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A Comparative Study of the Athlete & the Non-Athlete in the Department of Physical Education at the Western Kentucky State Teachers College

Robert Francis
Western Kentucky University

Francis,

Robert J.

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A COMPARATIVE STUDY OF THE ATHLETE AND THE NON-ATHLETE IN THE DEPARTMENT OF PHYSICAL EDUCATION AT THE WESTERN KENTUCKY STATE TEACHERS COLLEGE

BY

ROBERT J. FRANCIS

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Approved:-

Major Professor, Education — Bert R Smith

Department of Education

Minor Professor, English — Lee Francis Jones.

Graduate Committee — ~~Goodrich Wilson~~ H. C. Grisso Ch.

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PREFACE

It is the purpose of this study to get a true representation of the athlete and non-athlete group in the Department of Health and Physical Education at the Western Kentucky State Teachers College. Statistical data have been used from nearly every available source in this institution; thus giving a mental picture of the two groups, without being partial to any one field of accomplishment.

I wish to express a complete appreciation for the most helpful guidance given by my major professor, Doctor Bert R. Smith. I also wish to estimate justly the constructive criticisms and suggestions afforded by Dr. Lee Francis Jones and Dr. Gordon Wilson. To the registrar's office goes my sincere gratitude for the service given me in tabulating the raw data for this thesis. And finally I wish to mention the provoking agency behind all works of this study -- "The spirit of the Hill."

R.J.F.

CHAPTER I

AN INTRODUCTION TO THE STUDY

In opening this work, "A Comparative Study of The Athlete and the Non-Athlete in the Department of Physical Education at the Western Kentucky State Teachers College," an introduction is given to aid the reader in his interpretation. This opening division might safely be called a "reference table" or even a handbook to the subsequent chapters. The following major objectives are treated in this initial chapter:

1. What prompted the study.
2. The two groups under consideration.
3. Statement of the problems.
4. Sources of data.
5. Scope or range of the study.
6. Treatment of data.
7. Definition of terms.

What prompted the study.-There exists in the minds of the American public a notion that the athlete ranks lower in mental capacity and mental achievement than does his non-athletic neighbor. In every educational precinct, on every corner, and in most communities one can hear such criticism. This unfavorable criticism without tangible justification has been the most powerful factor in urging the writer to make this study. However, the investigations herein have been carried on with a completely impersonal view. It is made to help an undesirable condition, provid-

ing such exists. It is the truth that has been sought and not a desire to create a favorite between the two groups being observed. Every result is firmly founded on statistical data, thus eliminating any alteration through personal opinion.

The two groups under consideration.-As the title reveals, there are two groups classified for investigation, the athlete and the non-athlete. Both terms bear detailed descriptions later in the chapter under a discussion on "definition of terms." In choosing comparable groups, all freshmen men enrolled in the department of physical education were selected. These were chosen from the fall semesters in 1931, 1932, and 1933. This list in turn was split into the two divisions, athletes and non-athletes. Only those individuals with complete records in the department of health and physical education at the Western Kentucky State Teachers College were tabulated. This in itself explains the existence of the 426 non-athletes and the 147 athletes being considered in this study.

Statement of problems.-The problems of this work involve four chief divisions. Here they are treated in general, with an elaboration of each in the section devoted to "scope of the study." The four separate problems are as follows:

1. What are the physiological differences between the athlete and the non-athlete?

2. What particular differences are disclosed by the English and educational placement tests?

3. What light do the academic achievement records cast on the differences of the two groups?

4. What differences do certain auxiliary factors establish between the athlete and non-athlete?

Under Problem 1 the physiological status is based on the following physiological items:

1. Posture.

2. Height in inches.

3. Weight in pounds.

4. Average number of communicable diseases experienced per student.

5. Chronological age.

6. Vision.

Let it be understood at this point that the above items are not indicators of health but are designed to give a mental picture of the physiological status in the two groups concerned. The reader will be put aright concerning meanings in the later discussion on "definition of terms."

In the second question to be solved the two placement tests referred to are those given beginning freshmen students by the English and the educational departments in the Western Kentucky State Teachers College. Over the three years being observed the two following English placement tests were used:

1. Iowa Placement Examination.

2. Purdue Placement Test.

The education results were based on:

1. Terman Group Test of Mental Ability.

2. Kentucky Classification Test.

Probably the outstanding results are shown in the third area, wherein academic achievement plsyed the leading role. In-

cluded in this problem are the following items:

1. Average number of failures per student.

2. Number of courses dropped per hundred students.

3. Percentage of students on probation at least once.

4. Quality points per passed hour of credit.

In the remaining problem two rather irrelevant features were considered. They are as follows:

1. Average distance from parental home to school.

2. Percentage of students dropping school at least one semester before graduating from the four-year course of study.

Scope of the study.-The fourteen items included in the general problems are the boundary lines designating the scope of the study. Through these fourteen channels, an excellent cross-section of the athlete and non-athlete at the Western Kentucky State Teachers College can be had.

Sources of data.-There are three major sources from which these data have been drawn. First, the source of all physiological material was taken from the clinic and physical education files at the Western Kentucky State Teachers College; secondly, from the English and education office files in tabulating materials for the placement tests; and thirdly, from the academic record files in the registrar's office of the same institution.

Treatment of data.-Accompanying the discussion on "treatment of data," is a copy of the form used for listing the raw materials (P.5). The number "1" in column 1 signifies perfect (physical) posture; "2" in column 2 relates the chronological age at the time of examination; "70" in column 3 indicates the height in

inches; "155" in column 4 tells the weight in points; "85" in column 5 describes the student's distance from school to his parental home; "0" in column 6 shows that no courses were dropped during the period in school; "3" in column 7 gives the quartile standing of the student in an English placement test; "2" in column 8 shows the student's quartile rating in an educational placement test; the check mark in column 9 symbolizes a break in the continuity of the academic course of study before graduation; "1" in column 10 reveals information that the student has received one failure while in school; "3" in column 11 indicates the number of communicable diseases had by the student; "1" in column 12 represents perfect vision; "1.4" in column 13 designates the quality points per hour passed; and "P" in column 14 discloses the fact that the student has been on probation at least once during his period of registered school work.

After having recorded the above data as indicated, a summary was made of each item studied. These summaries were drawn for the express purpose of indicating each group's variation from perfection. For example, "one" indicates perfection in posture; "four" indicates nearest rating of perfection on the placement tests; etc. However, some of the summaries disclose only mass, distance, or non-qualitative fact. For example, weight, height, age, and distance from parental home have no traits which qualify for perfection. As a result, it can be briefly concluded that these data have been summarized and averaged with the intention of finding certain differences or similarities in the physiological, achievement, and general characteristics of athletes and

Statistical Record Chart For Masters Thesis NAME	1 Posters	2 Age Chronological	3 Height in inches	4 Weight in pounds	5 Distance from home to school	6 Number courses dropped	7 Rating on placement test	8 Results on I.Q. test	9 Dropped school in 1 - 2 - 3 - or 4	10 Total No. failures	11 Number communicable diseases	12 Vision	13 Point (quality) per hour passes	14 Has been on probation
John Doe	1	20	70	155	85	0	3	2	✓	1	3	1	1.4	P

Fig. 1-Form Used for Tabulating Raw Materials.

non-athletes as the Western Kentucky State Teachers College.

Definition of terms.-Through this early chapter the writer wishes to offer a definition of terms, thus enabling the reader to a more complete interpretation of the work. There are some seventeen terms requiring definition. They are as follow:

1. Posture as considered in the health program at the Western Kentucky State Teachers College has as its basis four distinct physical items. These are taken from the age-old type of examination chart as established by the department of hygiene and physical education, Harvard University, Cambridge, Mass. The checking points for perfect posture by this method are as follow:

a. Head straight above chest, hips, and feet.

b. Chest up and forward.

c. Abdomen in or flat.

d. Back, usual curves not exaggerated.

Any deviation from the above list disqualifies the student from perfect posture. The degree of deviation automatically rates him as either a "2" or a "3" subject of posture. However, posture should be more inclusive according to a modern interpretation. A more recent aspect of posture is given by Williams[1] and includes not only the four points above but also the emotional and nutritional traits of the individual (as shown by a physiognomical study).

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1 Jesse Feiring Williams, Principles of Physical Education (Saunders Company, Philadelphia, 1924), pp.378-379.

Coldthwait[2] declares that "the correct attitude is with the body so held that it is made as tall as possible."

"Good posture is maintained by keeping the proper adjustment of the bones in the spinal cord," says another authority.[3]

Reservations will be made for Chapter II, in which a discussion will be made regarding the importance of good posture and its relationship to human functioning.

2. Height as related to this study refers to the length in inches of the individual. In the raw data fractional parts of inches were not registered. Only the linear inch closer the actual height was recorded in each event.

3. Weight, the same as height, is not treated in fractional parts of pounds. Only the avoirdupois pound nearer the individual's actual weight is recorded. Should this be a doctor's dissertation, the fractional pounds would be used. But since both groups under consideration are treated equally, the results are not altered by this omission.

4. A communicable disease is referred to as typhoid or scarlet fever, diphtheria, measles, mumps, or tonsilitis. Although there are many other recognized transferable diseases, these are the ones used in this study. This has been necessitated because of the nature of the examination cards filed in the clinic of the Western Kentucky State Teachers College.

2
Goldthwait, Journal of Health and Physical Education, January, 1931.

3
Maude Lee Etheredge, Health Facts for College Students (Philadelphia, The Saunders Co., 1934), p.231.

5. Vision is coject perception through the eye organism. Vision in this study has been classified on four functional levels as 1, 2, 3, and 4. The first signifies perfect vision, the second and third imply defective vision of one or two eyes, the fourth refers to those wearing glasses (abnormal vision).

6. An English placement test is a device used for determining the English achievement of a beginning freshman student. Those passing a certain minimum are allowed to take the regular course in English, while those falling below this minimum are enrolled in another section or group of sections.

7. An educational placement test parallels the English placement test except it includes a check on materials other than English. History, mathematics, literature, and mental powers are included in this examination. By mental powers is meant the retention of materials supposedly covered before college entrance.

8. A dropped course is considered to be one in which a student has been regularly registered and has discontinued through official procedure in the registrar's office.

9. Probation means a period or semester during which a student is placed on trial. This is a penalty period following a semester in which a student has failed to make at least one quality point for each registered hour of work.

10. Point average comes from and is a representation of the number of quality points per earned hour. In this system of grading 1, or C, means that each credit hour of work passed has been awarded one quality point; 2, or B, symbolizes that two quality points have been given each hour of passed work; and 3, or

A, represents three quality points for each hour of work completed for credit.

11. Distance from parental home refers to the linear milage between the Western Kentucky State Teachers College and the parental home of the individual.

12. Dropped school indicates that for some reason there has been a break in the continuity of the student's four-year college course of study.

13. An athlete, as used in the title of this work, may be designated as any student who has spent a full season on any intercollegiate sport squad at the Western Kentucky State Teachers College.

14. A non-athlete, as used in the title of this work, may be designated as any student enrolled in a physical education service course at the Western Kentucky State Teachers College for a full semester. His other qualification is a completely filled examination card in the clinic of the same institution.

15. Physical education, according to Williams, is the sum of all man's physical activity under skilled leadership and adequate facilities, and affording situations that are physically wholesome, mentally stimulating and satisfying, and socially sound.

16. Maximum health represents a condition wherein the human organism is functioning as nearly as possible to the nth degree of its capacity.[4]

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[4] Jay B. Nash, The Administration of Physical Education (New York, The A. S. Barnes and Co., 1927), p.11.

17. Academic achievement represents the range of work mastered by the student in content courses.

Chapter summary.-In briefing the materials of Chapter I, it has been found that:

1. The opinion of the general public toward the athlete group is harsh and should be qualified or disqualified.

2. The study is impersonal and for the benefit of any existing conditions of an unfavorable nature.

3. The work is a treatise dealing with the athlete and the non-athlete group in the department of physical education at the Western Kentucky State Teachers College.

4. Four problems are involved in the study, incorporating differences between the two groups relative to:

a. physiological nature.

b. academic achievement.

c. rating on certain placement tests.

d. certain auxiliary factors.

5. The scope of the study includes fourteen points for consideration. They are posture, chronological age, height, weight, vision, number of communicable diseases, distance from parental home to school, number of academic courses dropped, rating on an educational placement test, rating on an English placement test, number dropping school before completion of the four-year course of study, total number of failures per student, quality points per hour, and percentage on probation at least once while in school.

CHAPTER II

STUDIES OF THE ATHLETE AND NON-ATHLETE IN PLACEMENT TESTS AND CERTAIN AUXILIARY FACTORS

In this second division of the study two objectives (rating on placement tests and certain auliliary factors) are combined. This action is justified on the basis that this chapter shall deal with differences wrought not directly by the Western Kentucky State Teachers College, but indirectly. For instance, the English placement test is given upon entrance. Thus, it would show the student's achievement through environment not directly responsible to this institution, but an achievement based upon an atmosphere prior to college entrance. However, the test itself is given by this school. Hence, there is an indirect connection offering results for favorable comparison of the two groups.

Over the three years in which these tests have been given two different types have been used. First, the Purdue Placement Test, and, secondly, the Iowa Placement Examination. The resultant scores have been reduced to quartile divisions ranging from Q_1 to Q_4. This work was done by the English Department at the Western Kentucky State Teachers College.

Supposedly, these tests are compulsory on all entering freshmen in September or January at the college. But upon investigation it has been discovered that only three hundred twenty-seven of the four hundred twenty-six non-athlete group were scored as having taken the test. Likewise, only one hundred twenty of the hundred forty-seven in the athlete division were credited

with having taken the test. This represents a total of 76% in the former and 81% in the latter, showing a slightly higher efficiency for the athlete in the routine part of the test.

For each group the raw data in their entirety were totaled and divided by the representative number for each of the sections. This gave the arithmetic mean of the quartile scores for each group. The average for the non-athletes was 2.39, or .22 above that of the athlete.

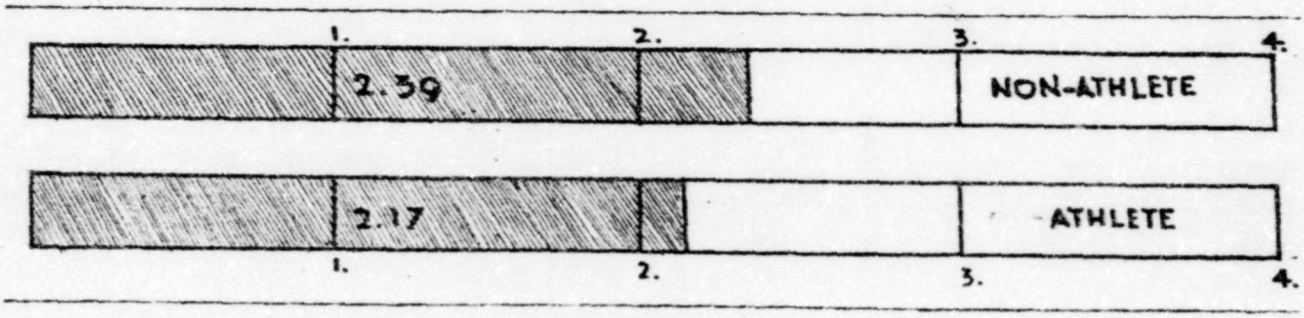


Fig.2-Representative Scale for Quartile Scores on an English Placement Test

The Educational Placement Test.-Another examination given beginning freshmen students at the Western Kentucky State Teachers College is the education placement test. This embodies a broader scope of materials (P.8, introduction) than the above. However, its function parallels that of the English test.

These data were handled in identically the same way as the foregoing were. However, the percentage of each of the two divisions varied. For the non-athlete an identical number (327 of 426) qualified themselves, whereas these athletes were represented by 116 of their total number (as compared to 120 in the previous instance). This favors the athlete with a 2% margin (78% minus 76%) over the non-athlete for consistency in taking the

placement test in education.

Also these tests represent scores from three different years (1931, 1932, and 1933). Tabulation of results through summary and division (as in the above) gave a representative quartile rating handicapping the athlete by .16 of a step on the representative quartile diagram (2.15 non-athlete minus 1.98 athlete). Figure 3 pictures differences between the groups in the education placement tests.

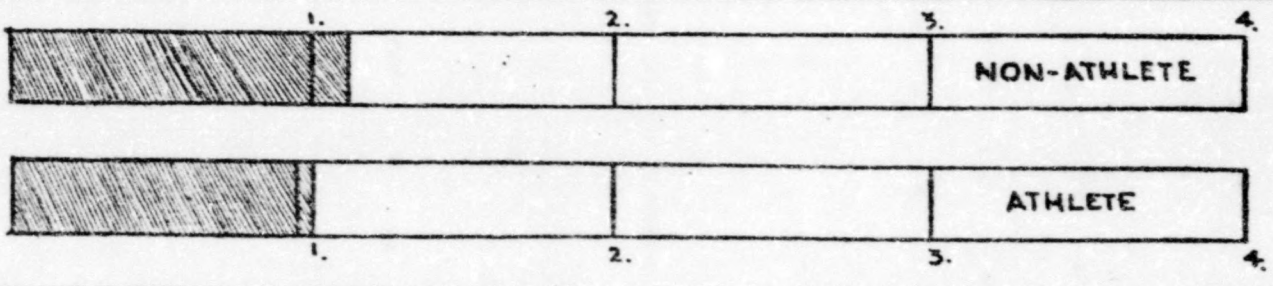


Fig.3-Average Scores of Athletes and Non-Athletes on an Educational Placement Test.

Break in secuence of study.-Another factor casting considerable light on the nature of the individual concerns his time in school without dropping for a semester or more. This necessarily shows something about the stability of the student's pursuance of a sequenced program over the four-year academic route. Upon inquiry and investigation# the various reasons found for dropping are found to be:

1. Teaching school.
2. Lack of financial backing.
3. Discouragement through poor grades.

(Note) Data on file in Registrar's office, Western Kentucky State Teachers College.

4. Miscellaneous (sickness, dislike for school, etc.).

As the following results show, 209 of the 426 non-athletes had a break of at least one semester before graduation. This represents 49%, or nearly half the group, having an incoherent four-year program of studies. This may be compared against the 56 in 147 cases of athletes. The results show but 38% of the athletes, or 11% less, with an irregularity in sequenced study. Figure 4 represents the above study more clearly.

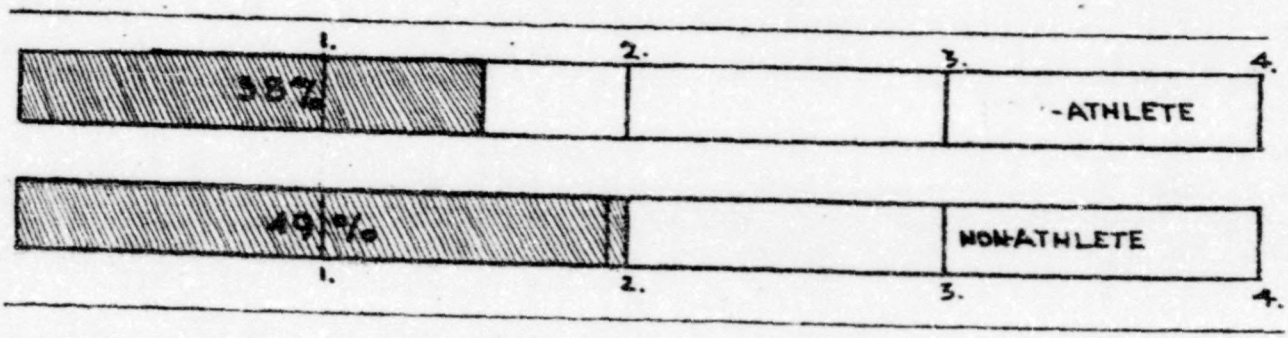


Fig.4-Percentage Representation of Athletes and Non-Athletes Dropping School

Distance from home to school.-A further check on the nature of the athlete and non-athlete as indirectly concerned with the Western Kentucky State Teachers College is an average distance from the parental home to school. This has been considered an important item for the subsequent reasons:

1. To show whether or not the athletic program casts an influence into more far-reaching areas than the non-athletic program. (This refers to its effect on high school graduates.) This might be labeled the "drawing power" of athletics.

2. To show (not as a comparison between groups) if the Western Kentucky State Teachers College reaches beyond its normal boundaries in attracting prospective college athletes. "Normal boundaries" are considered as being those geographical limits

closer to this institution than any other which supports a college athletic program of similar nature. In summing up the total distances of 426 non-athletes in the physical education department and dividing by that number, it was found that the average distance of this group from their parental home to college was 70.2 miles. This is represented by the smaller of the two circles on the accompanying map (P.17).

Upon summing up the total distances of 147 athletes in the physical education department and dividing by that number it was found that the average distance of this group from their parental home to college was 133.8 miles. It can be seen, then, that the athletes are drawn from a more distant area than the non-athlete students. The extreme difference between the distances of the two groups from parental home to school is 60.6 miles (133.8 miles minus 70.2 miles.).

The map on P.17 illustrates the relationship of distances from home to school between the athlete and non-athlete. It also partly answers the second objective on P.13. For example, the average athlete living 133.8 miles from school would be as close to all schools in other directions within 133.8 miles from his parental home. So the actual radius indicating the drawing power in relationship to other colleges is not 133.8 but is twice that, or 267.6 miles. Of course other institutions can establish a similar chart, but this part of the study does not attempt to make such comparisons. It tries to show that the athletic division of physical education at the Western Kentucky State Teachers College has great possibilities in attracting students from a

great area.

Chapter summary.-

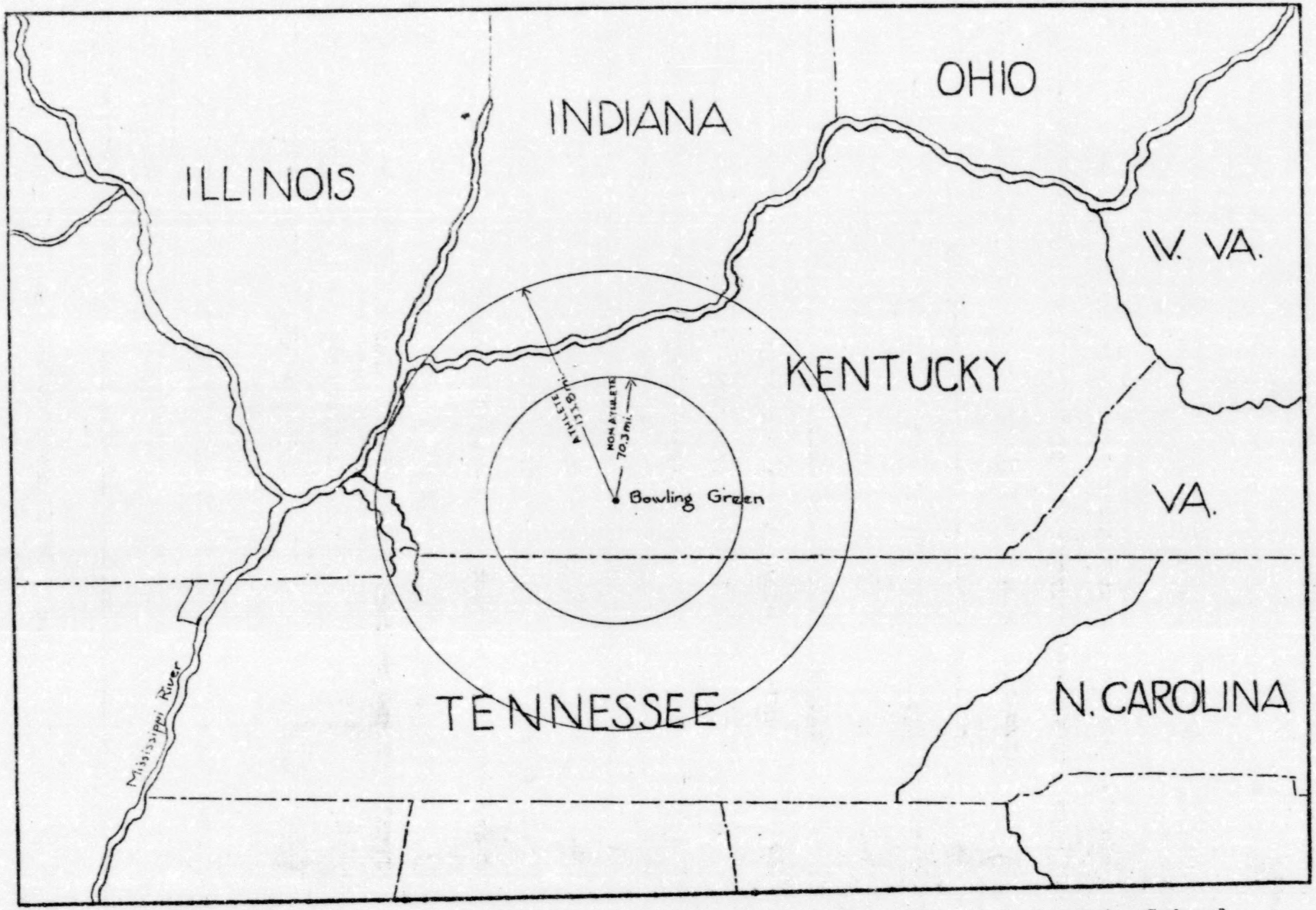
1. Chapter II deals with traits of an auxiliary nature, that is, those achievements or qualifications not directly acquired at the Western Kentucky State Teachers College; and those factors indirectly brought about by the same institution.

2. The average athlete in an English placement test has a rating .22 below (on a quartile scale) the non-athlete.

3. Athletes at the Western Kentucky State Teachers College are .16 below (on a quartile scale) the non-athletes in scores on an education placement test.

4. The non-athletes have a higher percentage (40%) of students with a break in the pursuance of a four-year program than do the athletes (38%).

5. The athlete group is drawn from an average distance between parental home and school 60.6 miles farther than the non-athlete (133.8 minus 70.2).



Fig/5-Relative Distances of Athletes and Non-Athletes from Parental Home to School

CHAPTER III

PHYSIOLOGICAL DIFFERENCES

By the physiological aspect is meant how the various structures function.[1] This definition in its strict sense would not permit the chapter title to be used, for some of the materials herein have to do only with structure but are considered as a part of functioning. Another definition is, "The physiological pertains to the natural and normal processes."[2] In the broad interpretation every item studied in this chapter can be classed according to the latter definition. For example, posture is a representation of function (or process); height is equipment with which to function; vision is function; etc.

Posture.-Posture is the first phase of the physiological aspect that will be considered. As partially described in the introduction (Chapter I), posture bears three distinct divisions:

1. A score of "1" equals first-class posture, or approach to perfection.

2. A score of "2" equals second-class posture, or the first degree of deviation from perfection.

3. A score of "3" equals third-class posture, or the second degree of deviation from perfection.

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1 Jesse Feiring Williams, Principles of Physical Education (Philadelphia, The Saunders Co.), p.329.

2 Gould's Medical Dictionary (New York, 1926), p.231.

There has been a reason for considering this factor a very important item for investigation, that being its affect on the individual's entire personality. To demonstrate its importance, good posture helps to:

1. Retain abdominal organs in place.
2. Promote proper breathing and heart action.
3. Increase poise and grace.
4. Make one appear more alert.
5. Make one look at life squarely and with confidence.
6. Impress others with independence and character.[3]

As are all the items treated within this chapter, the posture data were taken from the clinic files at the Western Kentucky State Teachers College. The original tabulations were made by the clinic nurse.

In the range of posture (1 to 3) the average athlete was found to stray .76 from perfection, while the non-athlete varied .92. This shows a difference favoring the athlete. These conclusive data were drawn after massing the total postures and dividing this sum by the summary of cases studied in each division. The accompanying bar diagram indicates the relationship of postures between the two classifications of students.

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3 Maude Lee Etheredge, Health Facts for College Students (Philadelphia, The Saunders Co.), p.231.

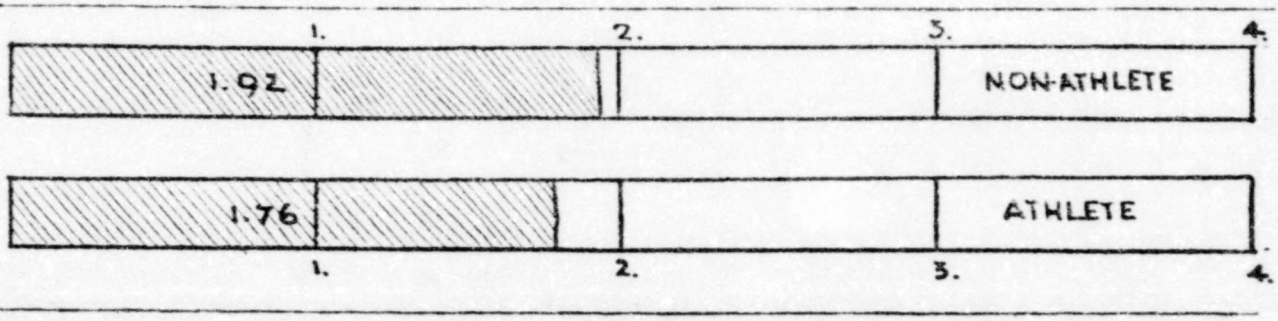

Fig.6-Deviations of Athletes and Non-Athletes from Perfect Posture

Chronological age.-Real age, or chronological age, does not serve as an exact indicator of differences, according to Williams.[4] It is only partially sure, for an individual 20 years (chronological) old may have a physiological (functional) age of 23, or an anatomical age (structural) of 18. However, there is a very important factor to bear in mind about chronological age. This one thing is the relationship between achievement and the time in which this achievement has been accomplished. Thus, by using Chapter IV we can conclude that one group has reached a higher or lower point of achievement in a greater or lesser time than has the other. This latter idea is the real justification for tabulating chronological age. Other than this there is no reason for its registration in this study.

In finding results for this division of the study, all ages were combined for each group and divided by the representative number for each division (426 non-athletes, 147 athletes). For the average chronological age of the former 19.91 years was found, while the latter was discovered to be 19.17. The actual differ-

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[4] Jesse Feiring Williams, Principles of Physical Education (Philadelphia, The Saunders Co., 1927), p.101.

ence is .76 years. This represents 277.4 days, or 9 months and 7 days. The following bar diagram pictures the chronological age variance of the two groups.

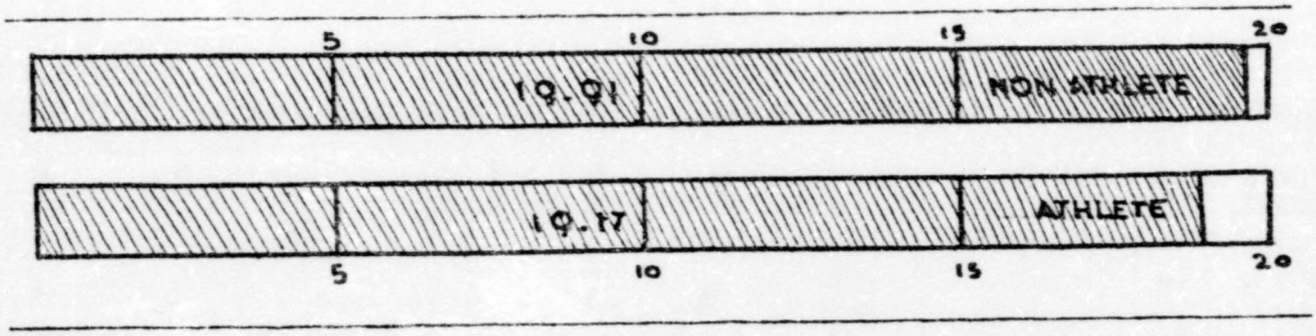

Fig.7-Bar Diagram Showing Difference in Ages Between Athletes and Non-Athletes

Height in Inches.-Little can be said relative to the value of height, except as the following results show that athletes are generally taller men. Also through an investigation of beginning students in the Western Kentucky State Teachers College it was found that greater height was desired by a majority of the people studied. Whether it was for personal satisfaction, social approval, or something else is a debatable question. It is erroneous to think that great height is an indication of better health. However, Wood and Rowell[5] claim, other things being equal, that the tall man is functionally more healthy than the shorter, because there have been no handicaps impairing his growth. He qualifies his statement, though, by indication of its flexibility. So height is called into play in this study for the purpose

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[5] Wood and Rowell, Health Supervision and Medical Inspection of Schools, (New York, The A. S. Barnes Co.).

of getting a somewhat better mental picture of the athlete and the non-athlete.

In acquiring the finished data in regard to height in inches, the total height of each group was divided by its representative number. The results proved the average athlete to be 1.6 inches taller than the non-athlete. For the former the mean height was found to be 70.3 inches, as compared to 68.7 inches for the latter. The modified bar graph below gives us a better interpretation of the ratial height in the two classes.

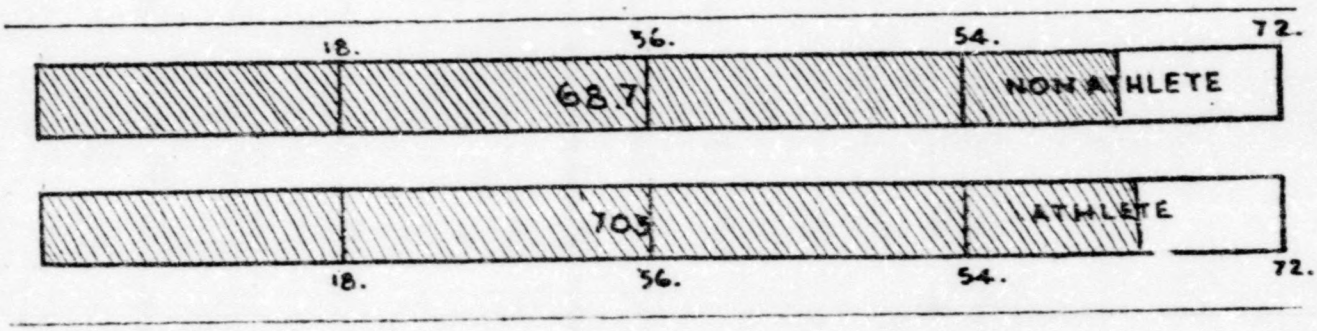

Fig.8-Comparison of Athletes and Non-Athletes in Height

Weight in pounds.-Again the writer wishes to make it clear that age-height-weight charts are not exact symbols of health status, nutritional status, or "over-weight" and "under-weight" conditions. "Any accurate and dependable classification must be based on skeletal measurements."[6] To date Quimby[7] has made the only study regarding skeletal measures for normal weight of a given height. In this he incorporates chest depth, chest breadth, chest circumference, hip depth, and hip width.

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[6] Wood and Rowell, Health Supervision and Medical Inspection of Schools (New York, The A. S. Barnes Co.), p.90.

[7] American Physical Education Research Bulletin, Spring, 1934.

By use of the above materials it is obvious how a norm can be established for weight at a given height. But this study deals with only the weight for one linear measurement. So in creating the investigation on weight, the writer has had in mind two distinct things. First, to discover whether or not weight is a serious factor in the make-up of the individual athlete; and secondly, to find additional material in securing a better cross-section of the two groups being studied.

The raw data on individual weights were compiled and divided by the complete number of cases. This gave the average weight for the non-athlete as 145.3 pounds as compared with the athlete with his 166.4 pounds. This, perhaps, may seem low, but the writer again reminds the reader that the data were selected from results of freshman examinations.

Whether the 21.1 pound difference in weight for the average of the two groups is a desirable factor is unknown. There seems to be a general desire for college freshmen to "weigh more," but reasons for this are unknown. So again, the value of the weight factor is left as a question for further investigation. (P.27a gives age-height-weight pictures of the two groups.)

Vision.-For functional vision the Snellen eye chart is used. The method of procedure is as follows: "With a piece of cardboard over the right eye, the student standing 20 feet from the examiner will try to read 20/20 letters which are displayed. If unable to read two out of three letters the examiner will present a 20/30 card. If still unable to read, a 20/40 card is dis-

played."[8] In recording the raw data, 20/20 meant perfect and was rated as "1"; 20/30 meant partially defective and was labelled "2"; 20/40 signified serious eye trouble and was termed "3"; and those wearing glasses had abnormal vision and were marked "4".

After recording these raw data on vision, a summary was made of all scores and divided by the total number of cases for each division. This resulted in the athlete's deviating .13 closer to the normal than the non-athlete. In other words, with "1" as normal vision, the athlete average was 1.33 and the non-athlete was 1.46. The accompanying bar diagram pictures the separation of functional vision between athletes and non-athletes at the Western Kentucky State Teachers College.

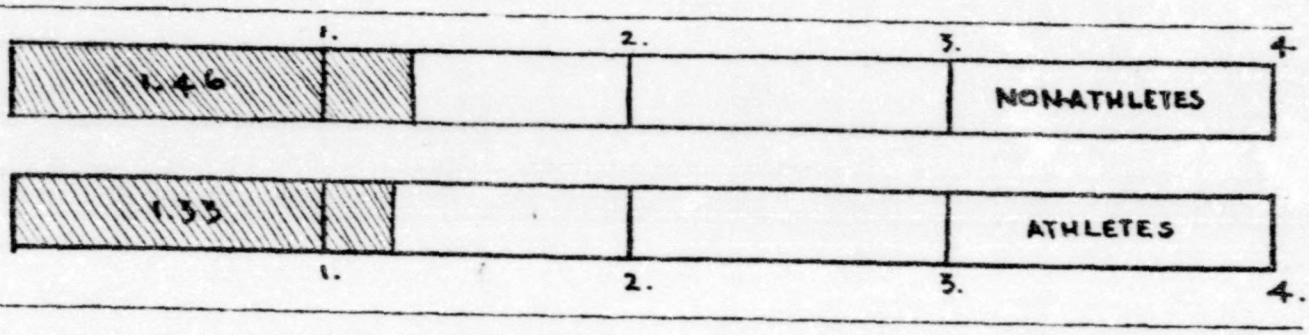

Fig.9-Difference in Functional Vision of Athletes and Non-Athletes

Communicable diseases.-In finding the average number of communicable diseases per student, the raw data were taken from the clinic records in the Western Kentucky State Teachers College. Chapter I, under "definition of terms," describes the bounds of this subject.

Interpretations on the relationship of communicable diseases

8
Wood and Rowell, Health Supervision and Medical Inspection of Schools (New York, The A. S. Barnes Co), p.216.

to this study are as follows:

1. According to Williams,[9] proper development is impaired through experiencing contagious diseases during childhood and adolescence. Thus, the study should give an historical basis (within bounds) of the student's present status.

2. In general, some information should be found regarding practices in immunization and vaccination during the student's developmental period. This latter premise would not be exact, however, for there are no concrete data concerning this phase of clinic history.

During the tabulation of materials regarding communicable diseases, the range was found to be from none to six. For determining the average number of communicable diseases per student, a process similar to that used in the foregoing physiological studies was employed. The sum total of all communicable diseases was added for each classification and divided by the number of cases in each instance. The results showed a favorable trend in the case of the athlete, with an average of 2.03 communicable diseases as compared with 2.27 communicable diseases for the non-athlete. Thus for each 100 non-athletes there have been 24 more communicable diseases experienced than for the athlete. The following diagram denotes the relative number of communicable diseases per hundred students in both the athletic and non-athletic sections.

9
Jesse Feiring Williams, Principles and Physical Education (Philadelphia, The Saunders Co., 1927), Chapter III, (The Nature of Man).

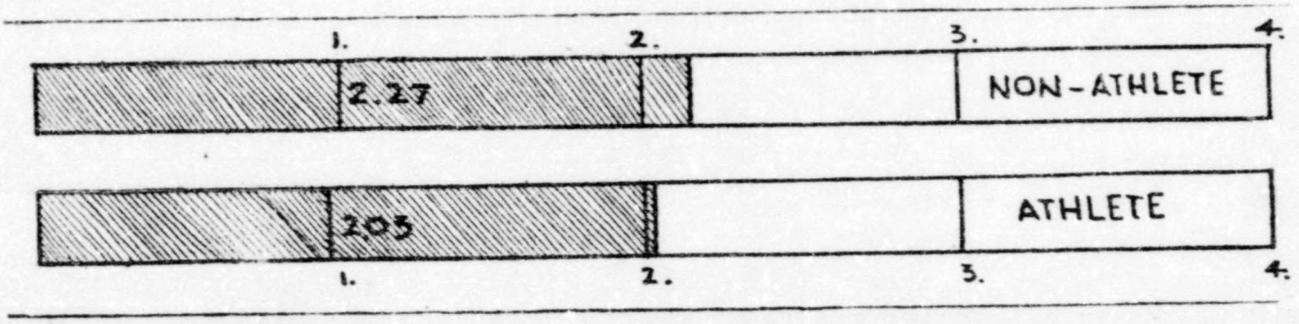

Fig.10-Relative Number of Communicable Diseases in Athletes and Non-Athletes

Chapter summary.-

1. "Physiological" as used in this study refers not only to function but also to the equipment for functioning (structure).

2. Athletes have better posture than non-athletes. This is shown by the former's rating of 1.76 (1 is perfect) as compared with the latter's 1.92.

3. The athlete, being, on the average, 9 months and 7 days younger than his fellow non-athlete, has arrived at the same academic level in a briefer period than his fellow student. The former is 19.17 years of age, whereas the latter is 19.91 years old.

4. Those participating in the athletic division of physical education are 70.3 inches tall; or in comparison with the non-athletes, exceed the latter's 68.7 by 1.6 inches.

5. A remarkable difference is noted in weight, as is seen in the results with the athlete at an average of 166.4 pounds against the 145.3 pounds for non-athletes.

6. The athlete is found to have had fewer communicable diseases than the non-athlete (2.07 and 2.27).

7. In a study on functional vision the athlete approached

perfect vision more closely than the non-athlete. (1.33 athlete; 1.46 non-athlete; with "1" as perfect vision).

8. Each of the six physiological items considered favor supremecy of the athlete. This will be a decided contrast to the results of the following chapter.

Fig. 11 - PHYSIOLOGICAL DIFFERENCES BETWEEN NON-ATHLETES AND ATHLETES

NON-ATHLETE

NON-ATHLETE		ATHLETE
19.91 yrs	AGE	19.17 yrs.
68.7 in	HEIGHT	70.3 in.
1.92	POSTURE	1.76
145.3 lb	WEIGHT	166.4 lbs
1.46	VISION	1.33

ATHLETE

CHAPTER IV

ACADEMIC ACHIEVEMENT OF ATHLETES AND NON-ATHLETES WHILE IN COLLEGE

According to Nash,[1] and Williams,[2] education manifests itself in bringing about favorable changes in human beings. These transformations are wrought through three channels: First, the physical; second, the emotional and moral; and third, the mental. We have already discussed the first of these in Chapter III. The second, or emotional and moral, have no measuring stick of status or progress; and it is for this reason that their treatment have been omitted. It is the writer's hope some day to see a reliable measure of emotional stability and progress. The last division (mental), according to administrative officials at the Western State Teachers College, is the chief one among those considered. And as a result, greater emphasis should be placed on values in this chapter.

Following is a brief mention of the items classified as showing mental achievement and mental stability:

1. Total number of courses dropped per student.
2. Total number of failures per student.
3. Total number of quality points per passed credit hour.
4. Total number of students on probation at least once.

The arrangement is sequenced in importance according to the

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1 Jay B. Nash, The Administration of Physical Education (A. S. Barnes Co., 1931) Chapter IV.

2 Jesse Feiring Williams, Principles of Physical Education (New York, The Saunders Co., 1927), Introduction.

writer's judgement.

Courses dropped.-Chapter I, under "definition of terms," gives us a brief idea of what is meant by a dropped course. A dropped course is recognized only through the following procedure (as effected in the Western Kentucky State Teachers College):

1. Sanction by individual instructor.
2. Sanction by the registrar.
3. Recording action in the registrar's office.

In searching out the achievement records of 147 athletes, there were to be found but 18 courses officially marked "dropped." Upon this basis there would be an average of 12.2 courses dropped per hundred athletes. Inquiry into materials regarding the non-athlete disclosed 36 courses as having been officially dropped. This would mean 8.4 courses dropped per 100 non-athletes.

According to a report from the registrar's office at the Western Kentucky State Teachers College[3], the various reasons for dropping courses in order of importance are:

1. Too heavy a program.
2. Course too difficult.
3. Personal distaste for course.
4. Miscellaneous (dropping school, changing program, etc.).

So with the foregoing results in mind it can be seen from this standpoint (number of courses dropped per hundred students) that the non-athlete is 33.3% more stable in work scheduled than the athlete (8.4 courses from 12.2 courses; divided by 12.2

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[3] (Note) Data on file in the registrar's office of Western Kentucky State Teachers College.

courses).

Total number of failures.-Probably no other measure more closely identifies mental inferiority or academic weakness than the failure. As the word itself indicates, it is the grade given an individual who fails to master at least a minimum amount of work in a specified course. Not only does the student fail to receive quality points, but he also fails to be granted credit hours. Causes for failure are said to be inability to master work attempted, lack of interest, and absences.

From the students' cumulative record cards in the registrar's office at the Western Kentucky State Teachers College the substance was found for this chapter division. For the athlete group of 147 cases there were found 303 failures. This, reduced to number of failures per unit (303 divided by 147), gives 2.03 failures per athlete. A decided difference is accorded upon reviewing the results of 426 non-athletes, who had a total of 589 failures. This established them as having a failure average per student of 1.28.

With such a broad chasm between these two groups there can surely be found an important deduction. Bearing in mind the above-mentioned causes of failures, it can be said that the athlete is less interested in content courses, has less ability to master work, and is more irregular in attendance. In the last chapter reasons for these relative differences will be discussed. The following bar graph denotes the relationship between athletes and non-athletes in connection with failures in college work.

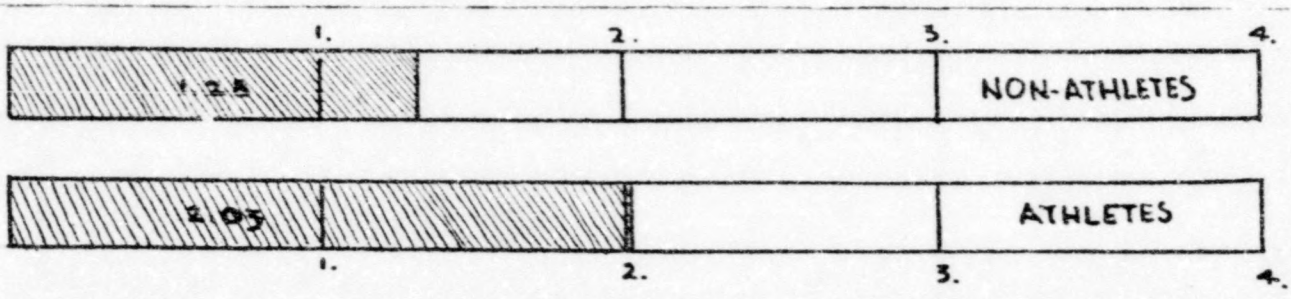

Fig.12-Average Number of Failures for Athletes and Non-Athletes

Quality points per hour passed.-In this study on quality points only the hours passed were considered. As the foregoing division pointed out deficiencies due to failures, it would be but repetition to include them here. As are the other data of this chapter, these were taken from the personal academic achievement cards in the registrar's office.

Culture has been defined by Counts[4] as "the way you do a thing". So it is not what you do but the manner in which it is done that lends importance. Thus the college a claimant of affording a cultured atmosphere, gives a quality award for how well a piece of work is done. For example, a "C", or one quality point per hour, assures that the work was completed with a tone up to the required minimum; "B", or 2 quality points per hour credit, suggests that the individual has given more care and exercised more initiative in the performance of his trials; and so on with "D" (no quality points) and "A" (three quality points per hour).

4
Counts, The American Road to Culture (New York, John Day co., 1930).

Gathering the results for average quality points per hour passed involved an additional step to those other materials treated. The sequencial order of events for finding an individual point average for hours passed is:

1. Sum up the total number of passed hours.

2. Total the quality points for these hours.

3. Divide (2) by (1), and the result is point-per-hour standing.

In turn these quality-point averages were compiled as a unit and divided by the total number of cases for each group. There were 128 quality-point records available for the athlete division. These 128 quality point averages revealed a total of 131.2 quality points, for a group average of 1.02 for each hour taken. For the 395 non-athletes there were 490.1 quality points garnered from a total of all the individual scores. The result for the non-athlete group gave them an average of 1.24 points per hour passed. On a quality-point scale with full range (1 to 3) the results would be pictured as given in the following diagram.

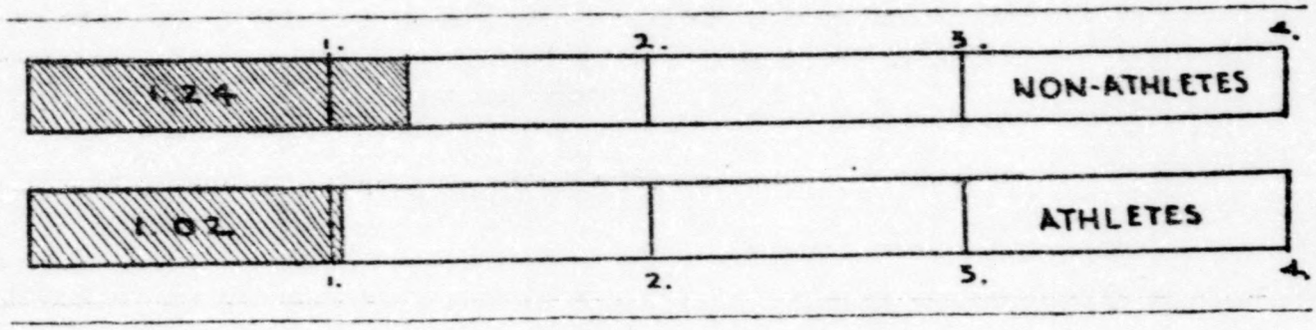

Fig.13-Quality Point Averages of Athletes and Non-Athletes

Total number on probation.-Extraordinarily large is the percentage of students on probation for at least one semester while

in school. To repeat, a probation student is one failing to meet the minimum quality-point average for the number of credit hours scheduled. For example, a student is scheduled for 15 hours of academic work. Should his aggregate number of quality points fall below 15, then he automatically becomes a subject of probation.

Of the 426 non-athletes under consideration there were 180 who at some time had been on probation. This gives a 41% representation of non-athletes who have been labeled "on probation."

A remarkable separation is found in the athlete group. Of the 147 cases studied there were 87 who had been on probation at least once. These figures give a representative percentage of 59%. Thus numerical difference between the athlete and non-athlete regarding probation is 18%.

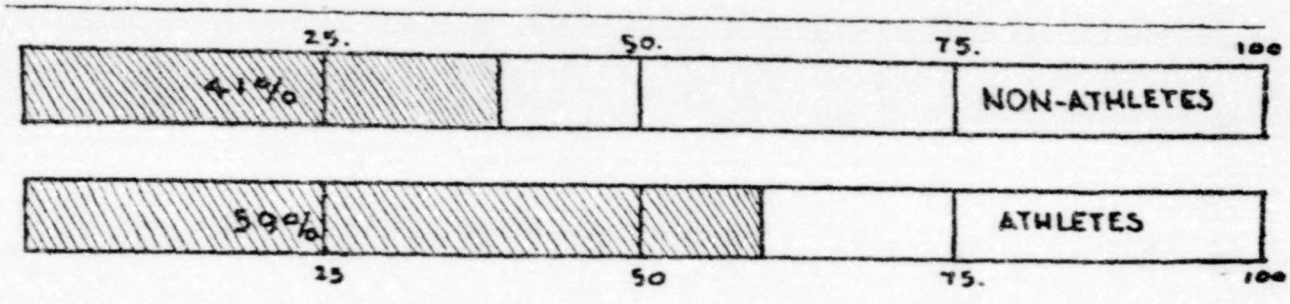

Fig.14-Relative Number of Athletes and Non-Athletes Having Been on Probation.

Chapter summary.-

1. The athlete, on the average, drops 33% more scheduled courses than the non-athlete.

2. The athlete has a total number of failures per student nearly twice as great as the non-athlete. The former group averaged 2.03 per student, while the latter average was 1.28.

3. The athlete, with a quality-point average of 1.02 per hour passed, is .22 behind the non-athlete, with a quality-point average of 1.24.

4. The athlete group has an average of 59% on probation at least once while in school, as compared with the 41% recorded for the non-athlete.

CHAPTER V

GENERAL SUMMARY AND CONCLUSIONS

In Chapter I (page 2) four problems were stated in the form of questions. These unsolved situations were to find the differences between athletes and non-athletes at the Western Kentucky State Teachers College in regard to physiological aspect, rating on two placement tests, academic achievement, and certain auxiliary factors.

From Chapter II it has been deduced that the athlete does not come to college as well equipped in content subjects as does the non-athlete. This is shown by the poorer ratings of the former on two placement tests. The English placement test gave the athlete a .22 lower quartile standing than the non-athlete. Similar results and conclusions are drawn from the educational placement test, which established the athlete .16 lower than the non-athlete (on a quartile scale).

Distance from parental home to school, the first auxiliary factor, shows the athlete living 60.6 miles further from college than the non-athlete (P.16). Thus, it is evident that the athletic department has had considerable influence in this respect. The other auxiliary factor lends information to the affect that the athlete pursues his four-year course of study with more coherence than the non-athlete (59% non-athletes drop; 41% athletes drop for at least one semester).

Physiologically, the athlete excels in every respect considered by this study. In posture (3 as perfect) the athlete is

.16 closer perfection than the non-athlete. The athlete, 9 months and 7 days younger than the non-athlete, has arrived at the same academic level in a briefer period of time than the non-athlete. There is a supremecy in athletic height of 1.6 inches over the non-athlete. The non-athlete is found to be 21.1 pounds lighter than his athletic neighbor. A consideration of communicable diseases discloses the athlete as having experienced slightly fewer than the non-athlete.

From the analysis on mental achievement the results are directly opposite to those in the foregoing paragraph. In other words, the non-athlete excels the athlete in each division of academic achievement. In the first place, the athlete is less stable in scheduled courses, as shown by a 33% greater number of drops than that recorded for the non-athlete. Secondly, the athlete is charged with nearly twice as many failures as the non-athlete (2.03 per unit vs. 1.28 per unit). Thirdly, the non-athlete rates .22 of a quality point per passed hour ahead of the athlete (1.24 non-athlete; 1.02 athlete). And in the fourth place, 59% of the athlete group have been on probation at least once, as compared to 41% for the non-athletic group.

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