

A COMPARISON OF GRADE POINT AVERAGES AND I. Q. SCORES OF
LETTERMEN, NONLETTERMEN, AND NONPARTICIPANTS AT THE HIGH
SCHOOL JUNIOR LEVEL

by 3735

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A MASTER'S REPORT

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requirements for the degree

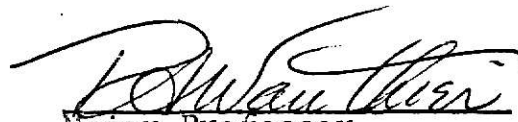
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INTRODUCTION

Much emphasis is presently being placed on the college bound student. Because of this greater emphasis, new areas of discussion are being stimulated in all divisions of the educational system. One such discussion is that of the prominence of interscholastic and intercollegiate athletics and its relevance to, and affect on, the student.

It is generally agreed that athletics are educational and belong in our school program today. On the high school level, the development of strong athletic programs has, in most cases, been accepted, but the policy of building an athletic program on a competitive basis for college recruiting is still questioned by many educators and coaches.

There are many who agree that the position of athletics in the school enhances the participants opportunity for a higher education, but there are others who believe that athletic participation distracts from academic achievement. The question of whether or not athletic participation hinders scholastic achievement is brought out in nearly every discussion of the subject. Questions are then raised concerning scholastic achievement and intelligence quotient of athletes and how these compare with those of the nonathlete. Questions often raised by coaches are in relation to the comparison that can be made in these areas between members of team sports and those involved in individual sports.

PURPOSE

It was the purpose of this report to provide concrete data comparing the scholastic achievements and intelligence quotients of high school athletes with nonparticipants in athletics, and to provide further data comparing the scholastic achievements and intelligence quotients of high school athletes of members of team and individual sports.

The purpose of these comparisons was to establish whether or not athletics can be complimentary to the education program of the school system as opposed to being a deterrent factor.

REVIEW OF LITERATURE

The most recent available study to which this report is comparable, was written by William Alfred Hargrave in 1953. His investigation was on a like subject, but pertained to junior high students. Results of other studies found by this author, concerning the scholastic achievements of athletes and nonathletes on the college, high school, and junior high level, cannot be compared with the findings of these studies due to the difference of the methods used to make the comparisons.

METHOD OF STUDY

The data used in compiling this report includes the grade point averages and intelligence test scores of two hundred and sixty-three students. The grades employed and intelligence test scores were obtained from the cumulative files of Wichita High School North. The California Short-Form Test of Mental

Maturity, was given to all students at a time prior to their entrance into high school, with the exception of the new students who were given their tests as soon as possible after their transfer to the Wichita school system. The California Short-Form Test of Mental Maturity is no longer used in the Wichita school system in an effort to determine I. Q. The 1964-65 class was the last class to enter North High School as sophomores under this testing procedure.

After removing the names of those who lettered or participated in athletics, the names of nonparticipants were selected from an alphabetical class list arbitrarily using every fifth boys' name.

The names of the lettermen and nonlettermen were obtained from the annual report on athletics submitted by North High School to the Kansas State High School Activities Association.

The following procedure was used to determine grade point averages:

- A equals five points
- B equals four points
- C equals three points
- D equals two points
- F equals one point

Each individual was given points according to his grade in each course, and the total number of grade points was divided by the number of courses involved. The average grade points were obtained ranging from 1.00 to 5.00.

During the three year period which this study covers, letters were awarded to fifty-one junior boys. In the same three year period, there were eighty-one junior boys who participated in athletics but did not win letters.

When the term "lettermen" is used, it refers to those students who have won one or more letters in football, basketball, swimming, or track. The term "nonlettermen", refers to those students who participated in one or more of the four sports but did not win letters. The term "nonparticipants", refers to those students who did not take part in any of the sports.

THE STUDY

Table 1. Comparison of the grade points and I. Q. scores of lettermen, nonlettermen, and nonparticipants for the second semester, 1962-63 school year.

Classification	Number	Grade point average	I. Q. average
Lettermen	21	3.513	109.571
Nonlettermen	24	3.439	110.08
Nonparticipants	49	3.26	107.591

The statistics of this table involve the grade point average and I. Q. scores of 21 lettermen, 24 nonlettermen, and 49 nonparticipants. In the 1962-63 school year, there were 718 junior students in the Wichita North High School. Of this number, 350 were girls and 368 were boys. Forty-five of the boys participated in athletics, and 49 were nonparticipants, selected at random from the 323 boys.

The data show that the lettermen had the high grade point average (3.513) and the middle I. Q. average (109.571). The nonlettermen had the middle grade point average (3.439), and the high I. Q. average (110.08). The nonparticipants had both the low grade point average (3.26) and the low I. Q. average (107.591).

The grade point averages ranged from 3.513 to 3.26, a spread of only .253 points. The I. Q. averages ranged from 110.08 to 107.591, a spread of 2.489 points.

Table 2. Comparison of the grade points and I. Q. scores of lettermen, nonlettermen, and nonparticipants for the second semester 1963-64 school year.

Classification	Number	Grade point average	I. Q. average
Lettermen	21	3.679	113.809
Nonlettermen	35	3.501	112.371
Nonparticipants	46	2.98	104.065

In the school year of 1963-64, there were 698 junior students in the Wichita North High School, 321 of whom were girls and 377 boys. Of the 377 boys, 21 were lettermen in at least one of the four sports, 35 boys participated but did not earn letters, and there were 46 boys selected at random from the 321 boys that did not participate.

Table 2 indicates that the lettermen had the high grade point average (3.679) and the high I. Q. average (113.809). The nonlettermen had the middle grade point average (3.501) and the middle I. Q. average (112.371). The nonparticipants had both the low grade point average (2.98) and the low I. Q. average (104.065).

The grade point averages ranged from 3.679 to 2.98, a spread of .699 points. The I. Q. averages showed a range from 113.809 to 104.065, a difference of 9.744 points.

Table 3. Comparison of the grade points and I. Q. scores of lettermen, nonlettermen, and nonparticipants for the second semester 1964-65 school year.

Classification	Number	Grade point average	I. Q. average
Lettermen	9	3.412	114.666
Nonlettermen	22	3.484	118.59
Nonparticipants	36	3.336	111.388

The school year of 1964-65, there were 732 junior students in the Wichita North High School, 360 of whom were boys and 372 were girls. The boys were distributed as follows: 9 were lettermen, 22 were nonlettermen, and 36 were selected at random from the 329 that were nonparticipants.

Table 3 indicates that the lettermen had the middle grade point average (3.412) and the middle I. Q. average (114.666). The nonlettermen held the high grade point average (3.484) and the high I. Q. average (118.59). The nonparticipants held both the low grade point average (3.336) and the low I. Q. average (111.388).

The statistics show a grade point average range from 3.484 to 3.336, a spread of .148 points. The I. Q. averages showed a range from 118.59 to 111.388, a difference of 7.202 points.

Table 4. The grade point averages and the I. Q. score averages over three consecutive second semester periods.

Classification	Number	Grade point average	I. Q. average
Lettermen	51	3.535	112.682
Nonlettermen	81	3.475	113.714
Nonparticipants	131	3.192	107.681

During the three year period of this study, there were 2,148 junior students in the Wichita North High School. Of this number, 1,105 were boys and 1,043 were girls. Of the boys, 51 were lettermen in at least one of the four sports, 81 boys participated in sports but did not win letters and 131 were selected at random from the 973 boys that did not participate in athletics.

The data indicate that over the period of study, the lettermen had the high grade point average (3.535) and the middle I. Q. average (112.682). The nonlettermen had the middle grade point average (3.475) and the high I. Q. average (113.714). The nonparticipants had the low grade point average (3.192) as well as the low I. Q. average (107.681).

The grade averages show a range from 3.535 to 3.192 with a difference of .343 points. The I. Q. averages show a range from 113.714 to 107.681 with a difference of 6.033 points.

Table 5. Comparison of the grade point averages and I. Q. scores of the football, basketball, swimming and track lettermen for the second semester 1962-63 school year.

Classification	Lettermen	Grade point average	I. Q. average
Football	9	3.5	104.000
Basketball	1	3.833	112.000
Swimming	7	3.117	116.428
Track	4	3.687	109.500

During the school year of 1962-63, there were 21 letters awarded to students in football, basketball, swimming, and track, by Wichita High School North. The 21 letters were distributed among the four sports in the following manner: 9 letters were awarded in football, 1 letter was awarded in basketball, 7 letters in swimming and 4 letters were awarded in track.

The statistics show that football lettermen ranked third in the grade point average (3.5) and had the low I. Q. average (104.000). The basketball lettermen had the high grade point average (3.833) and were second in the I. Q. average (112.000). The swimming lettermen had the lowest grade point average (3.117) and the high I. Q. average (116.428). The track lettermen ranked second in grade point average (3.687) and were third in the I. Q. average (109.500).

The grade point averages ranged from 3.833 to 3.117, with a difference of .716 points. The I. Q. averages ranged from 116.428 to 104.000, with a difference of 12.428 points.

Table 6. Comparison of the grade point averages and I. Q. scores of the football, basketball, swimming, and track lettermen for the second semester 1963-64 school year.

Classification	Lettermen	Grade point average	I. Q. average
Football	10	3.457	113.750
Basketball	5	3.600	115.800
Swimming	5	3.853	109.400
Track	6	3.816	116.250

The school year of 1963-64, Wichita North High School awarded letters to 26 boys. Of these boys, 10 won letters in football, 5 were awarded letters in basketball, 5 letters were awarded to swimmers and 6 were given in track.

The table indicates the football lettermen had the low grade point average (3.457) and ranked third in the I. Q. average (113.750). The basketball lettermen had third ranking in the grade point average (3.600) and were second in the I. Q. average (115.800). The swimming lettermen had high grade point average (3.853) and low I. Q. average (109.400). The track lettermen ranked second in the grade point average (3.816) and held the high I. Q. average (116.250).

The grade point average ranged from 3.853 to 3.457, with a difference of .396 points.

The I. Q. averages ranged from 116.250 to 107.800, with a difference of 8.450 points.

Table 7. Comparison of the grade point averages and I. Q. scores of the football, basketball, swimming, and track lettermen for the second semester 1964-65 school year.

Classification	Lettermen	Grade point average	I. Q. average
Football	11	3.233	107.800
Basketball	1	4.125	130.000
Swimming	5	3.458	118.666
Track	5	3.307	116.250

The school year of 1964-65 produced 22 lettermen in the four sports of football, basketball, and track in Wichita High School North. Letters were received by 11 boys in football. There was 1 letter awarded in basketball, 5 letters in swimming, and 5 letters awarded in track.

The data show that football lettermen held the low grade point average (3.233) as well as the low I. Q. average (107.800). The basketball lettermen had the highest grade point average (4.125) and also the highest I. Q. average (130.000). The swimming lettermen ranked second in both the grade point average (3.458) and the I. Q. average (118.666). The track lettermen were third in the grade point average (3.307) and ranked third in the I. Q. average (116.250).

The grade point averages range from 4.125 to 3.233, with a difference of .892 points. The I. Q. averages ranged from 130.000 to 107.800, with a difference of 22.200 points.

Table 8. Three semester comparison of grade point averages and I. Q. averages of football, basketball, swimming and track lettermen.

Classification	Lettermen	Grade point average	I. Q. average
Football	30	3.396	108.516
Basketball	7	3.852	119.266
Swimming	17	3.476	114.831
Track	15	3.608	114.000

During the three semester period covered by this study, the Wichita High School North awarded 69 letters to students in football, basketball, swimming, and track. The letters were awarded to 30 boys in football. Seven boys received basketball letters, 17 received swimming letters, and 15 boys were awarded track letters.

The table shows the football lettermen had the low grade point average (3.396) and the low I. Q. average (108.516). The basketball lettermen had the highest grade point average (3.852), and also the highest I. Q. average (119.266). The swimming lettermen ranked third in the grade point average (3.476) and second in the I. Q. average (114.831). The track lettermen had the second highest grade point average (3.608) and ranked third in the I. Q. average (114.000).

The grade point averages ranged from 3.852 to 3.396, with a difference of only .456 points. The I. Q. averages ranged from 119.266 to 108.818, with a difference of 10.750 points.

Table 9. English, American History and Algebra grade point average of the lettermen, nonlettermen, and non-participants for the second semester of the three school years included in the study.

Year	English	American History	Algebra	All three classes
LETTERMEN				
1962-63	3.631	3.381	3.947	3.653
1963-64	3.300	3.455	3.997	3.584
1964-65	3.100	3.811	3.159	3.356
Three year average	3.343	3.548	3.701	3.531
NONLETTERMEN				
1962-63	3.191	3.094	3.434	3.239
1963-64	3.402	3.887	3.700	3.663
1964-65	3.454	3.739	3.118	3.437
Three year average	3.349	3.573	3.417	3.446
NONPARTICIPANTS				
1962-63	3.015	3.358	3.466	3.279
1963-64	2.69	3.476	3.042	3.069
1964-65	3.06	3.5	3.491	3.350
Three year average	2.921	3.444	3.333	3.232

In Table 9, the lettermen, nonlettermen, and nonparticipants were compared as to grade point averages in English, and American History, over the second semesters of a three year period. These subjects were selected because all students are required to take English and American History during their junior year at Wichita High School North. Algebra is taken by more North High students than any other course offered, with the exception of the two courses already mentioned and Physical Education. Physical Education was not considered in this comparison because of the close relationship to athletics.

In preparing the grade point averages for English, the grades of 20 lettermen, 30 nonlettermen, and 61 nonparticipants were used in the 1962-63 school year. In the school year 1963-64, 25 lettermen, 41 nonlettermen, and 71 nonparticipants were used in the grade point averages for English. Twenty-two lettermen, 38 nonlettermen and 66 nonparticipants were used in preparing the grade point averages for English in the 1964-65 school year.

To determine the grade point averages for American History, the grades of 2 lettermen, 40 nonlettermen, and 53 nonparticipants were used in the 1962-63 school year. Twenty-five lettermen, 40 nonlettermen, and 71 nonparticipants were used in preparing the grade point averages for American History in the school year 1964-65, the grades of 19 lettermen, 36 nonlettermen, and 57 nonparticipants were used.

In order to assure a comparable standard for a course

level, Algebra grades were used regardless of the year the course was taken by the student. To calculate the grade point averages for Algebra, the grades of 18 lettermen, 23 nonlettermen, and 30 nonparticipants were used in the 1962-63 class year. To determine the grade point averages for Algebra in the class year 1963-64, 24 lettermen, 33 nonlettermen, and 21 nonparticipants grades were used. Twenty lettermen, 31 nonlettermen, and 40 nonparticipants were used in preparing the grade point averages for the class year 1964-65.

The data from this table shows that in English, the lettermens' grade point average (3.343) and the nonlettermens' grade point average (3.349) were nearly identical. The nonparticipants had the low grade point average (2.921).

At no time during the three years did the nonparticipants' averages surpass those of the lettermen or the nonlettermen.

In the year 1962-63, the lettermens' averages bettered those of the nonlettermen, while in 1963-64, and 1964-65, the nonlettermen had the better averages.

The table shows that in American History, the lettermens' grade point average (3.548) and the nonlettermens' grade point average (3.573) were again nearly identical. As in English, the nonparticipants had the low average (3.444).

In the years of 1962-63, and 1964-65, the lettermens' averages excelled those averages of the nonlettermen and the nonparticipants. The nonlettermens' grade point average bettered the average of the lettermen in the year 1963-64, and

1963-64, and 1964-65.

The averages for the nonparticipants surpassed the lettermen in 1963-64 by .021, and in 1962-63 was a better average than nonlettermen by .264 points.

In comparison of the Algebra grade point averages, the table points out that each year, lettermens' averages were higher than the nonlettermen.

In the year 1964-65, the lettermens' averages were .332 points lower than the nonparticipants.

The nonlettermens' average for Algebra excelled the nonparticipants' averages in the 1963-64 school year. With the exception of 1963-64, both the lettermens' averages and the nonparticipants' averages surpassed the nonlettermens' averages.

In the years of 1962-63 and 1964-65, the nonparticipants' averages excelled those averages of the nonlettermen. The nonlettermens' average was better than the lettermens' average in 1964-65.

When the grades of all three classes were combined and averaged, the table indicates that the lettermen were high with an average of 3.531. The nonlettermen ranked second with an average of 3.446, and the nonparticipants were low with an average of 3.232.

The lettermens' averages were always higher than the nonparticipants and ranked higher than the nonlettermens' averages in 1962-63.

in 1963-64 and 1964-65 and were higher than the nonparticipants' average two of the three years.

The nonparticipants' averages topped the nonlettermens' averages by .04 points in the year 1962-63.

CONCLUSIONS

The following conclusions have been made from the data collected during a three year period, 1962-63, through the 1964-65 school year, from the second semester classwork of lettermen, nonlettermen, and nonparticipants that were in their junior year at Wichita High School North:

1. In considering both the required and elective courses, the lettermens' grade point average was superior to those averages of the nonlettermen and the nonparticipants.

2. The data shows that the nonlettermen had the high I.Q. score average, and that the nonparticipants had the lower.

3. The scholastic attainments of the basketball lettermen surpassed those of the football, swimming, and track lettermen.

4. The I. Q. averages of the basketball lettermen were superior to those I. Q. averages of the football, swimming, and track lettermen.

5. There was very little difference between the English grade point averages of the lettermen and nonlettermen, but both the lettermen and nonlettermen ranked higher than the English grade point averages of the nonparticipants.

6. The nonparticipants ranked lower in American History than the lettermen and nonlettermen.

7. The Algebra averages of the lettermen were higher than those of the nonlettermen, while the nonparticipants had the low average.

8. In the combined required courses, the lettermen ranked first and the nonparticipants ranked last.

9. The data indicates that the scholastic attainment of the athletes is not affected by their participation in athletics.

10. The data shows that the nonlettermen had slightly higher I. Q. averages than lettermen. Both lettermen and nonlettermen I. Q. averages were higher than nonparticipants.

As was stated earlier, this study was an attempt to answer the question of whether or not athletic participation hinders or enhances scholastic achievement. The ten statements above show that students participating in athletics achieve consistently higher scholastic ratings than nonparticipating students. Also, the facts brought to light in this report so closely coincide with the junior high study of Mr. Hargrave as to be almost identical. It would follow then, that according to these comparative studies, athletics in no way constitute a deterrent factor, but rather can be complimentary to the educational program of a school system.

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MASTER OF SCIENCE

Department of Physical Education

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This study is an attempt to bring a concrete answer to a much debated question; that of whether or not athletic participation hinders or enhances scholastic achievement. The interest of this writer has been stimulated by participation in many such discussions over an eighteen year period of teaching and coaching.

Upon entering graduate school at Kansas State University, further interest in the study of the subject was brought about at the suggestion of Mr. T. M. Evans, Chairman of the Physical Education Department.

Upon investigation, it was found that the only study of the subject made at this University, was one by William Hargrave, conducted at the junior high level. It was decided then, to continue, at the high school level, the study conducted by Mr. Hargrave.

It was the purpose of this report to provide concrete data comparing the scholastic achievements and intelligence quotients of high school athletes with nonparticipants in athletics, and to provide further data comparing the scholastic achievements and intelligence quotients of high school athletes of members of team and individual sports.

The purpose of these comparisons was to establish whether or not athletics can be complimentary to the education program of the school system as opposed to being a deterrent factor.

The grades employed and the intelligence test scores

were obtained from the cumulative file of North High School, Wichita, Kansas.

The data used in compiling this report includes the grade point averages and intelligence test scores of 263 students.

Three second semester periods are covered in this report; 1962-63, 1963-64, 1964-65.

During the period covered in this report, each student entering North High School was given the California Short-Form Test of Mental Maturity. The results of these tests give the intelligence quotients used in this report.

To determine the grade point average for each of the students included in this report, each individual was given points according to his grade in each course. The total number of grade points was divided by the number of courses involved. The average grade points were obtained through the use of a scale ranging from 1.00, being F, to 5.00, being A.

The courses selected for the grade point averages were those courses taken by the greatest number of students; English, American History, and Algebra.

Comparisons were made between the grade point averages and intelligence quotients of lettermen, nonlettermen, (those participating in athletics but not receiving a letter) and non-participants in athletics selected at random from the student body.

The facts brought to light in this report so closely coincide with those in the study of Mr. Hargrave as to be almost identical.

In the courses included in this study, which are both required and elective, the lettermen's grade point average was consistently superior to those averages of the nonlettermen and the nonparticipants.

The data shows that the nonlettermen had the high I.Q. score average, and that the nonparticipants had the lower.

The scholastic attainments of the basketball lettermen surpassed those of the football, swimming, and track lettermen.

The intelligence quotient averages of the basketball lettermen were superior to those averages of the football, swimming and track lettermen.

There was very little difference between the English grade point averages of the lettermen and nonlettermen, but both the lettermen and nonlettermen ranked higher than the English grade point averages of the nonparticipants.

The nonparticipants ranked lower in American History than the lettermen and nonlettermen.

The Algebra averages of the lettermen were higher than those of the nonlettermen, while the nonparticipants had the low average.

In the combined required courses, then, the lettermen ranked first and the nonparticipants ranked last.

The data collected in this report indicates definitely that the scholastic attainment of the athletes is not affected by their participation in athletics. It also shows that the intelligence quotient averages of both lettermen and nonlettermen were higher than nonparticipants.