

1971

# A Survey of Injuries Related to Physical Education Activities at Eastern Illinois University from 1960 Through 1966

Fred Arnold Richardi

*Eastern Illinois University*

This research is a product of the graduate program in [Physical Education](#) at Eastern Illinois University. [Find out more](#) about the program.

---

## Recommended Citation

Richardi, Fred Arnold, "A Survey of Injuries Related to Physical Education Activities at Eastern Illinois University from 1960 Through 1966" (1971). *Masters Theses*. 3996.  
<https://thekeep.eiu.edu/theses/3996>

This is brought to you for free and open access by the Student Theses & Publications at The Keep. It has been accepted for inclusion in Masters Theses by an authorized administrator of The Keep. For more information, please contact [tabruns@eiu.edu](mailto:tabruns@eiu.edu).

PAPER CERTIFICATE

TO: Graduate Degree Candidates who have written formal theses.

SUBJECT: Permission to reproduce theses.

The University Library is receiving a number of requests from other institutions asking permission to reproduce dissertations for inclusion in their library holdings. Although no copyright laws are involved, we feel that professional courtesy demands that permission be obtained from the author before we allow theses to be copied.

Please sign one of the following statements.

Booth Library of Eastern Illinois University has my permission to lend my thesis to a reputable college or university for the purpose of copying it for inclusion in that institution's library or research holdings.

Aug 3, 1971  
Date

Author

I respectfully request Booth Library of Eastern Illinois University not allow my thesis be reproduced because \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Date

\_\_\_\_\_  
Author

A SURVEY OF INJURIES RELATED TO PHYSICAL EDUCATION

ACTIVITIES AT EASTERN ILLINOIS UNIVERSITY

(TITLE)

FROM 1960 THROUGH 1966

BY

Fred Arnold Richardi

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF

Master of Science in Education

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY  
CHARLESTON, ILLINOIS

1971

YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING  
THIS PART OF THE GRADUATE DEGREE CITED ABOVE

*July 30, 1971*  
DATE

ADVISER

*August 5, 1971*  
DATE

## ACKNOWLEDGMENT

The completion of a study of this type depends upon the assistance and cooperation of many persons. The investigator wishes to thank the members of the School of Health, Physical Education and Recreation at Eastern Illinois University for time and thought they have given. He is also especially grateful for the valuable suggestions and criticisms he received from his graduate committee: Dr. Robert A. Carey, Dr. Maynard O'Brien, and Dr. William G. Riordan.

The writer is deeply appreciative of the guidance and sincere encouragement he received from Dr. William G. Riordan and Dr. Maynard O'Brien, not only during the course of study as a graduate and undergraduate at Eastern Illinois University, but also in the development of his personal aims, goals, and attitudes of life.

## TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION . . . . .	1
The Problem . . . . .	1
Importance of the Study . . . . .	2
Methodology . . . . .	3
Organization of Remainder of Thesis . . . . .	3
Limitations of the Undertaking . . . . .	4
II. SURVEY OF RELATED LITERATURE . . . . .	6
Literature Related to Accidents Through Physical Activity . . . . .	7
III. ANALYSIS OF DATA RELATED TO INJURIES OCCURRING IN PHYSICAL EDUCATION SERVICE CLASSES . . . . .	.11
Accidents According to the Year . . . . .	.12
Accidents According to the School Term . . . . .	13
Accidents According to the Month . . . . .	14
Accidents According to the Location . . . . .	16
Accidents According to the Type of Injury . . . . .	.17
Accidents According to the Nature of Injury . . . . .	.19

CHAPTER	PAGE
Accidents According to the Body Part Injured . . . . .	20
Accidents According to the Cause . . . . .	22
Accidents According to the Activity . . . . .	23
Accidents According to their Gender . . . . .	24
Accidents According to the Age of the Victim . . . . .	25
Accidents According to the Class Period . . . . .	27
Summary . . . . .	28
IV. ANALYSIS OF DATA RELATED TO INJURIES	
OCCURRING IN INTRAMURALS . . . . .	29
Accidents According to the Year . . . . .	30
Accidents According to the School Term . . . . .	31
Accidents According to the Month . . . . .	33
Accidents According to the Location . . . . .	34
Accidents According to the Nature of Injury . . . . .	35
Accidents According to the Type of Injury . . . . .	37
Accidents According to the Body Part Injured . . . . .	38
Accidents According to the Cause . . . . .	39
Accidents According to the Activity . . . . .	41
Accidents According to the Age of Participant . . . . .	42
Accidents According to the Time of the Day . . . . .	44

CHAPTER	PAGE
Summary . . . . .	45
V. ANALYSIS OF DATA RELATED TO INTERCOLLEGIATE ATHLETICS . . . . .	46
Accidents According to the Year . . . . .	47
Accidents According to the School Term . . . . .	48
Accidents According to the Month . . . . .	50
Accidents According to the Location . . . . .	51
Accidents According to the Type of Injury . . . . .	53
Accidents According to the Nature of Injury . . . . .	54
Accidents According to the Body Part Injured . . . . .	55
Accidents According to the Cause . . . . .	57
Accidents According to the Activity . . . . .	58
Accidents According to the Age of the Victim . . . . .	59
Accidents According to their Gender . . . . .	60
Accidents According to the Time of the Day . . . . .	61
Summary . . . . .	62
VI. SUMMARY AND CONCLUSIONS . . . . .	63
Summary . . . . .	63
Conclusions . . . . .	64
Recommendation . . . . .	68
BIBLIOGRAPHY . . . . .	71
VITA . . . . .	72

LIST OF TABLES

TABLE	PAGE
I. Accidents Occurring in Physical Education by the Year in Which They Occurred . . . . .	12
II. Accidents Occurring in Physical Education With Respect to the School Term in Which the Injury Took Place . . . . .	13
III. Accidents Occurring in Physical Education by the Month in Which They Occurred . . . . .	14
IV. Accidents Occurring in Physical Education According to the Location of the Accident . . . . .	16
V. Accidents Occurring in Physical Education According the the Type of Injury Incurred . . . . .	17
VI. Accidents Occurring in Physical Education According to the Nature of the Injury . . . . .	19
VII. Accidents Occurring in Physical Education According to the Part of the Body that is Injured . . . . .	20
VIII. Accidents Occuring in Physical Education According to the Cause . . . . .	22
IX. Accidents Occurring in Physical Education According to the Activity . . . . .	23



TABLE	PAGE
X.	Accidents Occurring in Physical Education According to their Gender . . . . . 24
XI.	Accidents Occurring in Physical Education According to the Age of the Victim . . . . . 25
XII.	Accidents Occurring in Physical Education According to the Class Period . . . . . 27
XIII.	Accidents Occurring in Intramurals by the Year in Which They Occurred . . . . . 30
XIV.	Accidents Occurring in Intramurals with Respect to the School Term in Which the Injury Took Place . . . . . 31
XV.	Accidents Occurring in Intramurals by the Month in Which They Occurred . . . . . 33
XVI.	Accidents Occurring in Intramurals According to the Location Where the Accident Took Place . . . . 34
XVII.	Accidents Occurring in Intramurals According to the Nature of the Injury . . . . . 35
XVIII.	Accidents Occurring in Intramurals According to the Type of Injury Incurred . . . . . 37
XIX.	Accidents Occurring in Intramurals According to the Part of the Body that was Injured . . . . . 38

TABLE	PAGE
XX. Accidents Occurring in Intramurals According to the Cause of the Injury . . . . .	39
XXI. Accidents Occurring in Intramurals According to the Activity . . . . .	41
XXII. Accidents Occurring in Intramurals According to the Age of the Victim . . . . .	42
XXIII. Accidents Occurring in Intramurals According to the Time of Day the Accident Occurred . . . . .	44
XXIV. Accidents Occurring in Intercollegiate Athletics by the Year in Which They Occurred . . . . .	47
XXV. Accidents Occurring in Intercollegiate Athletics in Regard to the School Term or Season the Injury Took Place . . . . .	48
XXVI. Accidents Occurring in Intercollegiate Athletics in Regard to the Month in Which the Injury Took Place . . . . .	50
XXVII. Accidents Occurring in Intercollegiate Athletics in Regard to the Location of the Accident or Injury . .	51
XXVIII. Accidents Occurring in Intercollegiate Athletics in Regard to the Type of Injury Incurred . . . . .	53
XXIX. Accidents Occurring in Intercollegiate Athletics in Regard to the Nature of the Accident or Injury . . .	54

TABLE	PAGE
XXX. Accidents Occurring in Intercollegiate Athletics in Regard to the Part of the Body that was Injured . . .	55
XXXI. Accidents Occurring in Intercollegiate Athletics in Regard to the Cause of the Injury . . . . .	57
XXXII. Accidents Occurring in Intercollegiate Athletics in Regard to the Activity . . . . .	58
XXXIII. Accidents Occurring in Intercollegiate Athletics in Regard to the Age of the Victim . . . . .	59
XXXIV. Accidents Occurring in Intercollegiate Athletics According to their Gender . . . . .	60
XXXV. Accidents Occurring in Intercollegiate Athletics in Regard to the Time of Day the Accident Occurred .	61

## CHAPTER I

### INTRODUCTION

At the present time there is no organized source or study related to injuries incurred during periods of physical education activities at Eastern Illinois University. This investigation will provide an accurate record of accidents reported in intramurals, physical education service classes, and intercollegiate athletics.

This thesis was formulated in an effort to provide the University with information which might be of value in: (1) determining the incidence with regard to the year, month, season, and the time of day; (2) obtaining the incidence with reference to the place of the accidents; (3) discovering the type of injury most frequently reported; (4) detecting the nature of the injury (cuts, sprains, etc.); (5) learning just what anatomical region is most frequently injured; (6) providing the incidents with regard to the cause of the injury; (7) finding the incidents with respect to the age of the individual injured; and (8) acquiring the incidents in reference to the activity.

#### I. THE PROBLEM

Statement of the problem. The purpose of this study was

to identify, classify, and analyze all reported accidents relating to physical education service classes, intramurals, and intercollegiate athletics at Eastern Illinois University during the school years from 1960 through 1966.

This thesis determined the cause and nature of all injuries recorded in the files of Eastern Illinois University Health Center. It answered many questions related to activities in athletics, intramurals, and physical education service classes. For example, was touch football the activity with the most casualties? Was it the most dangerous of intramural activities? This survey also served to identify the exact number of recorded accidents occurring in each activity.

Another purpose of this research was to determine the nature of each accident, to identify the extent or seriousness of each injury from falls or blows through body contact, or improper movement. Furthermore, the investigation indicated what time of day, month, or season results in the largest number of casualties.

Importance of the study. Eastern Illinois University has no systemized study of the various types of accidents incurred through physical activity. Analysis of injuries aids in developing a

safety program to curtail or eliminate hazards involved in the school's programs. Every school has this responsibility.

This survey may assist in locating faults, and improving the environment for the conduct of the athletic program.

Methodology. Information for this research was obtained from the Health Service of Eastern Illinois University which maintains a file on all reported accidents according to the date of occurrence. Information on each accident was transferred to an I. B. M. card. Once the data was recorded on the cards it was separated with relation to type of injury (fall, blow, etc. ); place of accident; nature of the mishap (cut, bruise, etc. ); part of the body injured; cause of the accident; age of victim; activity where injury was suffered; and the time of day, date, and season in which the accident occurred.

The computer in the Data Process Center of Eastern Illinois University was used in analyzing data obtained from the Health Service.

Organization of Remainder of the Thesis. The second chapter covers the related literature found on injuries occurring in physical activities pertaining to the total physical education program in a school.

Because of the duplication of the activities in each phase and of the data accumulated about each injury, the writer believes it is best to separate the findings into three main categories:

- (1) physical education service classes; (2) intramurals; and
- (3) intercollegiate athletics.

The final chapter summarizes, restates the development of the previous chapters and shows succinctly the more important findings and conclusions of the study.

Limitations of the Undertaking. Owing to the type of accident reports used by the school, there are several limitations to this investigation.

The reports used by the school do not indicate the seriousness of each injury, nor do they disclose the length of time of the injury.

Another limitation exists because there is no way of finding out the number of exposures in each activity compared to the number of injuries in each activity.

All information is taken directly from the accident reports submitted to the University Health Center, however, each instructor or person filling out the report interjects his personal opinion into the report. Each person interprets the same

situation in a different way. What may appear to be a pulled muscle to one instructor may look like a contusion to another. Moreover, many of the minor injuries were not reported, and therefore an accurate picture of the total number of accidents was not available.

In the period from 1960 through 1966 the Health Center at Eastern Illinois University had 676 accident reports filed related to the School of Health, Physical Education, and Recreation programs, of which thirteen were labeled recreation since they were not part of the intramural program and four of the reports did not indicate the program where the injury occurred.



## CHAPTER II

### SURVEY OF RELATED LITERATURE

Much has been written regarding individual activities (football, basketball, etc.) and individual injuries (ankle, knee, etc.), but only a brief number of studies or surveys have been done on all athletic activities using statistical analysis.

Many excellent studies have been completed in respect to injuries occurring while participating in some form of physical activity. For example, Frank Lloyd did a survey of injuries in the secondary school physical education throughout New York State for his dissertation in 1932 for New York University. Another study by Charles A. Rhoades investigated injuries in Iowa from 1950 - 1955. Probably the most prominent contribution made in the area of athletic injuries was done by Floyd Eastwood for his doctoral dissertation in 1939 at the New York University.

Booth Library, at Eastern Illinois University, could not acquire, through an interlibrary loan, any of the above studies for review.

This chapter will identify literature related to injuries and activity and will not single out references to one activity or injury.

## I. LITERATURE RELATED TO ACCIDENTS THROUGH PHYSICAL ACTIVITY

McGann<sup>1</sup> completed a survey in New York State concerning the nature and frequency of accidents. Her investigation involved 524 accident reports and related to all aspects of the total school program. She claimed, "sixty four per cent of the injuries occurred on the play fields and the gymnasium."<sup>2</sup> Her report also revealed that the main causes of accidents out of doors was through contact with another person or object through collisions; however, in the gymnasium the majority of the accidents resulted from a fall of some type.

Haar and Martin<sup>3</sup> of the University of Oregon completed a study of student injuries in secondary schools. This survey included 1,815 reported accidents. The time of day which accounted for the greatest number of injuries was from 3:00 o'clock to 4:00 p.m. with fourteen point five per cent of the total number of mishaps. Accidents occurring during the months while school was conducted

---

<sup>1</sup>Muriel E. McGann, "Nature and Frequency of Accidents Among Elementary School Children in New York State," Journal of Educational Research, LXII (November, 1960), 378.

<sup>2</sup>Ibid.

<sup>3</sup>Frank B. Haar and Dob B. Martin, "Student Injuries in Secondary School in Oregon," Research Quarterly, XXIV (July, 1953), 276-83.

were somewhat evenly distributed, but February had the greatest number of casualties.

Physical education classes accounted for fifty-two per cent of all the accidents. Sprains accounted for thirty-one per cent and was the most common type of injury. Ankles attributed the greatest number of sprains and injuries.

Metropolitan Life Insurance Company<sup>4</sup> reported in its statistical bulletin that sports are more dangerous to life than is generally realized. There were more than eight hundred deaths in sports in a two-year study with the victims ranging in age ten through sixty-four. Ninety-two per cent of them were males, due to the fact that more males engage in hazardous sports and are much more willing to expose themselves to danger.

The following article is related to safety instruction. Metz<sup>5</sup> wrote on safety in the classroom and claims the job for the teacher is a never ending task. It is the instructor's responsibility and he should always be aware of his duty. He must take a serious view of the situation and develop a code of safety within the students.

---

<sup>4</sup>Metropolitan Life Insurance Company, "Sports More Dangerous than People Think," Science News Letter, June 1, 1957.

<sup>5</sup>John J. Metz, "Teach Accident Prevention Prevention," Industrial Art and Vocation Education, XLVI, (October, 1957), 246.

In 1958, Gallagher<sup>6</sup> completed a study on injuries including types and incidence at The Phillips Academy for Boys. Athletics and recreation participation is a large part of a boy's life at this type of school. This was a seven year survey and the student enrollment was 650 students. The relating material of this study is the foot had the highest number of injuries (ankle). The two major causes were fall and contact.

A study by Disseinger<sup>7</sup> investigated the incidence, the nature, and the prevalent cause of the accidents in junior high school physical education programs. Records were kept throughout the 1959 - 1960 academic period and 1,626 school accidents were recorded.

One-half the total accidents occurred either in the gymnasium or on the athletic field. Falls comprised one-half of the stated causes of injuries and collisions were the other main cause. Other salient factors were throwing and catching, tackling, landing and sliding. As for the nature of these injuries, the most frequently reported

---

<sup>6</sup>Rosewell Gallagher, "Athletic Injuries Among Adolescents," Research Quarterly, XIX, (October, 1957) 200-214.

<sup>7</sup>Jean Katheryn Disseinger, "Accidents in Junior High School Physical Education Programs," Research Quarterly, XXXVII (August, 1960), 497.

were sprains followed by fractures and bruises.<sup>8</sup> Activities responsible for the greatest percentage of accidents were basketball, football, softball and baseball.<sup>9</sup>

McGann's, Gallagher's, and Disseinger's studies all agree that the majority of the accidents in school happen during some form of physical activity. The results of the three studies also pointed out that the two main causes of injuries were contact with another person or object, and falls.

Haar and Martin's<sup>10</sup> results indicated that the record in late afternoon between 3:00 o'clock and 4:00 o'clock was the most dangerous part of the school day; whereas February was the most dangerous part of the school year. With reference to the anatomical region with the highest frequency of injuries, Haar and Martin singled out the ankle.

A survey completed by the Metropolitan Life Insurance Company's<sup>11</sup> concluded that 92 per cent of the deaths in sports were among males.

Disseinger's<sup>12</sup> investigation placed basketball, football, softball, and baseball as the activities with the greatest number of injuries. This study also pointed out that throwing and catching, tackling, landing and sliding were major factors leading up to injuries.

---

<sup>8</sup>Ibid., p. 499.

<sup>9</sup>Ibid., p. 501.

<sup>10</sup>Haar and Martin, op. cit.

<sup>11</sup>Metropolitan, op. cit.

<sup>12</sup>Disseinger, op. cit.

### CHAPTER III

#### ANALYSIS OF DATA RELATED TO INJURIES OCCURRING IN PHYSICAL EDUCATION SERVICE CLASSES

During the school years of 1960 through 1966, there were 676 injuries reported to the Health Center at Eastern Illinois University. Of this number, 152 injuries were incurred in physical education service classes. Since these classes are required courses at Eastern Illinois University, the participants are not as coordinated or familiar with the activity as they would be in intercollegiate athletics or intramurals which are voluntary, but where the student usually has had previous experience.

Table I (page 12) indicates the distribution of the accidents for each school year between 1960-1961 and 1965-1966. There was little consistency in the number of accidents reported each year. The maximum number of injuries was thirty-eight in 1962-1963 school year, whereas the minimum number of mishaps were reported in 1961-1962 with seventeen injuries.

Table II (page 13) reveals the number of mishaps with regard to the school term in which the accident occurred (fall, winter, spring and summer). The highest tally of injuries came about in the fall term (quarter at Eastern Illinois University), totaling sixty-four accidents, while in the spring term there were twenty-

TABLE I  
ACCIDENTS OCCURRING IN PHYSICAL EDUCATION  
BY THE YEAR IN WHICH THEY OCCURRED

Year	No. of accidents	Percentage <sup>*</sup>
1960-1961	26	17.11
1961-1962	17	11.18
1962-1963	38	25.00
1963-1964	18	11.84
1964-1965	28	18.42
1965-1966	25	15.13

\* This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).



seven injuries reported. This can be explained by the type of activities conducted during the fall term compared to those conducted during the spring term. In the fall term the activities are mostly combative or activities which have a high degree of body contact, such as touch football and soccer; whereas, during spring term, noncombative activities were conducted, such as golf and tennis.

TABLE II

ACCIDENTS OCCURRING IN PHYSICAL EDUCATION IN RESPECT  
TO SCHOOL TERM IN WHICH THE INJURY TOOK PLACE

Term	No. of accidents	Percentage <sup>*</sup>
Fall	64	42.11
Winter	54	35.53
Spring	27	17.76
Summer	7	4.61

\* This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).

Table III (page 14) lists the accidents in reference to the month in which the injuries occurred. The table indicates October having the highest total of accidents with thirty-three and January



TABLE III  
ACCIDENTS OCCURRING IN PHYSICAL EDUCATION BY  
THE MONTH IN WHICH THEY OCCURRED

Month	No. of accidents	Percentage <sup>*</sup>
January	29	19.08
February	19	12.50
March	7	4.61
April	12	7.89
May	12	7.89
Summer	6	3.95
September	12	7.89
October	33	21.71
November	17	11.18
December	5	3.29

\* This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).

close behind with twenty-nine accidents. These are the prime months for combative activities (this could be the explanation); whereas, March, April and May are the main months for non-combative activities (March, April and May had a total of thirty-one accidents).

Table IV (page 16) significantly explains where the accidents occur. This chart indicates that outdoor play fields have the most casualties with forty-seven mishaps; whereas the basketball floor (the main area in the gym) in the original Lantz gymnasium had thirty-six accidents reported. The reason for this could be that the gym is used primarily in the winter months whereas the outdoor play areas are used both in the fall and spring months. The third highest number of accidents recorded were on the golf course and the archery range.

Table V (page 17) identifies statistics related to the prevalent type of the accidents which occurred. As revealed in the tabulation in this table, seventy-one casualties were attributed to falls, while blows (contact with an object or person) caused fifty-eight mishaps. Falls and blows accounted for nearly eighty-five per cent of the 152 reported casualties.

TABLE IV

ACCIDENTS OCCURRING IN PHYSICAL EDUCATION  
ACCORDING TO THE LOCATION WHERE THE  
ACCIDENT TOOK PLACE

Location of accident	No. of accidents	Percentage*
Outdoor play fields	47	30.92
Lab school swimming pool	4	2.63
Lab school gymnasium	3	1.97
Lantz gymnasium (main floor)	36	23.68
Wrestling room	18	11.84
Other areas of Lantz gym	6	3.95
Pemberton Hall gymnasium	11	7.24
On the track	3	1.97
On the tennis courts	3	1.97
In the women's gymnasium	15	9.87
In the weight room	3	1.98
On the soccer field	1	.66
On the golf course	1	.66
On the archery range	1	.66

\*This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).

TABLE V

ACCIDENTS OCCURRING IN PHYSICAL EDUCATION  
ACCORDING TO THE TYPE OF INJURY INCURRED

Type of Accident*	No. of accidents	Percentage**
Falls	71	46.71
Blows	58	38.16
Abrasions	1	.66
Miscellaneous***	2	1.32
Twisted	4	2.63
Pulled muscle	3	1.97
Collapse	2	1.32
Blister	1	.66
Reports that did not indicate the type of accident	10	6.58

\* The sub-titles in this table are taken directly from the accident reports and some of the people reporting the injury combined the cause of the injury with the type of the injury and therefore it is difficult to avoid duplication of sub-titles.

\*\* This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).

\*\*\* These were accident reports which indicated running as the type. Running can be a cause, but not a type.

Table VI (page 19) catalogs the injuries according to their nature (cuts, sprains, dislocations, etc.). The list denotes that the accidents are spread out and are evenly distributed among all categories. This table affirms the nature of injury most frequently incurred is "sprains" which resulted in thirty-one accidents. The second group is "cuts", with twenty-seven, closely followed by "strains" which were the result of twenty-six accidents. The lowest number of mishaps is recorded in the category labeled "twists" with three injuries. The titles of the categories in Table VI are taken directly from the accident reports and a "strain" to one person might be a "sprain" to another, therefore it is hard to pinpoint the exact number of accidents occurring in each sub-title in this Table.

Table VII (page 20) covers the part of the anatomy which was injured while participating in physical education classes. According to the accident reports the ankle had the greatest number of injuries with twenty-four accounts. The majority of the activities in physical education classes require footwork and probably is the primary reason why ankle injuries rank first of the list. The second on the chart is the region of the mouth with nineteen mishaps closely followed by the shoulder and finger injuries with sixteen each. Only one person reported damaged teeth while two people reported an injury to the rib, and two also reported injury to the neck.

TABLE VI

ACCIDENTS OCCURRING IN PHYSICAL EDUCATION  
ACCORDING TO THE NATURE OF THE INJURY

Nature of injury	No. of injuries	Percentage*
Cuts	27	17.76
Bruises	13	8.55
Muscle pulls	8	5.26
Strains	26	17.11
Fractures	21	13.82
Sprains	31	20.39
Dislocations	13	8.55
Teeth	5	3.29
Twisted	3	1.97
Reports that did not indicate the nature of some accidents	5	3.29

\* This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).

TABLE VII  
ACCIDENTS OCCURRING IN PHYSICAL EDUCATION  
ACCORDING TO THE PART OF THE BODY  
THAT WAS INJURED

Part of the body	No. of injuries	Percentage*
Hand injuries	6	3.95
Finger injuries	16	10.53
Head injuries	6	3.95
Shoulder injuries	16	10.53
Elbow injuries	6	3.95
Knee injuries	6	3.95
Ankle injuries	24	15.79
Rib or side injuries	2	1.32
Back injuries	10	6.58
Neck injuries	2	1.32
Mouth injuries	19	12.50
Waist or side injuries	2	1.32
Foot injuries	10	6.58
Leg injuries	6	3.95
Eye injuries	7	4.61
Face injuries	3	1.97
Teeth injuries	1	.66
Nose injuries	4	2.63
Arm injuries	6	3.95

\* This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).

Table VIII (page 22) denotes that improper movement (uncoordination) caused seventy-three casualties or 48.69 per cent of the accidents in physical education classes. Contact or an unsafe act caused thirty-eight or 25 per cent of the total number of accidents. Physical education classes are mandatory, whereas intramurals or athletics are selective; this could be the prime factor why uncoordinated movement is so high in physical education. The category labeled "freak" was the term used by the person filling out the accident report and therefore could not be placed in any other category.

This is another portion of the accident report where each instructor or person filling out the report interjects his personal opinion into the report. The individual filling the report out should give specific information rather than just labeling an accident "freak".

Table IX (page 23) describes activities in which the victims were injured when the accident occurred. According to this table, touch football, basketball and wrestling in that order had the highest number of mishaps. There is a high degree of body contact in these three activities, therefore this could be the main reason why they had such a towering number of accidents in these categories. Another explanation could be the large number of participants in these activities; especially football and basketball.



TABLE VIII

ACCIDENTS OCCURRING IN PHYSICAL EDUCATION  
ACCORDING TO THE CAUSE

Cause of injury	No. of injuries	Percentage*
Unsafe Act (contact)	38	25.00
Unsafe equipment	1	.66
Running	4	2.63
Throwing or reaching	4	2.63
Improper movement (uncoordinated)	73	48.69
Slipped	8	5.26
Freak	16	10.53
Poor attention by *** the student	10	6.58
Fainting	1	.66
Reports that did not indicate the cause of the accident	7	4.61

\* This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).

\*\*\* Poor attention by the student caused improper movement as it was indicated on the accident reports.

TABLE IX  
ACCIDENTS OCCURRING IN PHYSICAL EDUCATION  
ACCORDING TO THE ACTIVITY

Activity	No. of injuries	Percentage*
Basketball	22	14.47
Recreational games	4	2.63
Soccer	10	6.58
Softball	7	4.61
Touch football	23	15.13
Volley ball	12	7.89
Archery	1	.66
Golf	1	.66
Apparatus gymnastics	4	2.63
Tennis	5	3.29
Wrestling	15	9.87
Track	3	1.97
Stunts and tumbling	9	5.92
Swimming	4	2.63
Women's gym classes	12	7.89
Weight room classes (P. E. M. 100)	2	1.32
Reports that did not indicate the activity while injured	18	11.84

\* This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).

Golf and archery had the fewest number of casualties with one each (these activities require little or no body contact).

Table XI (page 25) depicts the age of the individual injured at the time the accident occurred. The table reveals that the majority of the victims injured in physical education classes were eighteen, nineteen, or twenty. The main factor for this is that Eastern Illinois University requires each student to take two years of physical education. Most students fill this requirement their first two years in college and the majority of the freshmen and sophomores are eighteen, nineteen, or twenty.

The oldest recorded person injured in a physical education class was thirty-three years old while the youngest was seventeen years of age.

Table X tells just how many women were reported injured during the years 1960 through 1966.

TABLE X

ACCIDENTS OCCURRING IN PHYSICAL EDUCATION  
ACCORDING TO THEIR GENDER

Gender	No. of injuries	Percentage*
Females injured	19	12.5
Males injured	133	86.5

\*This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).

TABLE XI  
ACCIDENTS OCCURRING IN PHYSICAL EDUCATION  
ACCORDING TO THE AGE OF THE VICTIM

Age of injured	No. of injuries	Percentage*
17 years old	5	3.29
18 years old	19	12.50
19 years old	16	10.53
20 years old	17	11.18
21 years old	10	6.58
22 years old	5	3.29
23 years old	1	.66
24 years old	1	.66
30 years old	1	.66
31 years old	1	.66
33 years old	1	.66
Number of reports that did not indicate the age	75	50.01

\* This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).

Table XII (page 27) comprised the injuries relative to the hour or class period in which the mishap occurred. According to Table XII, the accidents were evenly distributed throughout the entire day. The lowest number of injuries occurred during the late afternoon classes. The reason for this could be that fewer students take physical education during this time (3:00 or 4:00 o'clock classes) because of the vast intramural and intercollegiate athletic programs in operation late in the day.

TABLE XII

ACCIDENTS OCCURRING IN PHYSICAL EDUCATION  
ACCORDING TO THE CLASS PERIOD

Class period	No. of injuries	Percentage*
During 8:00 o'clock classes	12	7.89
During 9:00 o'clock classes	22	14.47
During 10:00 o'clock classes	25	16.45
During 11:00 o'clock classes	14	9.21
During 12:00 o'clock classes	13	8.55
During 1:00 o'clock classes	11	7.24
During 2:00 o'clock classes	24	15.79
During 3:00 o'clock classes	13	8.55
During 4:00 o'clock classes	5	3.29
Reports that did not indicate the time of the accident	13	8.55

\* This column reveals the per cent of the total number of accidents in physical education (152 accidents were reported in physical education).

## SUMMARY OF CHAPTER III

This chapter is committed to analyzing the injuries occurring to students in physical education classes during the school years of 1960 through 1966. The results are as follows:

1. Of the 676 injuries reported in this study, 152 injuries incurred in physical education classes.
2. The year with the most accidents recorded is 1962-1963; the season with the highest number of accidents recorded is fall quarter; the month with the biggest total of mishaps is October.
3. Outdoor play fields is the location with the greatest number of casualties.
4. Falls accounted for 46.71 per cent of the total number of injuries in physical education classes; whereas sprains accounted for the greatest number of injuries on the table labeled "nature of injury".
5. Ankles lead the list as for the part of the body injured most with 15.79 per cent of the total number of injuries in physical education.
6. In this chapter the leading cause of the injury was improper movement (uncoordination) with almost 49 per cent of the injuries.
7. Basketball and touch football were the activities with the most mishaps (both activities have much body contact); whereas archery and golf had only one casualty each (archery and golf have no body contact).

## CHAPTER IV

### ANALYSIS OF DATA RELATED TO INJURIES OCCURRING IN INTRAMURALS

The purpose of this chapter is aimed to identify, classify, and analyze all reported accidents relating to intramurals at Eastern Illinois University during the school years from 1960 through 1966. There were 676 injuries reported to the Health Center at Eastern Illinois University during the school years 1960 through 1966. Of the 676 injuries reported, 283 of these casualties were incurred in the intramural program.

Table XIII (page 30) reports the distribution of the accidents for each school year between 1960 and 1966. There is little consistency throughout the six year period. The 1961-1962 school year has the greatest number of mishaps with sixty three (22.26 per cent of the 283 injuries in intramurals). It is noticeable that the three last years in the study (1963-1964, 1964-1965, and 1965-1966) the number of injuries have decreased.

Table XIV (page 31) reveals the number of mishaps with regard to the school term (fall, winter, spring, and summer) in which the accident occurred. The chart indicates that the majority of the injuries came about in the fall and winter



TABLE XIII

ACCIDENTS OCCURRING IN INTRAMURALS  
BY THE YEAR IN WHICH THEY OCCURRED

Year	No. of accidents	Percentage*
1960-1961	52	18.37
1961-1962	63	22.26
1962-1963	38	13.43
1963-1964	53	18.73
1964-1965	45	15.90
1965-1966	30	10.60
Accident reports that did not indicate the year	2	.71

\* This column reveals the per cent of the total number of accidents in intramural activities (283 accidents were reported in the intramural program).

quarters. Of the 283 accidents occurring in intramurals, 257 mishaps took place during the period of fall and winter. In the fall, there were 128 injuries reported whereas in the winter there was 129 casualties reported to the health center. The table reveals that the remaining two terms (spring and summer) accounted for 26 injuries (9.19 per cent of the 283 injuries in intramurals). The primary reason for this could be that the three major contact activities are conducted during the fall and winter quarters (touch football and wrestling).

TABLE XIV

ACCIDENTS OCCURRING IN INTRAMURALS IN RESPECT  
TO THE SCHOOL TERM IN WHICH THE INJURY TOOK PLACE

Term	No. of accidents	Percentage*
Fall	128	45.23
Winter	129	45.58
Spring	20	7.07
Summer	6	2.12

\* This column reveals the per cent of the total number of accidents in intramural activities (283 accidents were reported in the intramural program).

Table XV (page 33) lists the accidents in reference to the month in which the injury occurred. It is indicated on this chart that October has the greatest number of accidents reported with eighty-five or 30.04 per cent of the 283 accidents reported in intramurals followed by the month of January with sixty or 21.2 per cent of the 283 accidents reported in the intramural program. Close behind is February accounting for fifty casualties which is 17.67 per cent of the 283 accidents recorded in the intramural program. The month of May reported three casualties and the entire summer quarter (June, July and August) recorded only six injuries.

Table XVI (page 34) significantly explains where accidents occur. Intramurals are conducted primarily in main areas such as intramural fields, the gymnasium, the pool, and the field house. During the six-year study there were one hundred forty-eight accidents reported that occurred on the intramural fields or 52.3 per cent of the total 283 accidents reported in the intramural program, 131 injuries occurred indoors, two on the track, and two on the tennis courts.

Table XVII (page 35) tabulates accidents according to their nature (cut, bruise, strain, fracture, sprain, etc.). The title of this table is taken directly from the accident report and the categories within it are just what the person responsible for filling out the

TABLE XV

ACCIDENTS OCCURRING IN INTRAMURALS  
BY THE MONTH IN WHICH THEY OCCURRED

Month	No. of accidents	Percentage *
January	60	21.2
February	50	17.67
March	5	1.77
April	14	4.95
May	3	1.06
Summer Quarter	6	2.12
September	23	8.13
October	85	30.04
November	19	6.71
December	16	5.65
Accident reports which did not have any month indicated	2	.71

\* This column reveals the per cent of the total number of accidents in intramural activities (283 accidents were reported in the intramural program).

TABLE XVI

ACCIDENTS OCCURRING IN INTRAMURALS  
ACCORDING TO THE LOCATION WHERE THE ACCIDENT TOOK  
PLACE

Location of accident	No. of accidents	Percentage*
Outdoor intramural fields	148	52.30
Laboratory gymnasium	74	26.15
McAfee gymnasium	49	17.31
Wrestling room	3	1.06
Pemberton Hall gymnasium	2	.71
Track	2	.71
Tennis courts	2	.71
Number of reports that did not indicate the place	3	1.06

\* This column reveals the per cent of the total number of accidents in intramural activities (283 accidents were reported in the intramural program).

TABLE XVII

ACCIDENTS OCCURRING IN INTRAMURALS  
ACCORDING TO THE NATURE OF THE INJURY

Nature of injury	No. of injuries	Percentage <sup>*</sup>
Cuts	64	22.61
Bruises	52	18.37
Muscle pull	13	4.59
Strains	41	14.49
Fractures	18	6.36
Sprains	57	20.14
Dislocations	7	2.47
Headaches	9	3.18
Teeth	7	2.47
Twisted	5	1.77
Number of reports that did not indicate the nature of the accident	10	3.53

\* This column reveals the per cent of the total number of accidents in intramural activities (283 accidents were reported in the intramural program).

report placed there. Many people filling out reports can identify the part of the body that is injured, however they are not qualified to diagnose the nature of the injury. The greatest number of casualties are cuts numbering sixty-four and sprains following with fifty-seven injuries.

Table XVIII (page 37) catalogs the injuries according to their type (falls, blows, running, etc.). The title and subtitles on the table are also taken directly from the accident report. The two major causes of accidents are falls and blows (contacts from a person or object) consisting of 92.23 per cent of the 283 accidents. The category with the fewest number of injuries is abrasions with two reported accidents. Many abrasions are not reported. This is most likely the reason why it falls so low in the number of accidents reported.

Table XIX (page 38) covers the part of the anatomy which was injured while participating in intramurals. According to this chart, the extremities are the most frequently injured body area (shoulder, ankle, elbow, fingers, etc.). The study reveals that the ankle was injured the most with fifty-six, whereas knees had twenty-nine and the mouth had twenty-seven.

Table XX (page 39) denotes the cause of accidents in intramurals. It reveals that contact is the leading factor cause to the

TABLE XVIII  
ACCIDENTS OCCURRING IN INTRAMURALS  
ACCORDING TO THE TYPE OF INJURY INCURRED

Type of accident*	No. of accidents	Percentage**
Falls	115	40.64
Blows	146	51.59
Abrasions	2	.71
Miscellaneous***	6	2.12
Twisting action	6	2.12
Pulled muscle	3	1.06
Number of reports that did not indicate the type of injury	5	1.77

\* The sub-titles in this table are taken directly from the accident reports and some of the people reporting the injury combine the cause of the injury with the type of injury and therefore it is difficult to avoid duplication of sub-titles.

\*\* This column reveals the per cent of the total number of accidents in intramural activities (283 accidents were reported in the intramural program).

\*\*\* These were accident reports which indicate running as the type of accident. Running can be a cause but not a type.



TABLE XIX

ACCIDENTS OCCURRING IN INTRAMURALS ACCORDING TO THE  
PART OF THE BODY THAT WAS INJURED

Part of the body	No. of injuries	Percentage*
Hand	7	2.47
Fingers	18	6.36
Head	26	9.18
Shoulder	18	6.36
Elbows	11	3.89
Knees	29	10.25
Ankles	56	19.79
Rib area	9	3.18
Back	7	2.47
Neck	4	1.41
Mouth	27	9.54
Waist or groin area	7	2.47
Foot	7	2.47
Leg	14	4.95
Eye area	19	6.71
Face	8	2.83
Teeth	6	2.12
Nose	12	4.24
<b>Arm</b>	2	.71

\* This column reveals the per cent of the total number of accidents in intramural activities (283 accidents were reported in the intramural program).

TABLE XX

ACCIDENTS OCCURRING IN INTRAMURALS  
ACCORDING TO THE CAUSE OF THE INJURY

Cause of injury	No. of accidents	Percentage*
Unsafe act (contact	156	55.12
Running	12	4.24
Throwing or reaching	2	.71
Improper movement (uncoordinated)	77	27.21
Slipped	13	4.59
Freak	4	1.41
Accident reports that did not indicate the cause of the accident	16	5.65
Poor attention by the student***	14	5.95

\* This column reveals the per cent of the total number of accidents in intramural activities (283 accidents were reported in the intramural program).

\*\*\* Poor attention by the student caused improper movement as it was indicated by the individual filling out the accident report.

accident with one hundred fifty-six or 55.12 per cent of the total two hundred eighty-three accidents reported in intramurals. This table indicates that improper movement through uncoordination is the basis for seventy-seven casualties (27.21 per cent of the total 283 accidents reported in the intramural program). The primary reason such a high degree of accidents involving contact or uncoordination occur could be the physical condition of the participants.

Table XXI (page 41) describes activities in which the victims were injured when the accident occurred. According to the accidents reported, basketball, touch football, and softball, in that order, had the highest number of mishaps. A prime explanation could be the large number of participants in these three activities, especially basketball. Cross country and track had the fewest number of reported casualties with one each.

Table XXII (page 42) depicts the age of the injured at the time of the accident. The information taken from the accident reports indicates that the majority of the victims injured in the intramural program was aged twenty-one, twenty, nineteen, and eighteen in that order. These are the ages of the average college student and most likely is the reason why they rank as the four leading age groups. The youngest person reported injured in intramurals was seventeen and the oldest person reported was

TABLE XXI

ACCIDENTS OCCURRING IN INTRAMURALS  
ACCORDING TO THE ACTIVITY

Activity	No. of injuries	Percentage*
Touch football	112	39.58
Basketball	123	43.46
Soccer	12	4.24
Cross country	1	.35
Badminton	5	1.77
Volleyball	1	.35
Softball	22	7.77
Track	3	1.06
Accidents that did not indicate the activity	4	1.41

\* This column reveals the per cent of the total number of accidents in intramural activities (283 accidents were reported in the intramural program).

TABLE XXII

ACCIDENTS OCCURRING IN INTRAMURALS  
 ACCORDING TO THE AGE OF THE VICTIM

Age of victims	No. of injuries	Percentage*
17 years old	1	.35
18 years old	37	13.07
19 years old	39	13.78
20 years old	43	15.79
21 years old	49	17.31
22 years old	19	6.71
23 years old	15	5.30
24 years old	7	2.47
25 years old	2	.71
26 years old	2	.71
30 years old	1	.35
32 years old	1	.35
Accident reports that did not indicate the age	67	23.67

\* This column reveals the per cent of the total number of accidents in intramural activities (283 accidents were reported in the intramural program).

thirty-two. Many of the people filling out the accident reports apparently did not feel that the age of the individual injured was important because sixty-seven of the accident reports did not indicate the age of the individual injured.

Table XXIII (page 44) comprises the injuries relative to the hour or time of day in which the accident occurred. The prime time for intramurals at Eastern Illinois University seems to be after four o'clock in the afternoon. In the fall and spring when many of the activities are conducted outdoors, it is usually four and five o'clock, however, in the winter the prime time is six to ten o'clock in the evening. The accident reports show that 87.99 per cent of the total 283 reported accidents happened after four o'clock.

TABLE XXIII

ACCIDENTS OCCURRING IN INTRAMURALS  
ACCORDING TO THE TIME OF DAY THE  
ACCIDENT OCCURRED

Time	No. of injuries	Percentage*
During 8:00 o'clock periods	2	.71
During 9:00 o'clock periods	4	1.41
During 10:00 o'clock periods	1	.35
During 11:00 o'clock periods	1	.35
During 1:00 o'clock periods	2	.71
During 2:00 o'clock periods	3	1.06
During 3:00 o'clock periods	4	1.41
During 4:00 o'clock periods	88	31.10
During 5:00 o'clock periods	49	17.31
During the evening periods	112	39.58
Accident reports that did not indicate the time of the accident	17	6.00

\* This column reveals the percent of the total number of accidents in intramural activities (283 accidents were reported in the intramural program).

## SUMMARY OF CHAPTER IV

This chapter is committed to analyzing the injuries occurring to students while participating in the intramural program at Eastern Illinois University during the years 1960 through 1966. The results are as follows:

1. Of the 676 injuries reported in this study, 283 casualties were incurred in the intramural program.
2. The year with the most accidents recorded is 1961-1962; the season with the highest number of accidents recorded is winter; and the month with the largest total of mishaps is October.
3. The outdoor intramural fields is the location with the largest number of accidents.
4. As for the nature of the accident, cuts and sprains lead the list and the type of accident, blows (contact from another person or object) and falls accounted for the greatest number of injuries.
5. Ankles are the part of the anatomy injured most, followed by the knees.
6. Unsafe act (contact) and improper movement (uncoordination) are the leading causes of injuries in intramurals.
7. The activities with the highest number of injuries are football and basketball; and the activity with the lowest number of mishaps is cross country and volleyball.



CHAPTER V  
ANALYSIS OF DATA RELATED TO  
INTERCOLLEGIATE ATHLETICS

This chapter will examine the accidents reported relating to intercollegiate athletics at Eastern Illinois University during the school years from 1960 through 1966. This information is only on the reported accidents; there is no way of determining how many accidents had not been reported. According to the information provided from the accident forms, there occurred 224 mishaps to participants in the intercollegiate program through the years 1960 through 1966. Athletics, at this level, demands a higher quality of performance and physical strain from its participants than in physical education service classes and intramurals.

Table XXIV (page 47) tabulation indicates that the year 1960-1961 had the highest number of accidents with fifty-five mishaps and the following year (1961-1962) had the lowest with sixteen injuries. There is no reasonable explanation available as to why there is such a difference from year to year.

Table XXV accounts for the number of casualties with regard to the school term or season (fall, winter, spring, or

TABLE XXIV

ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS  
BY THE YEAR IN WHICH THEY OCCURRED

Year	No. of accidents	Percentage*
1960-1961	55	24.55
1961-1962	16	7.14
1962-1963	25	11.16
1963-1964	50	22.32
1964-1965	32	14.29
1965-1966	39	17.41
Accident reports that did not indicate the year of the accident	7	3.13

\* This column reveals the per cent of the total number of accidents in intercollegiate athletics (224 accidents are registered in intercollegiate athletics).

summer). The table significantly points out fall and winter with over sixty per cent of the total 224 accidents reported in intercollegiate athletics. In the fall, 142 casualties are reported; whereas during the winter there are 46 accidents registered.

TABLE XXV

ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS  
IN REGARD TO THE SCHOOL TERM OR  
SEASON THE INJURY TOOK PLACE

Term or season	No. of injuries	Percentage*
Fall	142	63.39
Winter	46	20.54
Spring	34	15.18
Summer	0	0.00
Accident reports that did not indicate the quarter of the accidents.	2	.90

\* This column reveals the per cent of the total number of accidents in intercollegiate athletics (224 accidents are registered in intercollegiate athletics).

This can be explained by the fact that the activity with the greatest number of injuries is conducted during fall term when football and soccer are played. Another logical explanation to the high number

of accidents reported that football is very combative, or requires a high degree of body contact; whereas, during the spring and winter season, noncombative activities such as golf and tennis are conducted.

Table XXVI (page 50) accounts for the accidents in reference to the month the injury occurred. The table denotes September as having sixty-five registered injuries (29.02 per cent of the total 224 reported injuries in intercollegiate athletics) followed by October with forty-seven accidents. An explanation is that September and October are the two prime months for varsity football and this sport registered almost 60 per cent of all accidents in athletics at Eastern Illinois University.

Table XXVII (page 51) significantly explains where the accidents occur. This table divulges some interesting facts. The Laboratory school gymnasium had only one accident and it occurred in football practice held there on a rainy day in the spring of 1963. It is only reasonable, if football is the activity with the most injuries, then the football field is the site of the largest number of casualties. The sub-titles in all tables in this study are taken directly from the accident reports. It is indicated that thirty-five injuries were registered at different schools (mostly through football away games).

TABLE XXVI

## ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS IN REGARD TO THE MONTH IN WHICH THE INJURY TOOK PLACE

Month	No. of accidents	Percentage <sup>*</sup>
January	23	10.27
February	12	5.36
March	4	1.49
April	25	11.16
May	9	4.02
September	65	29.02
October	47	20.98
November	24	10.71
December	10	4.46
Number of reports that did not have a date indicated	5	2.23

\* This column reveals the per cent of the total number of accidents in intercollegiate athletics (224 accidents are registered in intercollegiate athletics).

TABLE XXVII

## ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS IN REGARD TO THE LOCATION OF THE ACCIDENT OR INJURY

Location of accident	No. of accidents	Percentage*
Outdoor practice fields	11	4.91
Lab school swimming pool	4	1.79
Lab school gymnasium	1	.45
McAfee gymnasium (main floor)	21	9.38
Wrestling room	21	9.38
At other colleges or universities	35	15.63
On the football field	106	47.32
At Pemberton hall gymnasium	5	2.23
Track	6	2.68
Baseball field	5	2.23
Women's gymnasium	2	.89
Soccer field	7	3.13

\* This column reveals the per cent of the total number of accidents in intercollegiate athletics (224 accidents are registered in intercollegiate athletics).

Table XXVII (page 53) identifies statistics related to the prevalent type of accident (sub-titles are taken from the accident reports). It is noted that blows from an object or person dominates this category with one hundred thirty-seven casualties followed by falls with fifty mishaps. Again the combative activities with high degree of contact will cause a high degree of injuries. Falls cause fifty accidents or 22.32 per cent of the total two hundred twenty-four injuries in intercollegiate athletics.

Table XXIX (page 54) catalogs the injuries according to their nature (cuts, sprains, dislocations, etc.). After analyzing the reports, sprains accounted for forty-six and bruises accounted for forty-one, with strains following closely with thirty-eight casualties. Only seven accident reports were marked muscle pulls, and nine were marked dislocations.

Table XXX (page 55) covers the part of the anatomy which is injured while participating in intercollegiate athletic program. This study reveals that the ankle suffered the greatest number of injuries with thirty-five mishaps, followed by injuries to the mouth with twenty-five, and the knee with twenty-three. Fingers and hands are high in accident rate and it coincides with the other two areas of this study (Physical Education and Intramurals) in that the extremities are the most frequently hurt.

TABLE XXVIII

ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS IN  
REGARD TO THE TYPE OF INJURY INCURRED

Type of accident <sup>*</sup>	No. of accidents	Percentage <sup>**</sup>
Falls	50	22.32
Blows	137	61.16
Abrasions	6	2.68
Miscellaneous <sup>***</sup>	2	.89
Twisted	11	4.91
Pulled muscles	2	.89
Collapse	3	1.34
Blister s	1	.45
Accidents that were not indicated on the reports	12	5.35

\* The sub-titles in this table are taken directly from the accident reports and some of the people reporting the injury combine the cause of the injury with the type of injury and therefore it is difficult to avoid duplication of sub-titles.

\*\* This column reveals the per cent of the total number of accidents in intercollegiate athletics (224 accidents are registered in intercollegiate athletics).

\*\*\* These were accidents reported which indicated running as the type of injury. Running can be a cause of an injury, but not a type of injury.



TABLE XXIX

ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS IN  
REGARD TO THE NATURE OF THE ACCIDENT OR INJURY

Nature of injury	No. of accidents	Percentage <sup>*</sup>
Cuts	25	11.16
Bruises	41	18.30
Muscle pulls	7	3.13
Strains	38	16.96
Fractures	17	7.59
Sprains	46	20.54
Dislocations	9	4.02
Headache	19	8.48
Teeth	13	5.80
Twisted	2	.89
Reports that did not indicate the nature of the accident	7	3.13

\* This column reveals the per cent of the total number of accidents in intercollegiate athletics (224 accidents are registered in intercollegiate athletics).

TABLE XXX

## ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS IN REGARD TO THE PART OF THE BODY THAT WAS INJURED

Part of the body	No. of accidents	Percentage*
Hand injuries	14	6.25
Finger injuries	13	5.80
Head injuries	23	10.27
Shoulder injuries	19	8.48
Elbow injuries	6	2.68
Knee injuries	23	10.27
Ankle injuries	35	15.63
Rib or side injuries	8	3.57
Back injuries	14	6.25
Neck injuries	2	.89
Mouth injuries	25	11.16
Waist or groin injury	1	.45
Foot injuries	12	5.36
Leg injuries	12	5.36
Eye injuries	6	2.68
Face injuries	1	.45
Teeth injuries	5	2.23
Nose injuries	4	1.79

\* This column reveals the per cent of the total number of accidents in intercollegiate athletics (224 accidents are registered in intercollegiate athletics).

Table XXXI (page 57) denotes the cause of the injury (contact, uncoordinated, slipped, etc.). Unsafe acts or contact between persons or an object caused 62.95 per cent; whereas improper movement related to a lack of coordination has fifty-three accidents or 23.66 per cent of the total number of injuries in intercollegiate athletics. The lowest number of injuries recorded is in running (both were in track) with two.

Table XXXII (page 58) describes the activity in which the victim was injured when the accident occurred. Of the eleven sports Eastern Illinois University conducts, golf is the only sport with no injuries recorded. Tennis reported one accident and swimming had accounted for two. The activity which had the greatest number of injuries was football which was responsible for one hundred and thirty-four or 59.82 per cent of the total occurring in intercollegiate athletics. The primary reason for such a large number of accidents in football could be explained by the objective of the sport. Basketball is second on the list with twenty-eight recorded casualties, followed by wrestling with twenty-five reported injuries. All three of these activities have a high degree of body contact.

Table XXXIII (page 59) depicts the age of the performers injured in the intercollegiate athletic activities. The table reveals the majority of the athletes hurt are of the age eighteen through twenty-one. This is logical because the majority of the college

TABLE XXXI

ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS IN  
REGARD TO THE CAUSE OF THE INJURY

Cause of injury	No. of accidents	Percentage*
Unsafe act (contact)	141	62.95
Locker room	1	.45
Running	2	.89
Improper movement (Uncoordinated)	53	23.66
Slipped	3	1.34
Freak	10	4.46
Poor attention by the students**	5	2.23
Fainted	2	.89
Reports that did not indicate the cause of the accident	12	5.36

\*This column reveals the per cent of the total number of accidents in intercollegiate athletics (224 accidents are registered in intercollegiate athletics).

\*\* Poor attention by the student caused improper movement as it was indicated by the individual making the report.

TABLE XXXII

ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS IN  
REGARD TO THE ACTIVITY

Activity	No. of accidents	Percentage *
Football	134	59.82
Cross country	4	1.79
Soccer	7	3.13
Basketball	28	12.50
Wrestling	25	11.16
Gymnastics	6	2.68
Swimming	2	.89
Tennis	1	.45
Baseball	9	4.02
Track	7	3.13
Reports that did not indicate the activity	1	.45

\* This column reveals the per cent of the total number of accidents in intercollegiate athletics (224 accidents are registered in intercollegiate athletics).

TABLE XXXIII

ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS IN  
REGARD TO THE AGE OF THE VICTIM

Age of victim	No. of accidents	Percentage*
17 years old	6	2.68
18 years old	45	20.09
19 years old	27	12.05
20 years old	40	17.86
21 years old	35	15.63
22 years old	21	9.38
23 years old	4	1.79
24 years old	1	.45
25 years old	1	.45
26 years old	2	.89
27 years old	1	.45
28 years old	1	.45
36 years old	1	.45
Reports that did not indicate the age of the individual that was hurt	39	17.41

\* This column reveals the per cent of the total number of accidents in intercollegiate athletic (224 accidents are registered in intercollegiate athletics).

students are of the same age (eighteen through twenty-one). The oldest individual reported injured in athletics is thirty-six and the youngest is seventeen years of age.

Table XXXIV indicates the gender of the injured. Eastern Illinois University recorded two hundred thirty-four accidents in intercollegiate athletics of which two were females. The two girls were injured while participating with the gymnastic exhibition team.

TABLE XXXIV

ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS  
ACCORDING TO THEIR GENDER

Gender	No. of injuries	Percentage*
Females injured	2	.89
Males injured	222	99.11

\* This column reveals the per cent of the total number of accidents in intercollegiate athletics (224 accidents are registered in intercollegiate athletics).

Table XXXV (page 61) comprises the injuries related to hour of the day in which the accident occurred. Four o'clock in the afternoon appears to be the prime hour for injuries, followed by five o'clock. The primary practice time for any sport at Eastern Illinois University is four and five o'clock in the afternoon. The reason

TABLE XXXV

ACCIDENTS OCCURRING IN INTERCOLLEGIATE ATHLETICS IN  
REGARD TO THE TIME OF DAY THE ACCIDENT OCCURRED

Time	No. of accidents	Percentage*
During 8:00 o'clock periods	1	.45
During 9:00 o'clock periods	7	3.13
During 10:00 o'clock periods	9	4.02
During 11:00 o'clock periods	7	3.13
During 1:00 o'clock periods	3	1.34
During 2:00 o'clock periods	8	3.57
During 3:00 o'clock periods	17	7.59
During 4:00 o'clock periods	63	28.13
During 5:00 o'clock periods	40	17.86
During the evening hours	24	10.77
Reports that did not indicate the time of the accident	45	20.01

\*This column reveals the per cent of the total number of accidents in intercollegiate athletics (224 accidents are registered in intercollegiate athletics).



for having more accidents at four o'clock could be that the athletes were not warmed-up, therefore, the individuals would be prone to injuries early in the practice.

## SUMMARY OF CHAPTER V

Chapter V accounted for the accidents related to intercollegiate athletics at Eastern Illinois University during the school years from 1960 through 1966. The results are as follows:

1. Of the 676 injuries reported in this study, 224 accidents were reported in intercollegiate athletics during the six year period (1960 through 1966).
2. The school year 1960-1961, fall term and September all had the most reported casualties.
3. The football field is the location with the largest number of mishaps registered.
4. As for the type of accident, blows (contact from another person or object) lead the list and the nature of the accident, sprains and bruises accounted for the largest number of injuries.
5. Ankle, mouth and knee are the three most vulnerable parts of the anatomy injured.
6. In intercollegiate athletics, the leading cause of injury reported is contact, followed by improper movement due to lack of coordination.
7. Football dominated the number of accidents as for the activity in intercollegiate athletics with the most injured.

## CHAPTER VI

### SUMMARY AND CONCLUSIONS

Summary. The purpose of this study was to identify, classify, and analyze all recorded accidents relating to the School of Health, Physical Education, and Recreation at Eastern Illinois University during the period from 1960 through 1966. All the information was taken from accident reports turned in to the University Health Center; however, each instructor or person filling out the report interjects his personal opinion into the report. Frequently, each person will interpret the same situation in a different manner. Another limitation to this study was that there is no way of determining the number of people participating in a program with relation to the number of injuries. Also, many of the minor injuries are not reported, therefore, a true picture of the total number of accidents was not available. Through lack of foresight on the writer's part, the program used to separate all the facts taken from the accident reports on the computer did not indicate where and in what activity the more serious accidents occurred. Specifically, this study attempted to: (1) determine the incidence in regard to the year, month, season and time of day; (2) obtain the incidence in regard to the place of the accident; (3) discover the type of injury most frequently reported;

(4) detect the nature of the injury (cuts, sprains, etc.); (5) learn just what is the body region most frequently injured; (6) provide the incidents with regard to the cause of the injury; (7) disclose the incidents in respect to the age of the individuals injured; (8) acquire the incidence with reference to the activity.

Conclusions. The conclusions of the investigation of the 676 accident reports filed in the health center at Eastern Illinois University dating 1960 through 1966 from the various activities conducted by the School of Health, Physical Education, and Recreation are as follows:

1. Of the 676 injuries, 136 occurred during the first year of the study in 1960; whereas in 1961, only 96 injuries were reported. There is no noticeable reason why there is such a difference in the number of accidents from year to year. Perhaps more emphasis should be placed on more safety or on supervisory personnel. As for the season, fall has almost fifty per cent of the accidents recorded (336 accidents have been reported during fall season). October is the month with the highest number of mishaps, with 165 casualties registered. Both

October and the fall term are the primary periods for football and other activities with a high degree of contact which is the leading cause of injuries. The hour with the most accidents is 4:00 p.m. followed by 5:00 p.m. Again, these are the choice times for many after-school activities.

2. The program (intramural, athletics, or physical education service classes) with the most numerous accidents is intramurals where 283 injuries were reported. Whereas, intercollegiate athletics recorded 224 casualties, and physical education service classes had filed 152 accident reports.
3. As for the location of accidents, the outdoor play fields are the primary spots totalling 208 mishaps. A logical rationale for this is that most of the outdoor activities with any degree of contact are conducted on the play fields. The main gym floor which is now called McAfee Gymnasium is the secondary location with 108 injuries recorded.
4. Falls and blows (by an object or another person) are the two leading types of accidents with almost 87 per cent of all the accidents (falls and blows recorded 592

injuries). Blows or contact from an object or another person has 350 casualties and falls accounted for the other 242 accidents.

5. Under the heading "Nature of the Accident", sprains top the list with some 136 injuries followed by cuts which accounted for 119 mishaps and bruises were close behind with 111, and strains with 109 accidents. Again, the instructor or person filling the report out will interpret the nature of the injury and many times the individual will have to interject his personal opinion.
6. Ankles by far are the anatomical parts of the body most frequently injured accounting for some 116 accidents; whereas the mouth is second with 74 reported injuries and the knee with 59 mishaps followed by the shoulder with 59. The primary reason for this could be the fact that in almost all the physical activities that recorded an injury requires some form of manipulation of the feet.
7. The primary cause of accidents resulted from personal contact such as running into an object or another person.

These totaled 338 accidents. The secondary cause of accidents with 213 recorded injuries is classified as improper movement or uncoordinated act on the part of the individual participant.

8. Almost all the participants injured were between the ages of eighteen and twenty-one (most college students are in this age group), and eighteen year olds lead with 103 accidents, however, the other three years in that group (nineteen, twenty, and twenty-one) were very close.
9. The primary time for intramurals and intercollegiate athletics is from four to six and in the evening. Consequently those hours rank highest in number of accidents with 163 injuries recorded at 4:00 p.m., 141 reported during the evening hours and 98 injuries were reported from 5:00 p.m.
10. Programs involved in the most injuries reported in the School of Health, Physical Education and Recreation, were varsity football with 136 accidents and intramural basketball with 123, while intramural flag football reported 112 mishaps. These figures tend to be mis-

leading because the number of participants, along with the number of times each individual played are not available so the percentages can not be compiled to obtain a completely accurate report of participation of the persons involved in the programs studied.

### RECOMMENDATIONS

1. A committee should be formed to evaluate and revise the type of accident report forms used by the school.
2. At a general staff meeting the proper procedure when dealing with accidents should be discussed. The school's philosophy concerning the accident reports should be made clear to all the people involved. Those who will be completing accident reports throughout the year should be impressed with the need for more conformity in reporting accidents.
3. The responsibility of reports should be given to one individual in each program (recreation, physical education, and athletics) to review and evaluate if the proper procedures are being followed.
4. Reports of all accidents should be retained by a staff

member of the School of Health, Physical Education and Recreation. The director of the athletic training room would be a logical custodian of these records.

5. All reports of accidents should be reviewed periodically, e.g. at the end of the school year, to determine whether action may be taken to eliminate causes and conditions of accidents.



## BIBLIOGRAPHY

## BIBLIOGRAPHY

- Campbell, W. G. Form and Style in Thesis Writing, Boston: Houghton Mifflin Company, 1956.
- Disseinger, Jean Katheryn. "Accidents in Junior High School Physical Education Program," Research Quarterly XXXVII (August 1960) p. 497.
- Gallagher, Rosewell. "Athletic Injuries Among Adolescents," Research Quarterly, XIX (October 1957) pp. 200-214.
- Haar, Frank B. and Martin, Don B. "Student Injuries in Secondary Schools in Oregon," Research Quarterly, XXIV (July 1953), pp. 276-283.
- McGann, Muriel E. "Nature and Frequency of Accidents Among Elementary School Children in New York State," Journal of Educational Research, LXII (November, 1960) p. 378.
- Metropolitan Life Insurance Company, "Sports More Dangerous than People Think," Science News Letter (June 1957).
- Metz, John J. "Teach Accident Prevention," Industrial Art and Vocation Education, XLVI (October 1957), p. 246.

## VITA

The writer was born and lived most of his life in Franklin Park, Illinois. He received his education at East Leyden High School in 1961 and Eastern Illinois University, where he received the degree, Bachelor of Science in Education in 1965 and a Master of Science in Education degree in 1971.

While at East Leyden High School, the writer competed in football, wrestling, and track. At Eastern Illinois University, he competed in wrestling. In the winter of 1965, the writer assumed the position of Physical Education Teacher and Coach at Assumption High School, Assumption, Illinois. In 1966, he received a graduate assistantship in Physical Education at Eastern Illinois University. In 1967, he accepted a teaching and coaching position at Glenbrook South High School, Glenview, Illinois. In 1970, he moved to Niles East High School, Skokie, Illinois as Head Wrestling Coach and Intramural Director.