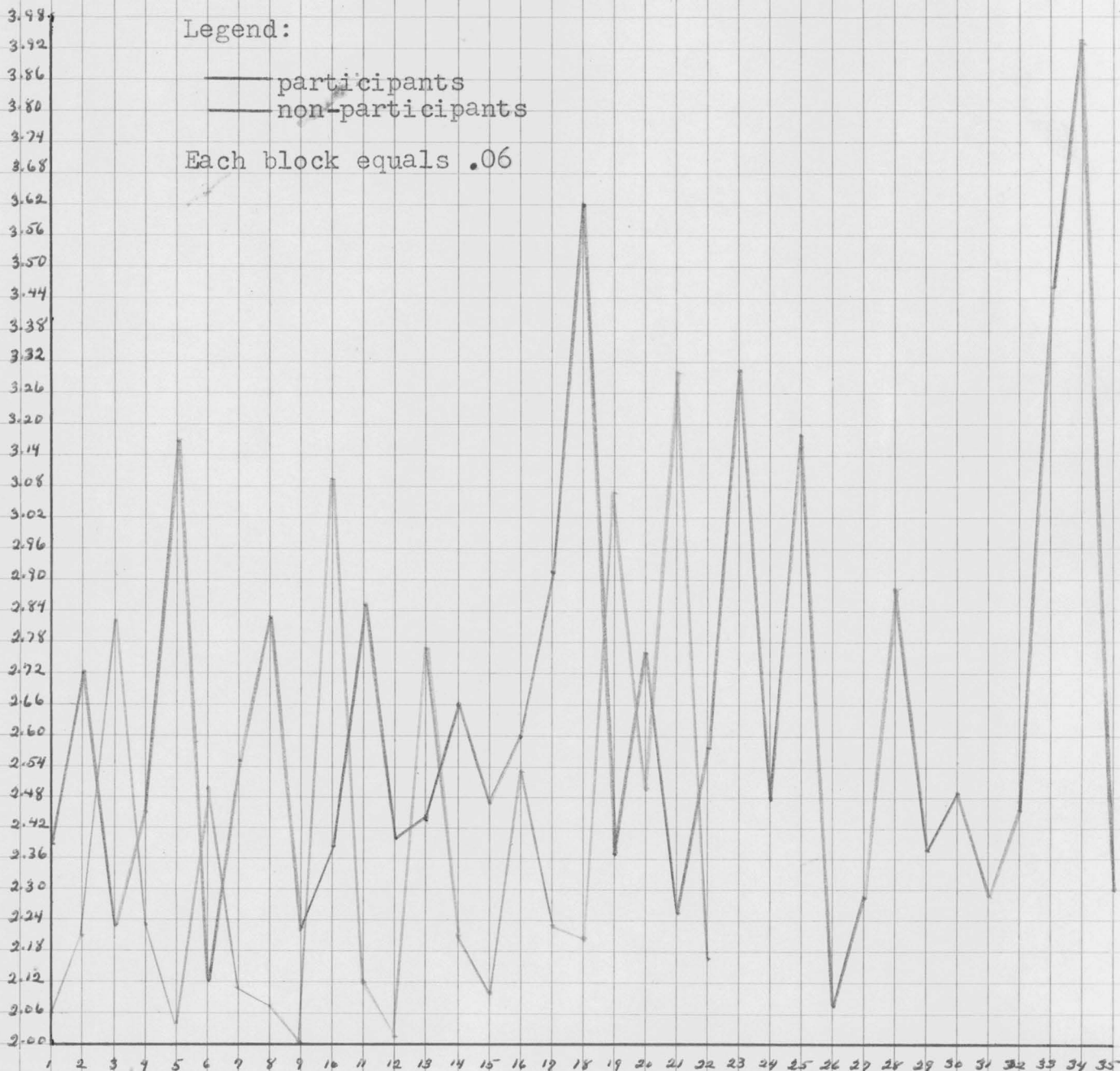


TABLE 4

COMPARISON OF OVER-ALL AVERAGES OF PARTICIPANTS AND NON-PARTICIPANTS



CHAPTER IV

CONCLUSION AND RECOMMENDATIONS

Resulting from this study, the writer has the following conclusions:

1. In light of the limited number of cases used in the study and of the method employed in evaluating the data, no conclusion can be drawn with regards to the effect of intramural participation upon academic grade point average.
2. Student participation in intramural athletics was more active in the intramural program in the junior and senior years than freshman year.
3. As a general rule, freshman participated in one sport. Future studies of this nature could probably produce more significant results if both groups were larger.

In addition to increasing group size, the writer recommends the following on future studies:

1. After each quarter the researcher should compare the grades of participants involved in the intramural program over a four-year period. Application of this procedure would enable the researcher to obtain more specific conclusions.
2. The study should include more than one university. By

following this method, a broader area would be involved.

3. After each quarter the researcher should compare the grades of active and non-active students involved in the intramural program for a four-year period. By doing so, the researcher would be able to gain insight on each student from year to year.

APPENDIX I

LIST OF STUDENTS' MAJORS, COLLEGE FRESHMEN AVERAGES,
COLLEGE OVER-ALL AVERAGES, AND SUMMATION DIFFERENCE
BETWEEN FRESHMAN YEAR AND OVER-ALL AVERAGES OF PAR-
TICIPANTS.

APPENDIX II

LIST OF STUDENTS' MAJORS, COLLEGE FRESHMEN AVERAGES,
COLLEGE OVER-ALL AVERAGES, AND SUMMATION DIFFERENCE
BETWEEN FRESHMAN YEAR AND OVER-ALL AVERAGES OF NON-
PARTICIPANTS.

PARTICIPANTS

Student	Major	COLLEGE RATING		Summation Difference Between Freshman Year & Over-All Av.
		Freshman Yr.	Over-All Av.	
1	Business	1.92	2.06	+.14
2	Zoology	2.25	2.21	-.04
3	Business	2.58	2.82	+.24
4	Ind. Arts	1.67	2.23	+.56
5	Music	2.12	2.04	-.08
6	Math	2.67	2.50	-.17
7	Business	2.25	2.11	-.14
8	Soc. Sci.	2.10	2.08	-.02
9	Chemistry	1.67	2.00	+.33
10	Business	3.00	3.10	+.10
11	Business	2.00	2.12	+.12
12	Business	1.83	2.02	+.19
13	Music	2.83	2.77	-.06
14	Zoology	2.00	2.21	+.21
15	Ind. Arts	1.92	2.10	+.18
16	Ind. Arts	2.64	2.53	-.11
17	Botany	2.27	2.23	-.04
18	Business	2.33	2.21	-.12
19	P. E.	2.69	3.07	+.38
20	Speech	2.00	2.50	+.50
21	P. E.	3.50	3.24	-.26
22	Soc. Sci.	2.08	2.17	+.09

M. = 2.29 M. = 2.38

Av. Sum-
mation
Diff. +.09

NON-PARTICIPANTS

Student	Major	COLLEGE RATING		Summation Difference Between Freshman Year & Over-All Av.
		Freshman Yr.	Over-All Av.	
1	Business	2.25	2.39	+.14
2	Business	2.42	2.72	+.30
3	Business	2.25	2.23	-.02
4	Math	2.43	2.45	+.02
5	Soc. Sci.	2.75	3.17	+.42
6	Geography	1.58	2.12	+.54
7	Business	2.75	2.55	-.20
8	Zoology	2.08	2.83	+.75
9	Business	2.25	2.23	-.02
10	Business	2.25	2.39	+.14
11	Ind. Arts	2.92	2.85	-.07
12	Elem Ed.	2.14	2.40	+.26
13	Business	2.13	2.44	+.21
14	P. E.	2.56	2.66	+.10
15	English	2.64	2.47	-.17
16	Soc. Sci.	2.25	2.60	+.35
17	Math	3.25	2.92	-.33
18	Art	3.92	3.62	-.30
19	Business	2.18	2.37	+.19
20	Business	3.00	2.76	-.24
21	Zoology	2.09	2.26	+.17
22	Ind. Arts	2.09	2.58	+.49
23	Soc. Sci.	3.08	3.30	+.22
24	English	1.92	2.48	+.56
25	Music	2.93	3.18	+.25
26	Ind. Arts	1.99	2.08	+.09
27	Music	2.45	2.29	-.16
28	Music	2.58	2.88	+.30
29	P. E.	2.41	2.38	-.03
30	Business	2.64	2.49	-.15
31	Business	1.92	2.29	+.37
32	Soc Sci.	2.67	2.46	-.21
33	Math	3.54	3.46	-.08
34	Music	3.90	3.94	+.04
35	Business	2.00	2.30	+.30

M.= 2.49 M.= 2.64

Av. Sum-
mation
Diff. +.12

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