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Participation in Physical Education Activities by Athletes and Non-Athletes after their Graduation from College

Harold John Cordts

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140

**PARTICIPATION IN PHYSICAL EDUCATION ACTIVITIES BY ATHLETES
AND NON-ATHLETES AFTER THEIR GRADUATION FROM COLLEGE**

A Thesis
Submitted to the Graduate Faculty
of
South Dakota State College

by

Harold John Cordts

**In Partial Fulfillment of the Requirements
for the Degree of
Master of Science**

July 1955

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PARTICIPATION IN PHYSICAL EDUCATION ACTIVITIES
BY ATHLETES AND NON-ATHLETES AFTER THEIR
GRADUATION FROM COLLEGE

By
Harold John Cordts

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Thesis Advisor

Head of the Major Department

ACKNOWLEDGMENTS

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TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Statement of the Problem	2
II. REVIEW OF LITERATURE	3
III. METHODS AND PROCEDURES OF COLLECTING DATA	6
IV. TABULATION OF QUESTIONNAIRE RETURNS	8
Number Studied and Per Cent of Replies	8
Participation During High School	10
Participation During College	12
Over-All Participation by Athletes Since Graduation from College	14
Over-All Participation by Non-Athletes Since Graduation from College	16
Per Cent Participation During Four Five-Year Periods After Graduation from College	19
Most Popular Activities of Athletes and Non-Athletes	20
Frequency of Participation During Four Five-Year Periods After Graduation from College	24
Per Cent Participation by Graduates of Various Decades	31
V. INTERPRETATION OF RESULTS	38
VI. IMPLICATIONS AND CONCLUSIONS	47
BIBLIOGRAPHY	49
Books	49
Periodicals	49
Unpublished Materials	49
APPENDIX	51
Letter of Transmittal	52
Questionnaire	53
Follow-Up Card	54
Athlete Master Tabulation	55
Non-Athlete Master Tabulation	56

LIST OF TABLES

Table	Page
I. Number of Graduates Studied and Per Cent of Replies	8
II. Per Cent Participation in Physical Education Activities During High School by Athletes and Non-Athletes	10
III. Per Cent Participation in Physical Education Activities During College by Athletes and Non-Athletes	12
IV. Over-All Participation in Physical Education Activities by Athletes Since Graduation from College	14
V. Over-All Participation in Physical Education Activities by Non-Athletes Since Graduation from College	16
VI. Per Cent Participation in Physical Education Activities After Graduation from College	19
VII. Most Popular Activities of Athletes and Non-Athletes	21
A. First Five-Year Period After Graduation	21
B. Second Five-Year Period After Graduation	21
C. Third Five-Year Period After Graduation	21
D. Fourth Five-Year Period After Graduation	24
VIII. Frequency of Participation in Physical Education Activities	24
A. First Five-Year Period After Graduation	24
B. Second Five-Year Period After Graduation	26
C. Third Five-Year Period After Graduation	28
D. Fourth Five-Year Period After Graduation	29
IX. Per Cent Participation in Physical Education Activities by Graduates of Various Decades	31
A. First Five-Year Period After Graduation	31
B. Second Five-Year Period After Graduation	33
C. Third Five-Year Period After Graduation	34
D. Fourth Five-Year Period After Graduation	36

LIST OF GRAPHS

Graph	Page
1. Per Cent of Questionnaires Returned	9
2. Total Over-All Participation	18
3. Total Participation Exclusive of Major Sports	18
4. Per Cent of Athletes Participating in Popular Activities	22
5. Per Cent of Non-Athletes Participating in Popular Activities	23

PARTICIPATION IN PHYSICAL EDUCATION ACTIVITIES BY ATHLETES
AND NON-ATHLETES AFTER THEIR GRADUATION FROM COLLEGE

CHAPTER I

INTRODUCTION

Educators and physical educators are very much concerned about the degree of carry-over of physical education activities into the leisure experiences of pupils. They also seem to be cognizant of the need for noting the degree of interest and skill developed by pupils in these activities for carry-over to adult life. These points are invariably included in all materials encountered which refer to the objectives of physical education or evaluative criteria which have been established for raising the standards of our present programs. Obviously these groups are immensely concerned with this vital factor of carry-over value of activities for the pupils because they realize how essential it is for effective adjustment of the individual in society today.

Supervisors and instructors of physical education may often be confronted by the following questions of physical education students:

What good will I get out of this activity?

What type of activities do people follow most in adult life?

What chances are there that I can do the same thing when I get out of college?

Statement of the Problem

The purpose of this study is to determine the extent of participation of athletes and non-athletes in physical education activities during high school, to determine the extent of their participation during college, and to determine the frequency of participation in physical education activities by these same athletes and non-athletes during specific periods of time after graduation from college. We also wish to determine the most common physical education activities in which athlete and non-athlete graduates of the various decades from 1900-1954 participated during specific periods of time after graduation from college.

CHAPTER II

REVIEW OF LITERATURE

There are few studies available that would seem to have a close relationship to the present one. It is surprising to note the scarcity of material that attempts by objective measures to establish the value of participation in physical education activities in high school and college to adult life. Many surveys have been made showing the existing conditions in extra-curricular activities and the various relationships of activity participation to scholarship and other factors existing at the time. Obviously it has been difficult to find objective criteria to determine the type of differences, if any, which occur between the athlete and non-athlete group.

Baker¹ studied 328 high school students at Franklin Park, Illinois, and found that reading, sports, music, travel, attending movies, and dancing were the most popular leisure time activities. Interest in these activities increased slightly from grade to grade. His study covered the entire area of leisure time activities; and it may be noted that sports, the major concern of this study, ranked extremely high with respect to frequency of participation during leisure time.

Hall² in a study of 108 boys and 76 girls in four high schools in Colorado found that boys who participate in athletics participate in a

¹Sewell E. Baker, "Abilities, Interests, and Socio-Economic Status of High School Pupils," Master's Thesis, Northwestern University, 1932.

²R. T. Hall, "The Relationship Between the Mental Achievement and Accomplishment Rankings of Athletes and Non-Athletes in Secondary Schools," Master's Thesis, Colorado State Teachers College, 1930.

4

wider variety of activities than non-athletes. The non-athlete girls surpassed the athletes in variety and number of activities.

George B. Smith³ studied 762 graduates of six Minneapolis high schools for the years 1922-1925 and then their further performance at the University of Minnesota. Information was taken from the annuals of the various high schools and from the "Gopher", the University of Minnesota's annual yearbook. He found a positive but very small relationship between the number of activities participated in during high school and the number participated in at the University.

Blume⁴ studied 55 graduates of Waupaca High School at Waupaca, Wisconsin, for the years from 1920-1930 and found that more people in high school, both men and women, participated in athletic activities than any other activity. He found that interest developed in high school athletics seemed to follow through into adult life although the types of activities varied greatly. All adults enjoyed radio, movies, cards, and dancing most frequently.

Bischoff⁵ conducted a survey of the recreational interests of male alumni of Pennsylvania State College between 1926 and 1936. He found the five activities ranked first as being the favorite types of

³George B. Smith, "The Relation Between Participation in Student Activities in High School and in the University," Master's Thesis, University of Minnesota, Minneapolis, Minnesota, 1930.

⁴Lawrence A. Blume, "The Relationship of Students' Participation in High School Activities to Participation in Leisure Time Activities After Graduation," Unpublished Master's Thesis, University of Minnesota, Minneapolis, Minnesota, 1937.

⁵Eugene C. Bischoff, "Recreational Interests of Male Alumni of the Pennsylvania State College," Unpublished Master's Thesis, Ohio State University, Columbus, Ohio, 1937.

recreation engaged in now by former varsity members are as follows: first, golf; second, swimming; third, tennis; fourth, bowling; and fifth, handball. From this observation it was suggested that college physical education departments should emphasize the teaching of golf, swimming, tennis, bowling, and handball in college physical education courses.

Newell⁶ in a study of 625 various college alumni found that the alumni desired skills to be taught in activities which are useful to the undergraduate and will carry over into his adult life. It was found further that students desired more choice in selecting their physical education program; and this program should include camping, hiking, skating, fishing, and skiing.

⁶John Robinson Newell, "Recreational Interests of College Alumni and Their Evaluation of College Physical Education," Unpublished Master's Thesis, Springfield College, Springfield, Massachusetts, 1938.

CHAPTER III

METHODS AND PROCEDURES OF COLLECTING DATA

A questionnaire was developed for this survey of South Dakota State College graduates; and a letter of transmittal was presented with the questionnaire to instructors in the English, Education, and Physical Education Departments to determine the correctness and clarity. Upon making necessary corrections the questionnaire and letter were prepared for mailing.

Names of the athletes used in this survey were obtained from the award record book in the athletic office of South Dakota State College. The athlete group of this study consisted of graduates who had earned a major or minor award in at least one intercollegiate sport at South Dakota State College between 1900 and 1954. The non-athlete group consisted of graduates who had not earned this type of award at South Dakota State College.

Through the cooperation of the Director of Admissions and Records at South Dakota State College, the alumni mailing list was made available. The questionnaire and letter of transmittal were mailed on February 1, 1955, to one hundred eighty-seven athletes and one hundred ninety-eight non-athletes. With a 100% return three hundred eighty-five would have participated in this study; however, the analysis was conducted with the two hundred thirty returned questionnaires.

On March 4, 1955, a follow-up card was mailed to all who had not returned the questionnaire on that date. This card increased the final returns by 11% as twenty-six questionnaires were returned because of

this brief reminder.

As different numbers of questionnaires were returned by the athlete and non-athlete groups of various decades, it is believed that study in terms of percentages would be most effective. The report of graduates of the decade 1900-1909 is relatively small and the 1950-1954 period is not a full decade; however, it is felt that the sampling is adequate to make this study reliable.

Returned questionnaires of the athletes and non-athletes were tabulated separately, and all numbers were converted to percentages to permit more rapid and meaningful interpretation. Since questions 1, 2, and 3 were answered by all participants in this study, one hundred thirty replies were used in computing percentages involving athletes; and one hundred replies were used in computing percentages involving non-athletes. Further percentages were computed on the basis of the number of athlete or non-athlete participants answering that specific question. Question 4 was answered by one hundred four athletes and eighty-four non-athletes; question 5 was answered by eighty-six athletes and sixty-six non-athletes; and question 6 was answered by seventy-three athletes and sixty non-athletes.

Percentages involving the athlete and non-athlete graduates of various decades were computed on the basis of the number of athletes and non-athletes who reported from that specific decade concerned and may be found on Table I in Chapter IV.

CHAPTER IV

TABULATION OF QUESTIONNAIRE RETURNS

Number Studied and Per Cent of Replies

Table I shows the number of athlete and non-athlete graduates of each decade from 1900 to 1954 who were sent questionnaires and the number and per cent of each group in each of the decades who replied.

TABLE I

Number of Graduates Studied

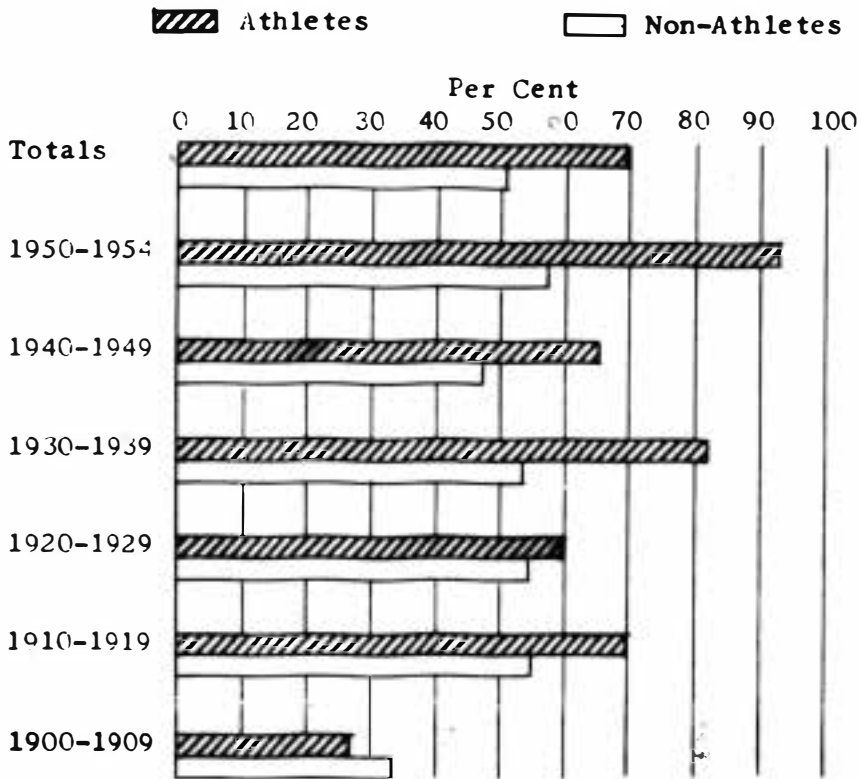
<u>Class</u>	<u>No. Sent to Athletes</u>	<u>No. Sent to Non-Athletes</u>	<u>No. Athletes Reported</u>	<u>No. Non-Athletes Reported</u>
1900-1909	11	12	3	4
1910-1919	20	22	14	10
1920-1929	47	44	28	24
1930-1939	34	41	28	22
1940-1949	47	51	31	24
1950-1954	28	28	26	16
Totals	187	198	130	100

Per Cent of Replies

<u>Class</u>	<u>Per Cent Athletes Reported</u>	<u>Per Cent Non-Athletes Reported</u>
1900-1909	27%	33%
1910-1919	70%	45%
1920-1929	60%	54%
1930-1939	82%	53%
1940-1949	66%	47%
1950-1954	93%	57%

Per Cent of Total Athletes Reported 69.5%
 Per Cent of Total Non-Athletes Reported 50.5%
 Per Cent of Complete Total Reported 59.7%

Graph 1 presents the per cent return of questionnaires from the athlete and non-athlete groups in each of the six periods and the total return from each group.



Graph 1. Per Cent of Questionnaires Returned.

Most complete return of the athlete group and non-athlete group came from the graduates of the period 1950 - 1954. From this period the athletes submitted a 93% return and the non-athletes a 57% return. The lowest percentage of return for both groups came from the graduates of the period 1900-1909.

Participation During High School

Question 1 on the questionnaire requested the graduate to indicate which of the twenty-two activities listed he had participated in during high school and the specific area of participation. The specific areas checked indicated whether participation was on a varsity team, B or frosh team, intramural team, in a physical education class, or "just for fun". Table II reveals the per cent of athletes and non-athletes who participated in these activities in the five specific areas during high school.

TABLE II

**Per Cent Participation in Physical Education Activities
During High School by Athletes and Non-Athletes**

Activities	Varsity		B-Frosh		IM		PE Class		For Fun	
	Ath	Non	Ath	Non	Ath	Non	Ath	Non	Ath	Non
Archery	0	0	0	0	0	0	.8	0	1	2
Badminton	0	0	0	0	0	1	4	2	2	2
Baseball	32	23	1	0	3	3	2	4	20	31
Basketball	70	42	8	6	9	9	7	9	6	8
Bowling	3	0	0	0	0	0	.8	0	19	9
Boxing	.8	3	0	0	.8	2	5	2	17	10
Cross Country	4	1	0	1	0	0	.8	0	0	1
Folk Dancing	0	0	0	0	0	0	0	0	3	2
Football	59	35	6	3	1	1	1	2	5	4
Golf	1	3	0	0	0	0	0	0	14	11
Gymnastics	.8	0	0	0	0	1	13	10	7	1
Handball	0	0	0	0	0	0	2	0	4	2
Horseshoe	1	1	0	0	0	0	1	1	26	17
Soccer	.8	0	.8	0	0	0	1	1	2	0
Softball	8	2	.8	0	3	2	12	8	27	27
Speedball	0	0	0	0	1	0	2	0	.8	0
Swimming	1	0	0	0	0	0	1	0	36	34
Tennis	3	0	0	0	0	1	0	0	25	16
Touch Football	.8	0	.8	0	2	1	7	3	13	6
Track & Field	60	34	.8	2	1	3	1	1	5	5
Volleyball	1	1	.8	0	6	1	15	6	16	13
Wrestling	3	1	0	0	1	1	3	1	7	4

In the varsity area a higher percentage of participation by the athlete group is indicated in all activities except in boxing and golf. The non-athlete group in this study specified slightly higher participation in these two activities during high school.

In the B or frosh area athletes indicated a higher percentage of participation in all activities except track and field and cross country.

In the intramural area the athlete group indicated higher participation in softball, speedball, touch football, and volleyball. The non-athlete group indicated higher participation in badminton, boxing, gymnastics, tennis, and track and field. Similar percentages of participation in this area are found in baseball, basketball, football, and wrestling.

In physical education classes the athlete group disclosed higher participation in all activities except baseball, basketball and football. In these three activities the non-athlete group indicated a slightly higher percentage of participation.

In the "just for fun" area the athlete group indicated a higher percentage of participation in all activities except archery, baseball, basketball, and cross country. In these activities the non-athletes indicated a higher percentage of participation, especially in baseball. Similar percentages of participation in this area are noted in badminton, softball, and track and field. The most popular activities of athletes in high school "just for fun" are swimming, softball, horseshoe, tennis, and baseball. Non-athletes at this level preferred the same activities in the order of swimming, baseball, softball, horseshoe, and tennis.

Participation During College

Question 2 on the questionnaire requested the graduates to indicate which of the twenty-two activities listed he had participated in during college and the specific area of participation. The specific areas checked were similar to the areas noted in question 1. Table III shows the per cent of athletes and non-athletes who participated in these activities in the five specific areas during college.

TABLE III

**Per Cent Participation in Physical Education Activities
During College by Athletes and Non-Athletes**

Activities	<u>Varsity</u>		<u>B-Frosh</u>		<u>IM</u>		<u>PE Class</u>		<u>For Fun</u>	
	Ath	Non	Ath	Non	Ath	Non	Ath	Non	Ath	Non
Archery	0	0	0	0	0	0	8	0	3	1
Badminton	0	0	0	0	1	0	13	5	9	2
Baseball	15	2	.8	1	8	11	.8	3	12	18
Basketball	39	3	8	5	32	29	7	10	10	8
Bowling	0	0	0	0	.8	0	5	0	19	15
Boxing	2	2	.8	0	3	5	12	3	13	7
Cross Country	10	0	0	0	1	0	.8	1	.8	1
Folk Dancing	0	0	0	0	.8	0	3	2	5	4
Football	44	7	15	13	2	2	.8	0	0	1
Golf	0	0	0	0	.8	0	3	1	29	27
Gymnastics	0	0	0	0	0	1	15	11	7	3
Handball	0	0	0	0	4	2	12	3	22	7
Horseshoe	0	0	0	0	3	1	12	1	23	14
Soccer	0	0	0	1	0	0	10	1	.8	0
Softball	0	0	.8	0	18	9	10	5	21	15
Speedball	0	0	0	0	0	0	7	0	1	0
Swimming	0	0	.8	0	.8	2	3	9	30	27
Tennis	1	2	.8	0	.8	4	9	2	31	19
Touch Football	0	0	.8	0	7	3	7	9	8	5
Track & Field	40	5	6	1	2	2	3	7	2	5
Volleyball	0	0	0	0	10	0	15	13	18	5
Wrestling	0	0	0	1	0	0	6	2	9	3

On Table III the athletes group indicated an extremely high

percentage of participation in the varsity area on all activities except tennis and boxing. A similar percentage of each group participated in boxing and the non-athlete group revealed a slightly higher percentage of participation in tennis. This extreme difference on this particular part of question 2 was expected because of the method used in the selection of graduates who were to participate in this study. Apparently the non-athlete varsity participants had engaged in these activities at a college prior to entering South Dakota State College.

In the B or frosh area the athlete group indicated a higher percentage of participation in basketball, boxing, football, softball, tennis, touch football, and track and field. The non-athlete group disclosed a higher percentage of participation in baseball, soccer and wrestling.

The athlete group indicated a higher percentage of participation in all activities in the intramural area during college except in baseball, boxing, handball, and tennis. Similar percentages of participation are noted in football and track and field. The greatest difference is found in participation in softball as 18% of the athletes indicated participation and only 9% of the non-athletes indicated participation in this activity in this area during college.

Athletes indicated a higher percentage of participation in all activities in physical education classes during college except baseball, basketball, cross country, swimming, touch football, and track and field. Non-athletes indicated a higher percentage of participation in these six activities.

Athletes indicated a higher percentage of participation in all activities in the "just for fun" area in college except in baseball and track and field. The most popular activities of the athlete group are

tennis, swimming, golf, horseshoe, and handball. The most popular activities of the non-athlete group are swimming, golf, tennis, baseball, bowling, and softball.

Over-All Participation by Athletes

Since Graduation from College

Table IV shows the per cent of the athlete group who indicated some participation in physical education activities during four five-year periods after graduation from college.

TABLE IV

Over-All Participation in Physical Education Activities by Athletes Since Graduation from College

Activities	<u>Five-Year Periods After Graduation</u>			
	<u>First</u> Per Cent	<u>Second</u> Per Cent	<u>Third</u> Per Cent	<u>Fourth</u> Per Cent
Archery	4	3	1	1
Badminton	11	9	7	7
Baseball	33	19	13	8
Basketball	58	38	20	8
Bowling	35	30	34	30
Boxing	8	4	3	3
Cross Country	3	1	1	1
Folk Dancing	8	6	7	9
Football	18	12	8	3
Golf	46	47	47	49
Gymnastics	7	8	8	1
Handball	12	5	7	6
Horseshoe	27	22	17	14
Soccer	4	1	1	1
Softball	48	36	21	16
Speedball	2	1	5	3
Swimming	46	35	30	20
Tennis	34	23	15	9
Touch Football	13	8	9	1
Track & Field	15	12	6	3
Volleyball	26	29	20	8
Wrestling	6	5	2	1
Total	464	354	282	204

During the first five-year period after graduation the athlete group indicated participation in all twenty-two activities. Most extensive participation is noted in basketball, softball, golf, swimming, bowling, tennis, baseball, horseshoe, volleyball, and football.

In the second^d five-year period after graduation a decrease in the extent of participation noted during the first five-year period is indicated in all activities except golf, gymnastics and volleyball. A slight increase in participation in these three activities is revealed. The most popular activities of this period are golf, basketball, softball, swimming, bowling, volleyball, tennis, horseshoe, baseball, football, and track and field.

The third five-year period after graduation shows a decrease in the extent of participation noted in thirteen activities of the previous five-year period. The extent of participation in cross country, golf, gymnastics, and soccer was not changed. Increased participation is indicated in bowling, folk dancing, handball, speedball, and touch football. The most popular activities of this period are golf, bowling, swimming, softball, basketball, volleyball, horseshoe, tennis, baseball, and touch football.

The fourth five-year period after graduation shows a decrease in the extent of participation noted in fifteen activities of the previous five-year period. The extent of participation in archery, badminton, boxing, cross country, and soccer was not changed. Increased participation was shown in folk dancing and golf. The most popular activities of this period are golf, bowling, swimming, softball, horseshoe, folk dancing, tennis, baseball, basketball, and volleyball.

Total percentages of over-all participation in physical education activities by athletes revealed a decrease from the first through the fourth five-year periods after graduation.

Over-All Participation by Non-Athletes

Since Graduation from College

Table V shows the per cent of the non-athlete group who indicated some participation in physical education activities during four five-year periods after graduation from college.

TABLE V

Over-All Participation in Physical Education Activities by Non-Athletes Since Graduation from College

Five-Year Periods After Graduation

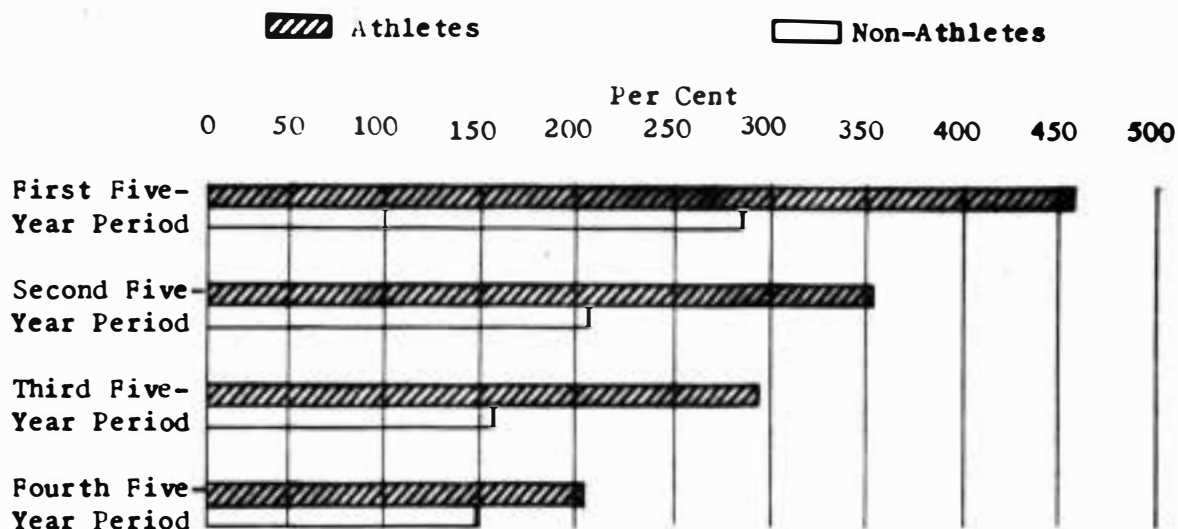
Activities	<u>First</u>	<u>Second</u>	<u>Third</u>	<u>Fourth</u>
	Per Cent	Per Cent	Per Cent	Per Cent
Archery	3	1	1	5
Badminton	7	3	3	3
Baseball	26	16	9	5
Basketball	21	12	8	5
Bowling	27	26	23	18
Boxing	3	3	3	3
Cross Country	1	0	0	0
Folk Dancing	4	2	3	10
Football	4	2	4	3
Golf	40	39	35	30
Gymnastics	4	4	1	0
Handball	3	1	4	2
Horseshoe	15	20	9	12
Soccer	0	0	0	0
Softball	25	12	10	10
Speedball	0	1	0	0
Swimming	41	38	35	29
Tennis	24	13	1	2
Touch Football	4	0	0	0
Track & Field	5	4	1	2
Volleyball	17	8	6	7
Wrestling	3	2	1	3
Total	277	207	157	149

During the first five-year period after graduation the non-athlete group indicated participation in twenty-one activities. Most extensive participation is noted in swimming, golf, bowling, baseball, softball, tennis, basketball, volleyball, horseshoe, and badminton.

The second five-year period shows a decrease in the extent of participation noted during the first five-year period in all activities except boxing, gymnastics, horseshoe, and speedball. The extent of participation in boxing and gymnastics remained the same as that of the previous period, whereas the extent of participation in horseshoe and speedball increased. The ten foremost activities of this period are golf, swimming, bowling, horseshoe, baseball, tennis, basketball, softball, volleyball, and gymnastics.

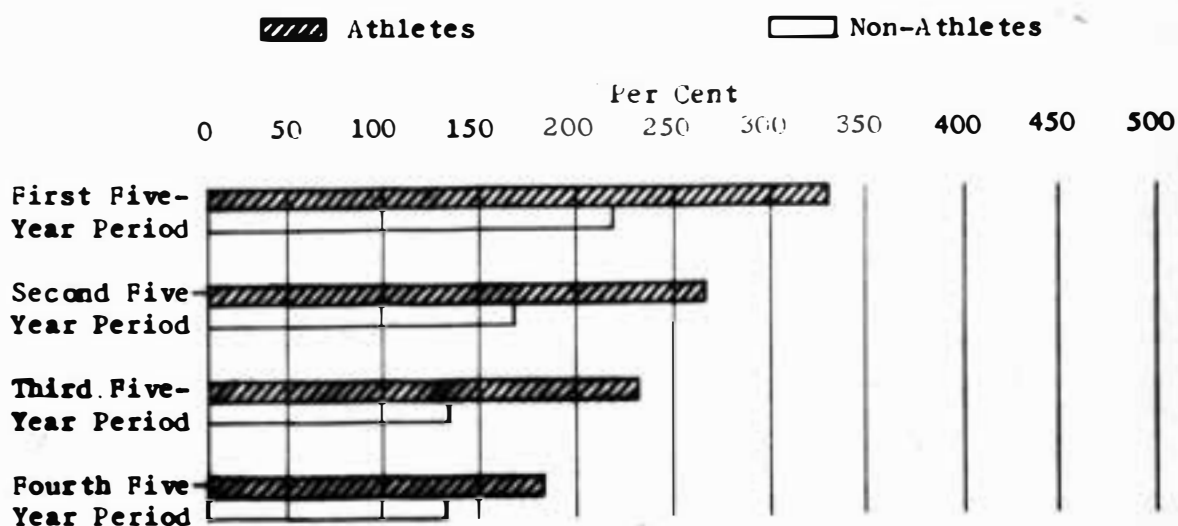
In the third five-year period a decrease in the extent of participation noted in the previous five-year period is indicated in thirteen activities. The extent of participation in archery, badminton, boxing, cross country, soccer, and touch football remained unchanged. Increased participation is denoted in folk dancing, football and handball. The ten foremost activities of this period are golf, swimming, bowling, softball, baseball, horseshoe, basketball, volleyball, football, and handball.

The fourth five-year period shows a decrease in the extent of participation noted in eight activities of the previous five-year period. The extent of participation in badminton, boxing, cross country, soccer, softball, speedball, and touch football remained unchanged. Increased participation is denoted in archery, folk dancing, horseshoe, tennis, track and field, volleyball, and wrestling. The ten foremost activities of this period are golf, swimming, bowling, horseshoe, folk dancing, softball, volleyball, archery, baseball, and basketball.



Graph 2. Total Over-All Participation

Graph 2 exhibits the total percentage of participation in all physical education activities indicated by athletes and non-athletes during four five-year periods after graduation, whereas graph 3 reveals the total percentage of participation exclusive of major sports.



Graph 3. Total Participation Exclusive of Major Sports

Total percentages of over-all participation in physical education activities by non-athletes disclosed a decrease from the first through the fourth five-year periods after graduation.

**Per Cent Participation During Four
Five-Year Periods After Graduation from College**

Table VI shows the per cent of athletes and non-athletes who engaged in the various physical education activities during four five-year periods after graduation from college.

TABLE VI
**Per Cent Participation in Physical Education Activities
After Graduation from College**

Activities	<u>Five-Year Periods After Graduation</u>							
	<u>First</u>		<u>Second</u>		<u>Third</u>		<u>Fourth</u>	
	Ath	Non	Ath	Non	Ath	Non	Ath	Non
Archery	4	3	3	1	1	1	1	5
Badminton	11	7	9	3	7	3	7	3
Baseball	33	26	19	16	13	9	8	5
Basketball	58	21	38	12	20	8	8	5
Bowling	35	27	30	26	34	23	30	18
Boxing	8	3	4	3	3	3	3	3
Cross Country	3	1	1	0	1	0	1	0
Folk Dancing	8	4	6	2	7	3	9	10
Football	18	4	12	2	8	4	3	3
Golf	46	40	47	39	47	35	49	30
Gymnastics	7	4	8	4	8	1	1	0
Handball	12	3	5	1	7	4	6	2
Horseshoe	27	15	22	20	17	9	14	12
Soccer	4	0	1	0	1	0	1	0
Softball	48	25	36	12	21	10	16	10
Speedball	2	0	1	1	5	0	3	0
Swimming	46	41	35	38	30	35	20	29
Tennis	34	24	23	13	15	1	9	2
Touch Football	13	4	8	0	9	0	1	0
Track & Field	15	5	12	4	6	1	5	2
Volleyball	26	17	30	8	20	6	8	7
Wrestling	6	3	5	2	2	1	1	3
*Total	331	217	267	171	233	134	178	131

*Exclusive of major sports: Baseball, Basketball, Cross Country, Football, Track and Field, Wrestling.

During the first five-year period after graduation the athlete group indicated a greater percentage of participation in all physical education activities than the non-athlete group. More extensive participation by the athlete group is revealed during the second five-year period in all activities except speedball and swimming. A similar percentage of participation is noted in speedball and the non-athlete group indicated a greater percentage of participation in swimming. The athlete group disclosed more extensive participation during the third five-year period in all activities except archery, boxing and swimming. A similar percentage of participation is noted in archery and boxing but the non-athlete group indicated a greater percentage of participation in swimming. More extensive participation by the athlete group is denoted during the fourth five-year period in all activities except archery, boxing, folk dancing, football, swimming, and wrestling. A similar percentage of participation is noted in boxing, and football; however, the non-athlete group indicated a greater percentage of participation in archery, folk dancing, swimming, and wrestling.

In adding the percentages of participation in all physical education activities exclusive of six major sports, it is shown that the athlete totals of each five-year period exceeds the non-athlete totals.

Most Popular Activities of Athletes and Non-Athletes

Table VII presents the ten most popular activities engaged in by the athlete and non-athlete graduates during four five-year periods after graduation.

TABLE VII

Most Popular Activities of Athletes and Non-AthletesA. First Five-Year Period After Graduation

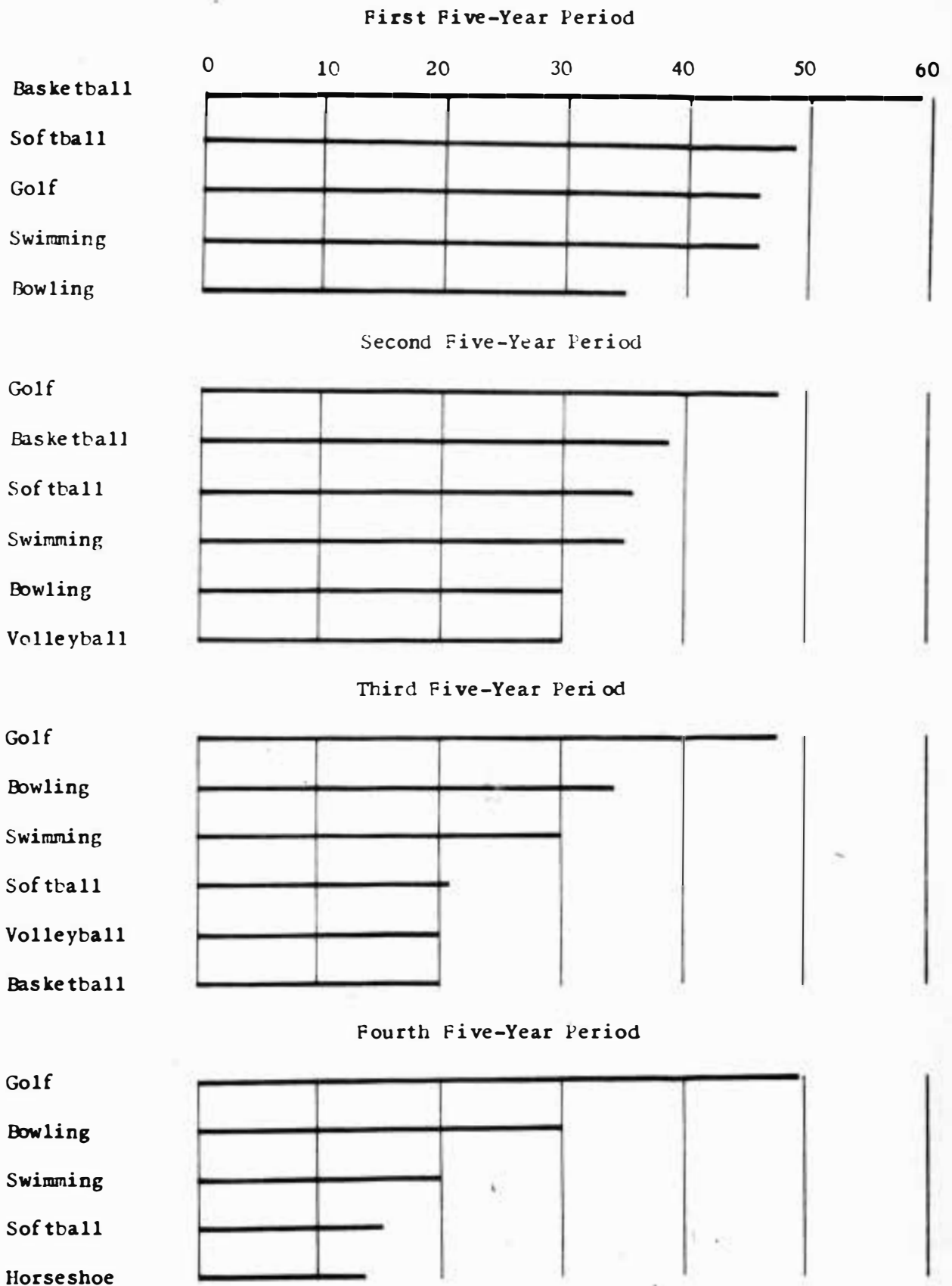
<u>Athletes</u>		<u>Non-Athletes</u>	
Basketball	58%	Swimming	41%
Softball	48%	Golf	40%
Golf	46%	Bowling	27%
Swimming	46%	Baseball	26%
Bowling	35%	Softball	25%
Tennis	34%	Tennis	24%
Baseball	33%	Basketball	21%
Horseshoe	27%	Volleyball	17%
Volleyball	26%	Horseshoe	15%
Football	18%	Badminton	7%

B. Second Five-Year Period After Graduation

<u>Athletes</u>		<u>Non-Athletes</u>	
Golf	47%	Golf	39%
Basketball	38%	Swimming	38%
Softball	36%	Bowling	26%
Swimming	35%	Horseshoe	20%
Bowling	30%	Baseball	16%
Volleyball	30%	Tennis	13%
Tennis	23%	Basketball	12%
Horseshoe	22%	Softball	12%
Baseball	19%	Volleyball	8%
Football and Track & Field	13%	Gymnastics	4%

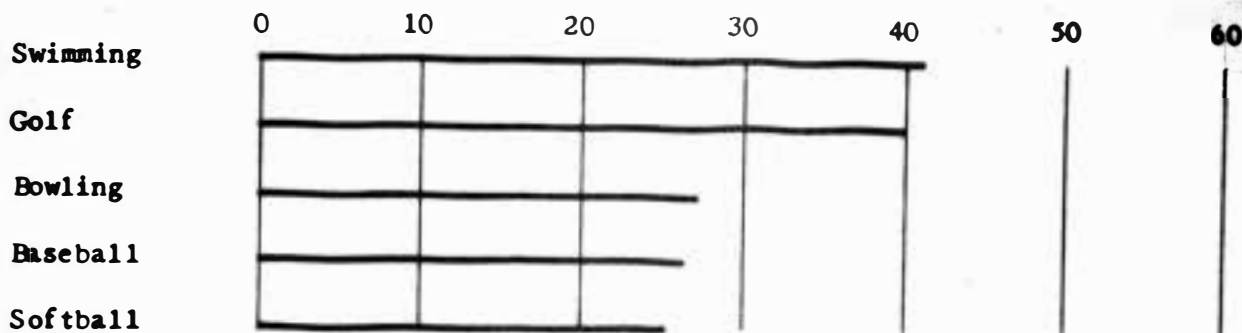
C. Third Five-Year Period After Graduation

<u>Athletes</u>		<u>Non-Athletes</u>	
Golf	47%	Golf	35%
Bowling	34%	Swimming	35%
Swimming	30%	Bowling	23%
Softball	21%	Softball	10%
Basketball	20%	Baseball	9%
Volleyball	20%	Horseshoe	9%
Horseshoe	17%	Basketball	8%
Tennis	15%	Volleyball	6%
Baseball	13%	Football	4%
Touch Football	9%	Handball	4%

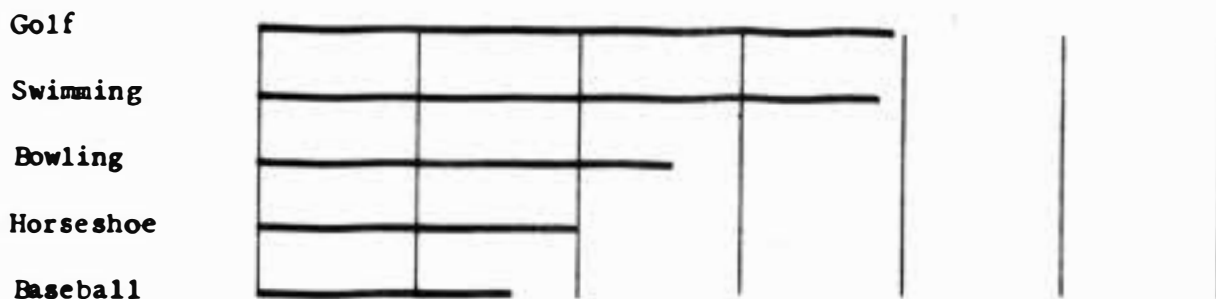


Graph 4. Per Cent of Athletes Participating in Popular Activities.

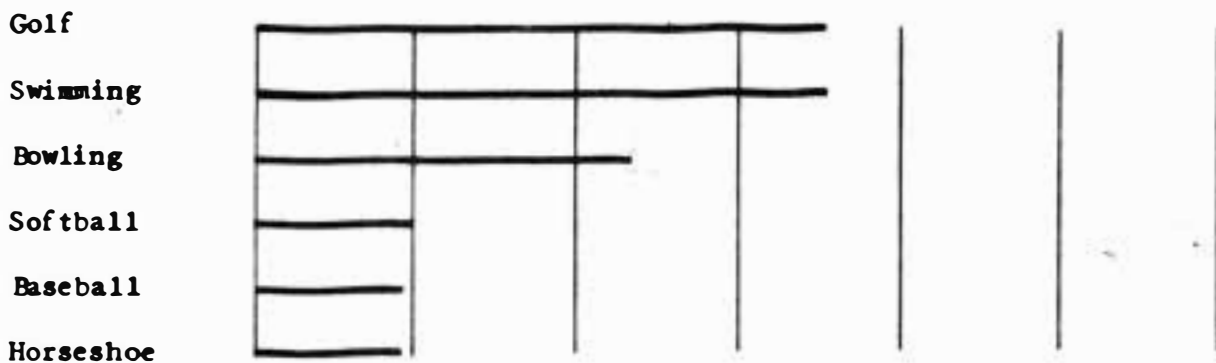
First Five-Year Period



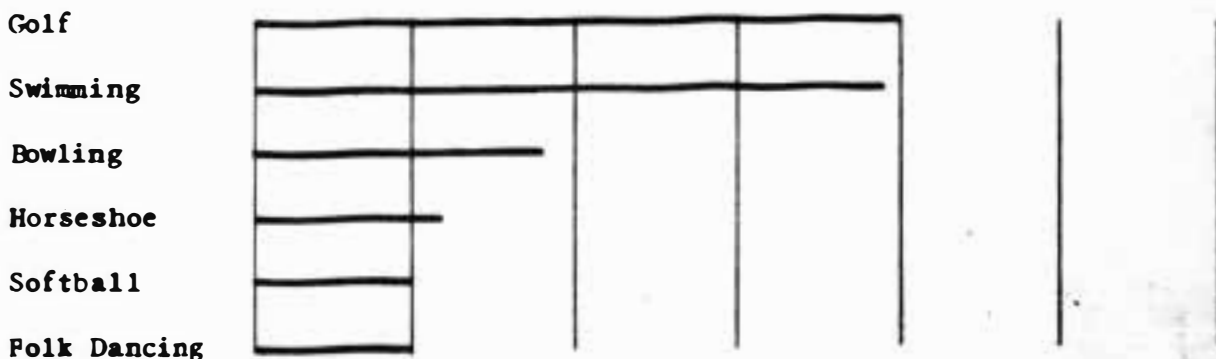
Second Five-Year Period



Third Five-Year Period



Fourth Five-Year Period



Graph 5. Per Cent of Non-Athletes Participating in Popular Activities.

D. Fourth Five-Year Period After Graduation

<u>Athletes</u>		<u>Non-Athletes</u>	
Golf	49%	Golf	30%
Bowling	30%	Swimming	29%
Swimming	20%	Bowling	18%
Softball	16%	Horseshoe	12%
Horseshoe	14%	Folk Dancing	10%
Folk Dancing	9%	Softball	10%
Tennis	9%	Volleyball	7%
Baseball	8%	Archery	5%
Basketball	8%	Baseball	5%
Volleyball	8%	Basketball	5%

Frequency of Participation During Four
Five-Year Periods After Graduation from College

Table VIII-A shows the per cent of athletes and non-athletes who participated in the listed physical education activities with varying degrees of frequency during the first five-year period.

TABLE VIII

Frequency of Participation in Physical Education ActivitiesA. First Five-Year Period After Graduation

Activities	<u>Athletes</u>			<u>Non-Athletes</u>		
	Once per Week	Once per Month	Less Than Once per Month	Once per Week	Once per Month	Less Than Once per Month
Archery	0	.8	3	0	1	2
Badminton	1	3	6	1	2	4
Baseball	25	6	2	17	0	9
Basketball	43	8	7	13	3	5
Bowling	16	8	10	12	6	9
Boxing	1	1	5	2	1	0
Cross Country	0	.8	2	0	0	1
Folk Dancing	0	4	5	1	1	2
Football	13	.8	5	1	2	1
Golf	28	8	10	17	13	10
Gymnastics	5	0	2	2	1	1
Handball	6	0	5	1	0	2
Horseshoe	7	6	14	5	2	8
Soccer	0	0	4	0	0	0
Softball	30	6	11	8	3	14
Speedball	0	0	2	0	0	0
Swimming	16	12	18	14	8	19
Tennis	17	9	7	9	10	5
Touch Football	3	4	6	0	0	4
Track & Field	8	.8	6	2	0	3
Volleyball	13	7	13	3	3	11
Wrestling	.8	1	4	2	1	0

Prominent activities in which athletes engaged once per week during the first five-year period after graduation are basketball, softball, golf, baseball, and tennis. Non-athletes most frequently disclosed participation in baseball, golf, swimming, basketball, and bowling. Participation once per week was indicated by a greater percentage of athletes in all activities except badminton, folk dancing and wrestling.

Favorite activities in which athletes engaged once per month are swimming, tennis, golf, basketball, and bowling. Non-athletes most frequently signified participation in golf, tennis, swimming, bowling, basketball, softball, and volleyball. A larger percentage of athletes revealed participation once per month during this period in all activities except archery, boxing, football, golf, gymnastics, and tennis.

Foremost activities engaged in less than once per month by the athletes are swimming, horseshoe, volleyball, softball, bowling, and golf. Activities participated in this frequently by the non-athletes are swimming, softball, volleyball, golf, baseball, and bowling. Participation less than once per month was indicated by a greater percentage of athletes in all activities except baseball, golf, softball, swimming, and volleyball.

Perhaps both groups may be composed of individuals who seek physical education activities for leisure-time activity with different purposes in mind. Participants once per week may consist of individuals who seek physical education activities as their major form of leisure-time activity. Participants once per month may consist of individuals who seek physical education activities as a form of leisure-time activity

regularly but have another major interest. Participants less than once per month may consist of individuals who seek physical education activities occasionally and may be handicapped by lack of adequate facilities and equipment. Although the frequency of participation varies it seems that the activities which are consistently popular with both athletes and non-athletes during the first five-year period after graduation are baseball, basketball, bowling, golf, softball, swimming, tennis and volleyball.

Table VIII-B shows the per cent of athletes and non-athletes who participated in the listed physical education activities with varying degrees of frequency during the second five-year period.

B. Second Five-Year Period After Graduation

Activities	Athletes			Non-Athletes		
	Once per Week	Once per Month	Less Than Once per Month	Once per Week	Once per Month	Less Than Once per Month
Archery	1	0	2	0	0	1
Badminton	4	0	5	1	1	1
Baseball	12	4	4	8	2	6
Basketball	22	7	9	5	2	3
Bowling	16	2	11	15	6	5
Boxing	1	1	2	4	0	0
Cross Country	0	0	1	0	0	0
Folk Dancing	0	1	5	0	1	1
Football	8	1	3	1	1	0
Golf	30	10	8	20	8	10
Gymnastics	5	0	3	1	2	1
Handball	2	0	3	0	1	0
Horseshoe	8	3	12	4	2	12
Soccer	0	0	1	0	0	1
Softball	17	12	7	1	5	6
Speedball	0	0	1	0	0	1
Swimming	13	9	13	7	9	21
Tennis	14	4	5	5	1	7
Touch Football	4	0	4	0	0	0
Track & Field	5	0	7	1	0	4
Volleyball	14	5	10	1	4	4
Wrestling	1	1	3	0	2	0

Favorite activities in which athletes participated once per week during the second five-year period after graduation are golf, basketball, softball, bowling, tennis, and volleyball. Activities enjoyed this frequently by the non-athletes are golf, swimming, bowling, baseball, basketball, and tennis. Participation once per week was indicated by a greater percentage of athletes in all activities except boxing.

Common activities engaged in once per month by the athletes during this period are softball, golf, swimming, basketball, and volleyball. Activities taken part in this frequently by the non-athletes are swimming, golf, bowling, softball, and volleyball. A greater percentage of athletes disclosed participation once per month during this period in all activities, except badminton, bowling, folk dancing, football, gymnastics, handball, swimming, and wrestling.

Activities engaged in less than once per month by the athletes during this period are swimming, horseshoe, bowling, volleyball, and basketball. Activities participated in this frequently by the non-athletes are swimming, horseshoe, golf, baseball, and softball. Participation less than once per month was denoted by a greater percentage of athletes in all activities except baseball, golf, horseshoe, soccer, speedball, swimming, and tennis.

Although the frequency of participation varies, activities which are consistently popular with athletes and non-athletes during the second five-year period after graduation are baseball, basketball, bowling, golf, softball, swimming, tennis, and volleyball.

Table VIII-C shows the per cent of athletes and non-athletes who

participated in the listed physical education activities with varying degrees of frequency during the third five-year period.

C. Third Five-Year Period After Graduation

Activities	Athletes			Non-Athletes		
	Once per Week	Once per Month	Less Than Once per Month	Once per Week	Once per Month	Less Than Once per Month
Archery	0	0	1	0	0	1
Badminton	2	1	4	1	0	1
Baseball	4	4	6	4	0	4
Basketball	8	2	9	3	1	3
Bowling	19	8	7	14	1	8
Boxing	1	1	1	1	1	0
Cross Country	0	0	1	0	0	0
Folk Dancing	0	2	5	1	1	0
Football	5	0	4	1	0	3
Golf	27	13	7	23	4	8
Gymnastics	5	1	2	1	0	0
Handball	5	1	1	0	1	3
Horseshoe	7	0	10	1	0	8
Soccer	0	0	1	0	0	0
Softball	8	5	8	4	0	6
Speedball	1	1	2	0	0	0
Swimming	10	7	12	9	8	20
Tennis	6	4	6	0	1	0
Touch Football	4	0	6	0	0	0
Track & Field	4	0	2	0	0	1
Volleyball	12	0	5	4	0	1
Wrestling	0	0	2	0	1	0

During the third five-year period after graduation athletes most often participated once per week in golf, bowling, volleyball, swimming, basketball, and softball. Activities in which non-athletes engaged this frequently are golf, bowling, swimming, baseball, softball, and volleyball. Participation once per week was shown by a greater percentage of athletes in all activities except baseball, boxing, and folk dancing.

Activities most frequently taken part in once per month by the athletes during this period are golf, bowling, swimming, baseball, and

tennis. Activities in which non-athletes took part this frequently are swimming and golf with only seven other activities noted.

Athletes indicated participation less than once per month during this period in swimming, horseshoe, basketball, softball, bowling, and golf.

Table VIII-D shows the per cent of athletes and non-athletes who participated in the listed physical education activities with varying degrees of frequency during the fourth five-year period.

D. Fourth Five-Year Period After Graduation

Activities	Athletes			Non-Athletes		
	Once per Week	Once per Month	Less Than Once per Month	Once per Week	Once per Month	Less Than Once per Month
Archery	0	0	1	0	2	3
Badminton	3	0	4	2	0	2
Baseball	1	0	7	0	2	3
Basketball	3	0	6	0	2	3
Bowling	15	6	8	8	3	7
Boxing	0	0	3	2	0	2
Cross Country	0	0	1	0	0	0
Folk Dancing	4	3	3	3	5	2
Football	1	0	1	0	0	3
Golf	34	4	9	13	7	8
Gymnastics	1	0	0	0	0	0
Handball	4	0	1	0	2	0
Horseshoe	4	3	7	2	2	8
Soccer	0	0	1	0	0	0
Softball	3	3	10	5	0	5
Speedball	0	0	3	0	0	2
Swimming	6	7	8	8	3	17
Tennis	4	4	1	0	2	0
Touch Football	0	0	1	0	0	0
Track & Field	3	0	3	0	0	2
Volleyball	4	1	3	2	0	4
Wrestling	0	0	1	0	2	2

Golf, bowling, swimming, folk dancing, handball, horseshoe, tennis, and volleyball are the activities in which athletes most frequently revealed participation once per week during the fourth five-year period

after graduation. Activities engaged in this frequently by non-athletes are golf, bowling, swimming, softball, and folk dancing. Participation once per week was disclosed by a greater percentage of athletes in all activities except boxing, softball, and swimming.

Favorite activities in which athletes participated once per month during this period are swimming, bowling, golf, tennis, folk dancing, and softball. Activities most often encountered this frequently by non-athletes are golf, folk dancing and bowling. Participation once per month was denoted by a greater percentage of athletes in bowling, horseshoe, softball, swimming, tennis, and volleyball. Participation was indicated by a greater percentage of non-athletes in archery, baseball, basketball, folk dancing, golf, handball, and wrestling.

Activities in which athletes frequently participated less than once per month during this period are softball, golf, bowling, swimming, baseball, and horseshoe. Swimming, golf, horseshoe, bowling, and softball are activities in which non-athletes most frequently participated. Participation less than once per month was indicated by a greater percentage of athletes in all activities except archery, football, horseshoe, swimming, volleyball, and wrestling.

It appears that activities most often participated in during the fourth five-year period after graduation by athletes and non-athletes indicating different frequency of participation are bowling, golf, softball, swimming, tennis, and volleyball.

Per Cent Participation
by Graduates of Various Decades

Table IX-A shows the per cent of athlete and non-athlete graduates of various decades who indicated participation in physical education activities during the first five-year period after graduation from college.

TABLE IX

Per Cent Participation in Physical Education Activities
by Graduates of Various Decades

A. First Five-Year Period After Graduation

Activities	1900-09		1910-19		1920-29		1930-39		1940-49		1950-54	
	Ath	Non	Ath	Non	Ath	Non	Ath	Non	Ath	Non	Ath	Non
Archery	0	0	0	0	0	0	0	9	4	0	11	6
Badminton	0	0	7	0	4	0	7	14	20	13	15	6
Baseball	0	25	20	30	28	33	50	27	22	23	46	19
Basketball	33	0	30	10	53	37	60	18	68	25	53	19
Bowling	33	50	14	20	20	13	30	36	40	33	50	23
Boxing	33	25	7	0	0	4	14	5	4	0	11	0
Cross Country	0	0	0	0	0	0	0	0	3	0	11	6
Folk Dancing	0	0	0	0	4	0	4	5	16	8	15	6
Football	0	0	14	0	20	8	30	9	6	0	11	0
Golf	33	25	40	0	50	40	70	60	30	50	55	25
Gymnastics	0	0	0	10	7	4	7	0	13	8	11	0
Handball	0	0	0	0	10	4	14	0	4	0	20	13
Horseshoe	0	0	7	10	10	8	30	27	38	25	55	0
Soccer	0	0	0	0	0	0	0	0	3	0	15	0
Softball	0	0	0	0	30	17	70	23	66	46	55	37
Speedball	0	0	0	0	0	0	0	0	3	0	4	0
Swimming	33	25	20	0	28	29	50	60	55	60	76	44
Tennis	66	75	40	10	28	25	43	40	30	8	27	19
Touch Football	0	0	0	0	0	0	14	5	16	0	31	19
Track & Field	0	0	7	0	20	8	24	9	16	4	20	0
Volleyball	0	0	7	0	10	8	53	14	42	25	46	37
Wrestling	33	0	0	0	0	0	7	5	3	8	11	0

The athletes of each succeeding decade from 1900-1954 disclosed participation in progressively greater number of physical education

activities during the first five-year period. Athlete graduates of 1900-1909 indicated participation in seven activities; 1910-1919--twelve activities; 1920-1929--fifteen activities; 1930-1939--eighteen activities; 1940-1949--twenty-two activities; and 1950-1954--twenty-two activities. From 1910-1954 a trend for an increasing percentage of athletes to participate in bowling, horseshoe and swimming is noted.

Non-athletes of each succeeding decade from 1900-1939 indicated participation in an increasing number of physical education activities during this period; however, from 1940-1954 the number of activities decreased slightly. Non-athlete graduates of 1900-1909 revealed participation in six activities; 1910-1919--six activities; 1920-1929--fourteen activities; 1930-1939--seventeen activities; 1940-1949--fourteen activities; and 1950-1954--fourteen activities. From 1920-1954 a trend for an increasing percentage of non-athletes to participate in volleyball is noted. Athletes denoted participation in a greater number of activities in each decade than did the non-athletes.

Table IX-B shows the per cent of athlete and non-athlete graduates of various decades who indicated participation in physical education activities during the second five-year period after graduation from college.

B. Second Five-Year Period After Graduation

Activities	1900-09		1910-19		1920-29		1930-39		1940-49	
	Ath	Non	Ath	Non	Ath	Non	Ath	Non	Ath	Non
Archery	0	0	0	0	0	0	4	5	4	0
Badminton	0	0	7	0	4	0	4	9	23	6
Baseball	0	25	20	10	14	25	30	18	15	12
Basketball	0	0	7	10	30	22	52	9	53	6
Bowling	33	50	14	20	28	13	43	45	37	37
Boxing	0	25	0	0	0	4	7	5	4	0
Cross Country	0	0	0	0	0	0	0	0	3	0
Folk Dancing	0	0	0	0	0	0	4	0	20	6
Football	0	0	0	0	7	4	24	5	11	0
Golf	33	25	42	10	53	37	65	54	34	63
Gymnastics	0	0	0	10	4	4	7	0	15	12
Handball	0	0	0	0	0	4	14	0	3	0
Horseshoe	0	0	7	10	14	8	30	23	37	37
Soccer	0	0	0	0	0	0	0	0	3	0
Softball	0	0	7	10	20	8	65	23	50	6
Speedball	0	0	0	0	0	0	0	0	3	0
Swimming	33	25	20	0	22	22	32	50	52	93
Tennis	66	0	20	0	20	13	24	27	23	6
Touch Football	0	0	0	0	0	0	14	0	15	0
Track & Field	0	0	0	0	14	8	20	5	30	6
Volleyball	0	0	7	0	10	8	52	14	30	12
Wrestling	0	0	0	0	0	0	7	5	0	6

Athletes of each succeeding decade from 1900-1949 signified participation in an increasing number of physical education activities during the second five-year period. Athlete graduates of 1900-1909 indicated participation in four activities; 1910-1919--nine activities; 1920-1929--thirteen activities; 1930-1939--nineteen activities; and 1940-1949--twenty-one activities. From 1910-1949 a trend for an increasing percentage of athletes to participate in basketball, horseshoe and swimming is noted.

Non-athletes of each succeeding decade from 1900-1939 indicated participation in a progressively greater number of physical education activities during this period; however, from 1940-1949 the number of

activities decreased slightly. Non-athlete graduates of 1900-1909 denoted participation in five activities; 1910-1919--seven activities; 1920-1929--fourteen activities; 1930-1939--fifteen activities; and 1940-1949--thirteen activities. From 1910-1949 a trend for an increasing percentage of non-athletes to participate in golf is noted and a similar trend is noted from 1920-1949 in swimming.

Athlete graduates of three decades disclosed participation in a greater number of activities than did the non-athletes, but the non-athlete graduates of the 1900-1909 and 1920-1929 decades indicated participation in a greater number of activities than did the athletes.

Table IX-C shows the per cent of athlete and non-athlete graduates of various decades who indicated participation in physical education activities during the third five-year period after graduation from college.

C. Third Five-Year Period After Graduation

Activities	1900-09		1910-19		1920-29		1930-39		1940-49	
	Ath	Non	Ath	Non	Ath	Non	Ath	Non	Ath	Non
Archery	0	0	0	0	0	0	0	5	4	0
Badminton	0	0	7	0	0	4	10	9	8	0
Baseball	0	25	0	10	7	0	28	14	4	0
Basketball	0	0	0	10	10	8	28	14	15	0
Bowling	33	50	20	10	25	8	52	40	15	13
Boxing	0	25	0	0	4	0	0	5	8	0
Cross Country	0	0	0	0	0	0	0	0	4	0
Folk Dancing	0	0	0	0	0	4	10	9	8	0
Football	0	0	0	0	4	4	10	9	8	0
Golf	66	25	50	30	50	29	55	50	20	13
Gymnastics	0	0	0	0	4	4	8	0	11	0
Handball	0	0	14	0	0	4	10	5	4	6
Horseshoe	0	0	7	0	10	8	25	23	15	0
Soccer	0	0	0	0	0	0	0	0	4	0
Softball	0	0	7	20	4	0	35	27	20	0
Speedball	0	0	0	0	0	0	10	0	4	0
Swimming	33	25	20	10	25	20	30	60	20	25
Tennis	33	0	14	0	14	0	14	9	8	0
Touch Football	0	0	0	0	0	0	8	0	11	0
Track & Field	0	0	0	0	7	0	4	5	11	0
Volleyball	0	0	7	10	7	8	25	9	23	0
Wrestling	0	0	0	0	0	0	0	5	8	0

Athletes of each succeeding decade from 1900-1949 denoted participation in a progressively greater number of physical education activities during the third five-year period. Athlete graduates of 1900-1909 indicated participation in four activities; 1910-1919--nine activities; 1920-1929--thirteen activities; 1930-1939--seventeen activities; and 1940-1949--twenty-two activities. From 1910-1939 a trend for an increasing percentage of athletes to participate in baseball, basketball, bowling, golf, swimming, tennis, and volleyball is noted; however, a considerable decrease in the percentage of participation in these activities by the graduates of 1940-1949 is noted. Factors surrounding service in the armed forces during World War II may have contributed to this decrease.

Non-athletes of each succeeding decade from 1900-1939 revealed participation in an increasing number of physical education activities although the number of activities decreased greatly from 1940-1949. Non-athlete graduates of 1900-1909 indicated participation in five activities; 1910-1919--seven activities; 1920-1929--eleven activities; 1930-1939--seventeen activities; and 1940-1949--four activities. Increased participation in swimming is noted from 1910-1939; however, the great decrease of the 1940-1949 decade is most outstanding and may have been effected by factors surrounding World War II.

Athlete graduates of three decades indicated participation in a greater number of activities than did the non-athletes, but a similar number of activities is indicated in the 1930-1939 decade. Non-athlete graduates of the 1900-1909 decade indicated participation in a greater number of activities than did the athletes.

Table IX-D shows the per cent of athlete and non-athlete graduates of various decades who indicated participation in physical education activities during the fourth five-year period after graduation from college.

D. Fourth Five-Year Period After Graduation

Activities	1900-09		1910-19		1920-29		1930-39	
	Ath	Non	Ath	Non	Ath	Non	Ath	Non
Archery	0	0	0	0	0	0	0	14
Badminton	0	0	7	0	0	0	10	9
Baseball	0	0	0	0	4	4	14	9
Basketball	0	0	0	0	4	4	10	9
Bowling	33	25	20	30	35	8	32	23
Boxing	0	25	0	0	0	0	4	4
Cross Country	0	0	0	0	0	0	0	0
Folk Dancing	0	0	0	0	4	13	18	14
Football	0	0	0	0	4	0	4	9
Golf	33	50	40	20	42	20	64	40
Gymnastics	0	0	0	0	0	0	0	0
Handball	0	0	14	0	0	0	4	4
Horseshoe	0	25	7	0	7	8	20	18
Soccer	0	0	0	0	0	0	0	0
Softball	0	25	7	20	4	4	30	9
Speedball	0	0	0	0	0	0	4	0
Swimming	33	0	14	10	10	20	30	50
Tennis	33	0	7	0	7	0	8	4
Touch Football	0	0	0	0	0	0	0	0
Track & Field	0	0	0	0	7	0	0	4
Volleyball	0	0	7	10	4	8	14	4
Wrestling	0	0	0	0	0	4	0	4

Athletes of each succeeding decade from 1900-1939 signified participation in an increasing number of physical education activities during the fourth five-year period. Athlete graduates of 1900-1909 indicated participation in four activities; 1910-1919--nine activities; 1920-1929--twelve activities; and 1930-1939--fifteen activities. From 1910-1939 a trend for a similar or an increasing percentage of athletes to participate in bowling, golf, horseshoe, and tennis is noted.

Non-athletes of each succeeding decade from 1900-1939 indicated participation in a similar or progressively greater number of physical education activities. Non-athlete graduates of 1900-1909 indicated participation in five activities; 1910-1919--five activities; 1920-1929--ten activities; and 1930-1939--seventeen activities. From 1910-1939 a trend for an increasing percentage of non-athletes to participate in golf and swimming is noted.

Athlete graduates of the 1910-1919 and 1920-1929 decades indicated participation in a greater number of activities than did the non-athlete graduates. The non-athlete graduates of the 1900-1909 and 1930-1939 decades disclosed participation in a greater number of activities than did the athlete graduates.

CHAPTER V

INTERPRETATION OF RESULTS

Per cent return of questionnaires by the athlete group was greater than the return by the non-athlete group. Per cent return of questionnaires of both athletes and non-athletes was highest from the graduates of 1950-1954. Per cent return of questionnaires of both athletes and non-athletes was lowest from the graduates of 1900-1909. With the exception of the 1900-1909 period, the athlete return was greater than the non-athlete return. This gives evidence that the athletes may have been more interested in this study.

During high school the athletes indicated a higher percentage of participation in nearly all areas than did the non-athletes. In physical education classes non-athletes indicated greater participation in baseball, basketball, and football. This may be due to the general practice of many schools whereby varsity athletes are excused from physical education classes during the season of their athletic activity. In the "just for fun" area non-athletes indicated a considerably higher percentage of participation in baseball.

During college the athletes indicated a higher percentage of participation in nearly all activities in all areas than did the non-athletes. Since athletes indicated a higher percentage of participation in most activities in the intramural area, they apparently are learning other physical education skills and are maintaining their physical condition during the off-season. In college physical education classes non-athletes indicated a higher percentage of participation in six activities, whereas in high school they had a higher percentage than

the athletes in only three activities. This may be due to the improved facilities, equipment, and instructional staffs made available at college. The most popular activities of the athletes during college "just for fun" were tennis, swimming, golf, horseshoe, and handball, whereas the most popular activities of the non-athletes at that time were swimming, golf, tennis, baseball, bowling and softball.

During the second five-year period after graduation the athletes disclosed a decrease in the extent of participation in many physical education activities in which they had participated during the first five-year period after graduation. Although activities were not ranked in a similar order of popularity, they were the same for both periods with the same percentage of participation indicated in track and field and football during the second five-year period. Increased participation was denoted in golf, gymnastics, and volleyball.

During the third five-year period after graduation the athletes revealed a further decrease in the extent of participation in many activities in which they had participated during the second five-year period. Touch football replaced football and track and field among the most popular activities. Increased participation was shown in bowling, folk dancing, handball, speedball, and touch football. It seems that the tendency is toward participation in the less vigorous type activities.

The fourth five-year period revealed a further decrease in the extent of participation in most activities in which athletes had participated during the third five-year period after graduation. Folk dancing replaced touch football as one of the most popular

activities. Increased participation was indicated in folk dancing and golf. The tendency again is toward participation in the less vigorous type activities.

The second five-year period denoted a decrease in the extent of participation in many physical education activities in which non-athletes had participated during the first five-year period after graduation. Although activities are not ranked in a similar order of popularity, they are the same for both periods with one exception, gymnastics replaced badminton. Increased participation is indicated in horseshoe and speedball.

During the third five-year period after graduation the non-athletes signified a further decrease in the extent of participation in most activities in which they had participated during the second five-year period after graduation. Activities are not ranked in a similar order of popularity; football and handball have replaced gymnastics and tennis. Increased participation is exhibited in folk dancing, football and handball. It seems that increased participation in folk dancing could be anticipated although increased participation in football and handball may not seem to be normal.

During the fourth five-year period a further decrease was shown in the extent of participation in most activities in which non-athletes had participated during the third five-year period after graduation. Activities are not ranked in a similar order of popularity; archery and folk dancing have replaced football and handball. Increased participation is indicated in archery, folk dancing, horseshoe, tennis, track and field, volleyball, and wrestling. The tendency toward

increased participation in archery, folk dancing, horseshoe, tennis, and volleyball is appropriate as individuals seem to seek less vigorous activities with an increase in the number of years out of college.

Golf is consistently the most popular activity of athletes and non-athletes during all periods after graduation from college. Swimming and bowling ranked second and third respectively among popular activities in which non-athletes participated. Bowling was ranked second and swimming third by the athletes.

Basketball is among the top five activities enjoyed by athletes in the first, second, and third five-year periods but drops to the number nine position in the fourth five-year period. Basketball is consistently among the lower five activities enjoyed by the non-athletes in all periods after graduation.

Athletes indicated a greater percentage of participation in all physical education activities during the first five-year period after graduation than the non-athletes. With the exception of swimming, athletes revealed a greater percentage of participation in all physical education activities during the second five-year period after graduation. Non-athletes again revealed a greater percentage of participation in swimming during the third five-year period after graduation. Non-athletes disclosed a greater percentage of participation in archery, folk dancing, swimming, and wrestling than did the athletes during the fourth five-year period after graduation.

Activities in which the greatest percentage of athletes participated once per week during the first five-year period after graduation were basketball, softball, golf, baseball, and tennis. During that period

non-athletes engaged once per week in baseball, golf, swimming, basketball, and bowling. Swimming, tennis, golf, basketball, and bowling were engaged in once per month by the greatest percentage of athletes who indicated participation that frequently. Activities in which non-athletes participated once per month were golf, tennis, swimming, bowling, basketball, softball, and volleyball. During that period activities participated in less than once per month by the greatest percentage of athletes were swimming, horseshoe, volleyball, softball, bowling, and golf. Activities in which non-athletes took part less than once per month were swimming, softball, volleyball, golf, baseball, and bowling.

The greatest percentage of athletes who participated once per week in physical education activities during the second five-year period after graduation engaged in golf, basketball, softball, bowling, tennis, and volleyball. Activities participated in once per week by non-athletes during that period were golf, bowling, baseball, swimming, basketball, and tennis. At that time activities enjoyed by the greatest percentage of athletes once per month were softball, golf, swimming, basketball, and volleyball; activities in which non-athletes participated this frequently were swimming, golf, bowling, softball, and volleyball. The activities participated in less than once per month by the greatest percentage of athletes were swimming, horseshoe, bowling, volleyball, and basketball; activities enjoyed by non-athletes were swimming, horseshoe, golf, baseball, and softball.

During the third five-year period after graduation, activities in which the greatest percentage of athletes participated once per week were golf, bowling, volleyball, swimming, basketball, and softball.

Activities engaged in this frequently by non-athletes were golf, bowling, swimming, baseball, softball, and volleyball. At that time a considerable percentage of athletes participated once per month in golf, bowling, swimming, baseball, and tennis. The activities enjoyed this frequently by non-athletes were swimming and golf. Participation once per month was disclosed by a greater percentage of athletes in all activities except boxing, handball, swimming, and wrestling. Participation less than once per month was indicated by a greater percentage of athletes in all activities except bowling, golf, handball, and swimming. Activities consistently popular during the third five-year period after graduation with both athletes and non-athletes who disclosed participation with different frequency were bowling, golf, softball, swimming, and volleyball.

Activities in which the greatest percentage of athletes participated once per week during the fourth five-year period after graduation were golf, bowling, swimming, folk dancing, handball, horseshoe, tennis, and volleyball. Golf, bowling, swimming, softball, and folk dancing were engaged in this frequently by non-athletes. During that period the activities in which the greatest percentage of athletes participated once per month were swimming, bowling, golf, tennis, folk dancing, and softball. Activities enjoyed this frequently by non-athletes were golf, folk dancing, and bowling. During the fourth five-year period the greatest percentage of athletes disclosed participation less than once per month in softball, golf, bowling, swimming, baseball and horseshoe. Activities in which non-athletes participated this frequently were swimming, golf, horseshoe, bowling, and softball.

More recent athlete graduates indicated participation in a greater number of physical education activities during the first five-year period after graduation from college. An increasing percentage of athlete graduates of 1910-1954 denoted participation in bowling, horseshoe, and swimming during this specific period.

More recent non-athlete graduates of 1920-1939 signified participation in a greater number of physical education activities during the first five-year period after graduation; however, from 1940-1954 the number of activities decreased slightly. An increasing percentage of non-athlete graduates of 1920-1954 revealed participation in volleyball.

Of the graduates of each decade the athletes disclosed participation in a greater number of physical education activities than the non-athletes during the first five-year period after graduation.

More recent athlete graduates specified participation in a greater number of physical education activities during the second five-year period after graduation from college. An increasing percentage of athlete graduates of 1910-1949 indicated participation in basketball, horseshoe, and swimming during this specific period.

More recent non-athletes graduates of 1900-1939 indicated participation in a greater number of physical education activities during the first five-year period after graduation; however, from 1940-1949 the number of activities decreased slightly. An increasing percentage of non-athlete graduates of 1910-1949 revealed participation in golf, and this group of 1929-1949 indicated a similar trend in swimming.

Of the graduates of each decade the athletes of three decades

indicated participation in a greater number of physical education activities during the second five-year period after graduation; however, the non-athletes of 1900-1909 and 1920-1929 denoted participation in a greater number of activities.

More recent athlete graduates disclosed participation in a greater number of physical education activities during the third five-year period after graduation from college. An increasing percentage of athlete graduates of 1910-1939 indicated participation in baseball, basketball, bowling, golf, swimming, tennis, and volleyball. In each of these activities a considerable decrease is indicated by athlete graduates of 1940-1949.

More recent non-athlete graduates of 1900-1939 signified participation in a greater number of physical education activities during the third five-year period after graduation; however, from 1940-1949 the number of activities decreased considerably. An increasing percentage of non-athlete graduates of 1910-1939 revealed participation in swimming although a considerable decrease is noted by the non-athlete graduates of 1940-1949.

Of the graduates of each decade the athletes of three decades specified participation in a greater number of physical education activities during the third five-year period after graduation. A similar number is indicated by athletes and non-athletes of 1930-1939, and the non-athletes of 1900-1909 declared participation in a greater number of activities.

More recent athlete graduates displayed participation in a greater number of physical education activities during the fourth

five-year period after graduation from college. An increasing percentage of athlete graduates of 1910-1939 exhibited participation in bowling, horseshoe, golf, and tennis.

More recent non-athlete graduates of 1900-1939 indicated participation in a similar or greater number of physical education activities during the fourth five-year period after graduation. An increasing percentage of non-athlete graduates of 1910-1939 revealed participation in golf and swimming.

Of the graduates of each decade the athletes of 1910-1919 and 1920-1929 disclosed participation in a greater number of physical education activities, whereas the non-athletes of 1900-1909 and 1930-1939 indicated participation in a greater number of physical education activities.

CHAPTER VI

IMPLICATIONS AND CONCLUSIONS

Implications and conclusions which appear to be warranted from this study are:

1. The return of questionnaires was greater from athletes than non-athletes. This may be due to the fact that athletes had been more closely associated with these activities during college. It may also indicate that more athletes than non-athletes are engaged in physical education or athletic activities in their schools or communities.
2. Athletes are learning other useful physical education skills and maintaining their physical condition during the off-season as they specified greater participation than the non-athletes in most intramural activities during college.
3. Our college physical education program provides more completely for the physical activity needs of non-athletes than do high school programs as non-athletes indicated participation in more physical education activities during college.
4. With an increase in the number of years after graduation from college, athletes and non-athletes exhibit progressively less participation in the more vigorous type activities and more participation in less strenuous activities.
5. Golf, swimming and bowling are the activities in which the greatest percentage of athletes and non-athletes participated after graduation from college. From this it may be concluded that a) our physical education programs for men should provide adequate time for instruction in these skills to better meet the future needs of pupils,

and b) adequate facilities should be provided in our schools and communities in order to meet leisure-time needs satisfactorily.

6. Athletes may utilize physical education activities more extensively than non-athletes in their leisure time as they signified more participation in the vigorous activities during all periods after graduation from college. This may indicate that the carry-over value of physical education activities is greater among athletes; however, these individuals are more interested in physical education activities.

7. Whether participation was indicated once per week, once per month, or less than once per month, specific activities in which both athletes and non-athletes engaged were very similar.

8. Graduates of more recent years participated in more activities. This may indicate a trend toward the broadening of interests in physical education activities. From this it may be concluded that a) the scope of physical education programs has been extended, and b) with instruction in a greater variety of skills interest increased.

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APPENDIX

LETTER OF TRANSMITTAL

SOUTH DAKOTA STATE COLLEGE
Of Agriculture and Mechanic Arts
College Station, South Dakota

Division of Science and Applied Arts
Physical Education Department

January 30, 1955

Dear Sir:

In partial fulfillment of the requirements for a Master's Degree, I am conducting a survey of graduates of South Dakota State College in an attempt to find out how many of them use physical education skills in later life.

The enclosed questionnaire is being sent to 400 South Dakota State College alumni. It may be completed by use of checkmarks in the appropriate column and will take not more than ten minutes of your time.

Questions 1 and 2 will indicate which sports you participated in during high school and college and the specific area of participation. Please check whether it was on a varsity team, B or frosh team, intramural team, in a physical education class or just for fun. On the remaining questions you will indicate which sports you participated in and how often during specific periods of time after graduation.

As near a 100% return as possible of the questionnaires will serve to make the results more meaningful. The main effort is directed toward determining the carry-over value of physical education activities; however, results may readily indicate the growth of the Physical Education Department and provide valuable data to assist in further improvement of our curriculum at South Dakota State College.

Appreciation is hereby expressed for your loyalty to South Dakota State College and your assistance to me in this project.

Sincerely,

Harold Cordts
Graduate Assistant
Physical Education

HC:veg
Enclosure-1

FOLLOW-UP CARD

March 4, 1955

Dear Sir:

I am sending this reminder with regard to the questionnaire which was sent to you a few weeks ago. Please disregard this notice if it has been recently returned. Thank you kindly.

Sincerely,

Harold Cordts
Graduate Assistant
Physical Education Department
South Dakota State College

Carry-over Values of Physical Education Activities

Name _____
 Address _____
 Occupation _____
 Year Graduated _____
 Age _____

ATHLETE MASTER TABULATION

	Archery	Badminton	Baseball	Basketball	Bowling	Boxing	Cross Country	Folk Dancing	Football	Golf	Gymnastics	Handball	Horseback	Soccer	Softball	Speedball	Swimming	Tennis	Touch Football	Track & Field	Volleyball	Wrestling
SPORTS PARTICIPATED IN:																						
1. During High School -																						
On Varsity Team	41	92	4	1	5	77	2	1	1	11	2	4	1	79	2	4						
On B or Fresh Team	2	11	1	1	1	8	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Intramural	4	12	1	1	1	2	2	2	2	4	2	2	2	2	4	2	2	2	2	2	2	2
Physical Education Class	1	5	3	9	1	6	1	17	3	2	2	15	3	2	2	2	2	2	2	2	2	2
Just for Fun	2	3	26	8	25	22	4	6	18	9	5	34	3	35	1	46	32	16	7	21	10	
2. During College -																						
On Varsity Team	19	51	3	13	58																	
On B or Fresh Team	1	11	1	1	19																	
Intramural	2	11	42	1	4	2	3	1	5	3	24	1	1	9	3	13						
Physical Education Class	11	16	1	10	6	15	1	7	1	7	20	16	15	13	13	9	4	12	10	4	19	8
Just for Fun	4	12	16	13	25	17	1	6	38	9	29	30	1	28	2	28	40	11	3	24	12	
3. First five-year period -																						
Once per week	2	32	56	21	2	17	36	7	8	9	40	21	22	4	11	17	1					
Once per month	1	4	8	10	11	2	1	5	1	11	8	15	12	5	1	10	2					
Less than once per month	4	8	3	9	13	7	3	6	6	13	3	7	18	5	14	3	24	10	8	17	5	
4. Second five-year period -																						
Once per week	1	4	12	23	17	1	8	31	5	8	18	14	15	4	5	15	1					
Once per month			4	7	2	1	1	10	3	12	9	4										
Less than once per month	2	5	4	9	11	2	1	5	3	8	3	3	12	1	7	1	13	5	4	7	10	3
5. Third five-year period																						
Once per week	2	3	7	16	1	4	23	4	4	6	7	1	9	5	3	11						
Once per month	1	3	2	7	1	2	11	1	1	1	4	1	6	3	2							
Less than once per month	1	3	5	8	6	1	1	4	3	6	2	1	9	1	7	2	11	5	5	2	4	2
6. Fourth five-year period -																						
Once per week	2	1	2	11	3	1	25	1	3	3	2	4	3	2	2	3	4	3	2	3	3	
Once per month				4	2	2	3	2	2	3	2	2	2	3	3	1	1	1	1	1	1	
Less than once per month	1	3	5	4	6	2	1	2	1	7	1	5	1	8	2	6	1	1	2	2	2	1

Carry-over Values of Physical Education Activities

Name _____
 Address _____
 Occupation _____
 Year Graduated _____
 Age _____

NON-ATHLETE MASTER TABULATION

SPORTS PARTICIPATED IN:	Archery	Badminton	Baseball	Basketball	Bowling	Boxing	Cross Country	Folk Dancing	Football	Golf	Gymnastics	Handball	Horsehoe	Soccer	Softball	Speedball	Swimming	Tennis	Touch Football	Track & Field	Volleyball	Wrestling	
1. During High School -																							
On Varsity Team			23	42		3	1		35	3			1		2				34	1	1	1	
On B or Fresh Team			6				1		3										2				
Intramural	1	3	9	2		2			1	1	1				2		1	1	1	3	1	1	
Physical Education Class	2	4	9	2		2			2	10	10		1	1	3			3	1	6	1	1	
Just for Fun	2	2	31	6	9	10	1	2	4	11	1	2	17		27		34	16	6	3	13	4	
2. During College -																							
On Varsity Team			2	3	2				7										3				
On B or Fresh Team			1	5					13					1					1			1	
Intramural			11	29	5				2	1	2	1	1	2	9		2	4	3	2			
Physical Education Class	5	3	10	3	1	2			1	11	3	1	1	1	5		9	2	9	7	13	2	
Just for Fun	1	2	16	8	15	7	1	4	1	27	3	7	14		15		27	19	5	5	5	3	
3. First five-year period -																							
Once per week			1	17	13	12	2		1	1	17	2	1	5	8		14	9	2	3	2		
Once per month	1	2	3	6	1				1	2	13	1	2	2	3		8	10	3	1			
Less than once per month	2	4	9	5	9		1	2	1	10	1	2	8		14		19	5	4	3	11		
4. Second five-year period -																							
Once per week			1	7	4	13	3		1	17	1	3			1		6	4	1	1			
Once per month	1	2	2	3					1	7	2	1	2		4		8	1	3	2			
Less than once per month	1	1	5	4	4				1	9	1	10			5		1	18	6	3	3		
5. Third five-year period -																							
Once per week			1	3	2	9	1		1	15	1	1			3		6						
Once per month			1	1	1	1			1	3		1					3	1					
Less than once per month	1	1	3	2	3				2	3	2	3			4		12		1	1			
6. Fourth five-year period -																							
Once per week			1		5	1			2	9					3		3						
Once per month	1	1	1	1	2				3	4							2	1					
Less than once per month	2	1	2	2	4	1			1	2	3				3		1	10					