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A STUDY OF THE PHYSICAL AND RECREATIONAL
ACTIVITIES OF MICHIGAN STATE UNIVERSITY
GRADUATES OF THE DEPARTMENT OF ELECTRICAL
ENGINEERING

Thesis for the Degree of M. A.
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ABSTRACT

A STUDY OF THE PHYSICAL AND RECREATIONAL ACTIVITIES OF MICHIGAN STATE UNIVERSITY GRADUATES OF THE DEPARTMENT OF ELECTRICAL ENGINEERING

by Ronald A. Murray

Statement of This survey was completed for the purpose of studying
the Problem the physical and recreational activities that electrical
engineering trainees should be able to participate in and have some
knowledge about in order to better fit into their intended professions.
The subjects surveyed were electrical engineering graduates of Michi-
gan State University within the years 1948 through 1961.

Methods and The subjects' names and addresses were located in the
Procedures records of the College of Engineering and the Alumni
Office, Michigan State University. A $2\frac{1}{2}\%$ random sample equalling 100
was used.

A letter and questionnaire were sent to each subject. To ac-
celerate the number of returns, three follow-up letters were sent at
intervals of two weeks, two weeks, and four weeks. There were eighty
completed questionnaires returned by the electrical engineers. The in-
formation from the questionnaires was then tabulated and analyzed for
the results.

Literature on Physical Very little has been done to determine the
and Recreational Interest physical and recreational interests of the
various professions. In 1952, Dr. Elmer D. Mitchell¹ completed a
twenty-five year study of students entering the University of Michigan.

His study indicates that there is a reciprocal relationship between the interests of students and the vocations they selected in later life. According to Dr. Mitchell, the engineering student likes individualized and informal games rather than team games.

L. Carroll Adams² in 1948 investigated the active recreational interests of Columbia College alumni and found that there existed a marked semblance between various vocations or professions and the choice of sports and games of the members. The study also revealed that only about one-fourth of the activities presently practiced were learned in college.

Conclusions After tabulating and analyzing the results, several conclusions were made. The most often participated activity of electrical engineering graduates of Michigan State University (1948-1961) is swimming and diving. Bowling, social dance, golf and leisure walking are also very important to the above. The subjects were very interested in activities that involve water (swimming, diving, boating, sailing, fishing, water skiing, and skin or scuba diving). Forty-six of the eighty subjects who completed and returned the questionnaires indicated that none of the presently practiced activities were learned in college. Of the surveyed electrical engineers, many indicated a desire to learn skiing (23%), golf (20%), and skin or scuba diving (18%). Thirty per cent of the subjects indicated a desire to learn golf when they were undergraduates. Soccer, wrestling, hockey, and gymnastics are among those activities which have little or no present participant value to the subjects. This study lends further evidence to Dr.

Ronald A. Murray

Mitchell's study, which indicated that engineering students like individualized and informal games rather than team games.

References

1. Mitchell, Elmer D. "The Relationships Between Students and Vocational Choices," University of Michigan, 1954
2. Adams, L. Carroll, "Active Recreational Interests of Columbia College Alumni," Research Quarterly, 19: 43, March 1948

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DEPARTMENT OF ELECTRICAL ENGINEERING

By

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TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Statement of Problem	2
Scope of Study	3
Significance of Study	3
Limitations	4
Definition of Terms	4
II. REVIEW OF LITERATURE	6
Summary	9
III. METHODOLOGY	10
Selection of Subjects	10
Devising the Questionnaire	11
Techniques of Mailing	11
Percentage of Returns	12
Tabulation of Results	12
Analysis of Data	12
IV. RESULTS, INTERPRETATION AND ANALYSIS OF DATA	13
Summary of Findings	29
V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	30
BIBLIOGRAPHY	34
APPENDIX	35

LIST OF TABLES

Table	Page
1. The Recreational Activities of Electrical Engineers Which Were Participated in During the Last Twelve Months	14
2. The Frequency of Participation in Recreational Activities During the Last Twelve Months	16
3. Physical Activities Recommended to College Trainees in Electrical Engineering By Electrical Engineers	20
4. Activities Now Engaged in By Electrical Engineers Which Were Learned in College	22
5. Activities Which Electrical Engineers Desire to Learn	24
6. Activities Which the Electrical Engineers Would Have Liked to Learn While in College	26
7. Activities Most Selected or Desired by the Electrical Engineers According to Various Criteria . . .	28

CHAPTER I

Introduction

While guiding college freshmen into various activities, the physical education department should try to direct each individual toward the activities that will be of greatest value when that particular person has graduated and left the campus. A big problem facing the physical education advisor is, how to determine what activities, if any, will a certain individual be most likely to participate in in later life. Certainly the activity that is best suited for one student might not be for another.

Most colleges probably use an activity selection method based on each student's particular interests. In other words, the students select the activities in which they are most interested. Generally, people like most what they do best. Therefore, it is assumed that most college freshmen select activities in which they are already talented or activities that best fit into their schedule. These methods deal only with the student's interests and totally ignore the student's needs.

It would be of tremendous value to the physical education advisor, while guiding freshmen into various activities, to have available an index representing the value of certain physical and recreational activities to the various professions. This index, along with other guides, would help the advisor and the student decide what activities would meet not only present needs and interests, but also future ones.

Dr. Elmer D. Mitchell¹ in 1952 completed a twenty-five year study of students entering the University of Michigan. The study indicated that there was a reciprocal relationship between the interests of students and the vocations they selected in later life.

A study made by L. Carroll Adams² revealed a marked similarity among various vocational and professional trainees as to their choices of sports and games. Just what the similarities were and to what degree were not reported. The fact that such a small percentage of the sample responded (21%) sheds doubt as to the effectiveness of the study. However, the indication was that similarities existed.

Evidence from various studies indicate that the skills of approximately three-fourths of the activities most often participated in were learned in areas other than the college physical education programs. This fact indicates that there is a need for revision within many college physical education programs. This study will provide additional evidence to substantiate or refute the above statement.

Statement of the Problem

It is the profound desire of the researcher that the results of this study reveal the physical and recreational activities that electrical engineering trainees should be able to participate in and have some knowledge about in order to better fit into their intended professions.

¹Mitchell, E. B. "Twenty-five Year Study on Recreational Interests," 1425 Crambridge Road, Ann Arbor, Michigan

²Adams, L. Carroll. "Active Recreational Interests of Columbia College Alumni," Research Quarterly, 19: 43, March 1948

The specific objectives are as follows: (1) What activities, if any, do electrical engineers participate in, and how often? (2) What activities would they like to learn if time and facilities were available? (3) How many of the activities participated in were learned at college? (4) What activities would they recommend for college trainees entering their professions?

Scope of the Study

Included in the study are graduates from the College of Engineering, Department of Electrical Engineering, classes of 1948 through 1961, Michigan State University. The residences of these engineers encompass the entire country. The results of this study are applicable only to trainees and graduates of the College of Engineering, Department of Electrical Engineering, Michigan State University.

Significance of the Study

The information obtained will be of great value to the Michigan State University Physical Education Department. The advisor can point to specific evidence and state that these are the activities students might possibly enroll in if they plan on becoming electrical engineers. In addition to these activities, the student can fill in the remainder of his schedule with other activities of particular interest. In this manner, both needs and interests may be satisfied.

The information obtained in this study can be a valuable asset to the electrical engineering trainee. If used correctly, the student can prepare himself for the physical as well as mental activities necessary for good professional relationships.

Aroused interest in this and similar studies is also a desired

objective. The scope could be extended to include all professions. Administrators could arrange the program so as to include activities which meet the needs and interests of all the professions. In this manner, the value attained from physical education would be greatly increased.

Limitations

The limitations of this study are as follows:

1. The study includes only graduates of Michigan State University, College of Engineering, Department of Electrical Engineering, class of 1948 through 1961.
2. The shortness of the questionnaire to enhance the response limits the number of generalizations which could otherwise be made.
3. In the process of mailing questionnaires and follow-up letters there may have been a few letters that were not forwarded to subjects who had moved to new locations, thus limiting the number of responses.
4. The results of this thesis, as in most questionnaire studies, contains a certain number of biased answers.

Definition of Terms

Activities - skills and physical activities in which one can actively participate.

Recreation - in this study refers to voluntary leisure time participation in activities.

Leisure - that time which is available for freely decided upon pursuits.

Interests - connotes physical and recreational interests.

Physical Education Advisor - refers to the physical educator, in his advisory capacity, planning future schedules with college freshmen.

CHAPTER II

Review of Literature

There have been studies completed in which the recreational interests of college students have been investigated. Other studies were concerned with alumni and faculty interests. However, little has been done to determine the physical and recreational interests of any or all of the particular professions.

In 1952, Dr. Elmer D. Mitchell¹ completed a twenty-five year study of students entering the University of Michigan. His study indicates that there is a reciprocal relationship between the interests of students and the vocations they select in later life. According to Dr. Mitchell, the engineering student likes individualized and informal games rather than team games. He is also strongly interested in experimental hobbies. Sports interests in order of preference include: Swimming, skating, boating, golf, camping and tennis.

L. Carroll Adams² in 1948 investigated the active recreational interests of Columbia College alumni and found that there existed a marked semblance between various vocations or professions and the choice of sports and games of the members. The study also revealed that only about one-fourth of the activities presently practiced were learned in college. Since only a twenty-one per cent return was received in the

¹Mitchell, Elmer, D. "The Relationships Between Students and Vocational Choices," University of Michigan, 1954

²Adams, L. Carroll. "Active Recreational Interests of Columbia College Alumni," Research Quarterly, 19: 43, March 1948

survey any definite conclusions could be questioned, however, the implications are still present.

Ruth Toogood's³ 1939 survey of recreational interests and pursuits of college women also revealed some worthwhile facts. Surprising similarity was noted in recreational interest in students of four types of institutions. The greatest participation was in inactive and indoor forms of recreation. The study also revealed that in general, activities which have been taught in physical education classes have been in the form of organized team games, but that individual activities are more desirable.

A survey of the leisure-time activities of business and professional men in Iowa was conducted by Fred C. Cameron⁴. The author concluded that many of the more popular types of recreational pursuits were not included in most physical education programs. However, only thirty-three per cent returns were received in the survey and it was taken in the year 1935. The study would have been more helpful had the results been analyzed according to professions.

An analytical survey of leisure-time activities of Langston University faculty members was completed in 1953 by Constance Davis Welch⁵.

³Toogood, Ruth. "A Survey of Recreational Interests and Pursuits of College Women," Research Quarterly, 10: 90, October 1939

⁴Cameron, Fred E. "Leisure-Time Activities of Business and Professional Men in Iowa," Research Quarterly, 6: 96, October 1935 (Sup.)

⁵Welch, Constance Davis. "Leisure-Time Activities of Langston University Faculty Members," Research Quarterly, October 1953, p. 368

Her study revealed that sixty per cent of the faculty engaged in practically no physically active pursuits. It also pointed out the fact that the inactive recreational pursuits were a great deal more common than the active pursuits. Once again there is much to be questioned as to the validity of the conclusions.

Other studies exposing certain facts are worth mentioning briefly, although in most cases they are not directly related to the subject.

According to Cooke and Hyder⁶, who surveyed high school teachers and coaches in Tennessee, the activities most often engaged in included hiking, swimming, tennis, dancing, hunting, golf and fishing.

Elsie J. Stuhr⁷ in her study of interests and abilities as a basis for program planning suggested that few sections of team sports be offered, except as intramurals. Individual sports are the ones of most interest.

It was concluded in 1953 by James A. Wylie⁸, in a survey of family participation in recreation, that the less the preparation and organization of an activity (immediately before participation) the greater the popularity of that activity.

Earle F. Zeigler⁹ published in 1959 a study of recreational

⁶Cooke, Dennis H. and Nat E. Hyder. "A Comparison of the Health and Physical Recreation Activities of High School Teachers and Coaches," Research Quarterly, 8: 94, May 1937

⁷Stuhr, Elsie J. "Interests and Abilities as a Basic for Program Planning," Research Quarterly, 7: 92, May 1936

⁸Wylie, James A. "A Survey of Family Participation in Recreation," Research Quarterly, p. 229, May 1953

⁹Zeigler, Earle F. "Recreational Interests of Undergraduate Men Physical Education Majors," Research Quarterly, 30: 486-491, December 1959

interests of undergraduate men physical education majors. Men physical education majors at the University of Michigan showed high interest and ability in physical recreational pursuits, fair interest and ability in social and communicative recreational interests; and relatively low interest in aesthetic, creative and learning activities. Dr. Zeigler recommended that an effort be made to inculcate a sound philosophy of recreation.

Summary

After reviewing the related literature, several conclusions may be formulated. First, there seems to be a similarity between choice of activity and profession. Second, in general, the recreational activities engaged in (after graduation) were learned in places other than college physical education programs. A third conclusion that could be drawn is that inactivity is common in the professions.

CHAPTER III

Methodology

It would be of considerable value to college physical educators, while in the process of directing or guiding college freshmen into various activities, to have on hand factual information revealing the nature of the physical and recreational activities most often participated in by people in various professions. The individual would then know what activities he should be competent in in order to enhance his chances of establishing good relationships with his peers. These activities could be given priority for learning. After this portion of his schedule has been completed, the remaining portion could then be filled with activities of particular interest. In this manner, the physical educator would more nearly be meeting both the needs and interests of each individual.

In this chapter the method of compiling data for the study will be discussed. Included is selection of subjects, devising and mailing of the questionnaires, the tabulation of the data and the statistical methods used in the computation of the data.

Selection of the Subjects

The subjects selected were graduates of Michigan State University. They were electrical engineering majors and graduated within the years covering 1948 through 1961. A $2\frac{1}{2}\%$ random sample (equalling 100) was selected from the alumni files of the College of Engineering. The residence of the subjects was restricted to the United States.

Devising the Questionnaire

In order to survey the electrical engineers, a check list type of questionnaire (Appendix A) was devised. The subjects were asked to check the leisure-time activities in which they participated during the last year and how often. Also five fill-in questions concerning further interests and recommendations were to be answered. The questionnaire was condensed to enhance the chances of a high per cent response. In doing this, however, much desired information was not obtained. Before the mailing of the questionnaire, a pilot study and a few minor changes were completed.

Techniques of Mailing

The method of random sampling is briefly described below. The names of all electrical engineering graduates (1948-1961) were secured from the files contained within the College of Engineering. They were then separated according to year of graduation and each given a number. All numbers were written on small pieces of paper and placed into a box. After the box had been shaken and the numbers mixed, one hundred were withdrawn. Forty additional numbers were then withdrawn from the box to be used as replacements for those subjects whose addresses were unknown and for those subjects who were deceased.

After the names of all the subjects for the study were selected, the addresses were obtained from either the files of the College of Engineering or the Alumni Office. Each subject received an envelope containing a questionnaire (Appendix A), a letter of introduction explaining the study (Appendix B), and a letter from Dr. Lawrence W.

Von Tersch, Head, Department of Electrical Engineering, requesting their co-operation (Appendix C). A self-addressed stamped envelope was also enclosed in this envelope.

The questionnaires were sent out on February 28, 1962. A follow-up letter (Appendix D) was sent out March 16, 1962 to those failing to respond. Another follow-up letter (Appendix D) was sent out March 30, 1962 to those still not returned. A third and final follow-up letter (Appendix E) was mailed April 30, 1962 to those subjects (26%) yet to complete and return the questionnaire.

Percentage of Returns

The total number of subjects included in the survey was one hundred. Eighty subjects returned questionnaires which were correctly completed (an 80% return).

Tabulation of the Results

When the three follow-up letters failed to impel additional responses and a sufficient per cent return had been obtained, the information from each questionnaire was tabulated.

Analysis of Data

The information received on the questionnaires was analyzed to determine; (1) what activities were most often checked; (2) what activities were most often participated in; (3) what physical activities were most often recommended for college trainees to take; (4) how many of the chosen activities were learned in college; (5) what activities electrical engineers would like to learn; and (6) what activities they would like to have learned while in college. Percentages were then computed and the information was arranged into tables.

CHAPTER IV

Results, Interpretations and Analysis of the Data

This study was undertaken to determine those activities most often participated in by, and those of greatest interest to, electrical engineers. The survey included a random sampling of graduates of the College of Engineering, Department of Electrical Engineering, Michigan State University. The subjects graduated within the years 1948-1961. The subjects numbered 100 and 80 completed and returned the questionnaire.

The data were analyzed to determine: (1) what activities were most often checked; (2) what activities were most often participated in; (3) what physical activities were most often recommended for college trainees; (4) how many of the chosen activities were learned in college; (5) what activities electrical engineers would like to learn; and (6) what activities they would have liked to learn while in college.

The following tables are products of the tabulated information received from the questionnaires. They were analyzed and the results and interpretations are presented in this chapter.

In Table I the frequency of selection of activities participated in during the past twelve months is shown. As can be seen, swimming and diving head the list followed by bowling, dance, golf, water skiing, walking, fishing, badminton, table tennis, boating and sailing, etc. One must be careful interpreting the results in this table since they do not tell how often these activities were performed, but merely show

TABLE I

THE RECREATIONAL ACTIVITIES OF ELECTRICAL ENGINEERS
WHICH WERE PARTICIPATED IN DURING THE LAST TWELVE MONTHS

(Total Number of Respondents = 80)

Rank Order of Participation	Activity	No. of Subjects That Participated One or More Times
1	Swimming & Diving	66
2	Bowling	59
3	Dance (Folk-Social-Sq.)	51
4	Golf	42
5	Water Skiing	36
6	Walking	35
7	Fishing	35
8	Badminton	34
9	Table Tennis	33
10	Boating & Sailing	32
11	Softball	29
12	Camping	27
13	Ice Skating	26
14	Hunting	26
15	Croquet	21
16	Horseshoes	20
17	Tennis	20
18	Basketball	20
19	Hiking	18
20	Baseball	17
21	Canoeing	17
22	Shuffleboard	13
23	Volleyball	13
24	Skiing	12
25	Horseback Riding	8
26	Archery	8
27	Handball	7
28	Touch Football	6
29	Skin Diving - Skuba	4
30	Paddleball	3
31	Gymnastics	2
32	Track	2
33	Weight Lifting	2
34	Fencing	2
35	Hockey	2
36	Lawn Bowling	1
37	Roller Skating	1
38	Squash	1
39	Sledding & Tobogganing	1
40	Cycling	1
41	Calisthenics	1
42	Flying	1

that sometime within the past year more of the subjects participated in swimming and diving than any other activity. The majority of the activities most often selected are of an individual rather than team type.

The information presented in Table II is an indication of the frequency of participation in each activity by the engineers. Once again the list is headed by swimming and diving. It is followed by bowling, leisure walking, dance, golf, softball, boating, sailing, fishing, badminton, table tennis, etc. The sequence of activities presented in Table II is quite similar to the sequence of Table I. The aforementioned tables indicated that swimming and diving, bowling, dancing and golfing were perhaps the activities of most value to electrical engineering graduates of Michigan State University.

Perhaps a brief explanation of the procedure of Table II is in order at this point. Each column indicating the frequency of participation was given a numerical value which was arbitrarily selected. The more often the participation the greater the value received (1 through 5). The number of choices was then multiplied by the numerical value and each column added to obtain a total value score. This score is located at the extreme right of the table.

TABLE 11

THE FREQUENCY OF PARTICIPATION IN
RECREATIONAL ACTIVITIES DURING THE LAST TWELVE MONTHS

Activities	Cold-Cool Months					Warm-Hot Months					Total Value Points
	1	2	3	4	5	1	2	3	4	5	
	Once Per Month or Less	2-3 Times Per Month	Once Per Week	2-3 Times Per Week	4 or More Times Per Week	Once Per Month or Less	2-3 Times Per Month	Once Per Week	2-3 Times Per Week	4 or More Times Per Week	
Value*	1	2	3	4	5	1	2	3	4	5	
1. Swimming & Diving	8	1	1	1		16	26	6	6	11	178
2. Bowling	26	9	19	4		12	4	1	1		144
3. Walking (Leisure)	8	5	8	1	2	9	9	7	6	2	138
4. Dance-Social, Folk, Square	31	19	4			19	5	2			116
5. Golf	5		1			13	7	14	6	1	106
6. Softball	2					12	4	7	6		77
7. Boating & Sailing	4	1	1			19	9		5	2	76
8. Fishing	6	4	1			22	9	2	2	1	76
9. Badminton	2		1			16	10	8			65
10. Table Tennis	16	7	2	1	1	9	3				64
11. Water Skiing						23	8	2	1	1	54
12. Hunting	12	10	2	1		3					45
13. Hiking	8	3				14	4	2	1		43
14. Ice Skating	15	7		2		3					37
15. Basketball	8	8		1		4	2				36
16. Camping	7					20	4				35
17. Tennis	1	2				12	4	2	1		35

* Value times frequency equals total value points.

TABLE 11 -- Continued

Value	Cold-Cool Months					Warm-Hot Months					Total Value Points
	1 Once Per Month or Less	2 2-3 Times Per Month	3 Once Per Week	4 2-3 Times Per Week	5 4 or More Times Per Week	1 Once Per Month or Less	2 2-3 Times Per Month	3 Once Per Week	4 2-3 Times Per Week	5 4 or More Times Per Week	
Activities											
18. Horseshoes						12	6	1	1		31
19. Baseball	2	1				9	6	1			28
20. Canoeing						19	1	1	1		28
21. Croquet	1					12	6	1	1		28
22. Skiing	5	4	1	1	1						25
23. Archery	3	1	2			4	3				21
24. Horseback Riding	5		1			5				1	18
25. Volleyball	3		1	1		7	4				18
26. Handball	4		1	1		4					15
27. Shuffleboard	4					11					15
28. Paddleball	2	1	1			2		1			12
29. Touch Football	4	2				2					10
30. Skin Diving-Skuba			1			1	1	1			9
31. Track (Running)				2							8
32. Weight Lifting		1				1				1	8
33. Hockey		2									4
34. Calisthenics	1							1			4
35. Flying		1									4
36. Fencing						1	1				3
37. Gymnastics	1	1									3
38. Sledding & Tobogganing		1									2

TABLE 11 -- Continued

Value	1	2	3	4	5	1	2	3	4	5	Total Value Points
Activities	Once Per Month or Less	2-3 Times Per Month	Once Per Week	2-3 Times Per Week	4 or More Times Per Week	Once Per Month or Less	2-3 Times Per Month	Once Per Week	2-3 Times Per Week	4 or More Times Per Week	
39. Cycling											2
40. Roller Skating	1						1				1
41. Squash						1					1
42. Lawn Bowling											0
43. Soccer											0
44. Wrestling											0

In Table III is shown the physical activities recommended by the subjects to trainees entering their profession. The list is headed by golf and followed by bowling, swimming, tennis, dancing, handball, skiing, hunting, basketball, fishing, etc. Seventy-one of the eighty returned questionnaires had this portion of the questionnaire completed. This table indicates some interest in tennis as well as the activities mentioned earlier. Once again a greater interest is shown in individualized rather than team activities.

TABLE III

PHYSICAL ACTIVITIES RECOMMENDED TO COLLEGE
TRAINEES IN ELECTRICAL ENGINEERING BY ELECTRICAL ENGINEERS

Rank Order of Recommendation	Activity	Number of Recommendations Received
1	Golf	54
2	Bowling	36
3	Swimming	27
4	Tennis	12
5	Dancing	12
6	Handball	7
7	Skiing	6
8	Hunting	6
9	Basketball	6
10	Fishing	6
11	Boating & Sailing	5
12	Gymnastics	3
13	Calisthenics	3
14	Badminton	2
15	Squash	2
16	Paddleball	2
17	Archery	2
18	Softball	2
19	Track	2
20	Weight Lifting	2
21	Walking	1
22	Ice Skating	1
23	Diving	1
24	Hiking	1
25	Volleyball	1

Table IV is one which may raise several questions. Number two of the questionnaire (Appendix A) asks, "Which of those activities you now engage in were learned in college." As can be seen from the table, a majority (58%) answered "none". This could indicate several things. For example it could indicate that the program offered in the past was inadequate. It could also suggest that the guidance procedure was inadequate. Or it may indicate that the basic skills of many of the activities were initially learned elsewhere than the college program but may have been improved upon while attending the university.

Perhaps some of the subjects, rather than take the time to think out and answer question two, just checked the space provided for the answer none. Possibly an additional question asking where these activities were learned would have been more indicative of the actual situation. It would have been interesting to find out which activities those subjects had taken as undergraduates.

Seventy-four of the eighty returned questionnaires had a response to this segment.

TABLE IV
ACTIVITIES NOW ENGAGED IN BY ELECTRICAL
ENGINEERS WHICH WERE LEARNED IN COLLEGE

Rank Order of Selection	Activity	Number Received
1	None	46
2	Swimming	12
3	Bowling	7
4	Golf	6
5	Tennis	5
6	Handball	4
7	Dancing	4
8	Table Tennis	1
9	Hunting	1
10	Weight Lifting	1
11	Ice Skating	1
12	Paddleball	1
13	Diving	1
14	Gymnastics	1
15	Canoeing	1
16	Volleyball	1

Another question asked was, "What activities would you like to learn now, if time, facilities and finances were available"? As can be seen in Table V, skiing, golf, and skin or skuba diving, are high in desirability. They are followed by boating and sailing, bowling, tennis, dancing, water skiing, archery, etc.

Once again great interest in water activities can be seen. Sixty of the eighty subjects answered this part of the questionnaire. The remaining twenty were either answered "none" or left blank.

TABLE V
ACTIVITIES WHICH ELECTRICAL ENGINEERS DESIRE TO LEARN

Rank Order of Desirability	Activity	Number Selected
1	Skiing	23
2	Golf	20
3	Skin Diving - Skuba	18
4	Boating & Sailing	13
5	Bowling	6
6	Tennis	6
7	Dancing	6
8	Water Skiing	6
9	Archery	5
10	Fencing	3
11	Gymnastics	3
12	Handball	3
13	Hunting	2
14	Ice Skating	2
15	Swimming	2
16	Camping	2
17	Horseback Riding	2
18	Squash	1
19	Table Tennis	1
20	Basketball	1
21	Polo	1
22	Flying	1
23	Weight Lifting	1
24	Yoga	1
25	Calisthenics	1
26	Fishing	1
27	Hockey	1
28	Soccer	1

Table VI was designed to disclose the activities the electrical engineers would have liked to learn while in college. Golf is far ahead of any other activity, followed by skiing, tennis, handball, archery and skin or skuba diving. Not much confidence can be placed in the results of this table, however, because only sixty of the eighty respondents had answered this question. The remaining twenty were either answered "none" or left blank.

TABLE VI

ACTIVITIES WHICH THE ELECTRICAL ENGINEERS
WOULD HAVE LIKED TO LEARN WHILE IN COLLEGE

Rank Order of Desirability	Activity	Number Received
1	Golf	30
2	Skiing	12
3	Tennis	11
4	Handball	9
5	Archery	8
6	Skin Diving - Skuba	7
7	Dancing	6
8	Fencing	5
9	Bowling	5
10	Swimming	5
11	Gymnastics	5
12	Boating & Sailing	4
13	Water Skiing	4
14	Squash	2
15	Canoeing	2
16	Judo & Boxing	2
17	Camping & Hiking	2
18	Daily Exercise	1
19	Table Tennis	1
20	Fly Casting	1
21	Boxing	1
22	Ice Skating	1
23	Basketball	1
24	Soccer	1
25	Bait Casting	1
26	Flying	1
27	Weight Lifting	1
28	Paddleball	1
29	Track	1
30	Horseback Riding	1
31	Squash	1

Table VII is a combination of Tables I through VI. However, only the ten highest ranking activities from each table are listed in this table. By comparing the rankings of these highly selected activities, it can be noted that softball and basketball are the only team activities listed in Table VII. Softball ranked sixth in activities by frequency of participation and basketball ranked ninth in activities recommended to college trainees.

Swimming and diving ranked highest in activities now being participated in and golf is the activity which scored the highest in the columns denoting desirability. Bowling ranked high in all columns except the one listing the activities that the respondents would like to have learned in college (Column V). This suggests that bowling is as popular with the subjects as swimming and golf. Dancing also ranked high in value and desirability. Skiing and tennis ranked high in desirability but not in present participant value.

The popularity of water activities (swimming, diving, boating, sailing, water skiing, fishing and skin diving) can be seen throughout Table VII.

TABLE VII

ACTIVITIES MOST SELECTED OR DESIRED BY THE
ELECTRICAL ENGINEERS ACCORDING TO VARIOUS CRITERIA

Rank Order Of Selection	I						II			III			IV			V			VI		
	Activities By Number Of Participants			Activities By Frequency Of Participation			Activities Now Participated In, Learned In College			Activities Currently Desired To Learn			Activities Respondents Would Like To Have Learned In College			Activities Recommended To College Trainees					
1.	Swimming & Diving			Swimming & Diving			None			Skiing			Golf			Golf			Golf		
2.	Bowling			Bowling			Swimming			Golf			Skiing			Bowling			Bowling		
3.	Dance (Folk- Social & Square Golf			Walking (Leisure)			Bowling			Skin Diving- Skuba			Tennis			Swimming			Swimming		
4.				Dance (Folk- Social & Square Golf			Golf			Boating & Sailing			Handball			Tennis			Tennis		
5.	Water Skiing			Golf			Tennis			Bowling			Archery			Dancing			Dancing		
6.	Walking (Leisure)			Softball			Handball			Tennis			Skin Diving Skuba			Handball			Handball		
7.	Fishing			Boating & Sailing			Dancing			Dancing			Dancing			Skiing			Skiing		
8.	Badminton			Fishing			Table Tennis			Water- Skiing			Fencing			Hunting			Hunting		
9.	Table Tennis			Badminton			Hunting			Archery			Bowling			Basketball			Basketball		
10.	Boating & Sailing			Table Tennis			Weight Lifting			Fencing			Swimming			Fishing			Fishing		

Summary and Findings

Perhaps the results in Tables I and II are the most significant findings of this study. They indicated that swimming and diving were the most often chosen and participated in activities of electrical engineering graduates of Michigan State University (1948-1961). They also indicated that bowling, dancing, golf and leisure walking were very important in their lives. Throughout the study a great interest was shown in activities that involved water, such as swimming, diving, boating, sailing, fishing, water skiing and skin or skuba diving. Tables I and II results also revealed that some activities were of little or no present participant value to the subjects. Included in this category, among others, were wrestling, soccer, lawn bowling, roller skating, squash, gymnastics, cycling, sledding and toboganing.

Information in Tables III, V and VI added further support to the popularity or lack of popularity of the activities discussed above. The most significant information contained in Table IV was the fact that a majority (58%) of the electrical engineers stated that none of the presently participated activities were learned in college.

The information obtained in this study lends additional support to the idea that individual sports activities are generally more popular with graduates than team sports.

CHAPTER V

Summary, Conclusions and Recommendations

Summary

The present study is a survey of physical and recreational interests of electrical engineering graduates of Michigan State University (1948-1961). The names and addresses were randomly selected from the files kept by the College of Engineering. The Alumni Office files were also used to secure proper addresses of the subjects. The place of residence of the subjects was limited to the boundaries of the United States.

Each subject received an envelope containing a questionnaire, a letter of introduction, and a letter written by Dr. Lawrence W. Von Terch, Head, Department of Electrical Engineering, Michigan State University. A self-addressed stamped envelope was also enclosed in this envelope.

The questionnaires were sent out on February 28, 1962. Follow-up letters were sent out March 16, March 30, and April 30, 1962, to those subjects failing to respond.

The total number of subjects included in the survey was one hundred. Eighty subjects returned completed questionnaires (an 80% return).

Six tables were drawn from the information that was taken from the completed questionnaires. These tables were then analyzed for their results.

There have been but a few studies completed involving the topic concerning interest in physical and recreational activities of professional people.

Dr. Elmer D. Mitchell¹ in 1952 completed a twenty-five year study of students entering the University of Michigan. The results of the study indicated that there was a reciprocal relationship between the interests of students and the vocations they selected in later life. According to Dr. Mitchell, the engineering student likes individualized and informal games rather than team games.

A study made by L. Carroll Adams² revealed a marked similarity between various vocational and professional trainees and their choices of sports and games.

Evidence from various studies indicated that many of the activities most often participated in were learned in places other than the college physical education programs.

Conclusions

The following conclusions seem justifiable in view of the limitations of this study:

1. Swimming and diving are the activities most often participated in by electrical engineering graduates of Michigan State University (1948-1961).

¹Mitchell, E. B. "Twenty-five Year Study on Recreational Interests," 1425 Crambridge Road, Ann Arbor, Michigan.

²Adams, L. Carroll. "Active Recreational Interests of Columbia College Alumni," Research Quarterly, 19:43, March 1948

2. Bowling dancing, golf and leisure walking are also often participated in by the above.
3. The subjects surveyed had a great interest in activities that involved water (swimming, diving, boating, sailing, fishing, water skiing and skin or skuba diving).
4. Fifty-eight per cent of the respondents indicated that none of the presently practiced activities were learned in college.
5. Many of the surveyed electrical engineers showed a current desire to learn skiing (23%), golf (20%) and skin or skuba diving (18%).
6. Thirty per cent of the subjects indicated a desire to have learned golf while they were university students.
7. Soccer, wrestling, hockey and gymnastics are among those activities of little or no present participant value to the subjects.
8. Electrical engineers like individualized and informal games rather than team games.

Recommendations

Recommendations for the improvement of this and future studies of this nature are as follows:

1. Similar type of studies should be made on all professions.

2. The questionnaire might be redesigned in order to be more conducive to response.
3. A question should be added to the questionnaire which would indicate where activity skills were learned if not in college.
4. The addition of a question which would indicate whether or not the above skills were further developed or improved upon while attending college.

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APPENDIX

NAME _____ DATE OF BIRTH _____
 (last) (first) (middle) (day) (month) (year)
 ADDRESS _____
 (number & street) (city & state)
 PRESENT OCCUPATION _____

PHYSICAL ACTIVITY QUESTIONNAIRE

- What physical activities would you recommend to college trainees entering your profession? (1) _____ (2) _____ (3) _____
- Which of those activities you now engage in were learned in college?
 (1) _____ (2) _____ (3) _____ None
- What activities would you like to learn now, if time, facilities and finances were available? (1) _____ (2) _____ (3) _____
- What activities would you have liked to learn in college? (1) _____
 (2) _____ (3) _____
- Has your physical activity been completely restricted for medical reasons during the past year or two? () yes () no If yes, please state reason _____

- Below is a list of leisure-time activities. Read and place an X on the line beside each activity in which you participated during the last twelve months.
- For only those activities you have checked in question 6, enter an X to indicate how often you participated during warm-hot months and cold-cool months.

Participated (X) Activities	Once per month or less	2-3 times per month	Once per week	2-3 times per week	4 or more times per week	Once per month or less	2-3 times per month	Once per week	2-3 times per week	4 or more times per week
	COLD--COOL					WARM--HOT				
1. Archery - - - - -										
2. Badminton - - - - -										
3. Baseball - - - - -										
4. Basketball - - - - -										
5. Boating & Sailing - - - - -										
6. Bowling - - - - -										
7. Camping - - - - -										
8. Canoeing - - - - -										
9. Croquet - - - - -										
10. Dance-Social, Folk, Square										
11. Fencing - - - - -										
12. Fishing - - - - -										
13. Golf - - - - -										
14. Gymnastics - - - - -										
15. Handball - - - - -										
16. Hiking - - - - -										
17. Hockey - - - - -										
18. Horseback Riding - - - - -										
19. Horseshoes - - - - -										
20. Hunting - - - - -										
21. Ice Skating - - - - -										
22. Lawn Bowling - - - - -										
23. Paddleball - - - - -										
24. Roller Skating - - - - -										
25. Shuffleboard - - - - -										
26. Skiing - - - - -										
27. Skin Diving-Skuba - - - - -										
28. Soccer - - - - -										
29. Softball - - - - -										
30. Squash - - - - -										
31. Swimming & Diving - - - - -										
32. Table Tennis - - - - -										
33. Tennis - - - - -										
34. Touch Football - - - - -										
35. Track (Running) - - - - -										
36. Volleyball - - - - -										
37. Walking (Leisure) - - - - -										
38. Water Skiing - - - - -										
39. Weight Lifting - - - - -										
40. Wrestling - - - - -										
Others										
1. _____										
2. _____										
3. _____										

MICHIGAN STATE UNIVERSITY EAST LANSING

COLLEGE OF EDUCATION • DEPARTMENT OF HEALTH PHYSICAL EDUCATION AND RECREATION • WOMEN'S GYMNASIUM

Dear Sir:

We are conducting, with the cooperation of the College of Engineering, Department of Electrical Engineering, and the Alumni Office, a study of the physical and recreational activities and interests of Michigan State University graduates from the years 1948 to 1961. You can be of great help to the students, to the Department of Health and Physical Education, and to the University.

A one page questionnaire, requiring a small amount of your time, and a stamped self-addressed envelope accompanies this letter. Would you please fill it out and return it as soon as possible. Your information, along with that of others, will be used solely for the purpose of possible curriculum revision and guidance within the Department of Health and Physical Education, Michigan State University.

It is only through information such as we are requesting that the present physical and recreational interests of graduates of Michigan State University, Department of Electrical Engineering, can be determined. I hope that you will be willing to aid future members of your profession and Michigan State University by taking time to answer the enclosed questionnaire.

Thank you for your help and cooperation. An early reply will be deeply appreciated.

Sincerely yours,

Ron Murray

Ron Murray
Graduate Student

Roy K. Niemeyer

Roy K. Niemeyer
Associate Professor

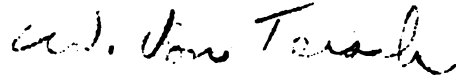
MICHIGAN STATE UNIVERSITY EAST LANSING

COLLEGE OF ENGINEERING • DEPARTMENT OF ELECTRICAL ENGINEERING

Dear Electrical Engineering Graduate:

The accompanying questionnaire will provide considerable information with respect to the activities of our Electrical Engineering graduates and should prove to be most valuable. We would greatly appreciate your cooperation in providing the information requested.

Very sincerely,



Lawrence W. Von Tersch

Head, Department of Electrical
Engineering

LWV:mt

APPENDIX D

MICHIGAN STATE UNIVERSITY EAST LANSING

COLLEGE OF EDUCATION • DEPARTMENT OF HEALTH PHYSICAL EDUCATION AND RECREATION • WOMEN'S GYMNASIUM

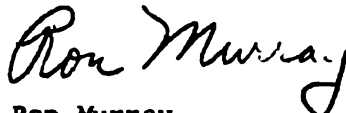
March 16, 1962

Dear Sir:

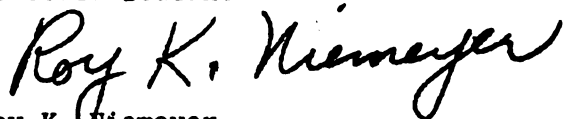
Two weeks ago you received a copy of the attached questionnaire with a stamped self-addressed envelope. We are trying to determine the physical and recreational activities and interests of Michigan State University graduates of the Department of Electrical Engineering. In tabulating the results, we find that your questionnaire was not among those returned. In order for the study to be valid, we must receive your questionnaire. You were part of a random sample and a high per cent return must be secured.

Your answers will be used solely for the purpose of bettering ourselves here at Michigan State University. Please fill out and return the questionnaire as soon as possible. Your cooperation is sorely needed and will be greatly appreciated.

Sincerely yours,



Ron Murray
Graduate Student



Roy K. Niemeyer
Associate Professor

P. S. Please answer the below and return this letter if the questionnaire cannot be answered by the addressee.

The addressee:

_____ Moved and forwarding address not available.

_____ Is deceased.

_____ Is unable to answer and return questionnaire.

•

MICHIGAN STATE UNIVERSITY

Department of Health, Physical Education and Recreation

April 27, 1962

Dear Sir:

Within the past two months you have received several letters requesting your cooperation regarding a survey of physical activities of electrical engineers. A one-page questionnaire along with a return self-addressed, stamped envelope was also enclosed within the letters. You were part of a random sample obtained from and with the cooperation of the Electrical Engineering Department, Michigan State University.

I thought you might be interested to know that 75% of your former classmates have chosen to cooperate and return the completed questionnaire. They perhaps have realized that a considerable amount of time and money have gone into the survey.

Perhaps due to some circumstance you were not able to complete and return your questionnaire, or possibly you did return the completed questionnaire and it was somehow lost in the mailing process. However, in tabulating the results it was discovered that your questionnaire was not among those received. Your cooperation would be greatly appreciated and would contribute enormously to the validity of this study. Thank you for your trouble.

Sincerely,



Ronald A. Murray
Graduate Student

P. S. Please check the appropriate response below and return this letter if the questionnaire cannot be answered by the addressee.

The addressee:

_____ Moved and forwarding address not available.

_____ Is deceased.

_____ Is unable to answer and return questionnaire.

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