

A COMPARISON OF THE ACADEMIC ACHIEVEMENT OF  
ATHLETES AND NON-ATHLETES AT  
KANSAS STATE TEACHERS COLLEGE, EMPORIA, KANSAS

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by  
James Dean Meyer  
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Approved for the Major Department

J. M. Pease

Approved for the Graduate Council

James C. Boylan

213146<sup>4</sup>

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## CHAPTER I

### THE PROBLEM, DEFINITIONS OF TERMS, AND PROCEDURE USED

Ever since athletic programs were introduced in colleges and universities, there has been controversy concerning the effects of participation in athletics on the scholastic achievement of the athletes. Some authorities have contended that the grades of athletes suffer because they do not have sufficient time to devote to their studies. Others argue that the desire to remain eligible for participation stimulates the athlete to do better academic work.

Many studies have been conducted to determine the effect of competition in athletics on academic achievement, but none have sufficiently settled the controversy. It was in an attempt to provide additional information concerning comparisons of the academic performances of athletes and non-athletes that this investigation was undertaken.

#### I. THE PROBLEM

Statement of the problem. It was the purpose of this study to compare the academic achievement of the athletes with those of non-athletes at Kansas State Teachers College, Emporia, for the 1962-63 school year: (1) by comparing grade averages in the same general education courses taken by both

groups, (2) by comparing the overall grade point average of the athletes with those of the non-athletes with similar abilities, and (3) by comparing the number of times that each group was placed on academic probation while attending college. The athletes were also compared with all students taking the Schrammel General Ability Test in the same year.

Importance of the study. The school term of 1962-63 was the first year that athletes at Kansas State Teachers College were awarded an academic-athletic scholarship. Other than the academic scholarship, the only financial aid available to those competing in athletics until this time were a few grants-in-aid and part-time employment. The athlete must have a "B" average in high school and must maintain a "B-" average in college in order to remain eligible for the academic-athletic scholarship. These are the same minimum standards for all academic scholarships at the Teachers College. The academic-athletic scholarships are awarded by the Scholarship Committee.

This study should provide a means of comparison for future studies of this nature and a basis upon which to measure the change that the academic-athletic scholarships may have on the scholastic achievement of the athlete at the Teachers College. For this reason the results of this study are of interest to many members of the faculty and staff at the Teachers College.

The hypothesis of this investigation was that there is no significant difference between the academic achievement of the athletes and that of non-athletes with similar abilities.

## II. DEFINITIONS OF TERMS USED

Athlete. For the purpose of this study, an athlete was defined as a male student that: (1) had completed a minimum of fifty-six semester hours by the 1962 fall term, and (2) had met the prescribed intercollegiate competition conditions to receive a letter award at the Teachers College during the 1962-63 school term.

Non-athlete. For the purpose of this study, a non-athlete was defined as a male student: (1) who had completed a minimum of fifty-six semester hours by the 1962 fall term, and (2) who did not take part in any type of organized athletic program at the varsity level during the 1962-63 school term.

Similar abilities. For the purpose of this study, the athletes and non-athletes were considered as having had similar abilities if they: (1) had received similar scores on the Schrammel General Ability Test, (2) had reached the classification of a junior or senior in college by the fall term of 1962, and (3) had taken the Schrammel General Ability Test in approximately the same year.

Grade point averages. All grade point averages used in this study were based upon the four-point grading system. This system is: (1) four points for one semester hour of "A," (2) three points for one semester hour of "B," (3) two points for one semester hour of "C," (4) one point for one semester hour of "D," and (5) no points for an "F."

### III. PROCEDURE USED

Methods of gathering data. A list of all the athletes who competed in enough intercollegiate competition to receive a letter award was secured from each varsity coach.

Test scores earned by these lettermen and the non-athletes on the Schrammel General Ability Test were obtained from the Students' Record Cards found in the Bureau of Tests and Measurements at Kansas State Teachers College.

The Schrammel General Ability Test is an adaptation and revision of the Army Alpha Intelligence Test. The original Army Alpha Test was devised by the Psychology Committee of the National Research Council for the purpose of testing men for army classification during World War I. After the war the Bureau of Educational Measurements was granted permission on November 7, 1919, to adopt the test for school and college use. In 1947, an adaptation was made of the previous editions of the Army Alpha tests which could be used with a separate answer sheet and IBM scored. As this test was to be used as an entrance test for examining all entering college students at the Kansas State Teachers College of Emporia, the obsolete and less valid items were deleted as were three of the parts. For several of the parts retained, a few additional items were added. The

test was set up so that all responses could be recorded on an IBM answer sheet of 150 items.<sup>1</sup>

During the years included in this study, 15,000-18,000 Kansas high school seniors and nearly all new undergraduate students had taken the Schrammel General Ability Test upon entering the Teachers College. The year in which the tests were taken by both groups is listed on their record cards. The median test score was used to set up the percentile of all students taking the test. These percentile scores were found in a leaflet published each year by the Kansas State Teachers College Bureau of Tests and Measurements.

Total grade-point averages, general education grades, ages and majors of the athletes and non-athletes were taken from each student's transcript which is filed in the Registration Office. The grades used were those which were received by each group in college through the fall term of 1963 or until the time of their graduation.

The general education courses used for comparison were taken from Section One of the Kansas State Teachers College Catalog, 1963-65. The names and number of hours of each general education course used are listed in Table I, page 6. Athletes and non-athletes were compared only in identical general education courses.

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<sup>1</sup>H. E. Schrammel, Manual of Directions, Schrammel General Ability Test, published by Bureau of Educational Measurements, Kansas State Teachers College, Emporia, Kansas, 1959.

TABLE I

GENERAL EDUCATION COURSES USED FOR THE COMPARISON  
OF ATHLETES WITH NON-ATHLETES\*

Name of course	Number of hours
Freshman English I	3
Freshman English II	3
Fundamentals of Speech	3
General Biology	3
Fundamentals of Mathematics	2
Physical Science	5
Our American Heritage I	2
Our American Heritage II	2
Western Political Heritage I	2
Western Political Heritage II	2
American History to 1865	3
American History Since 1865	3
Contemporary American Society	3
Sophomore English I	2
Sophomore English II	2
American Literature I	3
Introduction to Psychology	3
Art Exploration	2
Music Exploration	2
Personal Health Problems	2
Physical Education	4
Total	56

\*Kansas State Teachers College, Bulletin of Information, 43:48-68, September, 1960.

Methods of making comparisons. The first step used in making the comparison was to identify the general-ability score of the athletes. The non-athletes were selected on a matched sample basis. The non-athlete was matched with a athlete if he met all the following characteristics: (1) a non-athlete who had received a test score within one point of an athlete on the Schrammel General Ability Test, (2) a non-athlete who had reached the classification of a junior or senior in college by the fall term of 1962, (3) a non-athlete who had taken the Schrammel General Ability Test within a period of two years of the athlete's testing date, and (4) a non-athlete who was of the male sex.

In each case, the first non-athlete found who met these characteristics was paired with an athlete. The process was started at the beginning of the alphabet and continued alphabetically until a comparable non-athlete was found for each athlete. The pairs, as they were matched for this study, are listed in Table II, pages 8-9. They are listed numerically from the highest general ability score to the lowest.

It was not possible to find a non-athlete who met every characteristic of an athlete. Exceptions were made as to the testing dates of the two groups since the test had not been revised during the years used for this study. In three cases there were more than two years difference in their

TABLE II

## PAIRINGS OF ATHLETES AND NON-ATHLETES

ATHLETES					NON-ATHLETES				
Pair no.	General ability score	Year tested	Present age	Major field	Pair no.	General ability score	Year tested	Present age	Major field
1	135	1960	21	Biology	1	135	1959	21	Biology
2	133	1959	22	Social Science	2	133	1960	21	Mathematics
3	126	1961	25	Business	3	126	1960	27	Mathematics
4	125	1960	21	Mathematics	4	125	1960	22	English
5	124	1961	23	Industrial Arts	5	124	1962	21	Psychology
6	124	1959	22	Biology	6	124	1956	27	Business
7	123	1960	21	Mathematics	7	123	1962	22	Chemistry
8	123	1959	23	Mathematics	8	123	1960	21	Chemistry
9	122	1961	22	Industrial Arts	9	122	1962	28	English
10	120	1961	25	Physical Education	10	120	1961	22	Mathematics
11	120	1960	21	Mathematics	11	120	1960	22	Physics
12	120	1959	23	Mathematics	12	120	1962	21	Music
13	119	1961	23	Business	13	119	1960	22	Social Science
14	116	1960	22	Physics	14	116	1960	22	Chemistry
15	116	1962	21	Industrial Arts	15	116	1961	21	Business
16	115	1960	21	Physics	16	115	1960	22	Physical Education
17	113	1961	21	Biology	17	113	1960	21	Mathematics
18	113	1962	21	Social Science	18	113	1960	21	Social Science
19	109	1960	21	Chemistry	19	109	1960	21	Business
20	109	1960	22	Business	20	109	1960	22	Psychology
21	108	1962	24	Social Science	21	108	1961	24	Business
22	107	1960	22	Physical Education	22	107	1961	21	Social Science
23	105	1959	22	Business	23	105	1960	25	Music

TABLE II (continued)

ATHLETES					NON-ATHLETES				
Pair no.	General ability score	Year tested	Present age	Major field	Pair no.	General ability score	Year tested	Present age	Major field
24	104	1960	22	Social Science	24	104	1960	22	Social Science
25	104	1959	22	Biology	25	104	1960	25	Business
26	104	1962	21	Elem. Education	26	104	1960	21	Speech
27	102	1958	23	Physical Education	27	102	1958	23	Elem. Education
28	100	1955	28	Physical Education	28	100	1958	25	Mathematics
29	98	1959	25	Social Science	29	98	1959	22	Industrial Arts
30	98	1960	22	Industrial Arts	30	98	1958	25	Business
31	94	1960	22	Industrial Arts	31	94	1959	25	English
32	92	1959	22	Industrial Arts	32	92	1960	23	Biology
33	91	1959	23	Mathematics	33	91	1961	22	Speech
34	90	1959	23	Elem. Education	34	90	1959	23	Business
35	89	1960	21	Physical Education	35	89	1960	21	Business
36	88	1960	21	Physical Education	36	88	1958	24	Elem. Education
37	81	1960	21	Physical Education	37	81	1959	21	Business
38	81	1960	22	Elem. Education	38	81	1958	24	Industrial Arts
39	81	1960	21	Business	39	81	1961	23	Physical Education
40	64	1960	23	Physical Education	40	65	1961	23	Business
41	63	1959	23	Physical Education	41	62	1959	24	Industrial Arts
42	53	1959	22	Elem. Education	42	54	1960	44	English
43	49	1960	23	Elem. Education	43	48	1956	30	Physical Education
Average age 22.3					Average age 23.4				

testing dates. They were pairs six, twenty-eight, and forty-three, as Table II shows.

For individual comparisons, the varsity lettermen were put into the following categories: baseball, basketball, football, track, tennis, swimming, and two-sport lettermen. The comparisons were made on an individual basis, on a sport basis, and on a total group basis. The lettermen were compared with the non-athletes in the following manner: (1) by comparing grade averages in the same general education courses taken by both groups, (2) by comparing the average total grade point averages of the lettermen with those of the non-athletes with similar abilities, and (3) by comparing the number of times that each group was placed on academic probation while attending college. The lettermen were also compared with all students taking the Schrammel General Ability Test in the same year.

Two-sport lettermen were put into a separate category and not included in their respective sports. Cross country was not included as all the lettermen in this sport were two-sport lettermen. Golf was not included as no member of the golf team received enough points to be granted a letter award.

The comparisons made in this study were not based upon the age of the letterman or the non-athlete. However, as Table II shows, only in four of the pairs was the difference in age more than three years. The average age of the

lettermen was twenty-two and three tenths, and the average age of the non-athletes was twenty-three and four tenths.

The matching of the letterman with a non-athlete was not based on their major field. Table III shows a breakdown of the lettermen and the non-athletes by their major fields.

TABLE III  
DISTRIBUTION OF LETTERMEN AND NON-ATHLETES  
BY MAJOR FIELD

Major field	Lettermen	Non-athletes
Biology	4	2
Business	5	10
Chemistry	1	3
Elementary Education	5	2
English	0	4
Industrial Arts	6	3
Mathematics	6	5
Music	0	2
Physical Education	9	3
Physics	2	1
Psychology	0	2
Social Science	5	4
Speech	0	2
<b>Total</b>	<b>43</b>	<b>43</b>

There were four lettermen who were not included in this study, because they had not taken the Schrammel General Ability Test.

Limitations of the study. This study is based upon descriptive statistical data concerning forty-three athletes and forty-three non-athletes who attended Kansas State Teachers College, Emporia. The limitations of a descriptive study of this type are set forth by Best as follows:

Descriptive statistics concerns numerical description of a particular group. No conclusions are extended beyond the group described, and any similarity to those outside the group could not be taken for granted. The data describe this group, and this one group only.<sup>2</sup>

In view of these limitations, it is apparent that the findings of this study are applicable only to the specific group studied. This does not, however, preclude the possibility that inferences may be drawn from this study which may be applicable to groups of athletes and non-athletes in other institutions.

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<sup>2</sup>John W. Best, Research in Education (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1959), p. 203.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

Much research has been conducted in the area of comparing the varsity athlete and the non-athlete with respect to academic achievement. Approximately forty articles related to this topic were reviewed.

Past reports. One of the first published reports of this nature was done by William Trufant Foster at Bowdin College in 1906. Foster obtained the averages of 18,750 individual grades representing, each year, the scholarship records of 280 men over a five-year period.

He found that each year the rank of the baseball and football players was lower than that of the other students, the difference varying from one per cent to five per cent. For the whole five-year period the average rank of all athletes in all studies was 77.57; that of all other students was 80.37.<sup>3</sup>

This is not a very large percentage spread when one considers that this report was made before the time of strict conference eligibility rules and before the establishment of academic standards by such national organizations as the National Collegiate Athletic Association and the National Association of Intercollegiate Athletics.

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<sup>3</sup>William Trufant Foster, "Intercollegiate Athletics and Scholarship," Science, 24:21-23, July 6, 1906.

Organizations of this type along with leagues, conferences, and individual schools have combined to make the academic requirements higher for competing athletes than it is for other members of the student body.<sup>4</sup>

The following academic eligibility rules are those of the Central Intercollegiate Conference of which Kansas State Teachers College of Emporia is a member:

Be enrolled in twelve semester hours of college work.

Have passed twelve semester hours in previous semester if second semester freshman; otherwise he must have passed twenty-four semester hours in the previous two semesters.

Be making progress toward a recognized degree and must maintain the grade points required to remain in good standing as set forth by the official publications of this college.

These academic requirements are higher for athletes than for other members of the student body, as they must pass a set number of hours.

Such contents are well founded, for the competing athlete of today must have a higher classroom standing than the non-athletic student. A man may pass enough of his academic work to stay in college without being eligible for athletics, but he must receive satisfactory grades in all his subjects if he is to be allowed to participate on any team. Any many athletes have achieved scholastic records not merely satisfactory but of marked distinction.<sup>5</sup>

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<sup>4</sup>Harry Alexander Scott, Competitive Sports in Schools and Colleges (New York: Harper & Brothers, 1951), p. 203.

<sup>5</sup>Albert Shaw (ed.), "College Athletics and Scholarship," Review of Reviews, 73:424, April, 1926.

By the late 1920's there was a change in attitude toward athletics. An example of this attitude is reflected in the following statement:

What prominent educators seek is a well-rounded type of student; "a sound mind in a sound body." Though they will no longer tolerate the laziness and stupidity that so often characterized athletes of the past, they recognize the tremendous value accruing from outdoor sports and intercollegiate contests. The primary object of the college is to train minds. If this as the prime requisite can be accomplished successfully, then more power to athletics with their attributes of teamwork sportsmanship, clean living, and good health! That this combination of brain and brawn is succeeding has become manifest.<sup>6</sup>

There was more research on the comparison of the academic records of athletes and those of non-athletes during the late twenties and early thirties than at any other time in the history of athletics. One of the main reasons for the increase in research at this time was the interest of the Carnegie Foundation for the Advancement of Teaching in this question. Many investigations found that there was no longer a large contrast between the ideals of college athletics and those of Phi Beta Kappa. "In 1928 Dartmouth could have put on the field a hockey team picked from the varsity and second squads, each playing his regular position, all members of Phi Beta Kappa."<sup>7</sup>

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<sup>6</sup>Ibid.

<sup>7</sup>Ibid., p. 423.

One of the many studies made for the Carnegie Foundation was prepared at the Ohio State University. This study included all male students who entered the Ohio State University in the fall quarter 1923-24 as freshmen with no advanced standing.

On the whole the results of this study furnish strong support for a belief in the power of athletics in the Ohio State University to hold students in school and thereby increase their likelihood of being graduated. They do not seem to furnish any direct indication that athletes secure better grades than non-athletes. On the other hand they offer no support for the one who attacks intercollegiate athletics as an enemy of the scholarship of athletes.<sup>8</sup>

A report of similar nature and procedure was made at Cornell College during the late twenties. At Cornell College, the entire school was considered for this report.

Ten per cent more athletes received degrees.

Twenty-three per cent less athletes were placed on probation.

Sixty-five hundredths of a year more was spent in college by the athlete than by the non-athlete.

One and nine hundredths more hours a semester was taken by athletes.

Thirty-six hundredths higher grade point average was made by the athletes.

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<sup>8</sup>Darwin A. Hindman, "Athletics and Scholarship at the Ohio State University," School and Society, 30:93-96, July 20, 1929.

comparison of academic achievement of letterman and non-letterman athletes at Kansas State Teachers College was prepared in 1951 by Keith E. Caywood. His study was a comparison of lettermen in track, football, and basketball with non-athletes. His study included the years from 1929 through 1950 with the exception of the school years starting in the fall of 1943 and ending in the spring of 1946.

He paired letterman and non-letterman in the following manner:

1. Ages must have been similar within one year.
2. Must have been in the same decile as to entrance examinations.
3. Must have entered school the same year and have been graduated in the same class.
4. Must have majored in the same field.<sup>10</sup>

Caywood summarized the findings of his study as follows:

When paired on the basis of decile, age, year of study and major field, there is statistically no significant difference on a one per cent level of probability in scholastic achievement between lettermen and non-lettermen as measured by instructors' marks. This

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<sup>9</sup>Mark E. Hutchinson, "College Athletics and Scholarship," School and Society, 29:151-152, February 2, 1929.

<sup>10</sup>Keith E. Caywood, "A Study of Academic Achievement of Letterman and Non-Letterman at Kansas State Teachers College, Emporia, Kansas" (unpublished Master's thesis, University of Kansas, Lawrence, Kansas, 1951), pp. 10-11.

was true throughout the freshman, sophomore, junior and senior years. The mean academic grade for each year was lowest in the freshman year for both groups and highest for both groups in the senior year.<sup>11</sup>

Recent reports. In a report compiled by John Harwick in 1960 at Indiana State College, the following summary was developed:

Participation in varsity football or roles of student leadership does cost something in terms of academic achievement. Findings of the project indicated that the cost of participation--in terms of academic achievement--goes up as the ACE percentile rank goes down.<sup>12</sup>

It was also found in this project that freshmen suffer more in terms of academic achievement than do upperclassmen.

Studies by Charlie Caldwell, the late Princeton coach, and others have shown that a football player nearly always does a better academic job in the semester in which he is playing than at other times. The reason is plain: He organizes his day so that the football player actually equals or slightly surpasses the average academic level. Again the reasons are plain: He is in fine physical condition and has natural competitive fire, both helpful in making high grades and fighting adversity to stay in college.<sup>13</sup>

Summary of related literature. The question of whether intercollegiate athletics affects the academic achievement of athletes is probably best answered by the

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<sup>11</sup> Ibid., pp. 25-27.

<sup>12</sup> John Harwick, "Does Participation Affect Academic Achievement," School Activities, 32:209-213, March, 1961.

<sup>13</sup> Dave Nelson and Tim Cohane, "Players Must be Students," Look, 27:82-89, November 19, 1963.

following statement:

If football does not distract directly from the aims of education, there is no case against it. Even if there is some distraction, this should be weighted against what the game is contributing to the welfare of the student and the spirit of the college.

A man should be judged by his finest hour, and the same is true of college football.<sup>14</sup>

This seems to be the consensus of most writers on this subject in recent years that the distractions of intercollegiate athletics are far outweighed by its attributes to thousands of young men every year.

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<sup>14</sup>Ibid.

## CHAPTER III

### COLLECTION OF DATA

Lettermen used in this study were taken from each of the following areas: baseball, basketball, football, swimming, tennis, track, and two-sport lettermen. The tables in this chapter were placed in alphabetical order by the areas as listed above. Tables IV through X are individual comparisons between lettermen and non-athletes in each of these areas. Table XI is a comparison, by sport, of all these areas combined. It includes forty-three lettermen compared with forty-three non-athletes.

Baseball lettermen. Table IV, page 21, shows a comparison of baseball lettermen with non-athletes. There were nine participants that fulfilled the definition of a baseball letterman.

General ability scores for baseball lettermen ranged from 63 to 123. The median of the baseball lettermen on the general ability test was in the sixtieth percentile.

The number of general education hours compared, between the lettermen and the non-athletes, ranged from twelve to thirty-six hours. The average number of hours compared between each pair was twenty-two hours. The general education grade-point average for the lettermen ranged from 1.82 to 3.05

TABLE IV

## COMPARISON OF BASEBALL LETTERMEN WITH NON-ATHLETES

General ability test scores		Number of general educ. hours compared	General educ. grade point averages		Total grade point averages		Times placed on academic probation		Lettermen's percentile rank based on results of the general ability test
*Let	**Non		*Let	**Non	*Let	**Non	*Let	**Non	
123	123	17	2.41	3.12	2.62	2.78	0	0	92
122	122	17	1.82	3.41	2.52	2.95	0	0	85
120	120	18	2.67	2.94	2.62	2.89	0	0	82
113	113	21	3.05	2.29	3.09	2.85	0	0	91
104	104	25	2.48	2.08	2.40	2.06	0	3	60
102	102	36	2.54	1.76	2.38	2.01	0	2	75
98	98	23	2.35	2.26	2.53	2.08	0	2	42
81	81	12	2.58	2.50	2.64	2.16	0	0	20
63	62	29	1.86	2.03	2.36	2.55	3	2	8
Averages		22	2.41	2.37	2.57	2.38	3	9	

\*Denotes lettermen  
 \*\*Denotes non-athletes

and for the non-athletes from 1.76 to 3.41. The average general education grade-point average of the lettermen was 2.41, and for the non-athletes, 2.37.

The total grade-point average for the lettermen ranged from 2.36 to 3.09 and for the non-athletes from 2.01 to 2.95. The average total grade-point average for the lettermen was 2.57 and for the non-athletes, 2.38.

One letterman as compared to four non-athletes had been placed on academic probation during his college career. The lettermen had been placed on academic probation a total of three times, and the non-athletes nine times.

Basketball lettermen. Table V, page 23, shows a comparison of basketball lettermen with non-athletes. There were six participants that fulfilled the definition of a basketball letterman.

General ability scores for basketball lettermen ranged from 49 to 120. The median of the basketball lettermen on the general ability test was in the forty-seventh percentile.

The number of general education hours compared, between the lettermen and the non-athletes, ranged from twenty-four to thirty-four hours. The average number of hours compared between each pair was twenty-nine and three tenths hours. The general-education grade-point average for the lettermen ranged from 1.71 to 2.42 and for the non-athletes from 1.53 to 2.76. The average general-education

TABLE V

## COMPARISON OF BASKETBALL LETTERMEN WITH NON-ATHLETES

General ability test scores		Number of general educ. hours compared	General educ. grade point averages		Total grade point averages		Times placed on academic probation		Lettermen's percentile rank based on results of the general ability test
*Let	**Non		*Let	**Non	*Let	**Non	*Let	**Non	
120	120	24	2.00	2.17	2.25	2.30	0	0	89
109	109	34	2.26	2.63	2.15	2.62	0	0	70
107	107	34	1.85	2.76	2.02	2.91	5	0	65
89	89	24	1.71	1.88	2.05	1.91	0	1	30
81	81	31	2.42	1.53	2.89	2.02	0	6	20
49	48	29	1.97	2.17	2.03	2.11	4	0	2
Averages 29.3			2.05	2.22	2.23	2.31	Total 9 7		

\*Denotes lettermen

\*\*Denotes non-athletes

grade-point average of the lettermen was 2.05, and for the non-athletes, 2.22.

The total grade-point averages for the lettermen ranged from 2.02 to 2.89 and for the non-athletes, 1.91 to 2.91. The average total grade-point average for the lettermen was 2.23 and for the non-athletes, 2.31.

Two lettermen as compared to two non-athletes have been placed on academic probation during their college careers. The lettermen had been placed on academic probation a total of nine times, and the non-athletes seven times.

Football lettermen. Table VI, page 25, shows a comparison of football lettermen with non-athletes. There were thirteen participants who fulfilled the definition of a football letterman.

General ability scores for football lettermen ranged from 64 to 133. The median of the football lettermen on the general ability test was in the fifty-fourth percentile.

The number of general education hours compared, between the lettermen and the non-athletes, ranged from ten to thirty-two hours. The average number of hours compared between each pair was twenty-three hours. The general-education grade-point average for the lettermen ranged from 1.80 to 3.56 and for the non-athletes from 1.30 to 3.35. The average general education grade-point average of the lettermen was 2.43 and for the non-athletes, 2.29.

TABLE VI

## COMPARISON OF FOOTBALL LETTERMEN WITH NON-ATHLETES

General ability test scores		Number of general educ. hours compared	General educ. grade point averages		Total grade point averages		Times placed on academic probation		Lettermen's percentile rank based on results of the general ability test
*Let	**Non		*Let	**Non	*Let	**Non	*Let	**Non	
133	133	25	3.56	2.78	3.59	2.98	0	0	98
124	124	20	3.10	2.58	3.14	2.71	0	0	93
124	124	22	1.86	2.23	2.13	2.27	0	0	88
119	119	20	2.45	1.90	2.09	2.27	1	0	81
116	116	26	2.92	3.35	2.88	3.41	0	0	84
104	104	10	2.80	2.00	2.33	2.00	0	1	56
98	98	32	2.88	2.41	2.74	2.36	0	0	54
94	94	27	2.11	2.33	2.17	2.01	0	7	39
92	92	29	1.83	2.17	2.26	2.31	0	0	41
91	91	25	1.92	2.64	2.12	2.22	2	0	40
90	90	23	2.43	1.87	2.08	2.05	2	2	39
81	81	30	2.10	1.80	1.95	1.91	0	3	20
64	65	20	1.80	1.30	2.07	1.79	0	2	7
					Total				
Averages		23	2.43	2.29	2.43	2.33	5	15	

\*Denotes lettermen

\*\*Denotes non-athletes

The total grade-point averages for the lettermen ranged from 1.95 to 3.59 and for the non-athletes 1.79 to 3.41. The average total grade-point average for the lettermen was 2.43 and for the non-athletes, 2.33.

Three lettermen as compared to five non-athletes have been placed on academic probation during their college careers. The lettermen had been placed on academic probation a total of five times, and the non-athletes fifteen times.

It was interesting to note that four football lettermen included in this study were members of the 1962 All-Central Intercollegiate Conference football team. The total grade-point average of these four football lettermen was 3.02.

Swimming letterman. Table VII, page 28, shows a comparison of one swimming letterman with one non-athlete. There was only one participant who fulfilled the definition of a swimming letterman.

The general ability score for the swimming letterman was 100. The median of the swimming letterman was in the fifty-second percentile.

The number of general education hours compared, between the letterman and the non-athlete, was sixteen hours. The average general-education grade-point average of the letterman was 2.10 and for the non-athlete, 2.71. The total

grade-point average for the letterman was 2.34 and for the non-athlete, 2.14.

The letterman was placed on academic probation a total of two times, while the non-athletes was not placed on probation.

Tennis lettermen. Table VIII, page 28, shows a comparison of tennis lettermen with non-athletes. There were three participants who fulfilled the definition of a tennis letterman.

General ability scores for tennis lettermen ranged from 104 to 135. The median of the tennis lettermen on the general ability test was in the eightieth percentile.

The number of general education hours compared, between the lettermen and the non-athletes, ranged from twenty-one and one-half to twenty-five hours. The average number of hours compared between each pair was twenty-two and eight-tenths hours. The general-education grade-point average for the lettermen ranged from 2.68 to 3.02 and for the non-athletes, from 1.95 to 2.81. The average general-education grade-point average of the lettermen was 2.87 and for the non-athletes, 2.42.

The total grade-point averages for the lettermen ranged from 2.98 to 3.27 and for the non-athletes, 1.93 to 2.36. The average total grade-point average for the lettermen was 3.12 and for the non-athletes, 2.17.

TABLE VII

## COMPARISON OF SWIMMING LETTERMAN WITH A NON-ATHLETE

General ability test scores		Number of general educ. hours compared	General educ. grade point averages		Total grade point averages		Times placed on academic probation		Lettermen's percentile rank based on results of the general ability test
*Let	**Non		*Let	**Non	*Let	**Non	*Let	**Non	
100	100	16	2.10	2.71	2.34	2.14	2	0	52

TABLE VIII

## COMPARISON OF TENNIS LETTERMEN WITH NON-ATHLETES

General ability test scores		Number of general educ. hours compared	General educ. grade point averages		Total grade point averages		Times placed on academic probation		Lettermen's percentile rank based on results of the general ability test
*Let	**Non		*Let	**Non	*Let	**Non	*Let	**Non	
135	135	21 1/2	3.02	2.81	3.12	2.36	0	0	99
116	116	22	2.68	1.95	2.98	1.93	0	0	80
104	104	25	2.90	2.48	3.27	2.22	0	3	64
Averages		22.8	2.87	2.42	3.12	2.17	0	3	

\*Denotes lettermen

\*\*Denotes non-athletes

No letterman as compared to one non-athlete had been placed on academic probation during his college career. The lettermen had not been placed on academic probation, and the non-athletes were placed on probation three times.

Track lettermen. Table IX, page 30, shows a comparison of track lettermen with non-athletes. There were six participants who fulfilled the definition of a track letterman.

General ability scores for track lettermen ranged from 53 to 125. The median of the track lettermen on the general ability test was in the 67.5 percentile.

The number of general education hours compared, between the lettermen and the non-athletes, ranged from sixteen to thirty hours. The average number of hours compared between each pair was twenty-one hours. The general education grade-point average for the lettermen ranged from 1.44 to 2.79 and for the non-athletes, from 1.81 to 2.97. The average general-education grade-point average of the lettermen was 2.06 and for the non-athletes, 2.46.

The total grade-point averages for the lettermen ranged from 2.00 to 3.09 and for the non-athletes, 2.00 to 3.35. The average total grade-point average for the lettermen was 2.27 and for the non-athletes, 2.53.

Four lettermen as compared to two non-athletes had been placed on academic probation during their college

TABLE IX

## COMPARISON OF TRACK LETTERMEN WITH NON-ATHLETES

General ability test scores		Number of general educ. hours compared	General educ. grade point averages		Total grade point averages		Times placed on academic probation		Lettermen's percentile rank based on results of the general ability test
*Let	**Non		*Let	**Non	*Let	**Non	*Let	**Non	
125	125	19 1/2	2.79	2.97	3.09	2.26	0	0	94
120	120	23	1.98	3.17	2.00	3.35	0	0	89
109	109	30	2.17	2.22	2.11	2.43	1	0	70
108	108	17	2.00	1.97	2.17	2.20	2	1	65
88	88	21	1.81	1.81	2.05	2.13	2	3	29
53	54	16	1.44	2.63	2.23	2.81	4	0	5
Averages 21			2.06	2.46	2.27	2.53	Total 9		4

\*Denotes lettermen

\*\*Denotes non-athletes

careers. The lettermen had been placed on academic probation a total of nine times, and the non-athletes, four times.

Two-sport lettermen. Table X, page 32, shows a comparison of two-sport lettermen with non-athletes. There were five participants who fulfilled the definition of a two-sport letterman.

General ability scores for two-sport lettermen ranged from 105 to 126. The median of the two-sport lettermen on the general ability test was in the eighty-first percentile.

The number of general education hours compared, between the lettermen and the non-athletes, ranged from thirteen to thirty-two hours. The average number of hours compared between each pair was twenty-two and eight-tenths hours. The general-education grade-point average for the lettermen ranged from 1.76 to 3.20 and for the non-athlete, from 1.97 to 2.77. The average general-education grade-point average of the lettermen was 2.47 and for the non-athletes, 2.34.

The total grade-point averages for the lettermen ranged from 1.94 to 3.60 and for the non-athletes, 2.18 to 2.66. The average total grade-point average for the lettermen was 2.62 and for the non-athletes, 2.38.

Three lettermen as compared to no non-athletes had been placed on academic probation during their college careers. The lettermen had been placed on academic probation a total of five times.

TABLE X

## COMPARISON OF TWO-SPORT LETTERMEN WITH NON-ATHLETES

General ability test scores		Number of general educ. hours compared	General educ. grade point averages		Total grade point averages		Times placed on academic probation		Lettermen's percentile rank based on results of the general ability test
*Let	**Non		*Let	**Non	*Let	**Non	*Let	**Non	
126	126	17	1.76	1.97	1.94	2.18	3	0	90
123	123	32	2.31	2.41	2.56	2.46	0	0	92
115	115	29	2.66	2.14	2.57	2.21	0	0	81
113	113	23	3.20	2.61	3.60	2.66	1	0	70
105	105	13	2.08	2.77	2.45	2.38	1	0	65
Averages		22.8	2.47	2.34	2.62	2.38	Total 5 0		

\*Denotes lettermen  
 \*\*Denotes non-athletes

All lettermen. Table XI, page 34, shows a comparison, by sport, of all the lettermen used in this study and their paired non-athletes. There were forty-three participants in athletics who fulfilled the definition of a letterman.

The lettermen's general ability scores ranged from 49 to 135. Tennis lettermen had the highest average general-ability score with 118.3, and basketball lettermen had the lowest--92.5. Lettermen's mean score on the general ability was 103.5, and their median score was 107 correct. The median of lettermen on the general ability test was in the sixty-fifth percentile.

The number of general education hours compared, between the lettermen and the non-athletes, ranged from ten to thirty-six hours. By sport, the highest average of general education hours compared was in basketball, with an average of 29.3 hours per man. The lowest average per man in a sport was in swimming, in which sixteen hours were compared. The average number of hours compared between the two groups was twenty-three hours. The general-education grade-point average for the lettermen ranged from 1.44 to 3.56 and for the non-athletes, from 1.30 to 3.41. The tennis lettermen had the highest general-education grade-point average with a 2.87, and basketball lettermen had the lowest with 2.05. The average general-education grade-point average of the lettermen was 2.34 and for the non-athletes, 2.28.

TABLE XI

## COMPARISON BY SPORT OF ALL LETTERMEN WITH NON-ATHLETES

Sport	Average general ability test scores	Average number of general educ. hours compared	Average general educ. grade point average		Average of the total grade point averages		Times placed on academic probation		Lettermen's median percentile rank by sport based on results of general ability test
			*Let	**Non	*Let	**Non	*Let	**Non	
Baseball	102.9	22	2.41	2.37	2.57	2.38	3	9	60
Basketball	92.5	29.3	2.05	2.22	2.23	2.31	9	7	47
Football	102.3	23	2.43	2.29	2.43	2.33	5	15	54
Swimming	100	16	2.19	2.75	2.34	2.14	2	0	52
Tennis	118.3	22.8	2.87	2.42	3.12	2.17	0	3	80
Track	100.5	21	2.06	2.46	2.27	2.53	9	4	67
Two-sport	116.4	22.8	2.47	2.34	2.62	2.38	5	0	81
Average	103.5	23	2.34	2.28	2.47	2.34	33	38	Overall median 65

\*Denotes lettermen

\*\*Denotes non-athletes

The total grade-point averages for the lettermen ranged from 1.91 to 3.60 and for the non-athletes, 1.79 to 3.41. The tennis lettermen had the highest average total grade-point average with a 3.12, and the basketball lettermen had lowest with 2.23. The average total grade-point average for the lettermen was 2.47 and for the non-athletes, 2.34.

Fourteen lettermen and fourteen non-athletes had been placed on academic probation during their college careers. The lettermen had been placed on academic probation a total of thirty-three times and the non-athletes, thirty-eight times.

It was interesting to note that, in each sport, as the lettermen's average general-ability score went up, so did the average of the total grade-point averages. This was true of all sports with the exception of swimming. This sport included the score and grades of one participant and was not an average.

## CHAPTER IV

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### I. SUMMARY

The purpose of this study was to compare the academic achievements of the varsity lettermen with those of the non-athletes at Kansas State Teachers College, Emporia.

The lettermen and non-athletes who met the same four characteristics were considered as having similar abilities. The lettermen and non-athletes were paired on a matched sample basis. The two groups were then compared with the following criteria: (1) grades received in the same general education courses, (2) the average of their total grade-point averages, and (3) the number of times they were placed on academic probation while in college.

The athletes were also compared with all students taking the Schrammel General Ability Test in the same year.

Individual comparisons were made within each sport. Comparisons were also made between each sport on a total group basis.

The hypothesis of this study was that there is no significant difference between the academic achievement of lettermen and that of non-athletes with similar abilities.

In this study, the lettermen exceeded the non-athletes in all areas in which they were compared. The areas compared

are listed below:

(1) The lettermen had a higher general-education grade-point than the non-athletes.

(2) The lettermen had a higher average total grade-point average than the non-athletes.

(3) The lettermen were placed on academic probation a fewer number of times than were the non-athletes.

The median of the lettermen on the general ability test was at the sixty-fifth percentile.

## II. CONCLUSIONS

The following conclusions were formulated from the study:

1. There was no significant difference between the academic achievement of the lettermen and that of the non-athletes with similar abilities.

2. An analysis of the data concerning baseball lettermen showed that: (1) the general-education grade-point average was .04 higher than for the non-athletes, (2) the average total grade-point average was .19 higher than the non-athletes, (3) total times placed on academic probation were six fewer than the non-athletes, and (4) the median percentile rank was 10 per cent higher than all students taking the test in the same year.

3. An analysis of the data concerning basketball lettermen showed that: (1) general-education grade-point

average was .17 lower than the non-athletes, (2) average total grade-point average was .08 lower than the non-athletes, (3) total times placed on academic probation were two more than the non-athletes, and (4) the median percentile rank was 3 per cent lower than all students taking the test in the same year.

4. An analysis of the data concerning football lettermen showed that: (1) the general-education grade-point average was .14 higher than the non-athletes, (2) the average total grade-point average was .10 higher than the non-athletes, (3) the total times placed on academic probation were ten fewer than the paired non-athletes, and (4) the median percentile rank was 4 per cent higher than all students taking the test in the same year.

5. An analysis of the data concerning swimming lettermen showed that: (1) general-education grade-point average was .56 lower than the non-athlete, (2) total grade-point average was .20 higher than the non-athlete, (3) total times placed on academic probation were two more than the non-athlete, and (4) median percentile rank was 2 per cent higher than all students taking the test in the same year.

6. An analysis of the data concerning tennis lettermen showed that: (1) general-education grade-point average was .45 higher than the non-athletes, (2) average total grade-point average was .95 higher than the non-athletes, (3) total

times placed on academic probation were three fewer than the non-athletes, and (4) median percentile rank was 30 per cent higher than all students taking the test in the same year.

7. An analysis of the data concerning track lettermen showed that: (1) general-education grade-point averages was .40 lower than the non-athletes, (2) average total grade-point average was .26 lower than the non-athletes, (3) total times placed on academic probation were five more than the non-athletes, and (4) median percentile rank was 17 per cent higher than all students taking the test in the same year.

8. An analysis of the data concerning two-sport lettermen showed that: (1) general-education grade-point average was .13 higher than the non-athletes, (2) average total grade-point average was .24 higher than the non-athletes, (3) total times placed on academic probation were five more than the non-athletes, and (4) median percentile rank was 31 per cent higher than all students taking the test in the same year.

9. An analysis of the data concerning all lettermen showed that: (1) general-education grade-point average was .06 higher than the non-athletes, (2) average total grade-point average was .13 higher than the non-athletes, (3) total times placed on academic probation were five fewer than the non-athletes, and (4) median percentile rank was 15 per cent higher than all students taking the test in the same year.

### III. RECOMMENDATIONS

The following recommendations are submitted:

1. That a study of this nature should be made in a few years to determine the significance of the academic athletic scholarship upon the scholastic achievement of athletes at Kansas State Teachers College, Emporia.

2. The lettermen and non-athletes should not be paired on a matched sample basis. They should be paired in some manner that will allow more generalizations to be inferred from the study.

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