

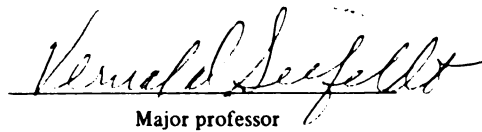




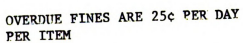
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SEX AND AGE DIFFERENCES IN THE RECREATIONAL
SPORT PARTICIPATION OF CHILDREN

By

Crystal Diane Fountain

A THESIS

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ABSTRACT

SEX AND AGE DIFFERENCES IN THE RECREATIONAL SPORT PARTICIPATION OF CHILDREN

By

Crystal Diane Fountain

This study investigated recreational sport interests of Michigan children 5-16 years old. Questionnaires were administered in classrooms to students aged 11-16 years, while parents of younger children completed identical surveys at home.

Over half of the sample participated in the ten most popular activities, while over one-third was represented in the top twenty sports for both sexes. Although females participated in sports typically considered masculine, males indicated higher participation in team sports, while females chose individual games more often.

Since 1898, both sexes have expanded their participation. Individual and semi-contact team games indicated similar trends across time for both males and females, while involvement in contact sports was more disparate.

With the exception of golf, table tennis, tennis and weight lifting, patterns of participation by age were similar for both sexes. Sports were grouped into three categories according to their involvement across chronological age: a) levels of participation increased, peaked and then leveled, b) levels of participation increased peaked and then declined and c) levels of participation increased throughout.

ACKNOWLEDGMENTS

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CHAPTER I

THE PROBLEM

Sports and games are a genuine folk phenomenon in most societies and, as such, have revealed even subtle changes in a culture, its attitudes or in child nature itself (Sutton-Smith and Rosenberg, 1961). The past 30 years have been marked by progressively changing views toward the participation of females in sport events. Title IX and the inclusion of numerous new Olympic events for women are two evidences of these changing attitudes on both the national and international levels. Canadian girls have begun to play on ice hockey teams in recent years and many American universities are now offering touch football as an intramural sport for women. Therefore, it seemed appropriate to study the sport interests of children in our changing society, especially since social conditioning seems to be a reinforcer of early hormonal effects that cause differences in behavior of the male and female (DeVore, 1965).

Statement of the Problem

The purpose of this research effort was two-fold. First, this study was designed to investigate sex differences in the degree of participation in free-play sports of Michigan school children. A second area of study was to determine age level by sex trends in the incidence of sport involvement for the ages of 5-16 years.

A subproblem existed in this endeavor. Construction of a complete, but concise, survey instrument was needed. The questionnaire was to be the tool of data collection.

Significance of the Study

Profound changes in the roles of women in society have occurred during the past 30 years and have influenced cultural acceptance of the female in sport. Surveys of the game choices of children have indicated that, more than ever, girls are engaging in active sports and are doing so at earlier ages (Cratty, 1974). Will this earlier practice aid the girls in their subsequent sports performance? Only time will answer this question, but it is conceivable that in the past the performance of males has been superior to that of females because males have had the opportunity to participate in sports at younger ages. One of the objectives of this study, then, was to investigate age-level differences between the sexes in recreational play.

It is possible that changing cultural norms have had a direct influence on individual interests and lifestyles and on sex-role concepts. According to Moss and Kagan (1961), the female sex role has been associated negatively with games and sports while the male sex role has enjoyed a positive association. However, environmental or social factors, as opposed to physical ones, were more influential in determining masculinity and femininity in past years (Terman and Tyler, 1954). It seemed appropriate, therefore, to study sex differences in play activities in our modern culture.

Knowledge of recreational interests can provide the necessary

background information for experimental manipulation of freeplay activities. Researchers need these observations of natural preference in order to understand and theorize about the importance of play behavior. Social psychologists have long regarded play as an essential ingredient in the preparation of children for involvement in adult society (Stone, 1965). Therefore, this researcher believed that a study of sex differences in recreational sports participation would be highly beneficial to those who are interested in the genesis and duration of play preferences in children.

Such an investigation would provide a scientific basis upon which to modify current curricula in physical education to best meet the needs of the present society. Also, directors of physical activity and recreational programs would have data from which to understand the interests and desires of Michigan school children. By viewing the historical trends in sports participation, these coordinators could project future requirements for facilities, equipment and instruction in recreational sports programs.

Research Hypotheses

It was hypothesized that:

- 1) The percent of male participation in rough, contact sports would be greater than that of females.
- 2) Differences in patterns of recreational sport participation between the sexes would have decreased from that of earlier investigations.
- 3) The number of sports categorized as female or coed would have increased from that of previous studies.

- 4) A high degree of recreational participation will occur at the young ages in most sports with the greatest frequency of participation occurring around 12-14 years of age. A leveling off or slight decline would occur until age 16 years.

Research Plan

Data were gathered via a questionnaire administered to students in a random sample of 89 districts of Michigan public and private schools. Parents of children ages 5-10 completed the survey, while students aged 11-16 years completed the questionnaire in the classroom. A pilot study of six schools revealed that children below the sixth grade had too much difficulty in understanding the instrument to provide accurate completion in the classroom. Therefore two instruments were developed, one for the student and one addressed to the parent (see Appendix A).

Thirty-five recreational sports were listed and after each item the subject, or parent thereof, circled an "N," "S" or "O" corresponding to the following directions.

- | | |
|---------------|--|
| N (Never) | Circle <u>N</u> if you <u>did not</u> play the sport as a free-play activity during the past twelve (12) months. |
| S (Sometimes) | Circle <u>S</u> if you played the sport as a free-play activity one to three (1-3) times during the past twelve (12) months. |
| O (Often) | Circle <u>O</u> if you played the sport as a free-play activity four (4) times or more during the past twelve (12) months. |

The data were analyzed with the CROSSTABS program from the Statistical Packages for the Social Sciences (SPSS) on the Michigan State University Control Data Corporation (CDC) 6500 computer. The Crosstabs program provided a joint frequency count and percent distribution and printed a separate table for each sex in every sport.

Scope of the Investigation

This investigation was delimited to participation in recreational sports. School-sanctioned activities and agency-sponsored competition were NOT considered. Factors that could influence level of involvement were not studied. Also, subject selection was limited to children 5-16 years of age who were enrolled in the State of Michigan public and private institutions during the school year 1975-76.

The following assumptions were made:

- 1) The data were a true representation of the population of Michigan school children since selection was random.
- 2) The subjects were honest in their responses.
- 3) The collected data were representative of the small percentage of subjects who failed to return completed questionnaires.

The investigator recognized potential weaknesses in the endeavor. One limitation of the study is that not all possible sports were listed on the questionnaire; therefore, the final rankings of sports pertain only to those included on the list. However, an exhaustive attempt was made with review by numerous persons to provide an inclusive, but reasonable, list of sports common to the State of Michigan. A second limitation is that changes in ranks that reflect the degree of sports involvement shown in these data may not be purely historical

when compared to previous studies. The variances could be due to geographical locale, sampling differences or methodological discrepancies in data collection among the studies. Thirdly, errors in the interpretation of sport categories by parents, students and teachers could have resulted. Finally, two modes of data collection were used. Parents supplied one part of the data, while older students themselves completed the questionnaire.

Definitions

Recreational or free-play sports will be used interchangeably to designate activities with no official teams, organized leagues or tournaments. These activities could be played in backyards, in the neighborhood, at the local playground, in a YMCA building, on the beach and other similar places. Recreational play may take place alone, with friends or with parents. It does not include school-sponsored programs or community-sponsored competition.

School-sponsored programs include activities of a competitive or recreational nature sanctioned by the school. Intramural (Within-school) and Interscholastic (Between-school) competition are both school-sponsored programs. Physical Education classes and unsupervised play periods are not school-sponsored competitive programs.

Agency-sponsored activities involve competition between individuals, teams, clubs or groups that are not sponsored by the school. Contests are played according to an approved set of rules under the supervision of officials, such as referees, umpires, timers and judges. Often, these sport clubs or teams are organized into leagues with a specified schedule of games to be played.

Play is a perplexing term and can be defined in terms of a motive, its content or its attributes. For purposes of this investigation, play is considered to be free behavior not motivated by an extrinsic reward (Ellis, 1973).

CHAPTER II

REVIEW OF LITERATURE

Indisputable differences on both physical and behavioral parameters exist between the means of the sexes in our society. These differences most likely are the bases for the disparity in motor skill acquisition between males and females and, hence, in the success-to-failure ratio in sport for children of opposite sexes. Continued participation in an activity is directly related to the amount of success attained by the individual. Therefore, recreational sport participation levels are probably highly diverse for girls and boys. It was the purpose of this review to: a) examine sexual variances in physical and behavioral factors that could influence sports involvement, b) determine sex and age differences in play and c) discuss the trends in male-female differences in recreational sport participation.

Physical Sex Differences

Structural discrepancies between the sexes are numerous. Greater height and weight and a more massive skeleton are characteristic of the male. In addition, the male has a larger muscle-to-fat ratio, a higher center of mass, greater proportional limb length, wider shoulders and a more frontal insertion of the head of the femur into the pelvis than the female (Simmons, 1944; Tanner, 1962; Gray, 1973). In skill performance, these characteristics provide the male with greater

mechanical advantages including a higher capacity for velocity and strength of motion and more efficiency in movements.

In addition to structural parameters, there are physiological factors that vary by sex and usually afford an advantage in performance to the male. The absolute work capacity of the average male is approximately 20% greater than that of the normal female. Even when capacity is corrected for body size, performances remain at 15% in favor of the male. Oxygen consumption, vital capacity, blood volume, hemoglobin levels, cardiac output and heart size per body mass all are lower in the female (Edington and Edgerton, 1976).

In general, these structural and physiological variances account for males excelling in sports requiring strength, endurance, power and agility while females are superior in movements that require balance and flexibility. Females also do well in sports where size and strength are not critical factors. Therefore, one would expect boys to have a higher incidence of participation in sports such as tackle football, basketball, baseball and wrestling and for girls to be more involved in activities such as swimming, gymnastics and figure skating. The Youth Sports Study of the State of Michigan (Youth Sports Report, 1976) presented data that support these sex differences in degree of sport participation. Table 2-1 shows partial data of agency-sponsored participation as presented in the Youth Sports Report. One can see that the percent involvement of males in the traditional male sports is much higher than that of females. Likewise, in the three sports more suited to the female constitution, the percentage of girls participating is higher than that of boys.

Table 2-1. Percent of Participation in Selected Agency-Sponsored Sports*

Sport	Male	Female
Baseball	34.3	6.5
Basketball	17.4	10.0
Tackle Football	12.7	2.4
Wrestling	6.8	2.0
Swimming	13.9	15.6
Gymnastics	4.9	9.6
Figure Skating	2.0	4.6

* Youth Sports Report, 1976, pp. 63 and 77.

Behavioral Sex Differences

The behavior of immature primates has been shown by several investigators to vary by sex (Harlow, 1962; DeVore, 1965; Hamburg, 1966; Edington and Edgerton, 1976). Infant male primates generally are rougher and more aggressive in play behavior and utilize large muscle groups in their activities; in contrast, the young female displays the tendency to withdraw from rough contact play. These differences have been recorded as early as two months of age in the monkey and seem to be related to hormonal effects on the central nervous system (DeVore, 1965; Edington and Edgerton, 1976).

Aggressive, independent behavior by the male species also has been demonstrated in numerous studies of human children (Spiro, 1956, 1958; Whiting, 1963; Slovic, 1966; Goldberg and Lewis, 1969; Jacklin

et al, 1973). In these investigations, boys (when compared to girls) exhibited greater willingness to take risks in games, demonstrated more active involvement in gross motor activities of an exploratory, vigorous nature and showed less frustration and more active attempts to overcome barriers when confronted with them.

Moreover, the behavior of girls was directed toward fine motor activities and was calmer and more regressive than the actions of boys. Goldberg and Lewis (1969) recorded barrier frustration and crying in the female as well as more dependence on and contact with the mother in a controlled play situation. These male-female differences in play behavior occurred as early as 13 months of age and could possibly be related to a nuance in the mother-child relationship for a male versus that of a female child at 6 months of age (Goldberg and Lewis, 1969; Kagan and Lewis, 1965).

In addition to behavior variances, thinking styles have been contrasted between the sexes. Fourth grade boys were guarded, evasive and matter-of-fact in their cognition. They also seemed to limit their responses to the task demands or rules. Thinking styles of the girls tended to be more imaginative, introspective, creative and responsive to task changes (Minuchin, 1966).

From these data on sex differences in behavior and thinking styles, a researcher might predict higher male involvement in contact and high-risk sports; while, greater female participation in individual, creative situations would be expected. The reader again is referred to Table 2-1 (p. 10) for one confirmation of this prediction in competitive situations for children 5-16 years of age. Additional support for this contention will be discussed in the section pertaining

to sex differences in recreational play activities.

Sex Differences in Play

Sport interest differences between the sexes have been demonstrated in four major studies (Crosswell, 1898; McGhee, 1900; Terman, 1926; Sutton-Smith and Rosenberg, 1961). Each of these investigations yielded rank order lists and frequency counts of the most popular games played by each sex. The number of questionnaire items ranged from 90 in Terman's 1926 study to 500 in Crosswell's 1898 report. In order to ascertain the relevance of these data to the present endeavor, this researcher excerpted only those sports common to the study at hand and their respective rankings from each check-list and computed a percentage of participation for each activity. Results of this effort were placed in Table 2-2.

The reader is cautioned about the limitations involved when viewing these data historically (Sutton-Smith and Rosenberg, 1961). Each of these studies was conducted in a separate geographical locale; Massachusetts, South Carolina, California and Ohio. Data were collected differently. In 1898, children listed their activities from memory while in the later three studies, a prepared list was marked by the subjects. Finally, the resultant rank order lists could be affected by the variance in composition of each survey. Therefore, it behooved us to ignore some of the activities and to look at only the sports, as our data then could verify or refute the perceived historical changes in sport participation between the sexes.

These rank order lists (Table 2-2) indicated considerable reduction in differences between the sexes in a 62 year span.

Table 2-2. Historical Change in Recreational Sport Participation*

Boys			Girls		
Sport	Rank	Percent	Sport	Rank	Percent
<u>(1898 - Massachusetts)</u>					
Ball	1	68%	Skating	5	41%
Skating	4	54%	Bicycle	27	9%
Football	5	46%	Tennis	52	3%
Hockey	8	31%	Swimming	78	2%
Bicycle	15	16%	Hockey	120	.8%
Swimming	17	12%	Horseriding	149	.4%
Tennis	39	5%			
Horseriding	115	.7%			
Golf	155	.4%			
<u>(1900 - South Carolina)</u>					
Baseball	1	68%	Tennis	18	8%
Football	2	56%	Baseball	30	5%
Swimming	3	24%	Football	54	3%
Tennis	22	5%	Basketball	63	2%
Basketball	26	4%	Swimming	71	1%
Wrestling	37	3%	Golf	106	.6%
			Wrestling	129	.1%

* Adapted from Crosswell, 1898; McGhee, 1900, Terman, 1926; and Rosenberg and Sutton-Smith, 1960.

Table 2-2. (Continued)

Boys			Girls		
Sport	Rank	Percent	Sport	Rank	Percent
<u>(1926 - California)</u>					
Baseball	1	94%	Bicycle	3	84%
Bicycle	2	87%	Baseball	4	83%
Football	9	72%	Basketball	6	80%
Basketball	12	69%	Skating	9	78%
Skating	14	64%	Volleyball	18	55%
Volleyball	16	63%	Horseriding	27	49%
Horseriding	17	62%	Swimming	42	33%
Boxing	18	62%	Tennis	45	32%
Wrestling	19	61%	Handball	49	29%
Swimming	26	53%	Archery	61	18%
Archery	29	49%	Football	64	16%
Handball	35	40%	Wrestling	70	12%
Tennis	43	33%	Boxing	79	8%
Soccer	51	27%	Bowling	82	6%
Bowling	77	14%	Skiing	87	5%
			Soccer	88	4%

Table 2-2. (Continued)

Boys			Girls		
Sport	Rank	Percent	Sport	Rank	Percent
(1960 - Ohio)					
Football	1	89%	Bicycle	4	88%
Bicycle	3	88%	Rollerskating	7	85%
Basketball	5	86%	Swimming	11	83%
Swimming	8	83%	Skating	19	80%
Baseball	9	82%	Horseriding	29	71%
Horseriding	26	75%	Basketball	39	68%
Iceskating	28	73%	Table Tennis	40	68%
Wrestling	31	71%	Baseball	57	62%
Table Tennis	36	70%	Volleyball	62	61%
Boxing	41	68%	Tennis	66	59%
Bowling	45	65%	Bowling	83	52%
Volleyball	51	61%	Archery	98	43%
Tennis	54	58%	Football	102	42%
Soccer	93	42%	Handball	122	30%
Handball	108	37%	Soccer	126	28%
Skiing	109	36%	Skiing	132	24%
			Wrestling	133	23%
			Boxing	153	14%

Sutton-Smith and Rosenberg (1961) reported rank order correlation coefficients (ρ) between the sexes of $-.023$ in 1900, $.328$ in 1926 and $.451$ in 1960 for the entire lists. Relationships between the sexes were judged to range from little to slight to moderate, respectively. This author assumed that ρ for the modified tabulation of sports only was similar to those obtained for the complete lists.

Inspection of Table 2-2 reveals that females have included a greater variety of activities in their play; whereas, the list for the males is more restrictive. Invariably, top-ranked male activities indicated a high percentage of involvement in football, baseball and basketball with some swimming and bicycling. However, for girls, the top sports still were ranked below the ones for boys, indicating participation in play activities other than sports (e.g. dolls). The lists for girls also included more activities than did the boys' lists. Skating, bicycling, tennis, swimming, volleyball, and in 1921, baseball were among the top sports chosen by female participants. However, more sports were ranked in the top 20 playtime activities by boys than by girls. Lehman and Witty (1927) found that girls had no true sports in their play activities list, although they enjoyed dancing and performing basic fundamental motor skills. Boys in the same study marked eight sports as dominating their recreational life.

Swimming was the one sport that showed a definite increase in similarity between the sexes. Female participation moved from 10 and 24 percentage points behind the males' in 1898 and 1926, respectively, to equal that of the males at 83% in 1960. Also, while the rank position of swimming moved up from 17th in 1898 to 8th in 1960 for males, a change of 67 ranks from 78th to 11th occurred for females

during that time.

Drastic changes that discriminated between the sexes occurred in another sport. Although rank position for soccer dropped on the list for both sexes, male participation increased 150% between 1926 and 1960. However, female involvement in soccer jumped seven fold during that 34 year span of time.

Careful inspection of the data revealed that profound transformations occurred in the type of sport a girl played. In the two earliest studies, rough contact sports accounted for 5% or less of the female involvement. Participation levels increased in 1926 to 83% (Baseball), 80% (Basketball), 16% (Football), 12% (Wrestling) and 8% (Boxing). Furthermore, in 1960, the traditional male sports of basketball, baseball, football, wrestling and boxing accounted for levels ranging from 68% to 14%.

Sutton-Smith and Rosenberg (1961) stated it was possible that the female willingness to participate in the conventional masculine sports had an upper limit. They reported that in six major sports (Bowling, football, basketball, baseball, wrestling and boxing) in 1926, the girls' preferences were closer to those of boys when compared to the first two lists. But, that in 1960, the ranks moved farther apart again, indicating the female aversion to continued play of distinctive masculine games. While this researcher agrees that view may be correct, she believes the rank differences result more from the tendency of females to participate in a larger variety of activities throughout the year in contrast to the tendency of males to become highly involved in a seasonal sport such as baseball, football or basketball. It was recorded that boys showed more seasonal

change in their play than did females because of this tendency (Lehman and Witty, 1927).

The extension of the list of female participation in play activities has been documented by others (Rosenberg and Sutton-Smith, 1960). In a study of 187 children in grades four to six, it was found that boys had fewer games that differentiated them from girls than girls had activities that separated them from boys. An increasing female preference for items that were formally male was noted, as well as an increase in the number of games relegated to the neutral or mixed-sex group. A confinement of the male list resulted. This finding was in direct contrast to that of earlier researchers who noted greater variability of the play for the male at all ages (Lehman and Witty, 1927).

Age Differences in Play

Low organization activities such as running and chasing dominate the early years of a child's play life (Crosswell, 1898). Motor development specialists have stated that basic locomotor patterns and eye-hand coordinations are learned and perfected during the years from two to six (Espenschade and Eckert, 1967, p. 105). Lehman and Witty (1927) reported data for children 5-8 years of age who were enrolled below grade three in school. Only two sports, baseball and football, were played by boys over that entire age range. Basketball participation was added at age 7 years. Data for girls revealed that baseball was the only sport participated in from the 5-8 year span. It appears logical, then, that sport participation would be lower at the younger stages and higher with increasing chronological

ages.

The developmental nature of involvement in skilled pastimes and major sports has been documented by several investigators (Crosswell, 1898; Furfey, 1926; Lehman and Witty, 1927; Hurlock, 1934; Sutton-Smith, 1959; and Sutton-Smith and Rosenberg, 1961). After eight years of age, competitive play becomes popular as organized athletics begin to predominate. Further verification of these data was found in an investigation of agency-sponsored competition (Youth Sports Report, 1976). These scientists found that the incidence of participation rose around eight years of age in most sports for both sexes. In later youth, games of skill increase and play activity at adolescence is governed by strict rules and regulations in the form of games and athletic contests. Sutton-Smith (1959) stated that practically all play activity of children 11 years of age or older was channeled into organized sports and that games of skill were played most by older children and males.

Heavy involvement in sports by males 8-15 years of age was documented by Lehman and Witty (1927). The list of games in which males participated consisted mostly of team sports, with baseball and football ranked first, second or third throughout the age span. From ages 11-13, the composition of recreational sports changed. Boxing and horseback riding fell into desuetude as participation in tennis began at 13 years of age. For the next three years (14-16), tennis was ranked seventh, eighth or ninth on the list of most popular activities chosen by males.

Female sport participation, taken from the same study, was low across the ages of 8-15 years. Roller skating, ranked from second

to sixth, was listed during the 8-13 ages while basketball, ranked from third to sixth, was marked from 11-15 years of age. An item associated with sport, "Doing Gymnasium Work," was ranked fifth or sixth on the list from ages 12-15 years. Although their sport participation was lower, the group of girls from 14 1/2-18 1/2 years of age were engaged in slightly more activities than were males.

Support for the contention that girls are involved in more activities than boys was found at even younger ages by other investigators (Sutton-Smith et al, 1963). They reported that play scale items were equally distributed between the sexes at the third grade level (approximately eight years). A sudden shift occurred at grade four with more items differentiating girls from boys. In another research effort, the participation curves for boys and girls deviated most from 8 1/2-10 1/2 years of age for the entire range of play activities (Lehman and Witty, 1927). Therefore, variances between the sexes in sport participation could be expected to appear at 8-10 years.

Sex differences in play appeared greatest at the younger ages (Lehman and Witty, 1927). As chronological age increased, degree of variation in activities decreased until sex differences no longer were pronounced at higher age levels. Peak participation levels were shown for recreational activity (Eiferman, 1971) and for agency competition (Youth Sports Report, 1976) with the percentage of participants in competitive, rule-governed games increasing to age 11-12 years, followed by a decrease. In addition, lower levels of sport involvement for both sexes were recorded at 16 years of age (Lehman and Witty, 1927). Ranks depicting sport involvement of males evidenced a drastic drop to participation in only four sports: a) basketball

ranked first, b) football ranked second, c) baseball ranked third and d) tennis ranked fourth. Similarly, the ranks reflective of female sport participation in the same study indicated no major sport preferences at 16 years.

Trends in Male-Female Play Differences

Recently, active games have been played by younger children (Sutton-Smith, 1959). This is especially true of girls, who have played the more active games at earlier ages. Rope jumping, bicycle riding and roller skating have taken priority over the more sedentary activities of playing with dolls or pretending to keep house or teach school (Sutton-Smith and Rosenberg, 1961). Female participation in sport probably has increased due to greater encouragement to and acceptance of becoming involved in competition or physical activity. Therefore, one might hypothesize that incidence of participation for girls, like that for boys, in recreational sports would begin at earlier ages than indicated by previous investigations and that involvement might peak later and last longer, beyond the usual peak at 11-12 years of age, if indeed earlier practice in sports skills is crucial to life-long participation.

Summary

Several factors that could influence play differences between the sexes were discussed. Structural, physiological and behavioral parameters were reviewed briefly and implications for effects on sport involvement were noted. Sex and age differences in recreational play activities, with a particular emphasis on sports and skilled games, were reported historically over a 62 year span. Some data

from agency-sponsored programs were added to the review. Finally, current trends in free-play sport participation were noted.

Generally, the structural and physiological factors that differ between the sexes account for males excelling in sports requiring power, strength and agility; while, females are better in balance and flexibility movements. Research has shown that males participate more in contact sports while females are more involved in individual activities.

Behavioral and thinking styles vary between the sexes. Males show aggressive, independent behavior and are more willing to take risks. Females are calmer and more regressive, but creative. Therefore, a researcher might predict higher male involvement in contact and high-risk sports; while greater female participation in individual, creative situations would be expected.

Inspection of historical data indicated that considerable reduction in play differences between the sexes has occurred. Females have gradually expanded their variety of activities, while the list for males has become more restricted. There has been an increasing female preference for sports that were formally male.

The developmental nature of involvement in skilled pastimes and major sports was discussed. Low organization activities at early ages gave way to competitive athletics around 8 years of age. This athletic involvement peaked from 11-12 years of age and then declined. Trends in play differences indicated that younger children are becoming more involved in sports and active games and that this participation lasted longer and peaked later. Also, female participation in sport has increased greatly.

CHAPTER III

RESEARCH METHODS

The specific aims of this thesis were: a) To determine sex and age differences in frequency and type of participation in recreational sports and b) To compare current trends in the sports participation of males and females to activity patterns over the last eighty years. The data used to indicate change in participation levels were based on the results from four previous studies (Crosswell, 1898; McGhee, 1900; Terman, 1926; Sutton-Smith and Rosenberg, 1961). Sport involvement of Michigan school children between the ages of 5-16 years was surveyed. Since sports and games are considered one barometer whereby cultural change can be measured, and since attitudes toward the role of females in society have been altered drastically in recent years, it was timely to examine current patterns of sex and age differences in free-play sport activities.

Background of the Study

The current investigation was one portion of a larger endeavor, The Youth Sports Study of the State of Michigan, that sought to obtain accurate descriptive data concerning participation in four types of sports programs: a) recreational, b) intramural, c) interscholastic and d) agency-sponsored. Primarily, The Youth Sports Study was designed to assess the impact of athletic competition on children and

youth in Michigan and was projected to involve three phases of inquiry. Phase I was devoted to the procurement of data on the incidence of recreational and competitive sports participation in the State of Michigan. Phase II was designed to secure information pertaining to physical conditioning, social dimensions and medical aspects of agency-sponsored youth sports programs. The purpose of Phase III was to formulate recommendations and guidelines based on evidence of beneficial and detrimental effects of community-sponsored competitive programs. For a detailed review of the concerns involved in each phase, the reader is referred to The Youth Sports Report to the Joint Legislative Study on Youth Sports Programs (1976).

A consortium of universities was commissioned by the Michigan State Legislature to accomplish the stated goals. Representatives from Michigan State University, The University of Michigan, Northern Michigan University and Wayne State University assisted in the task of preparing a formal proposal to the Joint Legislative Study Committee on Youth Sports Programs. After acceptance and approval of the proposal by the committee, the universities began the task of detailing study procedures for Phase I. The remainder of Chapter III deals with the stepwise operations followed during the conduct of the study.

Sampling Procedures

Methods used in determining a valid, random sample were extremely complex. For ease of organization and understanding, this section has been sub-divided into nine portions. Steps in sampling procedures and subject selection are described fully in each segment.

Preliminary Information

During the 1974-75 academic year, approximately 2,313,477 students (grades k-12) were enrolled in Michigan's public and private schools. This figure, determined from the Michigan Department of Education and the Michigan Education Directory Buyer's guide, was slightly lower than the actual enrollment as data for a few private schools were not available. Because the total number of missing students was estimated to be quite small, sample selection was not deemed to be affected significantly. It should be noted here that, although the population consisted of children in grades kindergarten through 12, students in the 12th grade were not included in the sample. This procedure was followed because the age span of interest was 5-16 years. Thus, the estimated population figure was high; and therefore, the resulting sample drawn for the study actually was higher than the 5% representation intended.

Sampling Criteria

The Universities Study Committee decided that the sample should consist of children ages 5-16 years who were enrolled in Michigan public and private schools. It was determined further that the sample should be representative of the school population in terms of:

- a) geographic location, b) population density, c) school district size, d) socio-economic status, e) ethnic background, f) age and
- g) sex.

A statistically necessary and sufficient sample was calculated to be one-tenth of one percent of all school children in Michigan. However, the sample size arbitrarily was raised to ensure adequate

representation of a few sports with estimated low levels of involvement. Feasibility, including practical considerations of time, money, personnel and data analysis, was considered; after which, a 5% sample (approximately 115,200 subjects) was approved. It was determined that subjects would be drawn from 89 school districts across the state. This cross-sectional sample included about 15.5% of all Michigan school districts.

Geographic Regions

The state was divided into 10 regions according to geographic location and population density. This procedure was followed to expedite sample selection and to stratify by the criteria of geographic locale and population size. Figure 3-1 identifies these regions, the school population and the percent of the total population within each region.

Basic Sample Unit

Using the set age limitations of 5-16 years, a basic sample unit of 24 classrooms (2 classrooms x 12 grades) was established. With approximately 24 students per classroom, each basic sample unit represented 576 children (24 children x 24 classrooms). Therefore, in order to acquire the desired 5% representative sample of 115,200 children, approximately 200 basic units were required ($115,200/576 = 200$). Table 3-1 (columns 1-5) shows the final allocation of basic sample units to geographic regions. Note that 201 units actually were formed in order to achieve proportional regional representation.

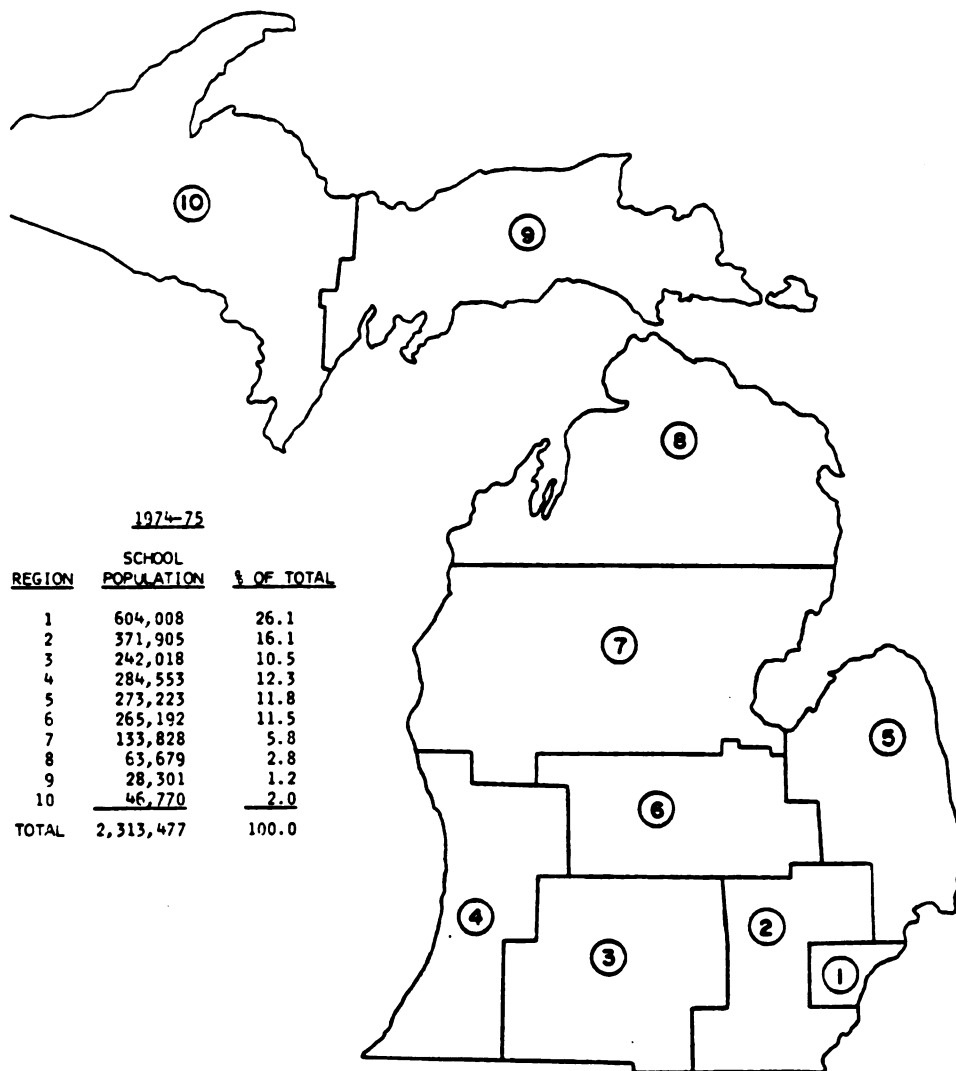


Figure 3-1. Regions, School Populations and Percent Total Population in Each Region

Taken from the Youth Sports Report (1976), p. 37.

Table 3-1. Allocation of Basic Sample Units by School Population
According to Region

Region	School Population	% of Total	200 Units	Assigned No. of Units	No. of Districts Used
(1)	(2)	(3)	(4)	(5)	(6)
1	604,008	26.1	52.2	52	13
2	371,905	16.1	32.2	32	16
3	242,018	10.5	21.0	21	10
4	284,553	12.3	24.6	25	11
5	273,223	11.8	23.6	24	11
6	265,192	11.5	23.0	23	10
7	133,828	5.8	11.6	12	6
8	63,679	2.8	5.6	6	6
9	28,301	1.2	2.4	2	2
10	46,770	2.0	4.0	4	4
Total	2,313,477	100.1	200.2	201	89

Selection of School Districts

School districts within each region were ordered by size from the largest to the smallest. The districts then were grouped by approximate multiples of 11,570 students. This figure represents the approximate number of students from which each basic unit would be drawn ($2,313,477/200 = 11,570$). The following arbitrary decisions were made in order to reduce the number of school districts to a reasonable number for study: a) School districts from regions 1-7 (i.e. regions having a total school population greater than 100,000) would be grouped so as to permit the assignment of a minimum of two basic sample units to each district selected. b) School districts from regions 8-10 (i.e. regions having total school populations of less than 100,000) would be grouped so as to permit the assignment of a minimum of one basic unit to each district selected.

Whenever it was necessary to combine two or more school districts to achieve a student population with a multiple of 11,570 one district was selected randomly from the group as the district to be included in the Youth Sports Study. Eighty-nine school districts were selected for study by this procedure (Table 3-1, column 6). The specific districts selected for participation in the study are listed in the Appendix B and the areas of sampling responsibilities for each university are indicated in Figure 3-2.

Contact with Superintendents

A letter was sent to the superintendents of each school district selected in the sample. This letter requested written approval for the participation of the district in the study. In addition, the

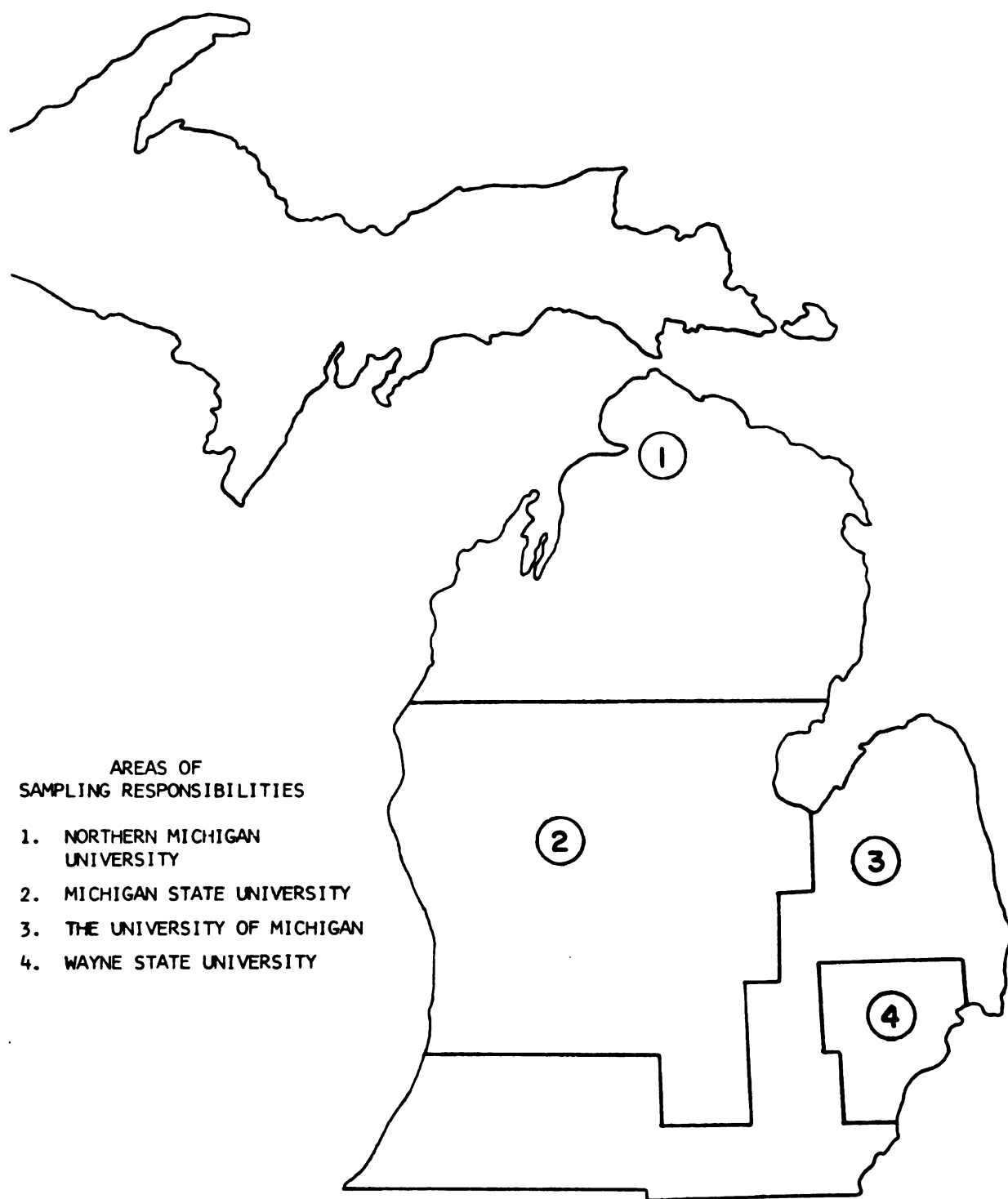


Figure 3-2. Area of Sampling Responsibilities

Taken from the Youth Sports Report (1976), p. 41.

identification of all private schools within the geographical limits of a particular public school district was requested.

Selection of Alternate School District

A procedure was outlined for the replacement of a school district that declined to participate in the study. This procedure involved choosing a substitute district from the same geographic region as the district that was selected originally. The district with a student population most nearly equal to that of the original district was designated as a potential replacement. Only nine of the originally selected districts refused to cooperate and had to be replaced.

Selection of Representative Schools Within Districts

The selection of representative schools within each district was done on a subjective basis in cooperation with the superintendent or a designated representative. Schools were selected to reflect the matriculation of a particular group of students from elementary school to high school and to be representative of the district according to the following criteria: a) socio-economic levels, b) ethnic groups and c) geographical areas within the district. The number of classrooms needed per grade per school was dependent upon the number of basic units assigned to a district. For example, a two-unit district would need four classrooms per grade. Therefore, a common breakdown of a two-unit district, including schools and classrooms per grade, was as follows:

- a) One senior high school - four classrooms per grade
- b) Two junior high schools - two classrooms per grade per school

- c) Four elementary schools - one classroom per grade per school.

Private School Selection

Approximately 7% of the total sample units were designated for private schools (14 units). These private schools were chosen on the basis of geographical location and population density (Appendix B).

Research Design

The research model used was the administration of a questionnaire pertaining to degree of sports participation. A random sample of students 12-16 years of age and parents of children age 5-11 years completed the descriptive survey and returned it to the schools. The data then were retrieved, processed and analyzed. Frequency counts and percent participation figures then were computed, tabled and graphed in order to ascertain the degree of involvement of children in sports.

Conduct of Treatments

Protocol for data collection involved a series of preliminary steps. Superintendents of school districts were contacted by telephone to arrange a meeting within their districts for the purpose of distributing the questionnaires and selecting the participating schools. Steps were taken to ensure that the appropriate numbers of questionnaires were packaged and labeled by grade prior to the initial on-site visit.

On-site procedures mandated that the purpose of the study and the objectives of Phase I were explained to each superintendent or

designee. Each superintendent was informed of the school district's role in obtaining data for the study. The procedures for administration of the K-5 (parent) and 6-12 (student) questionnaires were discussed with regard to the teachers' roles in the administration of the survey instrument. Special emphasis was placed on the following:

a) Elementary teachers should follow-up on delinquent questionnaires and provide a second questionnaire if the first one was not returned within five days. b) All teachers should indicate the race of the child on each of the questionnaires (for a list of all specific directions to the teachers, see Appendix C).

Schools were selected as outlined previously and recorded for future reference on a demographic data sheet. The questionnaires were distributed to the selected schools by the superintendent or his/her designee. The principals of selected schools then arbitrarily selected classrooms that were representative of each grade (i.e., freshman English, junior history, etc.) for participation in the study. It was determined that all questionnaires should be returned to the superintendents within three weeks and arrangements were made for retrieval of the questionnaires by the University Study Teams.

Independent Variables

One extraneous variable, season of administration, could have been a confounding influence on the amount of sport participation reported. In order to eliminate the possible effects of this variable, the subjects were asked to mark incidence of participation over the past year for each sport. On the other hand, one investigator determined that season of the year had no effect on games chosen

(McGhee, 1900).

Other independent variables that could have affected the results were: a) geographic location, b) population density, c) school district size, d) socio-economic status, e) race, f) age and g) sex. These possible factors were accounted for in the establishment of sampling criteria (p. 25). Adequate control of the extraneous variables was provided by stratifying the random selection of subjects.

Dependent Variables

Level of participation in each sport was chosen as the dependent variable. Involvement was quantified via use of a questionnaire developed by members of the study teams. Responses on the dependent variable were categorized into three values: a) Never, b) Sometimes and c) Often and could be measured by either a frequency count or percentage figure.

Processing the Data

A research endeavor of this magnitude made data processing a tedious, time-consuming task. As has been described previously, the data were retrieved from the school districts and each questionnaire was checked for missing information. The nature of the missing data was recorded on a separate form for each school (Appendix D) and an additional visit or telephone call was made to the district in an attempt to obtain the necessary information. Once the missing data were received, they were recorded on the corresponding questionnaires and re-filed for keypunching.

The number of returns and percent of responses were calculated by counting the usable returns within each district, by school and

grade, and relating those values to the number of questionnaires that were distributed. The results were noted on a tabulation sheet (Appendix E). This process facilitated the determination of the percent response by class, grade, school and district, and statewide by grade, school type and community type.

Once the data on the questionnaires were as complete as possible, the identification data on the individual instruments were hand-coded according to the format shown in Figure 3-3. Each card had data categories and sub-categories.

Each sport activity listed on the questionnaire had previously been assigned a code number (Appendix F-1). To the right of each listed sport were two sets of numbers (i.e., Archery (1-26)). The first number indicated which data card (1 or 2) received the data for a particular sport and the second set of numbers indicated which column was punched for that sport. Note that free-play and intra-mural sport activities were assigned to card 1. Inter-scholastic and agency-sponsored sports were punched on card 2 (Appendix F-2). For each activity a 1, 2 or 3 was circled corresponding to the level of participation as follows: 1 = Never, 2 = Sometimes and 3 = Often.

After the data were coded, another member from the research team checked the coding for its accuracy. Once the verification process was completed, the data were key-punched directly from the questionnaires onto data cards. The responses for each subject were recorded on two cards. Personnel from each university were responsible for verifying their own key-punched cards according to the following process:

- 1) Punched cards were divided by school district.

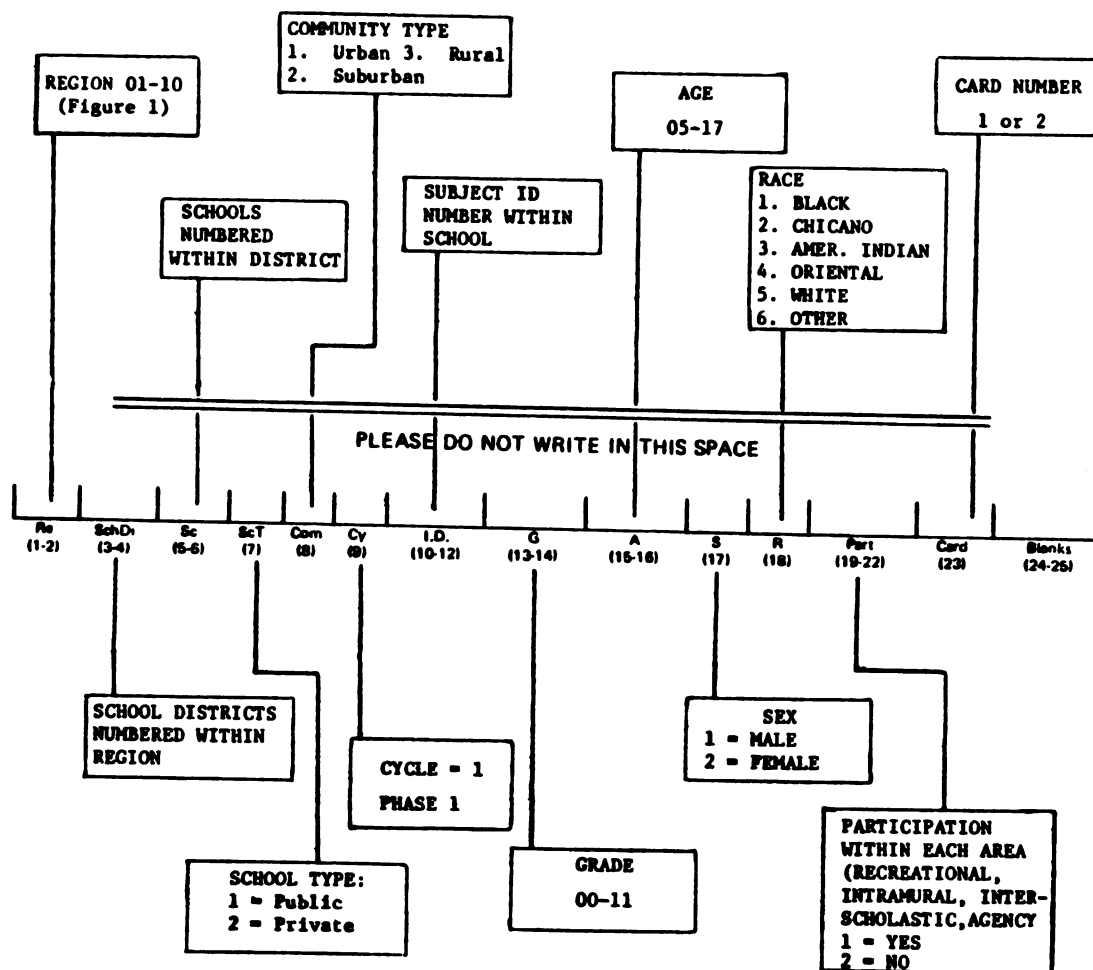


Figure 3-3. Example of Hand-Coding of Identification Data

Taken from the Youth Sports Report (1976), p. 46.

- 2) Each district was sorted by grade.
- 3) The data were listed.
- 4) The number and sequence of cards for each subject were verified.
- 5) Key-punch errors of the following types were checked and corrected.
 - a) Letters instead of numerals
 - b) Special characters
 - c) Incorrect column alignment
 - d) Blank spaces
- 6) A corrected data listing was obtained.
- 7) Card drawers containing the corrected data were labeled and marked.
- 8) A master list was constructed that contained the school numbers within each district for the statewide analysis.

To expedite the analysis of the statewide study all data cards then were transferred to Michigan State University for central storage, while the Study Coordinators from Northern Michigan, The University of Michigan and Wayne State University each retained and filed the questionnaires for their respective areas. All data were analyzed via the SPSS (Statistical Package for the Social Sciences) system on the CDC (Control Data Corporation) 6500 computer at Michigan State University. The specific program used for the study was CROSSTABS, a joint frequency count percentage distribution of cases according to classificatory variables, which provided a separate table for each sport within each stratification.

Each table included a cell within the stratified dependent

variable (i.e., Never, Sometimes, Often--see Appendix G). Three items were recorded in each cell; a) the count of students at that level, b) a row percent that indicated the percentage of participating students at that level, and c) a column percent that designated the percentage of students at that age or grade who participated at that level. Total counts, row percents and column percents were available at the bottom and side of each table.

Numerous preliminary trials of the Crosstabs program were scrutinized over a period of two months. These analyses utilized sample decks of "dummy data" and the outputs were hand-checked to ensure proper recoding and handling of each variable and transformation.

After verification that the computer was reading and analyzing the data accurately, the data from each school district were analyzed separately to obtain individual district outputs. These results again were scrutinized for errors. The cards of each school district were then read onto a separate disc file for temporary storage. At this stage of the data processing, the files again were scanned for errors in card sequencing (i.e., Subject 1: cards 1, 2; Subject 2: cards 1, 2; etc.) and corrected or recreated when errors were detected. When all the files had been verified to be error-free, the disc storage was transferred to magnetic tape for permanent storage. An additional copy of the total tape was retained for security reasons. The final step involved listing of the data recorded on the magnetic tape. After the listing was reviewed and judged to be accurate, the temporary files were purged and the statewide analyses proceeded.

Solution of Subproblems

A questionnaire was constructed in order to obtain an overall picture of the sports participation by Michigan children and youth. It was determined that sports would be surveyed in the following four areas: a) Recreational or Free-Play Activities, b) Intramural Activities, c) Inter-scholastics Activities and d) Agency-Sponsored Activities.

Recreational or Free-Play Activities

These activities were defined as those sports most often played by boys and girls on an informal basis. This means that official teams, organized leagues and tournaments were not included in recreational sport activity. The informal nature of recreational sport implies that it could have taken place in back-yards, in the neighborhood, at the local playground, on the beach, or in other similar places. Recreational play might have taken place alone, or with other children or adults.

Intramural Sport Activities

Such activities included all school-sponsored sport activities of a competitive or recreational nature that did not involve competition with other schools or did not take place during the regular physical education classes. Examples of this type of activity are flag football competition between homerooms of a particular school, and a special interest group such as gymnastics, that met on a regular basis.

Interscholastic Sport Activities

Interscholastic sport activities were identified as those sports that involved competition between teams from different schools. An example is a football team from one school playing the football team from another school.

Agency-Sponsored Activities

Community-sanctioned sports included those programs involving competition between individuals, teams, clubs or groups that were not sponsored by the school. To be considered agency-sponsored, contests must have been played according to an approved set of rules under the supervision of officials. Examples of such programs would be Little League Baseball and A.A.U. Swimming.

An assessment of the degree of participation in any given sport was determined by three possible responses (see Appendix A). The subject was given the choice of answering: a) Never, b) Sometimes or c) Often. Each of the responses was defined specifically for the four areas surveyed. Subjects were asked to respond only in terms of their or their child's participation in sports during the last 12 months. For recreational activities, a "Never" response signified no participation within a 12 month period. A "Sometimes" response indicated that the sport was played from one to three times during the last 12 months, and an "Often" response meant that participation occurred four or more times during the previous year.

All members of the study teams provided input for establishing an appropriate list of sports for each section of the survey instrument. Common knowledge, reasoned judgment and consultation with

knowledgeable organizations such as the Michigan High School Athletic Association provided sources from which to add or delete certain sports. The final lists of sports chosen for the questionnaire appear in Appendix A.

Pilot Testing of the Survey Instrument

To determine its effectiveness, the questionnaire was pilot tested in the following communities; a) Dexter Public Schools, b) Gwinn Public Schools c) Marquette Public Schools, d) Okemos Public Schools, e) St. Johns Public Schools and f) Ypsilanti Public Schools. The questionnaire was administered across all grade levels in a variety of situations with the personnel from each of the four universities assessing distinctly different methods of administration. Post survey interviews with teachers and selected students then were conducted to provide answers to the following concerns: a) length of time to complete the questionnaire, b) clarity of directions, c) ease of administration, d) comprehensiveness and validity of responses by students in each grade and e) appearance and format of the questionnaire.

Based upon the cumulative results of pilot testing, the following recommendations were included in the final revision of the survey instrument:

- 1) Detailed instruction should be provided for the teachers who were to administer the questionnaire (Appendix C).
- 2) The four areas of sports participation should appear in the questionnaire in the following order: a) recreational, b) intramural, c) interscholastic and d) agency.

- 3) The list of specific sports should be revised to facilitate completion of the questionnaire within a 10-15 minute time span.
- 4) Questionnaires for grade K-5 should be sent home to the parents for completion due to the difficulty that elementary school-aged children had with the various items.
- 5) Questionnaires for grades 6-11 could be completed by the students in the classroom.

Summary

Research methods were extremely detailed and followed meticulously. Approximately 1 1/2 years were spent in planning and organizing the procedures and in collecting and analyzing the data. About 115,200 subjects, a 5% sample of Michigan school children ages 5-16 years were chosen randomly. The sample was stratified by geographic locale, population density, school district size, socio-economic status, race, age and sex.

Two questionnaires (parent, student) were constructed by the research teams. Pilot testing to determine the effectiveness of the instruments occurred in six communities. Final revisions then were made.

Collection of data was achieved through administration of questionnaires by the teachers in individual classrooms of selected school districts. Parents of children in grades K-5 and students in grades 6-11 completed the survey items. The level of participation (Never, Sometimes, Often) marked by the subject for each sport was used as the dependent variable. After the data were processed,

coded, key-punched and checked, they were analyzed via the CDC 6500 computer at Michigan State University.

CHAPTER IV

RESULTS AND DISCUSSION

This study investigated the recreational sport interests of Michigan school children who ranged in age from 5-16 years. Data were obtained via questionnaires that were administered in the classroom to students between the ages of 11-16 years, while parents of children aged 5-10 years completed identical forms of the questionnaire in their homes. Results were used to: 1) define the extent of participation in recreational sports, 2) categorize sports as predominately male or female, 3) reveal historical trends in recreational sport participation and contrast those trends by sex and 4) determine age level trends for each sex in their leisure involvement.

In this chapter, the percent response to the questionnaire will be reviewed first. The data from each of the above sections will then be presented, the results described and statistics provided where meaningful. Finally, a discussion of the results will explore possible reasons for the reported trends and draw implications for future activity programs.

Responses to the Questionnaire

Percent response for this study has been documented fully elsewhere (Youth Sports Report, 1976) and will be reviewed only briefly in this section. The total number of questionnaires actually

distributed was 109,625 or 4.74% of the students enrolled during the 1974-75 school year. Overall statewide returns were 74.8% for parents and 100.0% for students for a combined total of 85.7%. No substantial differences in percent response occurred by school type (Public, Private) or by community type (Urban, Suburban, Rural).

Extent of Participation in Recreational Sports

Males and females are actively involved in many recreational sports. Numerical totals of participation in those sports are shown alphabetically for males in Figure 4-1 and for females in Figure 4-2. The oblique lines in each bar represent that portion of the total sample who participated "OFTEN" in the sport. "OFTEN" indicates that the individual played the sport four or more times during the 12 months preceding the administration of the questionnaire. The percentage of subjects who were involved only "SOMETIMES" (1-3 times during the year) is represented in the clear part of each bar. The two figures inside each bar refer to the actual number of students who participated either "SOMETIMES" or "OFTEN," while the left ordinate shows the percent of the usable sample of the 89,627 subjects who indicated that they were involved in that sport.

Degree of Participation by Sex

It appears that boys and girls are involved in a variety of recreational sports and are quite active in them. Participation in two sports (bicycling, swimming) approached or exceeded 90%, while that in several other sports (e.g. basketball, softball, roller skating) was over 70%. All 35 recreational sports, ranked according to degree of total participation (combined "SOMETIMES" and "OFTEN")

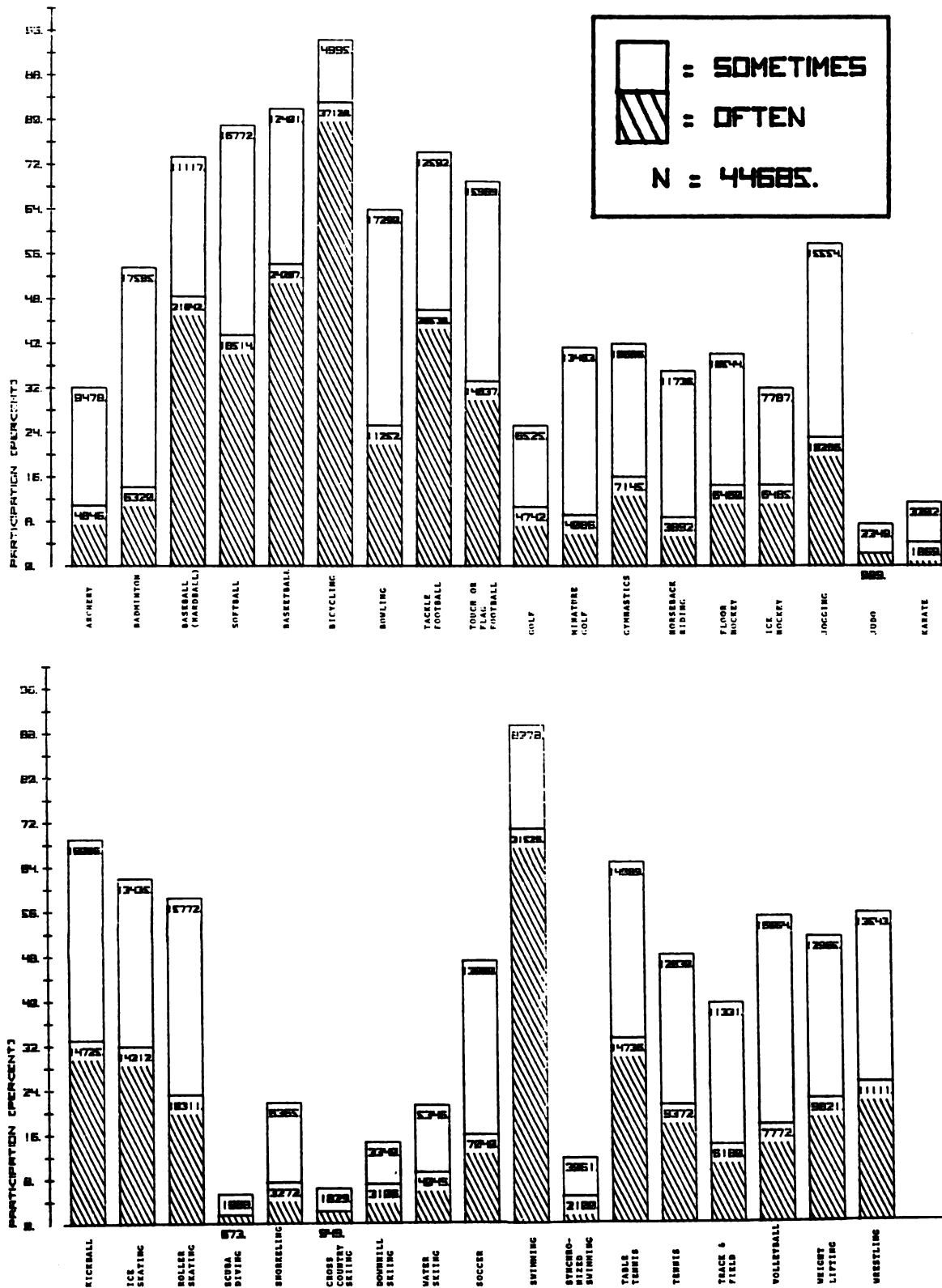


Figure 4-1. Statewide Total Male Participation: Independent of Age

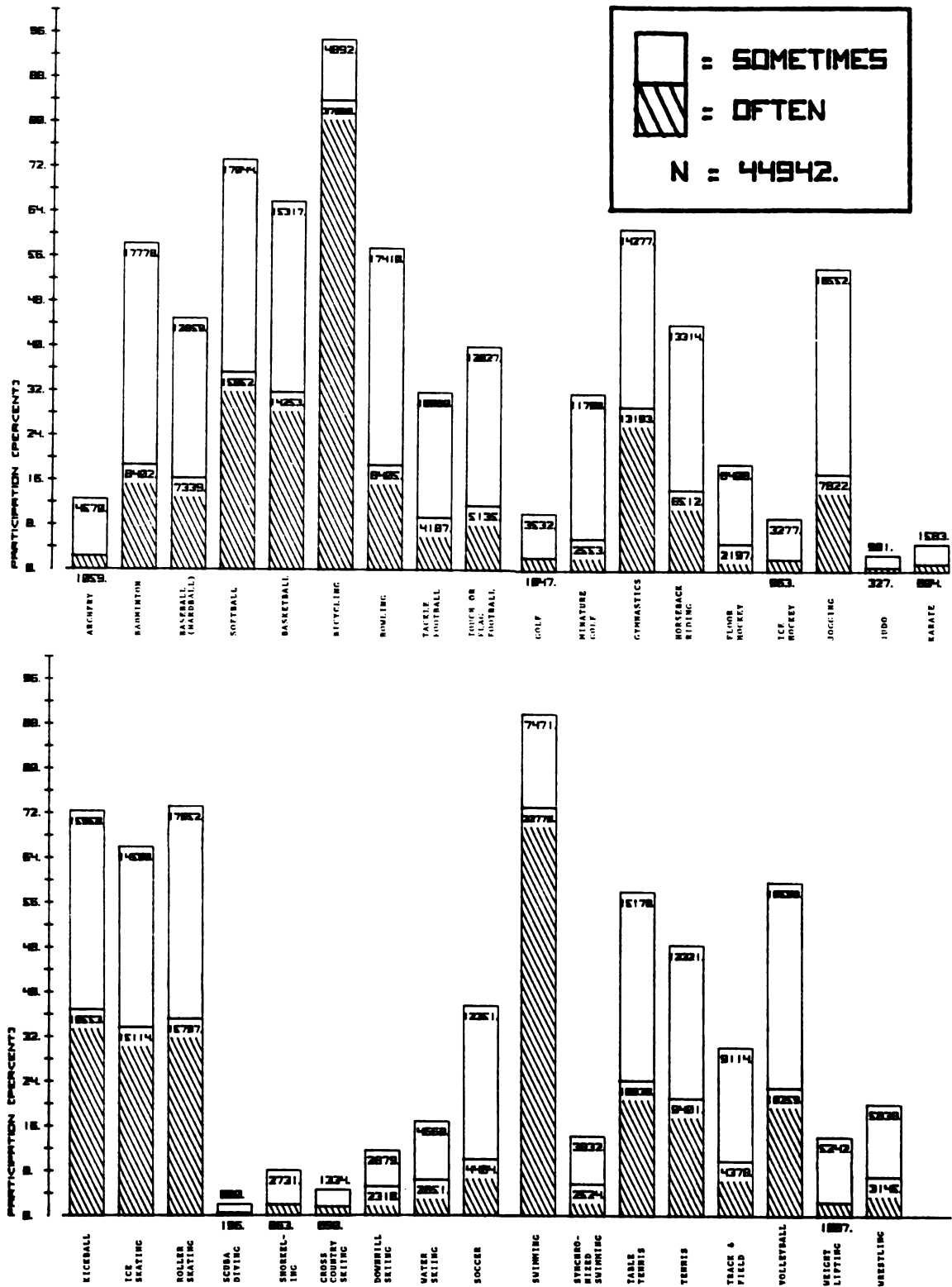


Figure 4-2. Statewide Total Female Participation: Independent of Age

for each sex, are listed in Table 4-1. Note that these results are independent of age as the data here have been totaled by sex across the age range of 5-16 years. Bicycling ranked as the most popular activity with 94% involvement by males and 95% by females. Swimming ranked second with 89% and 90% participation, respectively. One other sport, basketball for males, showed participation greater than 80%.

Within the twenty most popular sports for each sex, 18 of them were common to both groups. Wrestling and weight lifting appeared fourteenth and seventeenth, respectively, in the list for males, while horseback riding and miniature golf were ranked sixteenth and nineteenth in the column for females. Furthermore, five sports (bicycling, swimming, basketball, softball, kickball) were common to both sexes within the top ten ranked sports.

Although both males and females each marked 12 individual sports in the 20 most popular ones, the distribution of those activities varied. Males chose four individual type sports in the top 10 and eight in those ranked 11-20. Females indicated six in each category. It seems that girls participated most frequently in individual/dual activities, while boys oriented their greatest involvement toward team games.

A striking occurrence here was that well over half of the sample indicated participation in the top ten sports. In fact, boys had a total of 17 sports in which at least 50% participated and girls had 13 such sports. Note also that within the top twenty sports, over one-third of the sample was represented in almost each activity for both sexes. Although these percentages of participation were still quite high, the levels for females dropped more rapidly than

Table 4-1. Most Popular Sports--Ranked by Total Percent of Participation--Independent of Age

MALE			FEMALE		
RANK	SPORT	PERCENT	RANK	SPORT	PERCENT
1	Bicycling	94	1	Bicycling	95
2	Swimming	89	2	Swimming	90
3	Basketball	82	3	Softball	73
4	Softball	79	3	Roller Skating	73
5	Tackle Football	74	5	Kickball	72
6	Baseball	73	6	Ice Skating	66
7	Touch Football	69	6	Basketball	66
7	Kickball	69	8	Gymnastics	61
9	Table Tennis	65	9	Volleyball	60
10	Bowling	64	10	Badminton	58
11	Ice Skating	62	10	Table Tennis	58
12	Roller Skating	58	12	Bowling	57
12	Jogging	58	13	Jogging	54
14	Wrestling	55	14	Tennis	48
14	Volleyball	55	15	Baseball	45
16	Badminton	54	16	Horseback Riding	44
17	Weight Lifting	51	17	Touch Football	40
18	Tennis	48	18	Soccer	37
19	Soccer	47	19	Tackle Football	32
20	Gymnastics	40	19	Miniature Golf	32
21	Miniature Golf	39	21	Track & Field	30
21	Track & Field	39	22	Wrestling	20
23	Floor Hockey	38	23	Floor Hockey	19
24	Horseback Riding	35	24	Water Skiing	17
25	Archery	32	25	Synchronized	14
25	Ice Hockey	32		Swimming	
27	Golf	25	25	Weight Lifting	14
28	Snorkeling	22	27	Archery	13
29	Water Skiing	21	28	Downhill Skiing	12
30	Downhill Skiing	14	29	Golf	10
31	Synchronized	12	30	Ice Hockey	9
	Swimming		31	Snorkeling	8
32	Karate	11	32	Karate	5
33	Judo	7	32	Cross Country	5
34	Cross Country	6		Skiing	
	Skiing		34	Judo	3
35	Scuba Diving	5	35	Scuba Diving	2

those of the males. Participation for males showed 26 sports with levels of 30 percent or more, while female participation exceeded 30 percent in only 21 sports. However, the amount of participation in the twenty sports ranked highest on each list was similar for both sexes--especially within the top ten. Moreover, similarities between males and females were seen in the bottom four rankings. Karate, judo, cross country skiing and scuba diving ranked last for both sexes and there was never more than a six percent between-sex difference in the levels of participation for any one of these activities.

Females were involved extensively in sports typically considered masculine (baseball, 45%; touch football, 40%; tackle football, 32%). Even within the lowest ranked sports in the column for females, wrestling was marked by 20% of the respondents and weight lifting by 14%. In addition, ice hockey was played by nine percent of the girls.

However, when females ranked the sports in which they participated "OFTEN," none of the typically masculine sports had levels higher than 16% (Table 4-2). Baseball (16%), touch football (11%), tackle football (9%), wrestling (7%), ice hockey (2%) and weight lifting (2%) all maintained a position relative to each other and within two rankings of that shown in Table 4-1 (Total participation). In fact, with the exception of tennis, track and field and miniature golf, all sports in Table 4-2 for girls were listed within two ranks of those in Table 4-1 for girls.

In contrast, when the sports ranked according to those who participated in them "OFTEN" were compared to the ranking of sports by "TOTAL" participation (sum of those who participated SOMETIMES and OFTEN), there was a more drastic displacement in ranks for males than

Table 4-2. Most Popular Sports--Ranked by Often Percent of Participation--Independent of Age

MALE			FEMALE		
RANK	SPORT	PERCENT	RANK	SPORT	PERCENT
1	Bicycling	83	1	Bicycling	84
2	Swimming	71	2	Swimming	73
3	Basketball	54	3	Kickball	37
4	Baseball	48	4	Softball	35
5	Tackle Football	46	4	Softball	35
6	Softball	41	6	Ice Skating	34
7	Touch Football	33	7	Basketball	32
7	Kickball	33	8	Gymnastics	29
7	Table Tennis	33	9	Table Tennis	24
10	Ice Skating	32	10	Volleyball	23
11	Bowling	25	11	Tennis	21
11	Wrestling	25	12	Badminton	19
13	Jogging	23	12	Bowling	19
13	Roller Skating	23	14	Jogging	17
15	Weight Lifting	22	15	Baseball	16
16	Tennis	21	16	Horseback Riding	14
17	Volleyball	17	17	Touch Football	11
18	Gymnastics	16	18	Soccer	10
18	Soccer	16	18	Track & Field	10
20	Ice Hockey	15	20	Tackle Football	9
21	Badminton	14	21	Wrestling	7
21	Floor Hockey	14	22	Miniature Golf	6
21	Track & Field	14	22	Water Skiing	6
24	Archery	11	22	Synchronized Swimming	6
24	Golf	11	25	Floor Hockey	5
26	Miniature Golf	9	25	Downhill Skiing	5
26	Horseback Riding	9	27	Archery	2
26	Water Skiing	9	27	Golf	2
29	Snorkeling	7	27	Ice Hockey	2
29	Downhill Skiing	7	27	Snorkeling	2
31	Synchronized Swimming	5	27	Cross Country Skiing	2
32	Karate	4	27	Weight Lifting	2
33	Judo	2	33	Judo	1
33	Scuba Diving	2	33	Karate	1
33	Cross Country Skiing	2	35	Scuba Diving	0

for females. For example, ice hockey moved from 26th in "TOTAL" participation to 20th in "OFTEN." Badminton dropped from 16th to 21st; miniature golf moved from 21st to 26th. It is interesting to note that baseball and softball and wrestling and roller skating for the males exchanged positions when ranked according to the criterion of participating "OFTEN."

When considering just those subjects who participated "OFTEN," levels of involvement in recreational sports were still quite high. Ten sports for males and seven for females were engaged in by at least one-third of the sample. The levels of involvement were similar for boys and girls, especially within the highest and lowest ranked activities. Also, the percent of females involved in activities decreased more rapidly as one descended the ranks than the percents, by sport, for males.

Categorization of Sports on the Basis of Sex

Since the data on the extent of participation revealed some differences between the sexes, a categorization of sports into those that were predominately male or female was attempted. Because of the extremely large sample size, any sport with differences greater than one percent in participation between males and females can be shown to be statistically significant. These differences, however, are probably trivial and would not be meaningful to people who coordinate or teach physical activities and/or regulate the planning of facilities. Therefore, differences in participation between males and females of 15% was deemed significant for this discussion. Those sports differentiating between males and females on this basis are listed in Table 4-3.

Males had 10 sports in which their total levels of participation exceeded that of the females by at least 15%. In contrast, females had only gymnastics and roller skating in which their participation exceeded that of males by more than 15%.

Table 4-3. Sports Differentiating Between Sexes (Differences in TOTAL Percent Participation are $\geq$ 15 Percent)

Male	Female
Archery	Gymnastics
Baseball	Roller Skating
Basketball	
Tackle Football	
Touch Football	
Golf	
Floor Hockey	
Ice Hockey	
Weight Lifting	
Wrestling	

If one considers only the respondents who participated "OFTEN" in activities, the male column contained six sports while females did not exceed the involvement of males by 15% or more in any activity (Table 4-4). This means that in archery, golf, floor hockey and ice hockey the males had a relatively higher participation rate under "SOMETIMES." Likewise, in gymnastics and roller skating, females displayed a greater proportion of involvement by those who participated "SOMETIMES."

Table 4-4. Sports Differentiating Between Sexes (Differences in OFTEN Percent Participation are $\geq$ 15 Percent)

Male	Female
Baseball	
Basketball	
Tackle Football	
Touch Football	
Weight Lifting	
Wrestling	

Historical Comparisons in Recreational
Sport Participation

Play interests of children have been reported previously in four major studies in different geographical locales (Crosswell, 1898; McGhee, 1900; Terman, 1926; Sutton-Smith and Rosenberg, 1961). In order to compare these data, the sports that were identical to those surveyed in the Youth Sports Study (1976) were excerpted from each list and the degree of participation was computed and presented as percent of total involvement (Table 2-2, pp. 13-15).

The results indicate that both sexes have greatly expanded their participation in sports (Table 4-5). In 1898 boys marked only four sports with levels of participation greater than 25%, while in 1976, this category contained 27 sports. The number of sports in which more than 25% of the girls were involved increased from one to twenty-one during the period from 1898 to 1976.

Table 4-5. Historical Comparisons in Recreational Sport Involvement

Year (Investigator)	Locale	Number of Sports with Participation $\geq$ 25%	
		<u>Male</u>	<u>Female</u>
1898 (Crosswell)	Massachusetts	4	1
1900 (McGhee)	South Carolina	3	0
1926 (Terman)	California	14	9
1961 (Sutton-Smith and Rosenberg)	Ohio	16	15
1976 (Youth Sports Study)	Michigan	27	21

Comparison by Sport

Separate sports were examined across the five studies to determine changes over time in recreational sport participation. In this section, specific sports will be discussed as representative of general trends in the data. All percentages of participation shown here were taken from Table 2-2 (pp. 13-15) and Table 4-1 (p. 49).

Some activities had participation curves that were nearly identical for both males and females. Bicycling, swimming and volleyball were representative of this fact (Figure 4-3). The clear columns indicate levels of male participation while the shaded ones represent the involvement of females. Because bicycling was not reported as a sport in 1900 and volleyball was not listed prior to the 1926 study, no indication of participation appears above those years. Note the rapid increase in percent of participation for both sexes in bicycling, swimming and volleyball after 1900. Also during the last

Historical Change In Recreational Sport Participation

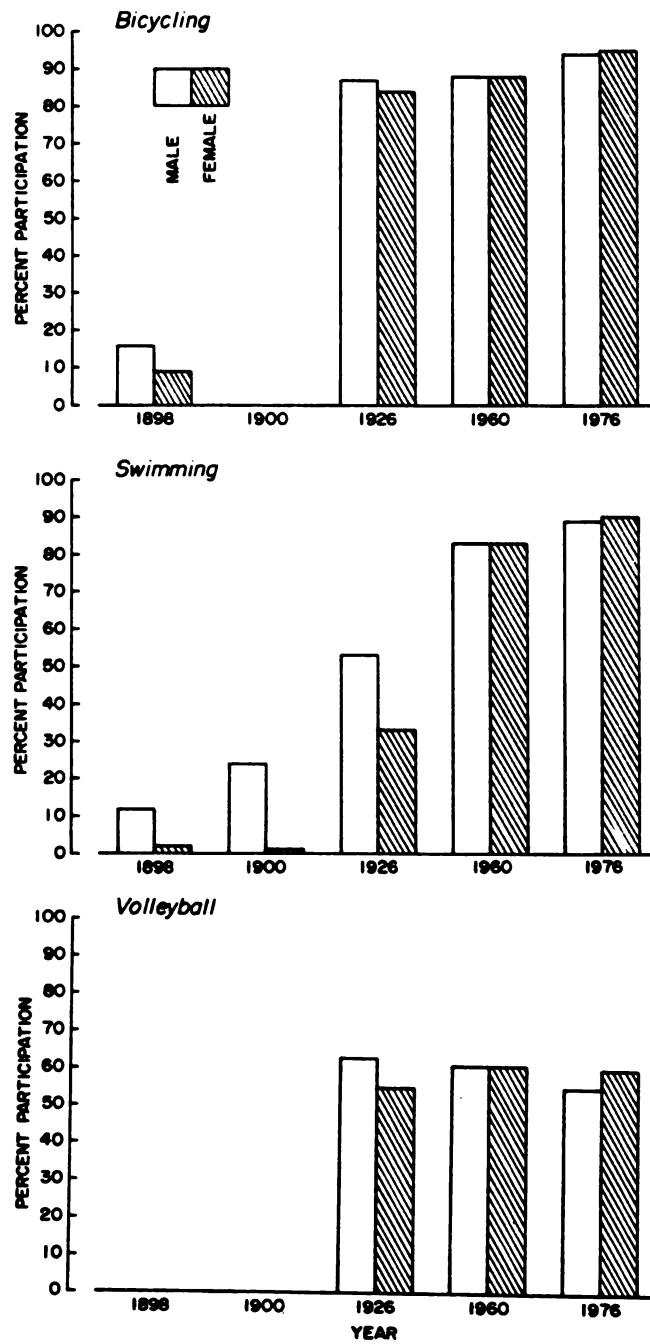


Figure 4-3. Historical Comparisons of Bicycling, Swimming and Volleyball

three studies, levels of involvement for males and females in bicycling and volleyball were fairly constant. In swimming, this was true for the latter two investigations.

The individual sports of tennis, bowling and ice skating were also representative of a sharp rise in degree of participation over the past 78 years (Figure 4-4). Levels for both males and females were similar and the bars followed the same general pattern across time. The levels of participation in these sports were not as constant during the latter studies as were those of the previous three sports. With the exception of bowling for females, levels of participation in 1976 decreased from those of the earlier reports.

Some semi-contact team sports also showed similarities between the sexes in their degree of participation across time. Involvement in basketball, soccer and baseball demonstrated a sharp increase after 1900 (Figure 4-5). In basketball and baseball, highest levels for girls were reported in 1926 with 80% and 83%, respectively. Boys' levels were highest for basketball in 1960 with 86% and for baseball in 1926 with 94%.

The levels of participation in soccer exhibited steady increases, especially for girls, since 1926. In 1976, 47% of the boys and 37% of the girls participated. Unlike some sports that were mentioned previously, participation in soccer increased from 1960 to 1976.

Another area of interest was in the contact sports that are considered typically masculine. Football and wrestling served as examples for this sport classification. In football, there was a greater difference in the levels of involvement between the sexes than has been evident in previous sports (Figure 4-6). Two bars replace the

Historical Change In Recreational Sport Participation

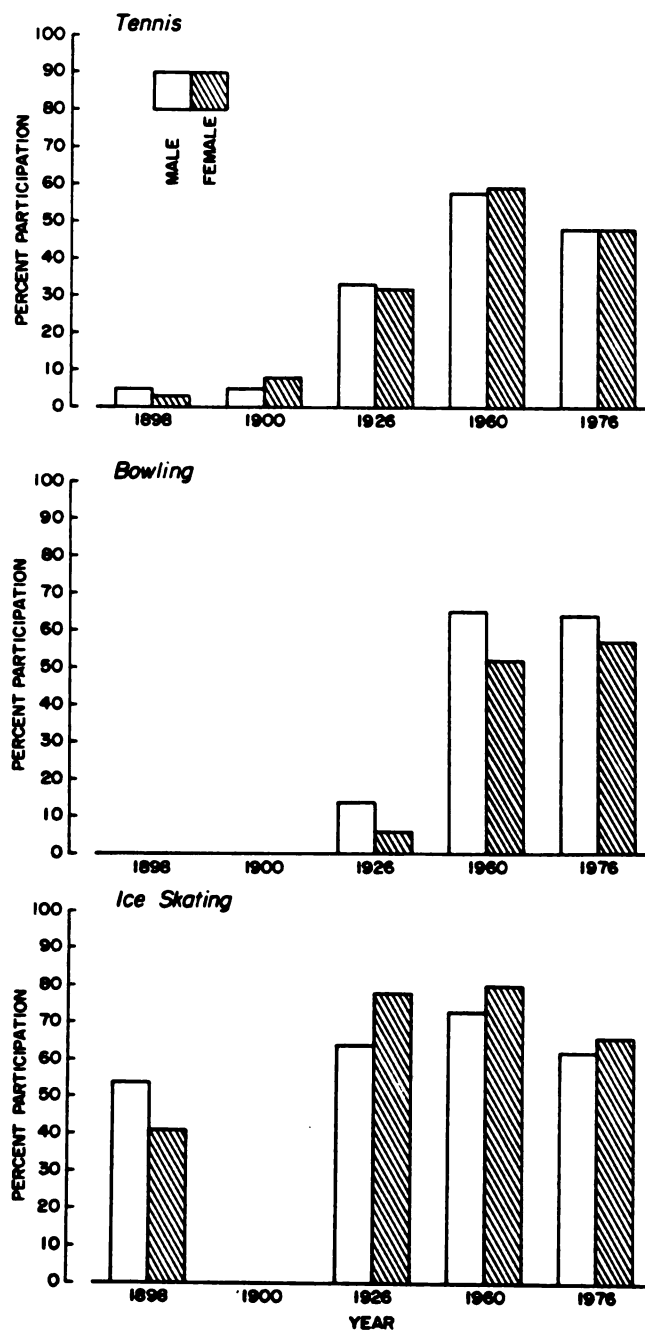


Figure 4-4. Historical Comparisons of Tennis, Bowling and Ice Skating

Historical Change In Recreational Sport Participation

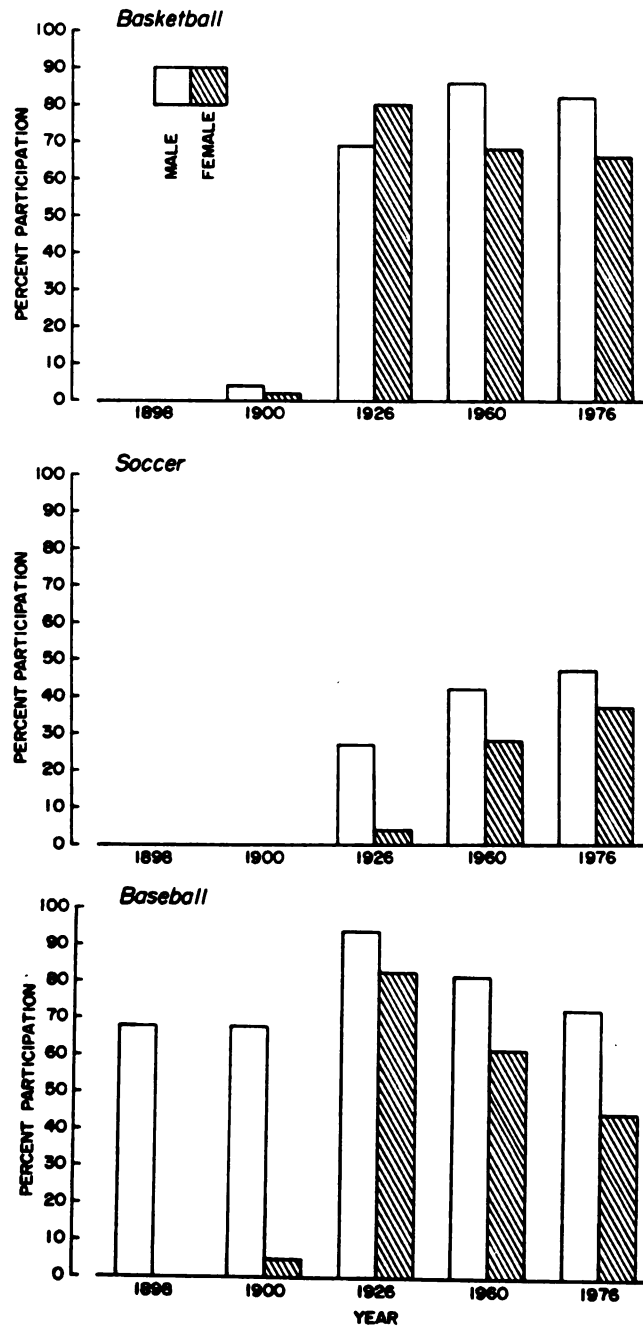


Figure 4-5. Historical Comparisons of Basketball, Soccer and Baseball

Historical Change In Recreational Sport Participation

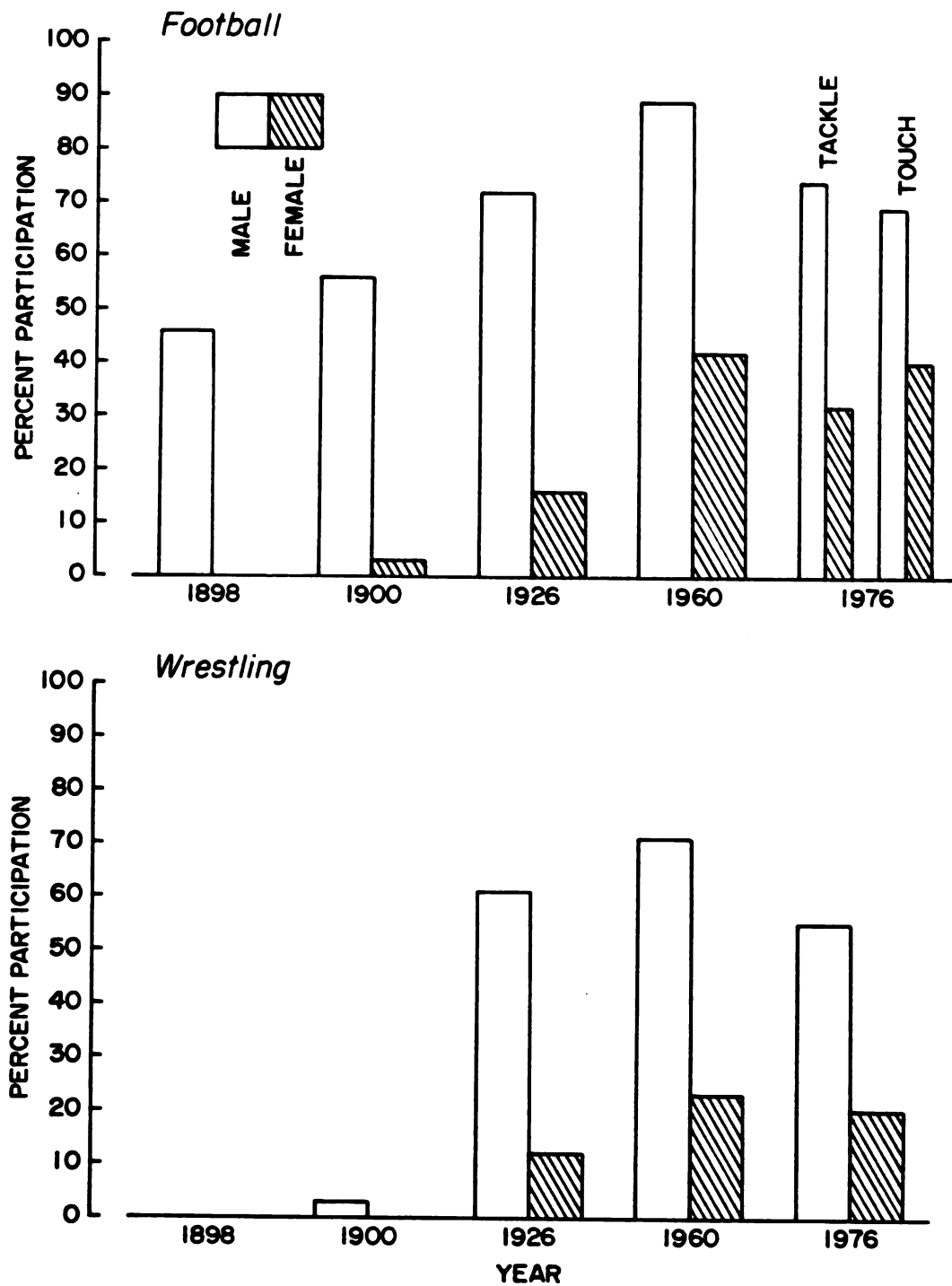


Figure 4-6. Historical Comparisons of Football and Wrestling

single bar for each sex in 1976 because the Michigan Youth Sports Study sampled both touch and tackle football, whereas the earlier studies made no such distinction. Females displayed moderately high participation after 1926, with 42% in 1960 and in 1976 with 40% in touch football and 32% in tackle football. Male participation in tackle football was 89% in 1960 and 74% in 1976, while 69% were involved in touch football.

Increased female involvement in contact sports also was depicted in wrestling (Figure 4-6). Even though great differences in participation levels between the sexes appeared in wrestling, females increased their involvement after 1900 to a high of 23% in 1960 and 20% in 1976. Note also the sharp rise for males after 1900. Sixty-one percent were involved in 1926 and 71% in 1960, but this percent dropped to 55% in 1976.

Trends in Recreational Sport Participation on the Basis of Age

When examining participation in recreational sports across the ages of 5-16 years, several trends in the data emerged. Sports could be categorized by levels of involvement that: 1) increased with chronological age, peaked at a certain age and then leveled-off, 2) increased with chronological age, peaked and then declined or 3) increased throughout the age range. Each of these classifications will be discussed in this section (Raw data by age appear in Appendix H).

The most common trend by age was for sport participation to increase, peak at age 12-13 years and then remain constant until 16 years. Of the 70 sports (35 sports x 2 sexes) that could be listed

here, 38 fell into this category (Table 4-6). Archery and ice hockey represent those sports that had extremely low levels of participation at the younger ages of 5-7 years (Figure 4-7). The solid line indicates the percent who participated "OFTEN," while the broken line represents those who were involved "SOMETIMES." Note the increasing amount of participation until a peak at age 12 years for females and 13 years for males. After the highest level was attained, it remained relatively stable until 16 years. Note that at almost each age, the percent of subjects who marked "SOMETIMES" was greater than those who circled "OFTEN."

Table 4-6. Sports with Participation that Increased, Peaked, then Levelled Throughout Ages 5-16 Years

Archery	Karate
Badminton	Scuba Diving
Bicycling	Cross Country Skiing
Bowling	Snorkeling
Touch Football	Swimming
Golf (females)	Synchronized Swimming
Miniature Golf	Table Tennis (females)
Horseback Riding	Tennis (females)
Ice Hockey	Volleyball
Jogging	Weight Lifting (females)
Judo	

Some Sports within the classification of those that peaked and then leveled-off (e.g. badminton, jogging) had moderately high percentages of participation at the youngest ages (Figure 4-8). For both males and females, the degree of participation at five years of age

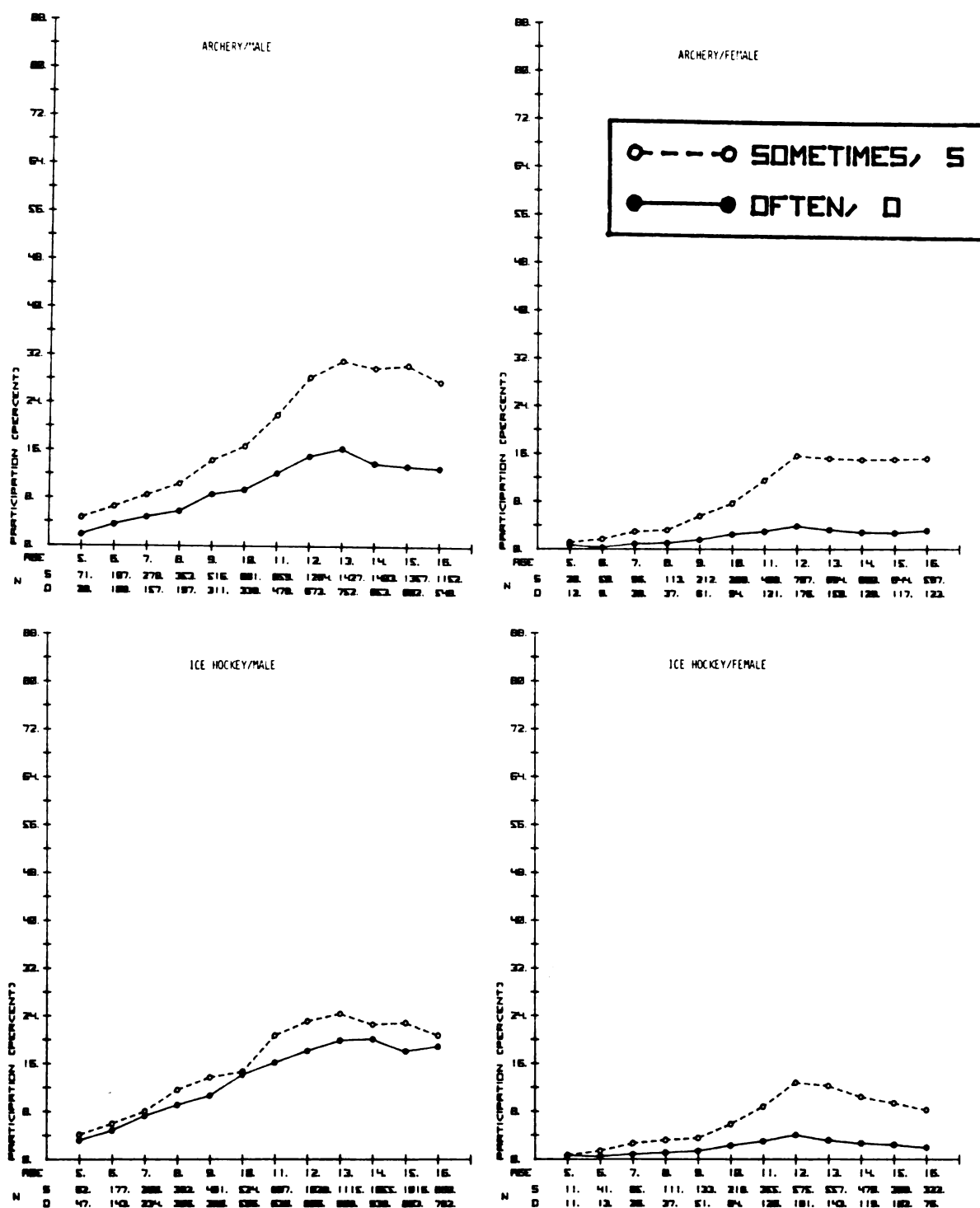


Figure 4-7. Comparison of Male/Female Participation by Age in Archery and Ice Hockey

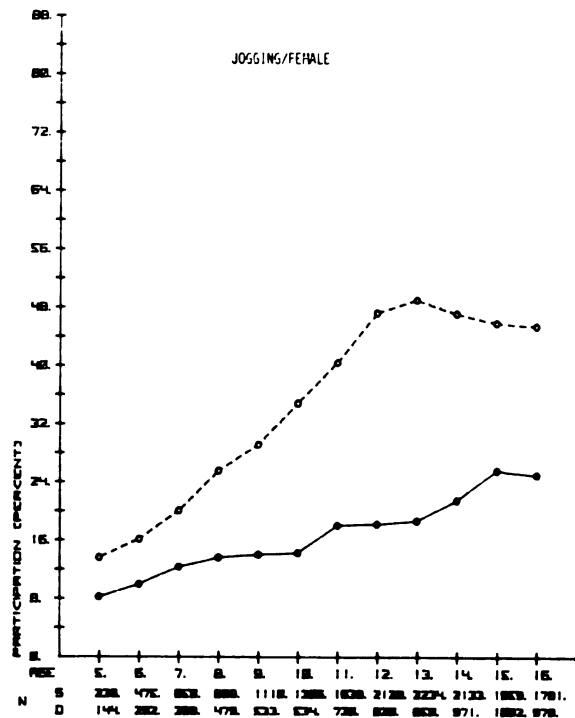
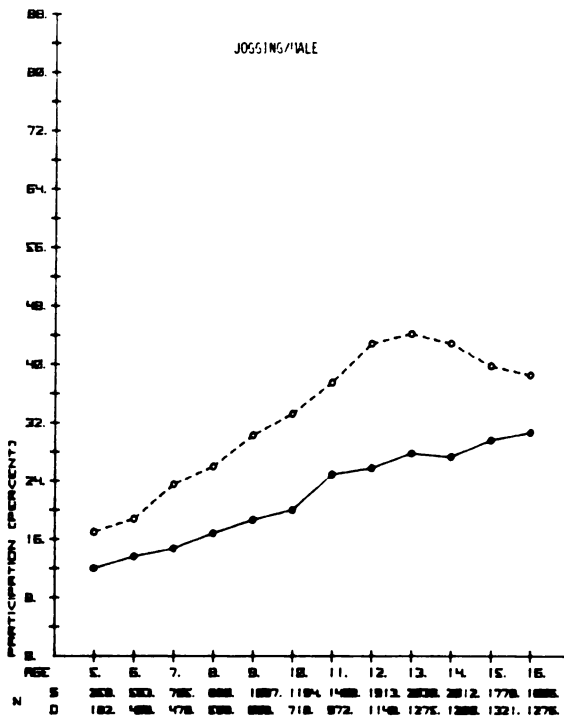
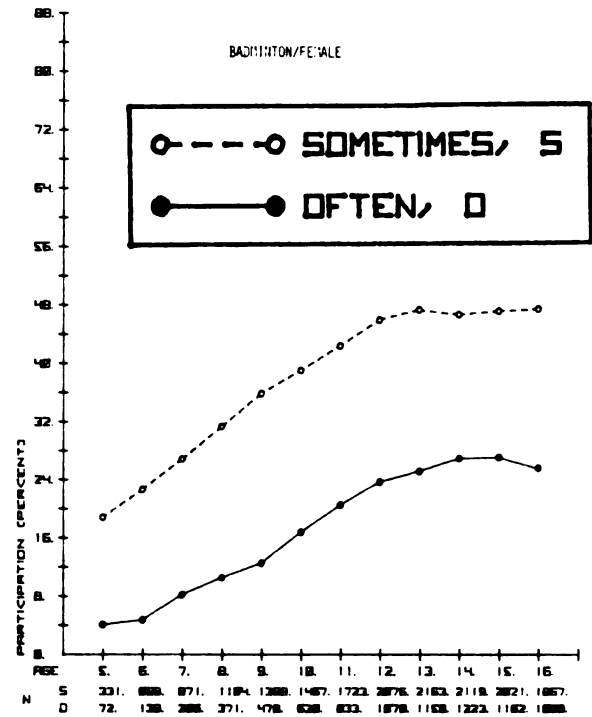
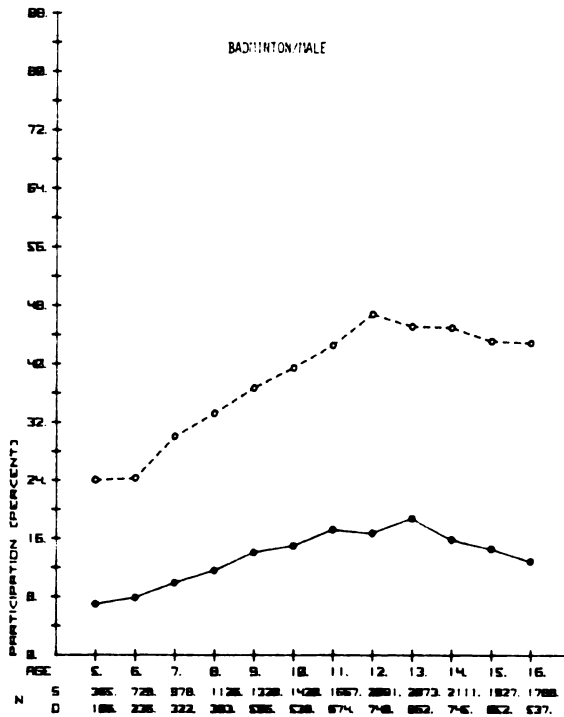


Figure 4-8. Comparison of Male/Female Participation by Age in Badminton and Jogging

in badminton and jogging was greater than 25% and, consequently, higher levels were attained at the peak ages. One can still note the leveling-off effect at ages 14-16 years. Other activities (e.g. bicycling, swimming) had extremely high participation at all ages.

The final sub-group of sports within the first classification are those sports that acquired only moderately low amounts of participation at the peak before leveling. Cross-country skiing and synchronized swimming serve as examples here (Figure 4-9). The trends of a peak participation at 12-13 years and the degree of "SOMETIMES" being greater than "OFTEN" were still apparent in these sports.

The second classification of sports contained those with participation levels that increased with chronological age, peaked and then declined. Twenty-four of the seventy possible activities were included in this category (Table 4-7). Floor hockey and ice skating were typical of sports in this group (Figure 4-10). Note that participation in floor hockey was relatively low at the young ages while that in ice skating was moderately high. Also in ice skating, the amount of "OFTEN" involvement exceeded that of "SOMETIMES" beginning at seven years and continuing until the older ages.

An unusual pattern for a sport in this second classification appeared in the sport of kickball (Figure 4-11). Participation in kickball followed the trend of increasing, peaking and then declining. However, the curve for "OFTEN" peaked at 10 years of age and then declined sharply, while that for "SOMETIMES" peaked much later at 13-15 years before declining during the last two years.

Another unique pattern was seen for gymnastics (Figure 4-11). Participation was moderately high at the younger ages, increased

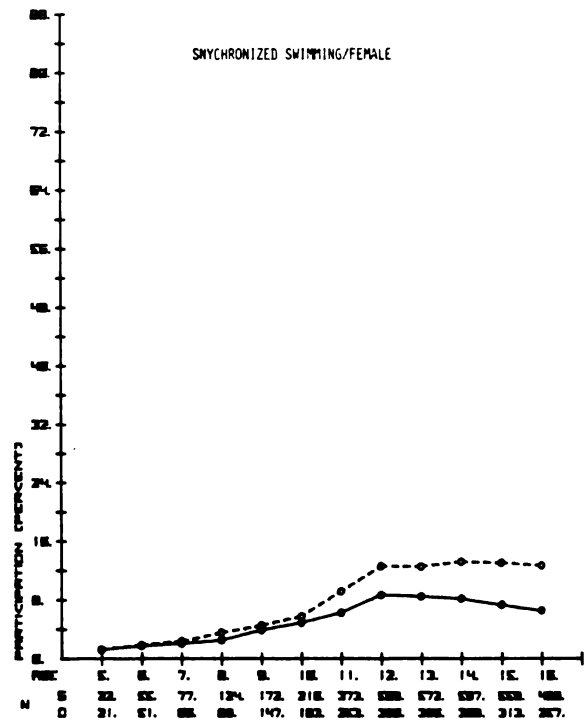
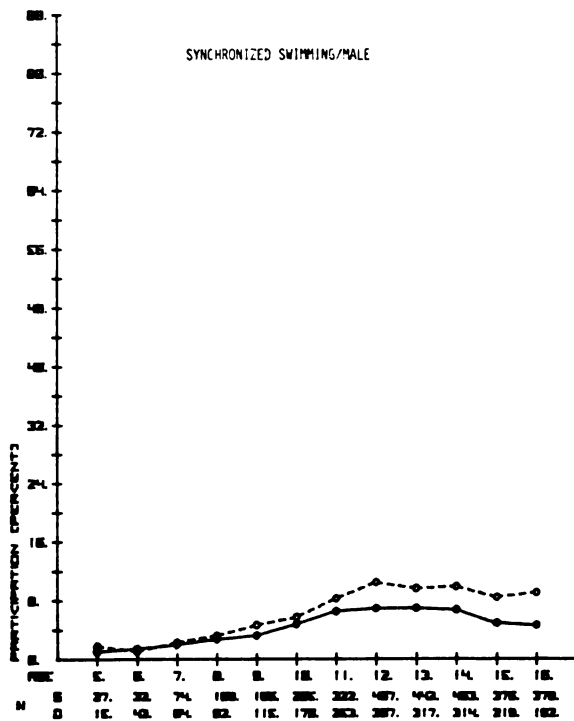
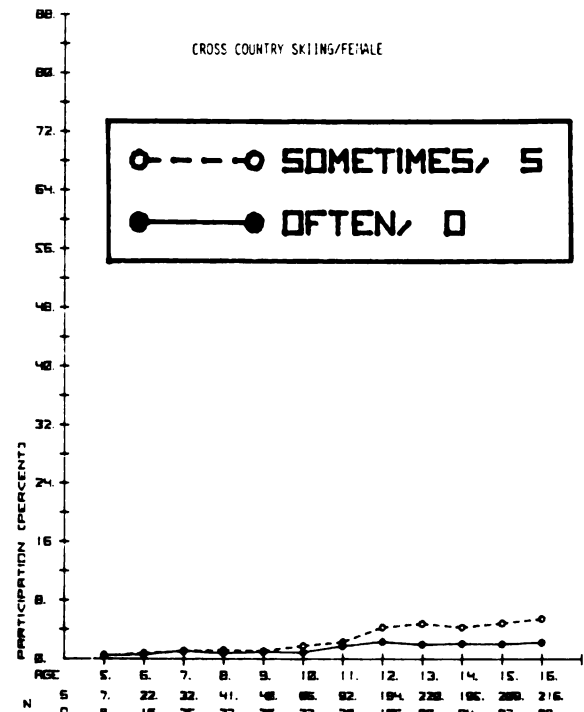
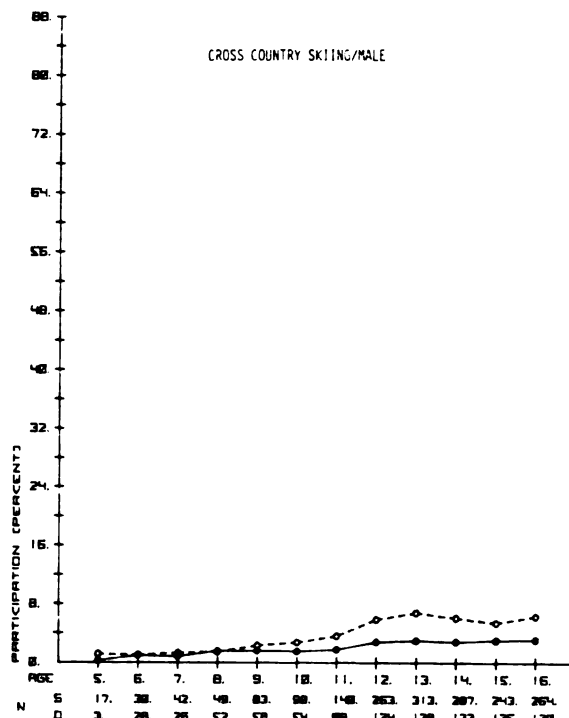


Figure 4-9. Comparison of Male/Female Participation by Age in Cross Country Skiing and Synchronized Swimming

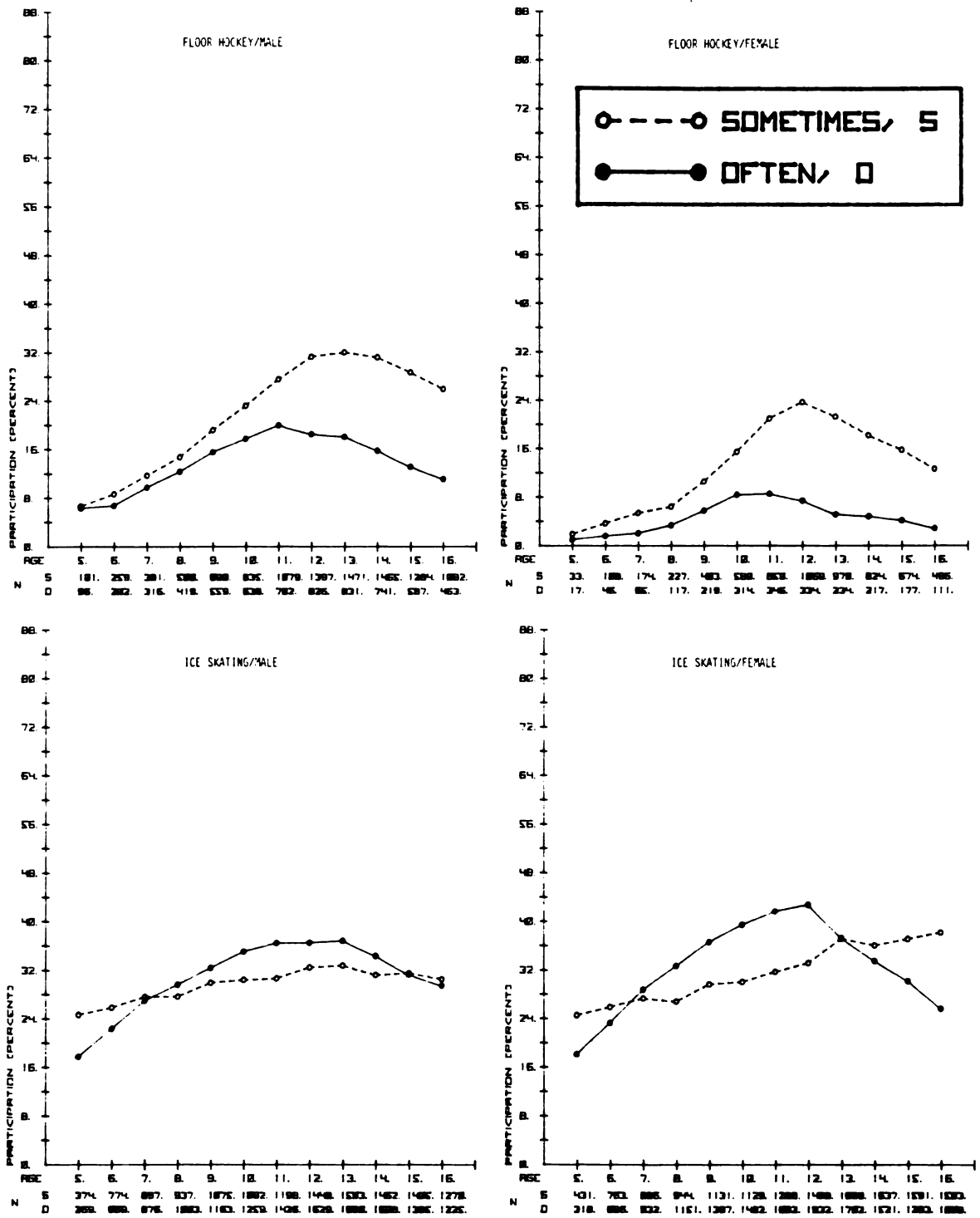


Figure 4-10. Comparison of Male/Female Participation by Age in Floor Hockey and Ice Skating

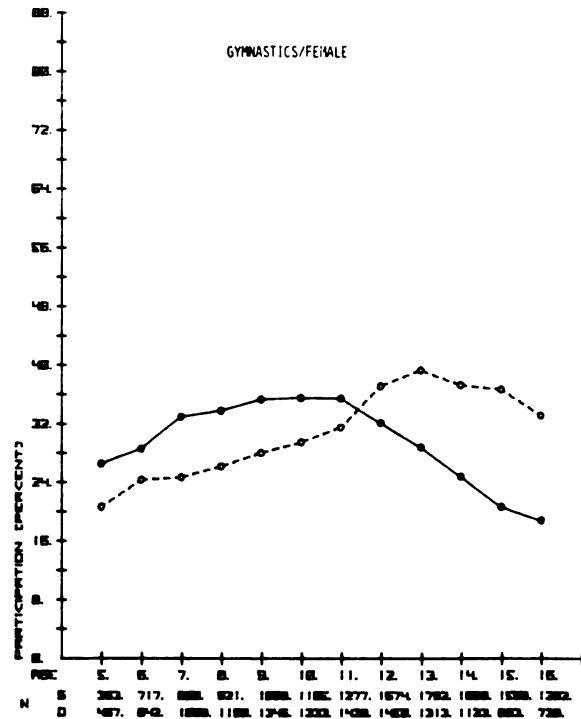
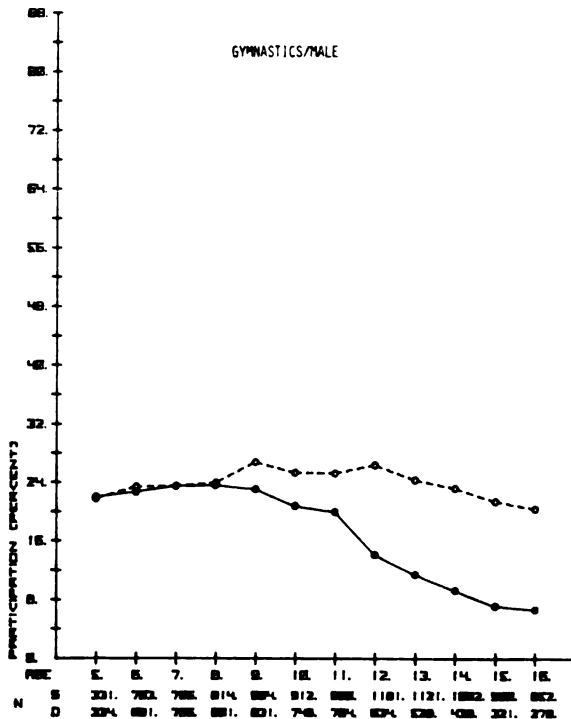
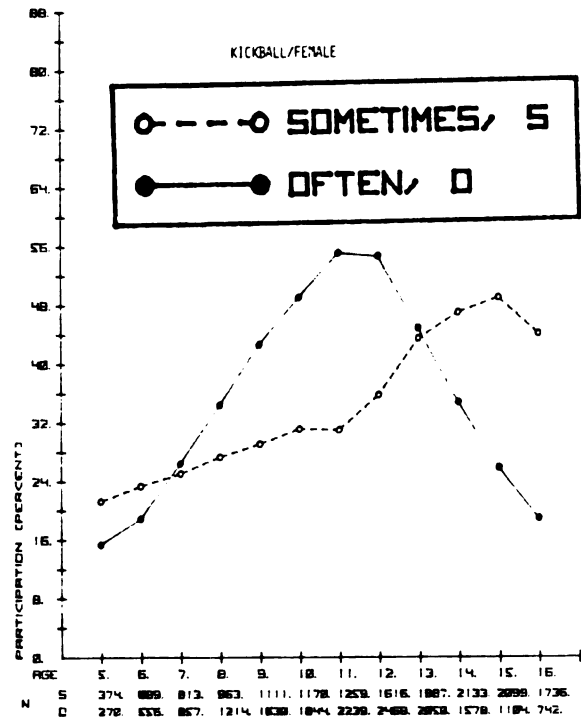
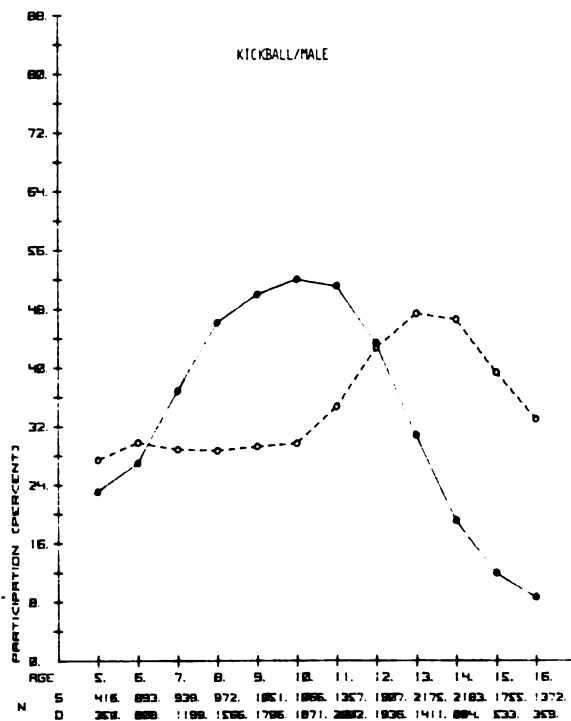


Figure 4-11. Comparison of Male/Female Participation by Age in Kickball and Gymnastics

Table 4-7. Sports with Participation that Increased, Peaked, then Declined Throughout Ages 5-16 Years

Baseball
Softball
Basketball
Tackle Football
Gymnastics
Floor Hockey
Kickball
Ice Skating
Roller Skating
Soccer
Track & Field
Wrestling

slightly until 11-12 years and then decreased sharply for the "OFTEN" participants while the "SOMETIMES" level remained fairly constant.

The third classification includes sports in which participation increased throughout ages 5-16 years (Table 4-8). Downhill skiing and water skiing reflect this pattern (Figure 4-12). All sports in this category begin with low levels of involvement at ages 5-7 years and continually increased through age 16 years. Another common characteristic was for the plot of "OFTEN" participation to approach or exceed that of "SOMETIMES," especially for the four sports of golf, table tennis, tennis and weight lifting for males only (Appendix H).

Differences in Participation by Age on the Basis of Sex

With the exception of four sports (golf, table tennis, tennis and weight lifting), patterns of participation by age were extremely

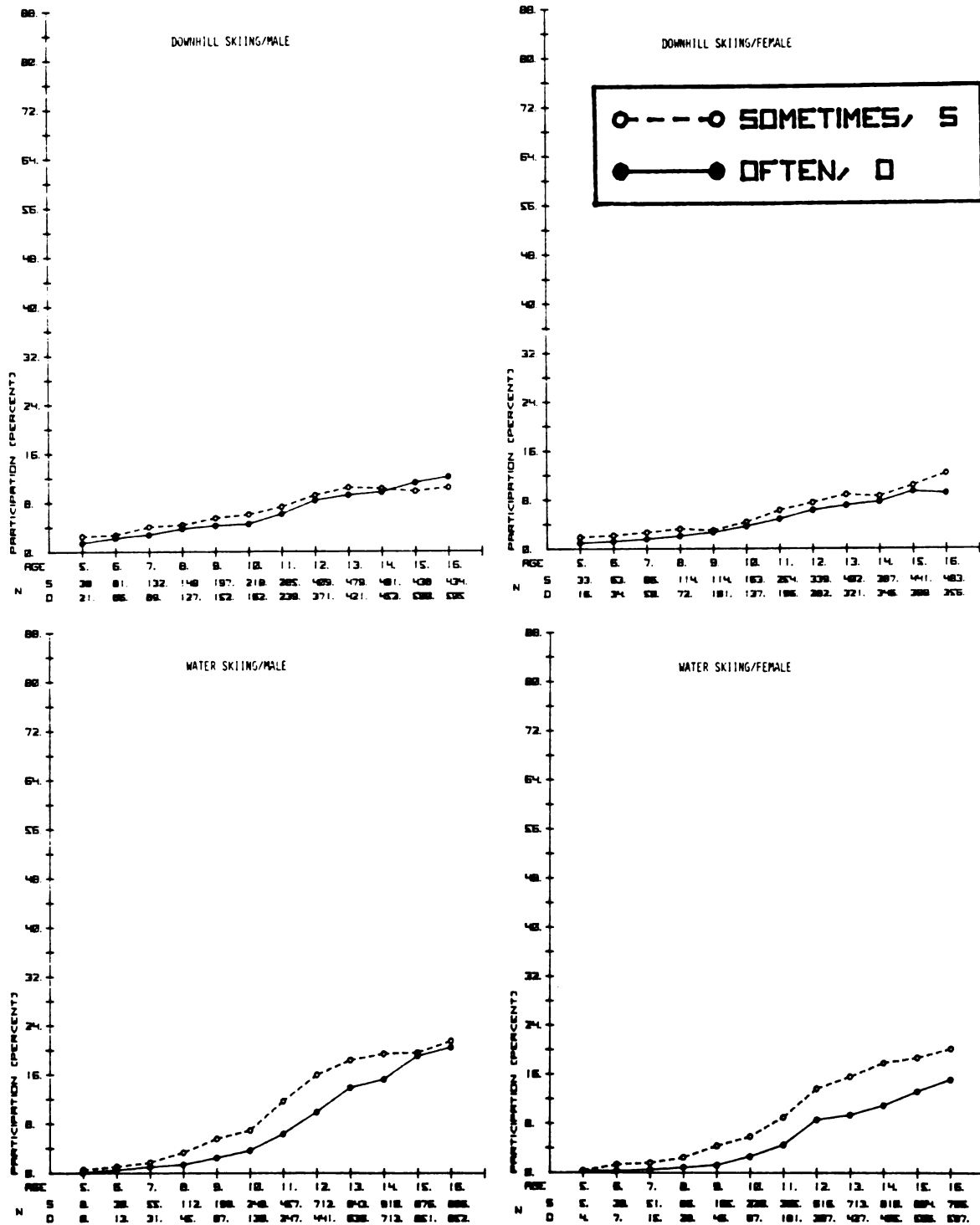


Figure 4-12. Comparison of Male/Female Participation by Age in Downhill Skiing and Water Skiing

Table 4-8. Sports with Participation that Increased Throughout Ages 5-16 Years

Downhill Skiing
 Water Skiing
 Golf (males)
 Table Tennis (males)
 Tennis (males)
 Weight Lifting (males)

similar for both males and females. It is interesting to note that in golf, table tennis, tennis and weight lifting, participation for males continued to increase through age 16 years, while that for females peaked and then leveled (Figures 4-13 and 4-14). During the ages 12-15 years for males, their "OFTEN" participation exceeded that of "SOMETIMES" and definitely increased. For females the amount of participation "SOMETIMES" remained higher throughout all ages.

Discussion

Michigan youth participated extensively in recreational sports. When the sports were ranked by "TOTAL" percent participation--independent of age (Table 4-1), males were involved in 27 sports with participation at 25% or greater, while females had 21 such sports. Furthermore, over half of the males sampled participated in each of the top 17 sports. The sports in this category for females totaled 13.

Most of the sports in which total levels of participation were high showed the trend of having moderate to high amounts of involvement at the early ages of 5-7 years (e.g. bicycling, swimming, gymnastics, ice skating, basketball). This point seems logical from several

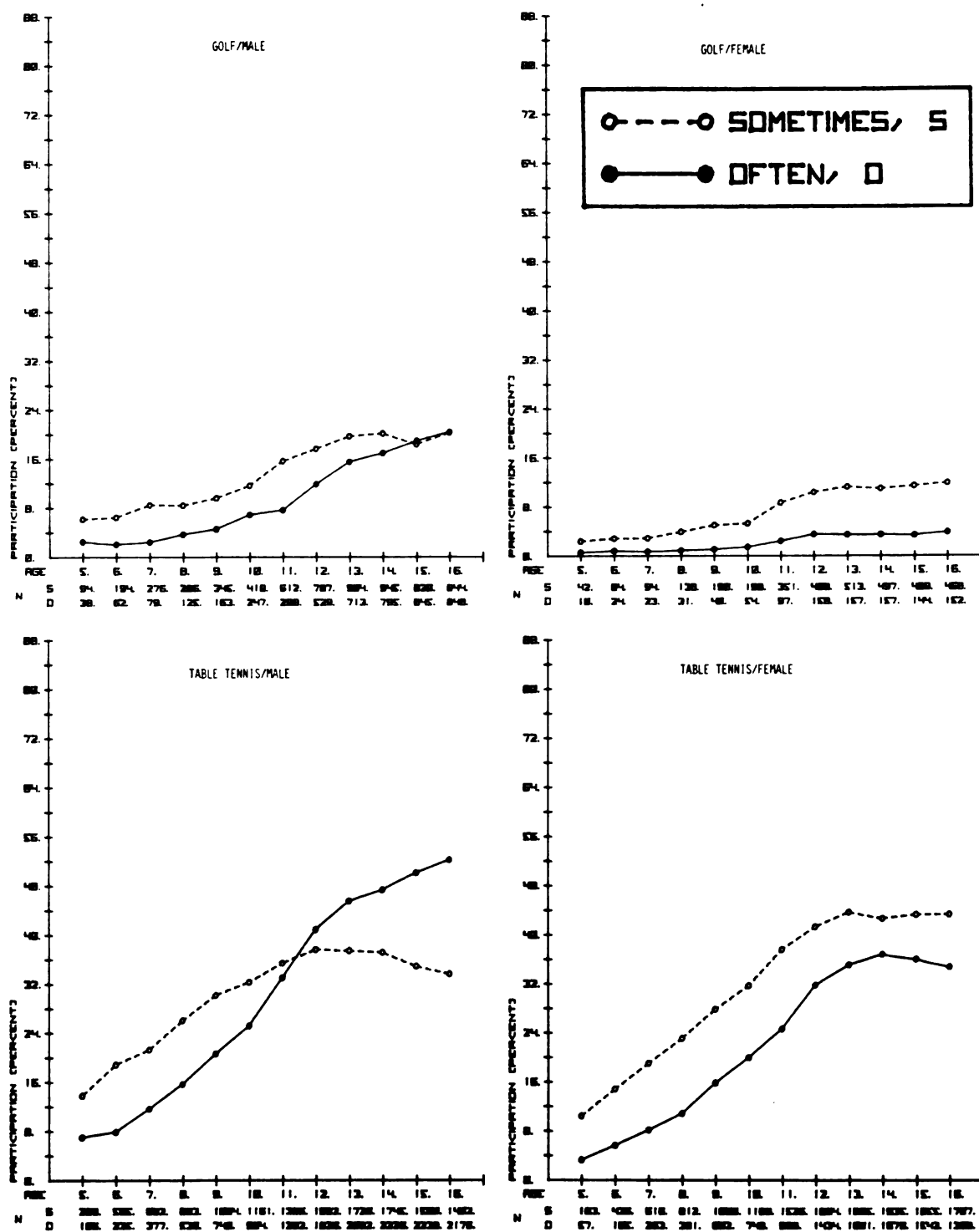


Figure 4-13. Comparison of Male/Female Participation by Age in Golf and Table Tennis

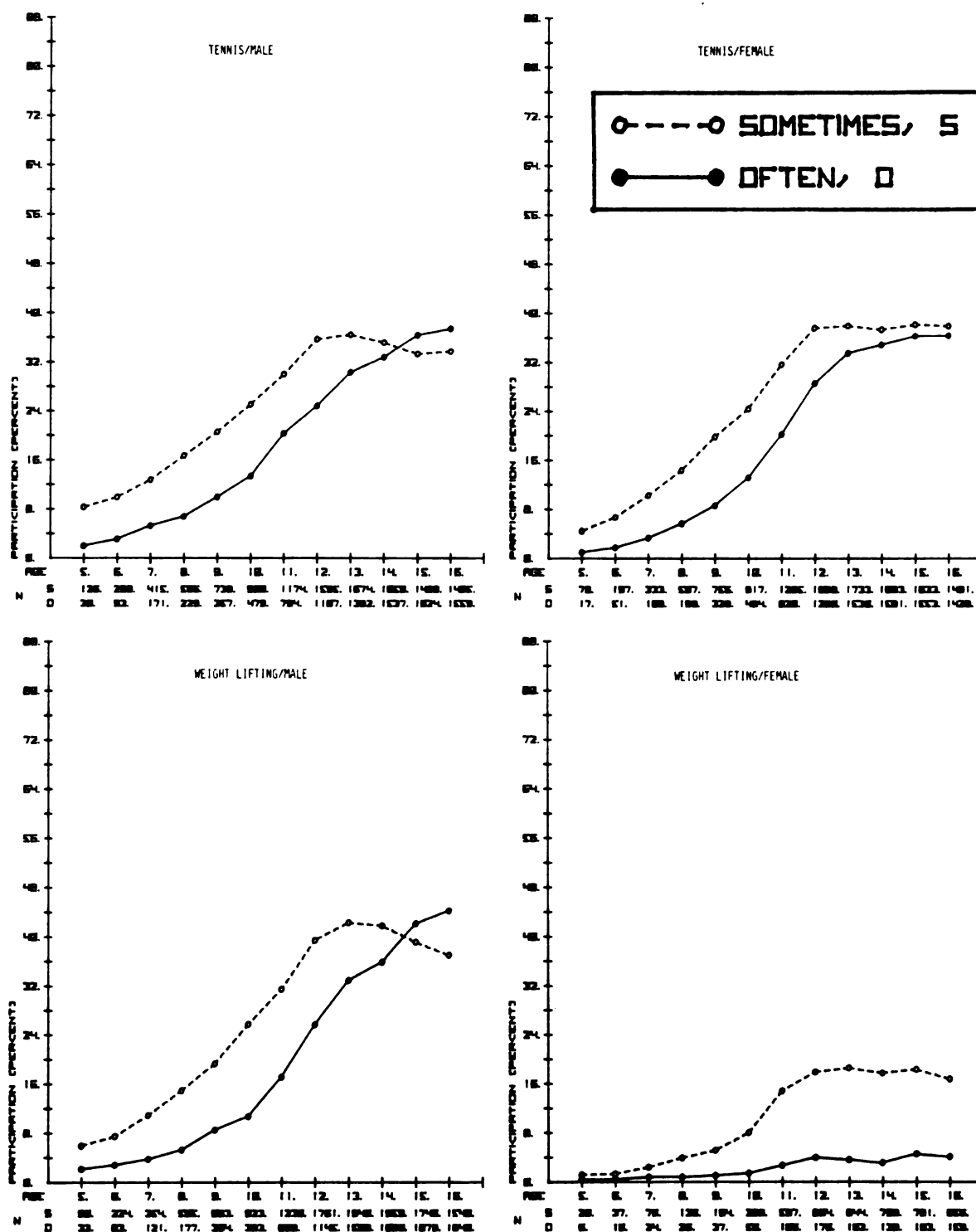


Figure 4-14. Comparison of Male/Female Participation by Age in Tennis and Weight Lifting

aspects. First, if participation was moderate to high at the younger ages and remained relatively high throughout the age range, then the "TOTAL" percents should be high. Secondly, exposure to an activity early in life may account for continued involvement in that sport and therefore result in a higher "TOTAL" percent. In addition, when listed according to those who participated "OFTEN," most sports maintained a ranking similar to that held in "TOTAL" percent. It would seem then, that participation at younger ages might influence the extent to which individuals become involved (i.e. Sometimes vs Often) in sports at later ages.

Comparisons by Sex

Patterns of participation in recreational sports were similar between males and females (Tables 4-1, 4-2 and Figures 4-7 thru 4-14). Greater similarities occurred in those sports ranked either high or low in participation than in those listed in the middle. However, three basic differences in participation existed between males and females. First, males had somewhat higher percents of involvement in most sports and maintained these levels longer. The percent of involvement in sports for females dropped more rapidly than that for the males (Table 4-1). Table 4-8 also shows that males had more sports in which their participation levels increased from ages 5-16 years.

Second, males had relatively higher degrees of "OFTEN" involvement in sports than did females (Table 4-2). It seems that females might have less commitment to participate in some sports than do males. Table 4-4 reveals that six sports actually differentiated

males from females on the basis of "OFTEN" participation. Four of these activities are team games and two are individual/dual sports that are typically considered masculine.

Third, the data reveal that males participated more frequently in team games. The 10 most popular sports included six team sports for males and only four for females. In those sports ranked 11-20, two team sports were included in the list for males while the list for females contained four. Therefore, both sexes indicated eight team games within the top 20 sports, but boys participated most frequently in team activities, while girls oriented their greatest involvement toward individual/dual games. Tables 4-3 and 4-4 emphasize this trend by showing that most of the sports that differentiated into male activities are team games, while the two that are markedly more popular for females are individual sports. Implications for activity programs might be to allow males a few more team games and to incorporate more individual/dual activities into the curricula for girls. These results were in close agreement with those from previous studies (Lehman and Witty, 1927; Rosenberg and Sutton-Smith, 1960). These two previous investigations identified ten sports (football, wrestling, boxing, basketball, baseball, pole-vaulting, swimming, horseback riding, bowling and soccer) that more frequently were engaged in by boys. Girls had no true sports that separated them from boys unless "cart-wheels" can be considered similar to gymnastics.

Historical Trends

Some implications for development of activity programs may be gleaned by reviewing the historical trends in recreational sports

participation. Many individual sports (bicycling, swimming, volleyball, tennis, bowling and ice skating) ranked high throughout the years compared, as well as over the age-range studied. This characteristic was true for both males and females. High interest remained or has risen in some semi-contact team sports (basketball, soccer, baseball) for both sexes. Softball has probably been the substitute sport for this category. But like softball, the semi-contact sports require only a small amount of equipment and in contrast, basketball and soccer may provide a higher probability for increase in fitness levels of youth.

Another trend was that females are interested in some contact sports usually considered masculine. Perhaps these activities should be modified to satisfy the desires of some females. For example, flag football could be provided for school-aged girls as it now is for women in many American universities. Further study is needed to determine how, if at all, contact sports should be modified for participation by females, or indeed, if females should be encouraged to participate in such sports.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purposes of this study were to: 1) investigate sex differences in the degree of participation in recreational sports of Michigan school children, 2) reveal historical trends in participation in free play sports and 3) determine age level by sex trends in the incidence of recreational sport involvement for the ages of 5-16 years.

The following statements summarize the findings:

1) Males and females were actively involved in many recreational sports. Well over half of the sample indicated participation in the ten most popular activities, while over one-third of the sample was represented in almost all of the top twenty sports for both sexes.

2) Males indicated higher participation in team sports; females chose individual games more often.

3) Females showed considerable involvement in sports typically considered masculine.

4) Males had more sports in which their participation levels were at least 15 percent greater than that for females.

5) Since 1898, both sexes have greatly expanded their participation in sports.

6) Individual and semi-contact team games indicated similar trends across time for both males and females.

7) Although females displayed moderate levels of participation in contact sports, there was a greater difference between the sexes than was evident in individual and semi-contact sports.

8) Sports were grouped into three distinct categories according to their pattern of involvement across the ages of 5-16 years.

a) Levels of participation increased, peaked and then leveled.

b) Levels of participation increased, peaked and then declined.

c) Levels of participation increased throughout the age range.

9) With the exception of golf, table tennis, tennis and weight lifting, patterns of participation by age were similar for both males and females.

Conclusions

The results suggest the following conclusions:

1) Most of the sports in which total levels of participation were high showed the trend of having moderate to high amounts of involvement at the early ages of 5-7 years. It would seem then, that participation at younger ages might influence the extent to which individuals become involved in sports at later ages.

2) Males had somewhat higher percents of involvement throughout most sports, maintained these levels longer and had relatively higher degrees of "OFTEN" involvement than did females. It seems

that females might have less commitment to participate in some sports than do males.

3) Participation in sports by females has greatly increased since 1898, especially in individual and semi-contact team sports, and in some contact team sports.

Recommendations

Based on this investigation, the following recommendations are tendered:

1) Activity programs, equipment, facilities and instruction should be modified or expanded to account for the high amounts of participation by both sexes in many recreational sports.

2) Directors of activity programs should allow males a few more team games and offer females more individual/dual activities.

3) Because some semi-contact team sports (e.g. soccer, basketball) show high popularity for each sex, require a small amount of equipment and offer a good activity for increase in fitness levels of youth, these types of sports should be considered for inclusion when developing curricula.

4) Rules and equipment should be adapted for the safety of those females who wish to participate in contact sports.

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APPENDICES

APPENDIX A

STUDENT QUESTIONNAIRE

PARENT QUESTIONNAIRE

State of Michigan



SEN. CARL D. PURSELL
CO-CHAIRMAN
REP. JAMES E. O'NEILL
CO-CHAIRMAN
SEN. JOSEPH M. SNYDER
SEN. GARY G. CORBIN
REP. MICHAEL J. GRIFFIN
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**JOINT LEGISLATIVE STUDY COMMITTEE
ON YOUTH SPORTS PROGRAMS**

**UNIVERSITIES STUDY
COMMITTEE**
Michigan State University
Northern Michigan
University
The University of
Michigan
Wayne State University

Dear Student:

The State Legislature of Michigan and several state universities are interested in learning about the types of sports that are played by Michigan children and youth. You have been selected from the school population of Michigan to help in providing this information. We ask that you answer the questions on the following pages after your teacher explains the directions for each of them.

Thank you for your help.

Vern Seefeldt
Project Director, Michigan State University
For the Universities Study Committee

PLEASE PRINT THE FOLLOWING INFORMATION

NAME: _____ GRADE: _____
 LAST FIRST
ADDRESS: _____ SEX: (circle) Male Female
 STREET ADDRESS
 CITY ZIP AGE: _____
PHONE: _____

**THANK YOU FOR YOUR COOPERATION
THE STUDY COMMITTEE**

1 2 3 4 5 6

PLEASE DO NOT WRITE IN THIS SPACE

Re (1-2)	SchD (3-4)	Sc (5-6)	ScT (7)	Com (8)	Cv (9)	I.D. (10-12)	G (13-14)	A (15-16)	S (17)	R (18)	Per (19-22)	Card (23)	Blank (24-25)
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RECREATIONAL OR FREE-PLAY ACTIVITIES

Directions: Free-play activities are sports often played on a recreational basis. This means that there are no official teams, organized leagues or tournaments. These activities could be played in backyards, in the neighborhood, at the local playground, in a YMCA building, on the beach and other similar places. Recreational play may take place alone, with friends or with parents. It *does not* include school-sponsored sport programs or community-sponsored competitive programs such as Babe Ruth Baseball.

For each sport listed below, circle the letter that best fits your level of participation in that sport on a recreational or free play basis during the past twelve (12) months. It is important that you circle *one (1)* letter for each sport listed.

- N (Never) Circle N if you *did not* play the sport as a free-play activity during the past twelve (12) months.
- S (Sometimes) Circle S if you played the sport as a free-play activity one to three (1-3) times during the past twelve (12) months.
- O (Often) Circle O if you played the sport as a free-play activity four (4) times or more during the past twelve (12) months.

If you have played in any free-play sport not listed please write the name of the sport on one of the blanks at the end of the list. Examples of some other sports are fencing, dancing and boxing.

Activity	NEVER (N)	SOMETIMES (S) 1-3 Times per year	OFTEN (O) 4 or more Times per yr. 3	Activity	NEVER (N)	SOMETIMES (S) 1-3 Times per year	OFTEN (O) 4 or more Times per yr. 3
Archery (1-26)	N	S	O	Ice Skating (1-45)	N	S	O
Badminton (1-27)	N	S	O	Roller Skating (1-46)	N	S	O
Baseball (Hardball) (1-28)	N	S	O	Scuba Diving (1-47)	N	S	O
Softball (1-29)	N	S	O	Snorkeling (1-48)	N	S	O
Basketball (1-30)	N	S	O	Cross Country Skiing (1-49)	N	S	O
Bicycling (1-31)	N	S	O	Downhill Skiing (1-50)	N	S	O
Bowling (1-32)	N	S	O	Water Skiing (1-51)	N	S	O
Tackle Football (1-33)	N	S	O	Soccer (1-52)	N	S	O
Touch or Flag Football (1-34)	N	S	O	Swimming (1-53)	N	S	O
Golf (1-35)	N	S	O	Synchronized Swimming (1-54)	N	S	O
Miniature Golf (1-36)	N	S	O	Table Tennis (1-55)	N	S	O
Gymnastics (1-37)	N	S	O	Tennis (1-56)	N	S	O
Horseback Riding (1-38)	N	S	O	Track & Field (1-57)	N	S	O
Floor Hockey (1-39)	N	S	O	Volleyball (1-58)	N	S	O
Ice Hockey (1-40)	N	S	O	Weight Lifting (1-59)	N	S	O
Jogging (1-41)	N	S	O	Wrestling (1-60)	N	S	O
Judo (1-42)	N	S	O	(1-61, 1-62)		S	O
Karate (1-43)	N	S	O	(1-63, 1-64)		S	O
Kickball (1-44)	N	S	O	(1-65, 1-66)		S	O

STOP!
PLEASE DO NOT GO ON UNTIL YOU ARE TOLD TO DO SO!

INTRAMURAL ACTIVITIES (WITHIN-SCHOOL COMPETITION)

Directions: Intramural activities include all school-sponsored sports of a competitive or recreational nature that *do not* involve competition with other schools. Examples include flag football competition between the homerooms of your school, or a special interest group such as gymnastics that meets on a regular basis. Activities played during physical education classes and unsupervised play periods are *not* intramural activities.

For each sport listed below, circle the letter that best fits your level of participation in an intramural sport during the past twelve (12) months. It is important that you circle *one (1)* letter for each sport listed.

- N (Never) Circle N if you *did not* play the sport as an intramural activity during the past *twelve (12)* months.
 S (Sometimes) Circle S if you played the sport for only part of the intramural season during the past *twelve (12)* months.
 O (Often) Circle O if you played the sport for the entire intramural season during the past *twelve (12)* months.

If you have played any intramural sport not listed please write the name of the sport on one of the blanks at the end of the list. Examples of some other sports are fencing, dancing and archery.

Activity		NEVER (N)	SOMETIMES (S) Part of Season	OFTEN (O) Entire Season
		1	2	3
Basketball	(1-67)	N	S	O
Touch or Flag Football	(1-68)	N	S	O
Field Hockey	(1-69)	N	S	O
Floor Hockey	(1-70)	N	S	O
Gymnastics	(1-71)	N	S	O
Downhill Skiing	(1-72)	N	S	O
Soccer	(1-73)	N	S	O

Activity		NEVER (N)	SOMETIMES (S) Part of Season	OFTEN (O) Entire Season
		1	2	3
Softball	(1-74)	N	S	O
Table Tennis	(1-75)	N	S	O
Tennis	(1-76)	N	S	O
Volleyball	(1-77)	N	S	O
Wrestling	(1-78)	N	S	O
		(1-79, 1-80)	S	O

STOP! PLEASE DO NOT GO ON UNTIL YOU ARE TOLD TO DO SO!

INTERSCHOLASTIC ACTIVITIES (BETWEEN-SCHOOL COMPETITION)

Directions: Interscholastic activities are those sports involving competition between teams from different schools. An example is the football team of your school playing the football team from another school.

For each sport listed below, circle the letter that best fits your level of participation as a member of a school team during the past twelve (12) months. It is important that you circle *one (1)* letter for each sport listed.

- N (Never) Circle N if you *did not* play the sport as an interscholastic activity during the past *twelve (12)* months.
 S (Sometimes) Circle S if you played on a school team for only part of the interscholastic season during the past *twelve (12)* months.
 O (Often) Circle O if you played on a school team for the entire interscholastic season during the past *twelve (12)* months. (Even if unable to play due to an injury.)

If you have played any interscholastic sport not listed please write the name of the sport on one of the blanks at the end of the list. Examples of some other sports are fencing, table tennis, dancing, horse events, archery and boxing.

Activity		NEVER (N)	SOMETIMES (S) Part of Season	OFTEN (O) Entire Season
		1	2	3
Baseball (Hardball)	(2-26)	N	S	O
Softball	(2-27)	N	S	O
Basketball	(2-28)	N	S	O
Tackle Football	(2-29)	N	S	O
Touch or Flag Football	(2-30)	N	S	O
Golf (not miniature)	(2-31)	N	S	O
Gymnastics	(2-32)	N	S	O
Field Hockey	(2-33)	N	S	O
Ice Hockey	(2-34)	N	S	O
Cross Country Running	(2-35)	N	S	O

Activity		NEVER (N)	SOMETIMES (S) Part of Season	OFTEN (O) Entire Season
		1	2	3
Downhill Skiing	(2-36)	N	S	O
Soccer	(2-37)	N	S	O
Springboard Diving	(2-38)	N	S	O
Swimming	(2-39)	N	S	O
Synchronized Swimming	(2-40)	N	S	O
Tennis	(2-41)	N	S	O
Track & Field	(2-42)	N	S	O
Volleyball	(2-43)	N	S	O
Wrestling	(2-44)	N	S	O
		(2-45, 2-46)	S	O

STOP! PLEASE DO NOT GO ON UNTIL YOU ARE TOLD TO DO SO!

AGENCY-SPONSORED ACTIVITIES

Directions: Agency-sponsored activities involve competition between individuals, teams, clubs or groups that are *not* sponsored by the school. Contests are played according to an approved set of rules under the supervision of officials, such as referees, umpires, timers and judges. Often, these sport clubs or teams are organized into leagues with a specified schedule of games to be played. Examples of agency-sponsored sport programs are Little League baseball and A.A.U. swimming. Also included are community-sponsored organizations such as swimming, ice hockey, and track-and-field clubs that compete against similar groups, as well as individual sport events such as golf and tennis tournaments.

For each sport listed below, circle the letter that best fits your level of participation as a member of an agency-sponsored activity during the past twelve (12) months.

It is important that you circle *one (1)* letter for each sport listed.

- N (Never)** Circle N if you *did not* play the sport as an agency-sponsored activity during the past *twelve (12) months*.
- S (Sometimes)** Circle S if you played the sport individually or as a member of an agency-sponsored team for only part of the season during the past *twelve (12) months*.
- O (Often)** Circle O if you played the sport individually or as a member of an agency-sponsored team for the entire season during the past *twelve (12) months*. (Even if unable to play due to an injury.)

If you have played any agency-sponsored sport not listed please write the name of the sport on one of the blanks at the end of the list. Examples of some other sports are fencing, table tennis, dancing, horse events and archery.

Activity		NEVER (N)	SOMETIMES (S) Part of Season	OFTEN (O) Entire Season		Activity		NEVER (N)	SOMETIMES (S) Part of Season	OFTEN (O) Entire Season
		1	2	3				1	2	3
Baseball (Hardball)	(2-47)	N	S	O		Cross Country Skiing	(2-61)	N	S	O
Softball	(2-48)	N	S	O		Downhill Skiing	(2-62)	N	S	O
Basketball	(2-49)	N	S	O		Water Skiing	(2-63)	N	S	O
Bowling	(2-50)	N	S	O		Soccer	(2-64)	N	S	O
Boxing	(2-51)	N	S	O		Springboard Diving	(2-65)	N	S	O
Tackle Football	(2-52)	N	S	O		Swimming	(2-66)	N	S	O
Touch or Flag Football	(2-53)	N	S	O		Synchronized Swimming	(2-67)	N	S	O
Golf (not miniature)	(2-54)	N	S	O		Tennis	(2-68)	N	S	O
Gymnastics	(2-55)	N	S	O		Track & Field	(2-69)	N	S	O
Ice Hockey	(2-56)	N	S	O		Weight Lifting	(2-70)	N	S	O
Judo	(2-57)	N	S	O		Wrestling	(2-71)	N	S	O
Karate	(2-58)	N	S	O		(2-72, 2-73)				S O
Cross Country Running	(2-59)	N	S	O		(2-74, 2-75)				S O
Figure Skating	(2-60)	N	S	O						

THANK YOU FOR YOUR COOPERATION!

State of Michigan



SEN. CARL D. PURSELL
CO-CHAIRMAN
REP. JAMES E. O'NEILL
CO-CHAIRMAN
SEN. JOSEPH M. SNYDER
SEN. GARY G. CORBIN
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**JOINT LEGISLATIVE STUDY COMMITTEE
ON YOUTH SPORTS PROGRAMS**

**UNIVERSITIES STUDY
COMMITTEE**
Michigan State University
Northern Michigan
University
The University of
Michigan
Wayne State University

Dear Parent or Guardian,

The State Legislature of Michigan and several state universities are interested in learning about the activity patterns of the boys and girls between the ages of five and sixteen years. Your child's class has been selected as part of a state-wide sample to determine what sports and games are being played and how many boys and girls participate in them. The activities of interest are divided into four lists as follows: those that are offered by your child's school (interscholastic and intramural) and those that are played outside of your child's school (agency-sponsored and free-play)

Since the completion and return of every questionnaire is important, your cooperation is responding to the information requested is greatly appreciated. Individual answers will remain confidential.

Thank you for your cooperation.

Vern Seefeldt
Project Director, Michigan State University
For the Universities Study Committee

PLEASE PRINT THE FOLLOWING INFORMATION

NAME: _____ GRADE: _____
 LAST FIRST
ADDRESS: _____ SEX: (circle) Male Female
 STREET ADDRESS
 CITY ZIP AGE: _____
PHONE: _____

**THANK YOU FOR YOUR COOPERATION
THE STUDY COMMITTEE**

1 2 3 4 5 6

PLEASE DO NOT WRITE IN THIS SPACE

Re (1-2)	SchD (3-4)	Sc (5-6)	SeT (7)	Com (8)	Cy (9)	I.D. (10-12)	G (13-14)	A (15-16)	S (17)	R (18)	Part (19-22)	Card (23)	Blanks (24-25)
-------------	---------------	-------------	------------	------------	-----------	-----------------	--------------	--------------	-----------	-----------	-----------------	--------------	-------------------

RECREATIONAL OR FREE-PLAY ACTIVITIES

Directions: Free-play activities are sports often played by boys and girls on a recreational or informal basis. This means that there are no official teams, organized leagues or tournaments. Such informal play may take place in backyards, in the neighborhood, at the local playground, in a YMCA building, on the beach and in other similar places. Recreational play may take place alone, with friends or with parents. It does not include school-sponsored sport programs or community-sponsored competitive programs such as Little League baseball.

For each sport listed below, circle the letter that best fits your child's level of participation in that sport on a recreational or free-play basis during the past twelve (12) months. It is important that you circle *one (1)* letter for each sport listed.

- N (Never)** Circle N if your child *did not* play the sport as a free-play activity during the past twelve (12) months.
- S (Sometimes)** Circle S if your child played the sport as a free-play activity one to three (1-3) times during the past twelve (12) months.
- O (Often)** Circle O if your child played the sport as a free-play activity four (4) or more times during the past twelve (12) months.

Example: If your child went swimming four (4) times this year, circle O after swimming. On the other hand, if your child went roller skating two (2) times during the last twelve (12) months, circle S opposite roller skating.

If your child has played any free-play sport not listed, please write the name of the sport on the blanks at the end of the list. Examples of some other sports are fencing, dancing and boxing.

Activity	NEVER (N)	SOMETIMES (S) 1-3 Times per year	OFTEN (O) 4 or more Times per yr.
	1	2	3
Archery (1-26)	N	S	O
Badminton (1-27)	N	S	O
Baseball (Hardball) (1-28)	N	S	O
Softball (1-29)	N	S	O
Basketball (1-30)	N	S	O
Bicycling (1-31)	N	S	O
Bowling (1-32)	N	S	O
Football (1-33)	N	S	O
Touch or Flag Football (1-34)	N	S	O
Golf (1-35)	N	S	O
Miniature Golf (1-36)	N	S	O
Gymnastics (1-37)	N	S	O
Horseback Riding (1-38)	N	S	O
Floor Hockey (1-39)	N	S	O
Ice Hockey (1-40)	N	S	O
Jogging (1-41)	N	S	O
Judo (1-42)	N	S	O
Karate (1-43)	N	S	O
Kickball (1-44)	N	S	O

Activity	NEVER (N)	SOMETIMES (S) 1-3 Times per year	OFTEN (O) 4 or more Times per yr.
	1	2	3
Ice Skating (1-45)	N	S	O
Roller Skating (1-46)	N	S	O
Scuba Diving (1-47)	N	S	O
Snorkeling (1-48)	N	S	O
Cross Country Skiing (1-49)	N	S	O
Downhill Skiing (1-50)	N	S	O
Water Skiing (1-51)	N	S	O
Soccer (1-52)	N	S	O
Swimming (1-53)	N	S	O
Synchronized Swimming (1-54)	N	S	O
Table Tennis (1-55)	N	S	O
Tennis (1-56)	N	S	O
Track & Field (1-57)	N	S	O
Volleyball (1-58)	N	S	O
Weight Lifting (1-59)	N	S	O
Wrestling (1-60)	N	S	O
(1-61, 1-62)		S	O
(1-63, 1-64)		S	O
(1-65, 1-66)		S	O

AGENCY-SPONSORED ACTIVITIES

Directions: Agency-sponsored activities involve competition between individuals, teams, clubs or groups that are *not* sponsored by the school. Contests are played according to an approved set of rules under the supervision of officials, such as referees, umpires, timers and judges. Often, these sport clubs or teams are organized into leagues with a specified schedule of games to be played. Examples of agency-sponsored sport programs are Little League baseball and A.A.U. swimming. Also included are community-sponsored organizations such as swimming, ice hockey, and track-and-field clubs that compete against similar groups, as well as individual sport events such as golf and tennis tournaments.

For each sport listed below, circle the letter that best fits your child's level of participation as a member of an agency-sponsored activity during the past twelve (12) months. It is important that you circle *one (1)* letter for each sport listed.

N (Never) Circle N if your child *did not* play an agency-sponsored activity during the past twelve (12) months.

S (Sometimes) Circle S if your child played the sport individually or as a member of an agency-sponsored team for only part of the season during the past twelve (12) months.

O (Often) Circle O if your child played the sport individually or as a member of an agency-sponsored team for the entire season during the past twelve (12) months. (Even if unable to play due to an injury.)

If your child has played any agency-sponsored sport not listed please write the name of the sport on one of the blanks at the end of the list. Examples of some other sports are fencing, table tennis, dancing, horse events and archery.

Activity		NEVER (N)	SOMETIMES (S) Part of Season	OFTEN (O) Entire Season	Activity		NEVER (N)	SOMETIMES (S) Part of Season	OFTEN (O) Entire Season
		1	2	3			1	2	3
Baseball (Hardball)	(2-47)	N	S	O	Cross Country	(2-61)	N	S	O
Softball	(2-48)	N	S	O	Skiing	(2-62)	N	S	O
Basketball	(2-49)	N	S	O	Downhill				
Bowling	(2-50)	N	S	O	Skiing	(2-63)	N	S	O
Boxing	(2-51)	N	S	O	Water Skiing	(2-64)	N	S	O
					Soccer	(2-65)	N	S	O
					Springboard				
					Diving	(2-66)	N	S	O
Tackle									
Football	(2-52)	N	S	O	Swimming	(2-68)	N	S	O
Touch or Flag					Synchronized				
Football	(2-53)	N	S	O	Swimming	(2-67)	N	S	O
Golf (not									
miniature)	(2-54)	N	S	O	Tennis	(2-68)	N	S	O
Gymnastics	(2-55)	N	S	O	Track &				
Ice					Field	(2-69)	N	S	O
Hockey	(2-56)	N	S	O	Weight				
Judo	(2-57)	N	S	O	Lifting	(2-70)	N	S	O
Karate	(2-58)	N	S	O	Wrestling	(2-71)	N	S	O
Cross Country									
Running	(2-59)	N	S	O		(2-72, 2-73)		S	O
Figure									
Skating	(2-60)	N	S	O		(2-74, 2-75)		S	O

THANK YOU FOR YOUR COOPERATION!

APPENDIX B

LIST OF PARTICIPATING SCHOOL DISTRICTS

LIST OF PARTICIPATING SCHOOL DISTRICTS

The following is a list of the school districts participating in the Joint Legislative Study on Youth Sports Programs.

Adrian Public	Dearborn City Private	Hudson Public
Allen Park Public	Dearborn City Public	Inkster Public
Allegan Public	Detroit City Private	Jackson Private
Alpena Public	Detroit City Public	Jackson Public
Ann Arbor Public	East China Public	Kalamazoo Private
Bay City Private	East Lansing Public	Kalamazoo Public
Bay City Public	Farmington Public	Kentwood Public
Bedford Public	Farwell Public	Lakeshore Public
Bendle Public	Flint Private	Lakeview Public
Berkely Public	Flint Public	Lakeville Public
Birmingham Private	Fraser Public	L'Anse Public
Birmingham Public	Galesburg-Augusta Public	Lansing Catholic
Brighton Public	Garden City Public	Lansing Public
Bronson Public	Grand Rapids Catholic	Lapeer Public
Calumet Public	Grand Rapids Christian	Livonia Public
Carson City Public	Grand Rapids Public	Mackinaw Public
Caseville Public	Greenville Public	Mason County Public
Cass City Public	Gwinn Public	Midland Private
Cedar Springs Public	Hamtramck Private	Midland Public
Chelsea Public	Hazle Park Public	Millington Public
Clio Public	Highland Park Public	Mio Public
Covert Public	Holland Christian	Montague Public
Davidson Public	Holland Public	Muskegon Public

LIST OF PARTICIPATING SCHOOL DISTRICTS (Continued)

North Dearborn Hts. Public	Saginaw Township Public
Northwest Public	Saline Public
Otsego Public	Sault St. Marie Public
Petosky Private	Sebewaing-Unionville
Petosky Public	Southgate Public
Pewamo Public	Taylor Public
Plymouth Public	Three Rivers Public
Pontiac Public	Traverse City Public
Port Huron Public	Utica Public
Rapid River Public	Van Dyke Public
Reed City Public	Waldron Public
Rogers City Private	Warren Public
Rogers City Public	Waterford Public
Royal Oak Private	Wayne-Westland Public
Royal Oak Public	West Ottawa Public
Saginaw Private	White Pine Public
Saginaw Public	Willow Run Public

APPENDIX C

INSTRUCTIONS TO TEACHERS K-6 GRADES

INSTRUCTION TO TEACHERS 6-11 GRADES

State of Michigan



STATE CAPITOL
BOX 340
LANSING, MICH. 48903
(313) 373-6760

SEN. CARL D. PERELLA
SPONSOR

REP. JAMES E. O'NEILL
SPONSOR

SEN. JEROME M. GUYTON

SEN. GARY S. COHEN

SEN. MICHAEL J. BARTON

SEN. MELVIN L. LUTSEN

**JOINT LEGISLATIVE STUDY COMMITTEE
ON YOUTH SPORTS PROGRAMS**

**JOINT LEGISLATIVE STUDY COMMITTEE
ON YOUTH SPORTS PROGRAMS
INSTRUCTIONS TO TEACHERS: K - 6**

Dear Teacher:

The Michigan State Legislature is sponsoring a study to determine the number of children in the state who participate in youth sports. Faculty and graduate students in the Departments of Physical Education from Michigan State University, The University of Michigan, Northern Michigan University and Wayne State University are conducting the survey to evaluate the extent of participation. Your cooperation is requested in securing this information from the parents of the children in your class. Below are instructions to assist you in this task.

Instructions

1. You will receive a supply of questionnaires from your principal to be completed by the parents or guardians of the children in your class.
2. Distribute one questionnaire to each child in your class just before the children leave for home.
3. Remind the children that they should give it to their parents (or guardians, aunt, uncle, older brother, older sister) as soon as they get home. Ask the students to return the questionnaire as soon as possible.
4. Keep the questionnaires in a secure place when they are returned. Children who did not return the questionnaire by the end of the second day should be reminded verbally to bring their completed forms to you.
5. Children who have not returned their questionnaire by the end of the fifth day should be given a second questionnaire to take home. It is important that a high percentage (90 percent or more) of the questionnaires are returned so that the results of the sample are valid. Any assistance on your part to assure a high return, such as a phone call to delinquent parents, will be greatly appreciated.
6. Allow five additional school days to have the second questionnaire returned.
7. At the time the questionnaires are returned, please ensure that the background information has been provided and that the remaining sections have been completed.

8. Near the bottom of page 1, just above the double line locate the row of numbers (1 2 3 4 5 6) and circle the number corresponding to the race of the child according to the following code:

1 = Black
2 = Chicano
3 = Native American (Indian)
4 = Oriental
5 = White
6 = Other

The question of race is a sensitive issue with some parents and, therefore, we are asking teachers to provide this information. Identification by race is an important aspect in studying the sociological effects of youth sports competition.

Individual results of this study will be treated in strictest confidence by adherence to a policy of anonymity.

9. When all the questionnaires are completed and checked or after ten total school days have passed, place all questionnaires (complete and blank) in the envelope provided and return the packet to the principal's office. Your principal will forward them to the investigating team.
10. Any questions should be directed to your principal.

Thank you for your time and effort in supporting this important project.

State of Michigan

SEN. CARL D. FURBELL
SD-CHAIRMANREP. JAMES E. O'NEAL
SD-CHAIRMAN

SEN. JOSEPH M. BYVOSE

SEN. GARY S. CONNOR

REP. MICHAEL J. BRITTON

REP. MELVIN L. LARSEN

STATE CAPITOL
BOX 340
LANSING, MICH. 48902
(617) 373-6750JOINT LEGISLATIVE STUDY COMMITTEE
ON YOUTH SPORTS PROGRAMSJOINT LEGISLATIVE STUDY COMMITTEE
ON YOUTH SPORTS PROGRAMS
INSTRUCTIONS TO TEACHERS: 6 - 12

Dear Teacher:

The Michigan State Legislature is sponsoring a study to determine the number of children in the state who participate in youth sports. Faculty and graduate students in the Departments of Physical Education from Michigan State University, The University of Michigan, Northern Michigan University, and Wayne State University are conducting the survey to evaluate the extent of participation. The students in your class have been selected from the school population of Michigan to help supply this information. We appreciate your cooperation in administering the enclosed questionnaires to the students in your class. Below are instructions to assist you in this task.

Instructions

1. Become thoroughly familiar with the questionnaire by noting (a) its format; (b) directions to the student; (c) definitions and (d) the various settings in which youth sports are sponsored. Also, note the procedures to be used by the student in responding to the questionnaire. Administration of the questionnaire will require approximately 10 - 15 minutes.
2. There are several terms defined below that are important for you and the student to understand. Please read them carefully. If you have a question about any of these terms please ask your principal for clarification.
 - a. **Recreational or Free-Play Activities** - These sports or physical activities are played outside of school. These activities could be played in backyards, in the neighborhood, at the playground, on the beach, at the YMCA and many other places. Free play may be an activity that a student does alone, with friends or with parents.
 - b. **Intramural Activities (Within-School Competition)** - This is athletic competition between teams or individuals within your own school. The activity usually takes place after school, but it might also occur during school (e.g., lunch hour). There may be some structure to these activities in that they might involve tournaments and student officials. Also, they are supervised by personnel in the physical education and/or athletic department. Please don't confuse these activities with free play, recess or physical education classes.

- c. Interscholastic Activities (Between School Competition) - This is defined as athletic competition between your school and another school. It involves officials, coaches, leagues and league tournaments. However, this does not include "sport days," and "play days."
 - d. Agency Sponsored Competition - These sports are NOT sponsored by the school or any school organization. They take place outside of school. These sports must have a sponsoring agency such as Municipal League, Boys Club, YMCA, Jewish Community Center, American Legion, local competitive leagues sponsored by your town recreational department and at least one of the following points:
 - 1) referees present during the game
 - 2) coaches assigned to teams (individuals)
 - 3) part of a league
 - 4) league tournaments
3. The following hints may be helpful to you in administering the questionnaire. These were compiled from suggestions by other teachers during pilot testing for this study.
- a. Emphasize to the student that if he or she does not know what the sport is, then circle NEVER for the response. Don't ask what it is!! Rationale: Students will know the names of the activities in which they have competed.
 - b. Read the student instructions to the class and have them read along with you for the first page only. Instruct the students to complete only the first page and not to go on to the next section until they are told to do so. Then read the student instructions to the class for the second page. Repeat this process for the third and fourth pages.
 - 1) Emphasize that they should keep in mind only the type of competition for that particular section. For example, page two is concerned with recreational sports. The student should consider ONLY free play activities for that page when filling in the list of sports.
 - 2) Rationale: Since each page of activities is specific to one type of sport (e.g. recreation), the student has to keep only one type in mind as he/she completes the page. If each student attempts to complete the questionnaire on his/her own, then he/she may tend to confuse the types of competition from one page to another.
 - c. The time period we wish the students to consider is the past 12 months. It may be helpful to delineate this time period in relationship to a holiday. For example, if this questionnaire was being administered on or near Thanksgiving, ask them to recall which activities they competed in since last Thanksgiving. For between school and within school competition, all students should consider the past 12 months even though some may have been in a different school or grade.
 - d. If a student competed on a team or on an individual basis for the entire season for a given sport, then he/she should circle OFTEN (even if side-lined by an injury) in response to his/her level of participation for that sport. If a student was injured, it would be appreciated if he/she would write in "injured" next to the sport.

APPENDIX D

FORM FOR RECORDING MISSING DATA

- e. For between school competition, (page 3) give an example naming your school versus another school in your school's league.
 - f. You might be able to help the student identify a sponsoring agency (page 4) by offering examples relevant to your community. For example, in Ypsilanti, Boy's Club and the Ypsilanti Recreation Department are popular sponsoring agencies.
 - g. Emphasize that if a student competed in a sport which is not listed, he/she may write in the name of the sport on one of the blanks provided with each list of sports.
 - h. If you are certain that your school does not sponsor within or between school competition, please ignore page 3.
4. Distribute the questionnaire to the students. Ask them not to begin writing until instructed to do so. Each student should have a pen or pencil available.
 5. Read the message to the students indicating the general purpose of the questionnaire.
 6. Have each student provide the background information requested on page 1. (PLEASE PRINT!) Do not let the students continue to the next page until told to do so. Some students may need help in determining the year of their birth.
 7. Read the instructions on page two to the students. Be sure they understand what to do. If some unique activities are available in your community that are not listed, mention them to your students. If there is a question whether an activity qualifies as a sport, have the student write its name on the space provided at the end of the list. Its appropriateness will be determined by the research team. (This also applies to the next two pages of the questionnaire.) Do not allow students to continue to the next page until told to do so.
 8. Read the two sets of instructions on page 3 to the students. Clarify questions. Interscholastic or intramural activities that are not included should be written in the spaces at the end of each list.
 9. Read the instructions on page 4 to the students. Answer questions. Be sure they understand what agency-sponsored sports include.
 10. Collect the questionnaires from the students and thank them for their cooperation.
 11. Administer the questionnaires at an appointed class time. Do not attempt to include students, by subsequent administrations, who were absent on the initial administration.
 12. Near the bottom of page 1 just above the double line locate the row of numbers (1 2 3 4 5 6) and circle the number corresponding to the race of the student according to the following code:
 1. Black
 2. Chicano
 3. Native American (Indian)
 4. Oriental
 5. White
 6. Other

Because of the sensitive nature of questions dealing with race we are asking teachers to provide this information. Identification by race is an important aspect in studying the sociological effects of youth sports competition.

Individual results of this study will be treated in strictest confidence by adherence to a policy of anonymity.

13. Please ensure that the background information has been provided and that the remaining sections have been completed.
14. Place all questionnaires (complete and blank) in the envelope provided and return the packet to the principal's office. Your principal will forward the questionnaires to the university team.
15. Any questions should be directed to your principal.

Thank you for your time and effort in supporting this important project.

[illegible]

In addition, we request the following information pertaining to the various classrooms in the sample

[illegible]

APPENDIX E

FORM FOR RECORDING PERCENT RESPONSE

APPENDIX F

LIST OF ACTIVITIES AND VARIABLE NUMBERS

CODING OF DATA CARDS

LIST OF ACTIVITIES AND VARIABLE NUMBERS

Activity	Variable Number			
	FP	IM	IN	AS
Archery	14			
Badminton	15			
Baseball (hardball)	16		65	85
Basketball	18	52	67	87
Bicycling	19			
Bowling	20			88
Boxing				89
Tackle Football	21		68	90
Touch or Flag Football	22	53	69	91
Golf	23		70	92
Miniature Golf	24			
Gymnastics	25	56	71	93
Field Hockey		54	72	
Floor Hockey	27	55		
Ice Hockey	28		73	94
Horseback Riding	26			
Jogging	29			
Judo	30			95
Karate	31			96
Kickball	32			
Cross Country Running			74	97
Figure Skating				98
Ice Skating	33			

LIST OF ACTIVITIES AND VARIABLE NUMBERS - Page 2

Activity	Variable Number			
	FP	IM	IN	AS
Roller Skating	34			
Scuba Diving	35			
Snorkeling	36			
Cross Country Skiing	37			99
Downhill Skiing	38	57	75	100
Water Skiing	39			101
Soccer	40	58	76	102
Softball	17	59	66	86
Springboard Diving			77	103
Swimming	41		78	104
Synchronized Swimming	42		79	105
Table Tennis	43	60		
Tennis	44	61	80	106
Track & Field	45		81	107
Volleyball	46	62	82	
Weight Lifting	47			108
Wrestling	48	63	83	109

Free Play = Variables 14-51
 Intramural = Variables 52-64
 Interscholastic = Variables 65-84
 Agency-Sponsored = Variables 85-111

CODING OF DATA CARDS

Identification Information:	<u>Variable Number</u>	<u># of Columns</u>	<u>Column Number</u>
Region (No.s from 1-10)	1	2	1-2
School district number (alphabetize and label)	2	2	3-4
School number (up to each institution)	3	2	5-6
School type (i.e. Public, private)	4	1	7
Community setting for each school (i.e. Rural, urban, suburban)	5	1	8
Cycle	6	1	9
Student's I.D. number (within school, within grade)	7	3	10-12
Grade	8	2	13-14
Age (years)	9	2	15-16
Sex	10	1	17
Race	11	1	18
Level of Participation	12	4	19-22
Card	13	1	23
Blanks		2	24-25
Activities - Free-Play			
Archery (1-26)	14	1	26
Badminton (1-27)	15	1	27
Baseball (hardball) (1-28)	16	1	28
Softball (1-29)	17	1	29
Basketball (1-30)	18	1	30
Bicycling (1-31)	19	1	31
Bowling (1-32)	20	1	32
Tackle Football (1-33)	21	1	33
Touch or flag football (1-34)	22	1	34
Golf (1-35)	23	1	35
Minature golf (1-36)	24	1	36
Gymnastics (1-37)	25	1	37
Horseback riding (1-38)	26	1	38
Floor hockey (1-39)	27	1	39
Ice hockey (1-40)	28	1	40
Jogging (1-41)	29	1	41
Judo (1-42)	30	1	42
Karate (1-43)	31	1	43
Kickball (1-44)	32	1	44
Ice skating (1-45)	33	1	45
Roller skating (1-46)	34	1	46
Scuba diving (1-47)	35	1	47
Snorkeling (1-48)	36	1	48
Cross country skiing (1-49)	37	1	49
Downhill skiing (1-50)	38	1	50
Water skiing (1-51)	39	1	51
Soccer (1-52)	40	1	52

	<u>Variable Number</u>	<u># of Columns</u>	<u>Column Number</u>
Swimming (1-53)	41	1	53
Synchronized swimming (1-54)	42	1	54
Table tennis (1-55)	43	1	55
Tennis (1-56)	44	1	56
Track & Field (1-57)	45	1	57
Volleyball (1-58)	46	1	58
Weight lifting (1-59)	47	1	59
Wrestling (1-60)	48	1	60
Blanks (1-61 thru 66)		6	61-66
Activities - Intramurals			
Basketball	49	1	67
Touch or flag football (1-68)	50	1	68
Field hockey (1-69)	51	1	69
Floor hockey (1-70)	52	1	70
Gymnastics (1-71)	53	1	71
Downhill skiing (1-72)	54	1	72
Soccer (1-73)	55	1	73
Softball (1-74)	56	1	74
Table tennis (1-75)	57	1	75
Tennis (1-76)	58	1	76
Volleyball (1-77)	59	1	77
Wrestling (1-78)	60	1	78
Blanks (1-79, 80)		2	79-80
Begins Card 2			
Identification Information:			
Region	1	2	1-2
School district number	2	2	3-4
School number	3	2	5-6
School type (i.e. Public Private)	4	1	7
Community setting for each school (i.e. Rural, urban, suburban)	5	1	8
Cycle	6	1	9
Student's I.D. number	7	3	10-12
Grade	8	2	13-14
Age (years)	9	2	15-16
Sex	10	1	17
Race	11	1	18
Level of participation	12	4	19-22
Card	13	1	23
Blanks		2	24-25

	<u>Variable Number</u>	<u># of Columns</u>	<u>Column Number</u>
Activities - Interscholastic			
Baseball (hardball) (2-26)	61	1	26
Softball (2-27)	62	1	27
Basketball (2-28)	63	1	28
Tackle football (2-29)	64	1	29
Touch or flag football (2-30)	65	1	30
Golf (not miniature) (2-31)	66	1	31
Gymnastics (2-32)	67	1	32
Field hockey (2-33)	68	1	33
Ice hockey (2-34)	69	1	34
Cross country running (2-35)	70	1	35
Downhill skiing (2-36)	71	1	36
Soccer (2-37)	72	1	37
Springboard diving (2-38)	73	1	38
Swimming (2-39)	74	1	39
Synchronized swimming (2-40)	75	1	40
Tennis (2-41)	76	1	41
Track & field (2-42)	77	1	42
Volleyball (2-43)	78	1	43
Wrestling (2-44)	79	1	44
Blanks (2-45, 46)		2	45-46
Activities - Agency-Sponsored			
Baseball (hardball) (2-47)	80	1	47
Softball (2-48)	81	1	48
Basketball (2-49)	82	1	449
Bowling (2-50)	83	1	50
Boxing (2-51)	84	1	51
Tackle football (2-52)	85	1	52
Touch or flag football (2-53)	86	1	53
Golf (2-54)	87	1	54
Gymnastics (2-55)	88	1	55
Ice hockey (2-56)	89	1	56
Judo (2-57)	90	1	57
Karate (2-58)	91	1	58
Cross country running (2-59)	92	1	59
Figure skating (2-60)	93	1	60
Cross country skiing (2-61)	94	1	61
Downhill skiing (2-62)	95	1	62
Water skiing (2-63)	96	1	63
Soccer (2-64)	97	1	64
Springboard diving	98	1	65
Swimming (2-66)	99	1	66
Synchronized swimming (2-67)	100	1	67
Tennis (2-68)	101	1	68
Track & Field (2-69)	102	1	69
Weight lifting (2-70)	103	1	70
Wrestling (2-71)	104	1	71

APPENDIX G

PROTOTYPE OF CORSTABS COMPUTER OUTPUT

This designation indicates that the particular table is for INTRAMURAL BASKETBALL. Each activity on the questionnaire has its own table.

[illegible]

	GRAD-SEN		GRADE 10		GRADE 11		GRADE 12		TOTAL
	BOY	GIRL	BOY	GIRL	BOY	GIRL	BOY	GIRL	
1	1	1	21	22	21	21	21	21	86
2	1	1	8.0	9.0	5.0	5.0	5.0	5.0	30.0
3	1	1	1.0	2.0	2.0	2.0	2.0	2.0	10.0
4	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
5	1	1	2.0	2.0	2.0	2.0	2.0	2.0	8.0
6	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
7	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
8	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
9	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
10	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
11	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
12	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
13	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
14	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
15	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
16	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
17	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
18	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
19	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
20	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
21	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
22	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
23	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
24	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
25	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
26	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
27	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
28	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
29	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
30	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
31	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
32	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
33	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
34	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
35	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
36	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
37	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
38	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
39	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
40	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
41	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
42	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4.0
43	1	1	1.0	1.0	1.0	1.0	1.0	1.0	4

These designations indicate that the COLUMNS of the table refer to the grade and sex of the surveyed students. These GRADEX tables have columns for MALES and FEMALES from KINDERGARTEN through GRADE 11. In some cases there are AGESEX tables. These have columns for MALES and FEMALES from AGE 5 through AGE 17.

These designations show that the RO'S of the table refer to the amount of participation in the particular activity. Definitions of these terms can be found in the questionnaire.

This figure indicates the TOTAL NUMBER of GRADE 10 FEMALES who were questioned in the survey.

This figure indicates the PERCENTAGE of surveyed students who were GRADE 10 FEMALES.

This figure indicates the TOTAL NUMBER of students questioned in the SCHOOL DISTRICT.

This figure indicates the TOTAL NUMBER of surveyed students who participated in the particular activity OFTEN.

This figure indicates the PERCENTAGE of the total number of surveyed students who participated in the particular activity OFTEN.

This figure indicates the TOTAL NUMBER of surveyed GRADE 11 FEMALES who participated in the particular activity OFTEN.

This figure indicates the PERCENTAGE of OFTEN participating students who were GRADE 11 FEMALES.

This figure indicates the PERCENTAGE of surveyed GRADE 11 FEMALES who participated in the particular activity OFTEN.

APPENDIX H

RECREATIONAL MALE PARTICIPATION STATEWIDE BY AGE

RECREATIONAL FEMALE PARTICIPATION STATEWIDE BY AGE

	AGE 5 (N=1519)		AGE 6 (N=3001)		AGE 7 (N=3257)		AGE 8 (N=3393)		AGE 9 (N=3597)		AGE 10 (N=3598)	
ARCHERY	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	71	4.7	197	6.6	278	8.5	353	10.4	516	14.3	601	16.7
OPEN	28	1.8	106	3.6	157	4.8	197	5.8	311	8.6	339	9.4
TOTAL	99	6.5	305	10.2	435	13.4	550	16.2	827	23.0	940	26.1
BADMINTON	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	365	24.0	729	24.3	979	30.0	1126	33.2	1320	36.7	1420	39.5
OPEN	106	7.0	236	7.9	322	9.9	393	11.6	506	14.1	539	15.0
TOTAL	471	31.0	965	32.2	1300	39.9	1519	44.8	1826	50.8	1959	54.4
BASBALL	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	172	11.3	478	15.9	631	19.4	720	21.2	813	22.7	796	22.1
OPEN	151	9.9	416	13.9	563	17.3	653	19.2	745	20.7	745	20.7
TOTAL	323	21.3	894	29.8	1194	36.7	1373	40.4	1558	43.4	1541	42.8
SOFTBALL	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	520	34.2	1030	34.3	1087	33.4	1094	32.2	1147	31.9	1212	33.7
OPEN	473	31.1	1060	35.3	1359	41.7	1567	46.2	1634	47.1	1661	46.2
TOTAL	993	65.4	2090	69.6	2446	75.1	2661	78.4	2881	79.0	2873	79.8
BASKETBALL	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	362	23.8	857	28.6	983	30.2	1047	30.9	1137	31.6	1054	29.3
OPEN	282	17.2	677	22.6	985	30.2	1367	40.3	1670	46.4	1957	54.4
TOTAL	644	41.1	1534	51.1	1968	60.4	2414	71.1	2807	78.0	3011	83.7
BICYCLING	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	205	13.5	301	10.0	254	7.8	244	7.2	238	6.6	286	7.9
OPEN	1135	74.7	2447	81.1	2761	84.8	2948	86.5	3153	87.7	3136	87.2
TOTAL	1340	88.2	2748	91.6	3015	92.6	3192	94.1	3391	94.3	3422	95.1
BOWLING	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	356	23.4	714	23.8	939	28.8	1100	32.4	1341	37.3	1471	40.9
OPEN	96	6.3	212	7.1	317	9.7	427	12.6	631	17.5	736	20.5
TOTAL	452	29.8	926	30.9	1256	38.6	1527	45.0	1972	54.8	2207	61.3
FACTILE FOOTBALL	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	257	16.9	582	19.4	774	23.8	952	28.1	1045	29.1	1043	29.0
OPEN	192	12.6	444	14.8	750	23.0	1012	29.8	1392	38.7	1628	45.2
TOTAL	449	29.6	1026	34.2	1524	46.8	1964	57.9	2437	67.8	2671	74.2
FLAG FOOTBALL	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	318	20.9	805	26.8	923	28.3	1023	30.2	1119	31.1	1128	31.4
OPEN	250	17.1	566	18.9	870	26.7	1076	31.7	1358	37.8	1456	40.5
TOTAL	577	38.0	1371	45.7	1793	55.1	2099	61.9	2477	68.9	2584	71.8
GOLF	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	94	6.2	194	6.5	276	8.5	286	8.4	345	9.6	418	11.6
OPEN	38	2.5	62	2.1	79	2.4	125	3.7	163	4.5	247	6.9
TOTAL	132	8.7	256	8.5	355	10.9	411	12.1	508	14.1	665	18.5
MINIATURE GOLF	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	255	16.8	563	18.8	686	21.1	859	25.3	968	26.9	1073	29.8
OPEN	46	3.0	119	4.0	167	5.1	181	5.3	256	7.1	256	7.1
TOTAL	301	19.8	682	22.7	853	26.2	1040	30.7	1224	34.0	1329	36.9
GYMNASTICS	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	331	21.8	703	23.4	766	23.5	814	24.0	964	26.8	912	25.3
OPEN	334	22.0	681	22.7	766	23.5	801	23.6	831	23.1	749	20.8
TOTAL	665	43.8	1384	46.1	1532	47.0	1615	47.6	1795	49.9	1661	46.2
HORSEBACK RIDING	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	264	17.4	511	17.0	569	17.5	607	17.9	715	19.9	800	22.2
OPEN	65	4.3	119	4.0	159	4.9	169	5.0	262	7.3	242	6.7
TOTAL	329	21.7	630	21.0	728	22.4	776	22.9	977	27.2	1042	29.0
FLOOR HOCKEY	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	101	6.6	259	8.6	381	11.7	500	14.7	690	19.2	835	23.2
OPEN	96	6.3	202	6.7	316	9.7	419	12.3	559	15.5	638	17.7
TOTAL	197	13.0	461	15.4	697	21.4	919	27.1	1249	34.7	1473	40.9
ICE HOCKEY	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	62	4.1	177	5.9	260	8.0	392	11.6	491	13.7	524	14.6
OPEN	47	3.1	143	4.8	234	7.2	306	9.0	380	10.6	506	14.1
TOTAL	109	7.2	320	10.7	494	15.2	698	20.6	871	24.2	1030	28.6
JUDO	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	258	17.0	563	18.8	765	23.5	880	25.9	1087	30.2	1194	33.2
OPEN	182	12.0	408	13.6	478	14.7	569	16.8	669	18.6	718	20.0
TOTAL	440	29.0	971	32.4	1243	38.2	1449	42.7	1756	48.8	1912	53.1
JUMP	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	35	2.3	99	3.3	112	3.4	148	4.4	166	4.6	182	5.1
OPEN	14	0.9	39	1.3	53	1.6	49	1.4	68	1.9	101	2.8
TOTAL	49	3.2	138	4.6	165	5.1	197	5.8	234	6.5	283	7.9
AGE 11 (N=3918)	AGE 12 (N=4470)	AGE 13 (N=4597)	AGE 14 (N=4696)	AGE 15 (N=4469)	AGE 16 (N=4170)							
N	%	N	%	N	%	N	%	N	%	N	%	
859	21.9	1264	28.3	1427	31.0	1403	29.9	1357	30.4	1152	27.6	
478	12.2	673	15.1	752	16.4	653	13.9	602	13.5	548	13.1	
1337	34.1	1937	43.3	2179	47.4	2056	43.8	1959	43.8	1700	40.8	
1667	42.5	2091	46.8	2073	45.1	2111	45.0	1927	43.1	1788	42.9	
674	17.2	748	16.7	867	18.8	745	15.9	652	14.6	537	12.9	
2341	59.7	2839	63.5	2935	63.8	2856	60.8	2579	57.7	2325	55.8	
933	23.8	1212	27.1	1233	26.8	1375	29.3	1360	30.4	1389	33.3	
2326	59.4	2724	60.9	2907	63.2	2821	60.1	2523	56.5	2189	52.5	
3259	83.2	3936	88.1	4140	90.1	4196	89.4	3883	86.9	3578	85.8	
1389	35.5	1882	42.1	1967	42.8	1937	41.2	1822	40.8	1685	40.4	
1721	43.9	1733	38.9	1794	39.0	1912	40.7	1927	43.1	1727	40.9	
3110	79.4	3621	81.0	3761	81.8	3849	82.0	3645	81.7	3392	81.3	
1054	26.9	1254	28.1	1240	27.0	1185	25.2	1135	25.4	1093	26.2	
2444	62.4	2852	63.8	3060	66.6	3198	68.1	3020	67.6	2712	65.0	
3498	89.3	4106	91.9	4333	93.6	4383	93.3	4155	93.0	3885	91.2	
374	9.5	518	11.6	571	12.4	604	12.9	640	14.3	760	18.2	
3356	85.7	3770	84.3	3820	83.1	3857	82.1	3624	80.6	3141	75.3	
3730	95.2	4288	95.9	4391	95.5	4461	95.0	4244	95.0	3911	93.5	
1668	42.6	1955	43.7	2028	44.1	2024	43.1	1927	43.1	1767	42.4	
259	6.5	245	5.5	262	5.7	242	5.2	212	4.8	161	3.9	
2626	67.0	3245	72.6	3584	78.0	3726	79.3	3639	81.4	3382	81.1	
1115	28.5	1312	29.4	1324	28.8	1385	29.7	1404	31.4	1389	33.3	
2073	52.9	2617	58.5	2864	62.3	2794	59.5	2543	56.9	2220	53.5	
3188	81.4	3929	87.9	4188	91.1	4185	89.2	3947	88.3	3618	86.8	
1376	35.1	1851	41.4	2032	44.2	1967	41.9	1782	39.9	1645	39.4	
1530	40.6	1565	35.0	1550	33.7	1601	34.1	1520	34.0	1426	34.2	
2966	75.7	3416	76.4	3582	77.9	3568	76.0	3302	73.9	3071	73.6	
612	15.6	787	17.6	904	19.7	945	20.1	820	18.3	844	20.2	
298	7.6	529	11.8	713	15.5	795	16.9	845	18.8	848	20.3	
910	23.2	1316	29.4	1617	35.2	1740	37.1	1665	37.3	1592	40.6	
1238	31.6	1406	31.5	1625	35.3	1664	35.4	1599	35.8	1527	36.6	
369	9.4	545	12.2	567	12.3	552	11.8	541	12.1	487	11.7	
1607	41.0	1951	43.6	2192	47.7	2216	47.2	2140	47.9	2014	48.3	
990	25.3	1181	26.4	1121	24.4	1092	23.3	960	21.5	852	20.4	
784	20.0	634	14.2	528	11.5	438	9.3	321	7.2	276	6.7	
1774	45.3	1815	40.6	1649	35.9	1530	32.6	1281	28.7	1130	27.1	
1039	26.5	1353	31.2	1499	32.6	1611	34.3	1424	31.9	1304	31.3	
336	8.6	508	11.4	547	11.9	518	11.0	505	11.3	462	11.1	
1375	35.1	1901	42.5	2046	44.5	2129	45.3	1929	43.2	1766	42.4	
1079	27.5	1397	31.3	1471	32.0	1465	31.2	1284	28.7	1082	25.9	
782	20.0	826	18.5	831	18.1	741	15.8	587	13.1	463	11.1	
1861	47.5	2223	49.7	2302	50.1	2206	47.0	1871	41.9	1545	37.1	
807	20.6	1028	23.0	1115	24.3	1055	22.5	1016	22.7	860	20	

	AGE 5 (N=1519)		AGE 6 (N=1501)		AGE 7 (N=3257)		AGE 8 (N=3393)		AGE 9 (N=3597)		AGE 10 (N=3598)	
KARATE	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	71	4.7	169	5.6	161	4.9	204	6.0	211	5.9	233	6.5
OFTEN	31	2.0	74	2.5	101	3.1	88	2.6	129	3.6	153	4.3
TOTAL	102	6.7	243	8.1	262	8.0	292	8.6	340	9.5	386	10.7

KICKBALL

SOMETIMES	416	27.4	893	29.8	939	28.8	972	28.6	1051	29.2	1066	29.6
OFTEN	350	23.0	806	26.9	1109	36.8	1566	46.2	1796	49.9	1811	52.0
TOTAL	766	50.4	1701	56.7	2138	65.6	2538	74.8	2847	79.1	2937	81.6

ICE SKATING

SOMETIMES	374	24.6	774	25.8	897	27.5	937	27.6	1075	29.9	1092	30.4
OFTEN	269	17.7	669	22.3	876	26.9	1003	29.6	1163	32.3	1229	35.0
TOTAL	643	42.3	1443	48.1	1773	54.4	1940	57.2	2238	62.2	2351	65.3

ROLLER SKATING

SOMETIMES	330	21.7	714	23.8	881	27.0	1048	30.9	1232	34.3	1334	37.1
OFTEN	122	8.0	372	12.4	537	16.5	552	17.4	781	21.8	877	24.4
TOTAL	452	29.8	1086	36.2	1418	43.5	1600	48.3	2013	56.0	2211	61.5

SCUBA DIVING

SOMETIMES	2	0.1	8	0.3	20	0.6	16	0.5	38	1.1	63	1.8
OFTEN	1	0.1	4	0.1	17	0.5	12	0.4	18	0.5	42	1.2
TOTAL	3	0.2	12	0.4	37	1.1	28	0.8	56	1.6	105	2.9

SPORKING

SOMETIMES	17	1.1	69	2.3	133	4.1	185	5.5	288	8.0	340	9.4
OFTEN	9	0.6	39	1.3	81	2.6	105	3.1	152	4.2	177	4.9
TOTAL	26	1.7	108	3.6	218	6.7	290	8.5	438	12.2	515	14.3

CROSS COUNTRY SKIING

SOMETIMES	17	1.1	30	1.0	42	1.3	49	1.4	83	2.3	98	2.7
OFTEN	3	0.2	28	0.9	26	0.8	52	1.5	58	1.6	54	1.5
TOTAL	20	1.3	58	1.9	68	2.1	101	3.0	141	3.9	152	4.2

DOWNHILL SKIING

SOMETIMES	38	2.5	81	2.7	132	4.1	148	4.4	197	5.5	218	6.1
OFTEN	21	1.4	66	2.2	89	2.7	127	3.7	152	4.2	162	4.5
TOTAL	59	3.9	147	4.9	221	6.8	275	8.1	349	9.7	380	10.6

WATER SKIING

SOMETIMES	8	0.5	30	1.0	55	1.7	112	3.3	199	5.5	248	6.9
OFTEN	0	0.0	13	0.4	31	1.0	45	1.3	87	2.4	130	3.6
TOTAL	8	0.5	43	1.4	86	2.6	157	4.6	286	8.0	378	10.5

SOCCER

SOMETIMES	77	5.1	205	6.8	372	11.4	604	17.8	812	22.6	973	27.0
OFTEN	41	2.7	110	3.7	224	6.9	391	11.5	562	15.6	706	19.6
TOTAL	118	7.8	315	10.5	596	18.3	995	29.3	1374	38.2	1679	46.7

SWIMMING

SOMETIMES	298	19.6	560	18.7	533	16.4	534	15.7	586	16.3	605	16.8
OFTEN	936	61.6	1954	65.1	2219	68.1	2356	69.4	2612	72.6	2609	72.5
TOTAL	1234	81.2	2514	83.8	2752	84.5	2890	85.2	3198	88.9	3214	89.3

SYNCHRONIZED SWIMMING

SOMETIMES	27	1.8	32	1.1	74	2.3	109	3.2	166	4.6	205	5.7
OFTEN	15	1.0	42	1.4	64	2.0	92	2.7	115	3.2	170	4.7
TOTAL	42	2.8	74	2.5	138	4.2	201	5.9	281	7.8	375	10.4

TABLE TENNIS

SOMETIMES	209	13.8	565	18.8	692	21.2	883	26.0	1084	30.1	1161	32.3
OFTEN	106	7.0	235	7.8	377	11.6	530	15.6	740	20.6	904	25.1
TOTAL	315	20.7	800	26.7	1069	32.8	1413	41.6	1824	50.7	2065	57.4

TENNIS

SOMETIMES	126	8.3	298	9.9	415	12.7	566	16.7	739	20.5	900	25.0
OFTEN	30	2.0	93	3.1	171	5.3	229	6.7	357	9.9	479	13.3
TOTAL	156	10.3	391	13.0	586	18.0	795	23.4	1096	30.5	1379	38.3

TRACK & FIELD

SOMETIMES	73	4.8	210	7.0	319	9.8	496	14.6	693	19.3	840	23.3
OFTEN	41	2.7	110	3.7	173	5.3	232	6.8	356	9.9	468	13.0
TOTAL	114	7.5	320	10.7	492	15.1	728	21.5	1049	29.2	1308	36.4

VOLLEYBALL

SOMETIMES	170	11.2	428	14.3	678	20.8	894	26.3	1148	31.9	1355	37.7
OFTEN	32	2.1	120	4.0	194	6.0	322	9.5	481	13.4	583	16.2
TOTAL	202	13.3	548	18.3	872	26.8	1216	35.8	1629	45.3	1938	53.9

WEIGHT LIFTING

SOMETIMES	90	5.9	224	7.5	354	10.9	505	14.9	693	19.3	923	25.7
OFTEN	32	2.1	83	2.8	121	3.7	177	5.2	304	8.5	383	10.6
TOTAL	122	8.0	307	10.2	475	14.6	682	20.1	997	27.7	1306	36.3

WRESTLING

SOMETIMES	196	12.9	462	15.4	618	19.0	711	21.0	839	23.3	957	26.6
OFTEN	291	19.2	630	21.0	719	22.1	787	23.2	875	24.3	900	25.0
TOTAL	487	32.1	1092	36.4	1337	41.1	1498	44.1	1714	47.7	1857	51.6

	AGE 11 (N=3918)		AGE 12 (N=4470)		AGE 13 (N=4597)		AGE 14 (N=4696)		AGE 15 (N=4469)		AGE 16 (N=4170)	
	N	%	N	%	N	%	N	%	N	%	N	%
KARATE	310	7.9	413	9.2	446	9.7	384	8.2	304	6.8	296	7.1
OFTEN	149	3.8	208	4.7	215	4.7	251	5.3	236	5.3	234	5.6
TOTAL	459	11.7	621	13.9	661	14.4	635	13.5	540	12.1	530	12.7

SOMETIMES	1357	34.6	1907	42.7	2175	47.3	2183	46.5	1755	39.3	1372	32.9
OFTEN	2002	51.1	1936	43.3	1411	30.7	894	19.0	553	11.9	359	8.6
TOTAL	3359	85.7	3643	86.0	3586	78.0	3077	65.5	2288	51.2	1731	41.5

SOMETIMES	1198	30.6	1448	32.4	1503	32.7	1462	31.1	1425	31.4	1270	30.5
OFTEN	1426	36.4	1620	36.4	1690	36.8	1638	34.2	1195	26.7	1225	29.4
TOTAL	2624	67.0	3077	68.8	3193	69.5	3076	65.4	2620	58.1	2495	59.9

SOMETIMES	1403	36.1	1744	39.0	1912	41.6	1883	40.1	1796	38.2	1495	35.9
OFTEN	1138	29.0	1332	31.1	1368	29.8	1291	27.3	1026	23.0	877	21.3
TOTAL	2651	67.2	3136	70.2	3280	71.4	3164	67.4	2732	61.1	2318	55.6

SOMETIMES	134	3.4	251	5.6	313	6.8	293	6.2	266	6.0	264	6.3
OFTEN	65	1.7	75	1.7	93	2.0	118	2.5	100	2.2	126	3.1
TOTAL	199	5.1	326	7.3	406	8.8	411	8.8	366	8.2	392	9.4

SOMETIMES	606	15.5	981	21.9	1065	23.2	1000	21.3	903	20.2	778	18.7
OFTEN	307	7.8	447	10.2	475	10.3	539	11.5	450	11.0	441	10.6
TOTAL	913	23.3	1430	32.2	1540	33.5	1539	32.8	1393	31.2	1219	29.2

SOMETIMES	140	3.6	263	5.9	313	6.8	287	6.1	243	5.4	264	6.3
OFTEN	68	1.7	124	2.8	138	3.0	133	2.8	135	3.0	130	3.1
TOTAL	208	5.3	387	8.7	451	9.8	420	8.9	378	8.5	394	9.4

SOMETIMES	285	7.3	409	9.1	479	10.4	481	10.2	438	9.8	434	10.4
OFTEN	239	6.1	371	8.3	421	9.2	453	9.6	500	11.2	505	12.1
TOTAL	524	13.4	780	17.4	900	19.6	934	19.9	938	21.0	939	22.5

SOMETIMES	457	11.7	712	15.9	843	18.3	910	19.4	876	19.6	896	21.5
OFTEN	247	6.3	441	9.8	636	13.8	715	15.2	851	19.0	872	20.4
TOTAL	704	18.0	1153	25.8	1479	32.2	1625	34.6	1727	38.6	1768	41.9

SOMETIMES	1330	33.9	1965	44.0	2095	45.6	2047	43.6	1890	42.3	1530	36.7
OFTEN	979	25.0	1025	23.0	972	21.1	823	17.5	678	15.2	528	12.7
TOTAL	2309	58.9	2991	66.9	3067	66.7	2870	61.1	2568	57.5	2058	49.4

SOMETIMES	634	16.2	867	19.4	944	20.5	946	20.1	908	20.3	863	20.7
OFTEN	2927	74.7	3235	72.4	3274	71.2	3332	71.0	3164	70.8	2908	69.7
TOTAL	3561	90.9	4102	91.8	4218	91.8	4278	91.1	4072	91.1	3771	90.4

SOMETIMES	322	8.2	467	10.4	442	9.6	463	9.9	376	8.4	378	9
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	AGE 5 (N=1759)		AGE 6 (N=2950)		AGE 7 (N=3246)		AGE 8 (N=3525)		AGE 9 (N=3816)		AGE 10 (N=3756)			AGE 11 (N=4060)		AGE 12 (N=4514)		AGE 13 (N=4566)		AGE 14 (N=4535)		AGE 15 (N=4281)		AGE 16 (N=3534)	
ARCHERY	N	%	N	%	N	%	N	%	N	%	N	%		N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	20	1.1	50	1.7	96	3.0	113	3.2	212	5.6	289	7.7		468	11.5	707	15.7	694	15.2	680	15.0	644	15.0	597	15.2
OFTEN	12	0.7	9	0.3	30	0.9	37	1.0	61	1.6	94	2.5		121	3.0	176	3.9	150	3.3	123	2.8	117	2.7	123	3.1
TOTAL	32	1.8	59	2.0	126	3.9	150	4.3	273	7.2	383	10.2		589	14.5	883	19.6	844	18.5	803	17.8	761	17.8	720	16.3
BADMINTON																									
SOMETIMES	331	18.6	668	22.6	871	26.8	1124	31.3	1368	35.8	1467	39.1		1723	42.4	2076	46.0	2163	47.4	2119	46.7	2021	47.2	1867	47.5
OFTEN	72	4.1	139	4.7	266	8.2	371	10.5	479	12.5	630	16.8		831	20.5	1070	23.7	1150	25.2	1223	27.0	1162	27.1	1008	25.6
TOTAL	403	22.9	807	27.4	1137	35.0	1495	41.8	1846	48.4	2097	55.8		2556	63.0	3146	69.7	3313	72.6	3342	73.7	3183	74.4	2875	73.1
BASKETBALL																									
SOMETIMES	68	3.9	195	6.6	299	9.2	461	13.1	662	17.3	907	24.1		1343	33.1	1830	40.5	1920	42.2	1921	42.4	1751	40.9	1493	38.0
OFTEN	31	1.8	62	2.1	129	4.0	183	5.2	263	6.5	527	14.0		774	19.1	1156	26.5	1283	28.1	1146	25.3	919	21.5	726	18.5
TOTAL	99	5.6	257	8.7	428	13.2	644	18.3	1025	26.9	1434	38.2		2117	52.1	3026	67.0	3212	70.3	3067	67.6	2670	62.4	2219	56.4
SOFTBALL																									
SOMETIMES	393	22.3	801	27.2	1065	32.8	1271	36.1	1454	38.1	1497	39.9		1630	40.1	1760	39.0	1768	38.7	1837	40.5	1799	42.0	1769	45.0
OFTEN	173	9.8	316	10.7	503	15.5	711	20.2	1086	28.5	1309	34.9		1659	40.9	2135	47.3	2256	49.4	2188	48.2	1921	44.9	1595	40.5
TOTAL	566	32.2	1117	37.9	1568	48.3	1982	56.2	2540	66.6	2806	74.7		3289	81.0	3895	86.3	4024	88.1	4025	88.6	3720	86.9	3364	85.5
BASKETBALL																									
SOMETIMES	204	11.6	432	14.6	667	20.5	923	26.2	1187	31.1	1393	37.1		1552	38.2	1738	38.5	1770	38.8	1864	41.1	1823	42.6	1764	44.2
OFTEN	79	4.5	157	5.3	260	8.0	360	10.1	524	14.9	882	23.1		1627	40.1	2146	47.5	2253	49.3	2260	45.4	1756	41.1	1271	32.3
TOTAL	283	16.1	629	21.3	1027	31.6	1447	41.0	2069	54.2	2499	66.3		3179	78.3	3884	86.0	4023	88.1	3924	86.5	3581	83.6	3035	77.1
BICYCLING																									
SOMETIMES	193	11.0	299	10.1	305	9.4	325	9.2	307	8.0	325	8.7		435	10.7	526	11.7	518	11.3	556	12.3	548	12.8	555	14.1
OFTEN	1319	75.0	2359	80.0	2648	81.6	2943	83.5	3268	85.6	3236	86.2		3481	85.7	3045	85.3	3902	85.5	3840	84.7	3677	84.3	3228	82.1
TOTAL	1512	86.0	2658	90.1	2953	91.0	3268	92.7	3575	93.7	3561	94.8		3916	96.5	4375	96.5	4420	96.8	4396	96.9	4155	97.1	3783	96.2
BOWLING																									
SOMETIMES	290	16.5	638	21.6	798	24.6	1017	28.9	1274	33.4	1364	36.3		1765	43.5	2104	46.6	2162	47.3	2191	48.3	1976	46.2	1831	46.5
OFTEN	64	3.6	114	3.9	195	6.0	313	8.9	440	11.5	530	14.1		677	16.7	999	22.1	1165	25.5	1256	27.7	1322	30.9	1330	33.8
TOTAL	354	20.1	752	25.5	993	30.6	1330	37.7	1714	44.9	1894	50.4		2442	60.1	3103	68.7	3327	72.9	3447	76.0	3298	77.0	3161	80.4
TACKLE FOOTBALL																									
SOMETIMES	54	3.1	101	3.4	167	5.1	240	6.8	421	11.0	597	15.9		1011	24.9	1551	34.4	1644	36.0	1670	36.8	1455	34.0	1169	29.7
OFTEN	16	0.9	37	1.3	68	2.1	97	2.8	158	4.1	239	6.4		430	10.6	694	15.4	754	16.5	683	15.1	567	13.2	444	11.3
TOTAL	70	4.0	138	4.7	235	7.2	337	9.6	579	15.2	836	22.3		1441	35.5	2245	49.7	2398	52.5	2353	51.9	2022	47.2	1613	41.0
FLAG FOOTBALL																									
SOMETIMES	128	7.3	271	9.2	340	10.5	492	14.0	684	17.9	912	24.3		1241	30.6	1704	37.7	1864	40.8	1856	40.9	1766	41.3	1569	39.9
OFTEN	41	2.3	83	2.8	117	3.6	179	5.1	276	7.2	367	9.6		523	12.9	705	15.6	783	17.3	799	17.6	710	16.6	555	14.1
TOTAL	169	9.6	354	12.0	457	14.1	671	19.0	960	25.2	1279	33.9		1764	43.4	2409	53.4	2653	58.1	2655	58.5	2476	57.8	2122	53.9
GOLF																									
SOMETIMES	42	2.4	84	2.8	94	2.9	138	3.9	190	5.0	199	5.3		351	8.6	468	10.4	513	11.2	497	11.0	489	11.4	468	11.9
OFTEN	10	0.6	24	0.8	23	0.7	31	0.9	40	1.0	54	1.4		97	2.4	158	3.5	157	3.4	157	3.5	144	3.4	152	3.9
TOTAL	52	3.0	108	3.7	117	3.6	169	4.8	230	6.0	252	6.7		448	11.0	626	13.9	670	14.7	654	14.4	633	14.8	620	15.8
MINIATURE GOLF																									
SOMETIMES	243	13.8	468	15.9	561	17.3	723	20.5	905	23.7	918	24.4		1109	27.3	1347	29.8	1405	30.8	1387	30.6	1368	32.0	1275	32.4
OFTEN	29	1.6	73	2.5	95	2.9	131	3.7	153	4.0	196	5.2		261	6.4	362	8.0	334	7.5	280	6.5	297	7.5		
TOTAL	272	15.5	541	18.3	656	20.2	854	24.2	1058	27.7	1114	29.7		1370	33.7	1709	37.9	1739	38.1	1729	38.1	1668	38.5	1572	40.0
GYMNASTICS																									
SOMETIMES	363	20.6	717	24.3	800	24.6	921	26.1	1068	28.0	1105	29.4		1277	31.5	1674	37.1	1792	39.2	1689	37.2	1569	36.7	1302	33.1
OFTEN	467	26.5	842	28.5	1069	32.9	1190	33.8	1346	35.3	1333	35.5		1438	35.4	1450	32.1	1313	28.8	1123	24.8	883	20.6	739	18.8
TOTAL	830	47.2	1559	52.8	1869	57.6	2111	59.9	2414	63.3	2438	64.9		2715	66.9	3124	69.2	3105	68.0	2812	62.0	2452	57.3	2041	51.9
HORSEBACK RIDING																									
SOMETIMES	282	16.0	495	16.8	595	18.3	732	20.8	958	25.1	985	26.2		1319	32.5	1590	35.2	1687	36.9	1677	37.0	1605	37.5	1389	35.3
OFTEN	100	5.7	158	5.4	232	7.1	267	7.6	317	8.3	429	11.4		595	14.7	850	18.8	916	20.1	965	21.3	876	20.5	807	20.5
TOTAL	382	21.7	653	22.1	827	25.5	999	28.3	1275	33.4	1414	37.6		1914	47.1	2440	54.1	2603	57.0	2642	58.3	2481	58.0	2196	55.8
FLOOR HOCKEY																									
SOMETIMES	33	1.9	108	3.7	174	5.4	227	6.4	403	10.6	580	15.4		850	20.9	1069	23.7	970	21.2	824	18.2	674	15.7	496	12.6
OFTEN	17	1.0	46	1.6	65	2.0	117	3.3	219	5.7	314	8.4		346	8.5	334	7.4	234	5.1	217	4.8	177	4.1	111	2.8
TOTAL	50	2.8	154	5.2	239	7.4	344	9.8	622	16.3	894	23.8		1196	29.5	1403	31.1	1204	26.4	1041	23.0	851	19.9	607	15.4
ICE HOCKEY																									
SOMETIMES	11	0.6	41	1.4	85	2.6	111	3.1	133	3.5	218	5.8		355	8.7	575	12.7	557	12.2	470	10.4	399	9.3	322	8.2
OFTEN	11	0.6	13	0.4	26	0.8	37	1.0	51	1.3	84	2.2		120	3.0	181	4.0	143	3.1	119	2.6	102	2.4	76	1.9
TOTAL	22	1.3	54	1.8	111	3.4	148	4.2	184	4.8	302	8.0		475	11.7	756	16.7	700	15.3	589	13.0	501	11.7	398	10.1
JOGGING																									
SOMETIMES	239	13.6	475	16.1	650	20.0	899	25.5	11																

	AGE 5 (N=1759)		AGE 6 (N=2950)		AGE 7 (N=3246)		AGE 8 (N=3525)		AGE 9 (N=3816)		AGE 10 (N=3746)		AGE 11 (N=4062)		AGE 12 (N=4514)		AGE 13 (N=4566)		AGE 14 (N=4535)		AGE 15 (N=4281)		AGE 16 (N=3934)	
KARATE	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SOMETIMES	18	1.0	44	1.5	55	1.8	60	1.7	82	2.1	101	2.7	165	4.1	253	5.6	243	5.3	214	4.7	186	4.3	158	4.0
OFTEN	7	0.4	14	0.5	27	0.8	31	0.9	42	1.1	36	1.0	59	1.5	72	1.6	82	1.8	75	1.7	80	1.9	79	2.0
TOTAL	25	1.4	58	2.0	86	2.6	91	2.6	124	3.2	137	3.6	224	5.5	325	7.2	325	7.1	289	6.4	266	6.2	237	6.0
KICKBALL																								
SOMETIMES	374	21.3	689	23.4	813	25.0	963	27.3	1111	29.1	1170	31.2	1259	31.0	1616	35.8	1887	43.5	2133	47.0	2099	49.0	1736	44.1
OFTEN	270	15.3	556	18.6	857	26.4	1214	34.4	1630	42.7	1544	49.1	2230	55.1	2469	54.7	2550	54.4	2576	54.8	2104	50.8	1742	45.6
TOTAL	644	36.6	1245	42.2	1670	51.4	2177	61.8	2741	71.8	3014	80.2	3489	86.2	4085	90.5	4037	88.4	3711	81.8	3203	74.8	2478	63.0
ICE SKATING																								
SOMETIMES	431	24.5	763	25.9	886	27.3	944	26.8	1131	29.6	1129	30.1	1288	31.7	1498	33.2	1699	37.2	1677	36.1	1591	37.2	1503	38.2
OFTEN	318	18.1	686	23.2	932	28.7	1151	32.7	1357	35.6	1482	40.5	1692	41.7	1932	42.8	1772	39.3	1521	33.5	1253	30.2	1006	25.6
TOTAL	749	42.6	1449	49.1	1818	56.0	2095	59.4	2528	66.2	2611	69.5	2980	73.4	3430	76.0	3471	74.5	3198	69.6	2844	67.4	2511	63.8
ROLLER SKATING																								
SOMETIMES	417	23.7	812	27.5	1053	32.4	1282	36.4	1333	34.9	1468	39.1	1571	38.7	1830	40.5	1851	41.4	1917	42.1	1851	43.2	1624	41.5
OFTEN	279	15.9	645	22.0	884	27.2	1142	32.4	1408	35.3	1508	40.1	1775	43.7	1946	43.1	1922	42.0	1747	38.5	1384	32.3	1063	27.0
TOTAL	696	39.6	1457	49.5	1937	59.7	2424	68.8	2841	74.2	2976	79.2	3346	82.4	3776	83.7	3673	83.5	3665	80.6	3235	75.6	2687	68.6
SCUBA DIVING																								
SOMETIMES	3	0.2	6	0.2	11	0.3	21	0.6	24	0.6	42	1.1	74	1.8	122	2.7	113	2.5	102	2.2	85	2.0	77	2.0
OFTEN	1	0.1	5	0.2	7	0.2	7	0.2	8	0.2	16	0.4	18	0.4	29	0.6	25	0.5	26	0.6	28	0.7	26	0.7
TOTAL	4	0.2	11	0.4	18	0.6	28	0.8	32	0.8	58	1.5	92	2.3	151	3.3	138	3.0	128	2.8	113	2.6	103	2.6
SNOWREELING																								
SOMETIMES	7	0.4	21	0.7	45	1.4	76	2.2	143	3.7	215	5.7	332	8.2	513	11.4	421	9.2	401	8.8	307	7.2	250	6.4
OFTEN	5	0.3	7	0.2	24	0.7	39	1.1	53	1.4	63	1.7	99	2.4	146	3.2	129	2.8	114	2.5	97	2.2	91	2.3
TOTAL	12	0.7	28	0.9	69	2.1	115	3.3	196	5.1	278	7.4	431	10.6	659	14.6	550	12.0	515	11.4	400	9.3	341	8.7
CROSS COUNTRY SKIING																								
SOMETIMES	7	0.4	22	0.7	32	1.0	41	1.2	40	1.0	66	1.8	92	2.3	194	4.3	220	4.8	195	4.3	209	4.9	216	5.5
OFTEN	9	0.5	16	0.5	35	1.1	27	0.8	36	0.9	32	0.9	70	1.7	106	2.3	90	2.0	94	2.1	87	2.0	88	2.2
TOTAL	16	0.9	38	1.3	67	2.1	68	1.9	76	2.0	98	2.6	162	4.0	300	6.6	310	6.8	289	6.4	296	6.9	304	7.7
DOWNHILL SKIING																								
SOMETIMES	33	1.9	63	2.1	86	2.6	114	3.2	114	3.0	163	4.3	254	6.3	339	7.5	402	8.8	387	8.5	441	10.3	483	12.3
OFTEN	16	0.9	34	1.2	50	1.5	72	2.0	101	2.6	137	3.6	196	4.8	282	6.2	321	7.0	346	7.6	399	9.1	356	9.0
TOTAL	49	2.8	97	3.3	136	4.2	186	5.3	215	5.6	300	8.0	450	11.1	621	13.8	723	15.8	733	16.2	840	19.6	839	21.3
WATER SKIING																								
SOMETIMES	5	0.3	38	1.3	51	1.6	86	2.4	165	4.3	220	5.9	365	9.0	616	13.6	713	15.6	810	17.9	804	18.8	796	20.2
OFTEN	4	0.2	7	0.2	13	0.5	29	0.8	46	1.2	97	2.6	181	4.5	387	8.6	427	9.4	495	10.9	566	13.2	597	15.2
TOTAL	9	0.5	45	1.5	66	2.0	115	3.3	211	5.5	317	8.4	546	13.4	1003	22.2	1140	25.0	1305	28.8	1370	32.0	1393	35.4
SOCCER																								
SOMETIMES	46	2.6	104	3.5	188	5.8	302	8.6	619	16.2	924	24.6	1387	34.2	1961	43.4	2058	45.1	1946	42.9	1604	37.5	1212	30.8
OFTEN	28	1.6	49	1.7	82	2.5	150	4.1	287	7.5	397	10.6	663	16.3	838	18.6	771	15.4	567	12.4	422	9.9	274	7.0
TOTAL	74	4.2	153	5.2	270	8.3	482	13.7	906	23.7	1321	35.2	2050	50.5	2799	62.0	2759	60.4	2509	55.3	2026	47.3	1486	37.8
SWIMMING																								
SOMETIMES	332	18.9	480	16.3	506	15.6	569	16.1	547	14.3	596	15.9	691	17.0	728	16.1	735	16.1	823	18.1	732	17.1	732	18.6
OFTEN	1080	61.4	1945	65.9	2226	68.6	2431	69.0	2816	73.8	2784	74.1	3024	75.5	3446	76.3	3493	76.5	3420	75.4	3227	75.4	2878	73.2
TOTAL	1412	80.3	2425	82.2	2732	84.2	3000	85.1	3363	88.1	3380	90.0	3715	91.5	4174	92.5	4228	92.6	4243	93.6	3959	92.5	3610	91.8
SYNCHRONIZED SWIMMING																								
SOMETIMES	22	1.3	55	1.9	77	2.4	124	3.5	172	4.5	216	5.8	373	9.2	568	12.6	572	12.5	507	13.2	558	13.0	498	12.7
OFTEN	21	1.2	51	1.7	66	2.0	88	2.5	147	3.8	183	4.9	253	6.2	390	8.6	366	8.5	369	8.1	313	7.3	257	6.5
TOTAL	43	2.4	106	3.6	143	4.4	212	6.0	319	8.4	399	10.6	626	15.4	958	21.2	938	21.0	876	21.3	871	20.3	755	19.2
TABLE TENNIS																								
SOMETIMES	193	10.4	436	14.8	616	19.0	812	23.0	1060	27.8	1189	31.7	1526	37.6	1864	41.3	1995	43.7	1935	42.7	1855	43.3	1707	43.4
OFTEN	57	3.2	165	5.6	263	8.1	381	10.8	602	15.8	748	19.9	998	24.6	1431	31.8	1601	35.1	1670	36.8	1542	36.0	1369	34.8
TOTAL	240	13.6	601	20.4	879	27.1	1193	33.8	1662	43.6	1937	51.6	2524	62.2	3295	73.1	3596	78.8	3605	79.5	3397	79.4	3076	78.2
TENNIS																								
SOMETIMES	78	4.4	197	6.7	333	10.3	507	14.4	756	19.8	917	24.4	1285	31.7	1698	37.6	1733	38.0	1693	37.3	1633	38.1	1491	37.9
OFTEN	17	1.0	51	1.7	108	3.3	199	5.6	329	8.6	494	13.2	820	20.2	1290	28.6	1530	33.5	1581	34.9	1553	36.3	1429	36.3
TOTAL	95	5.4	248	8.4	441	13.6	706	20.0	1085	28.4	1411	37.6	2105	51.8	2988	66.2	3263	71.5	3274	72.2	3186	74.4	2920	74.2
TRACK & FIELD																								
SOMETIMES	33	1.9	108	3.7	192	5.9	289	8.2	462	12.1	655	17.4	1014	25.0	1411	31.3	1445	31.6	1369	30.2	1187	27.7	949	24.1
OFTEN	20	1.1	49	1.7	104	3.2	138	3.9	232	6.1	334	8.9	486	12.0	650	14.4	687	15.0	624	13.8	605	14.1	449	11.4
TOTAL	53	3.0	157	5.3	296	9.1	427	12.1	694	18.2	989	26.3	1500	36.9	2061	45.7	2132	46.7	1993	43.9	1792	41.9	1398	35.5
VOLLEYBALL																								
SOMETIMES	122	6.9	302	10.2	533	16.4	846	24.0	1212	31.8	1530	40.7	1804	44.4	2175	48.2	2180	47.7	2077	45.8	1915	44.7	1812	46.1
OFTEN	33	1.9	73	2.5	185	5.7	313	8.9	517	13.5	711	18.9	1043	25.7	1415	31.3	1581	34.6	1610	35.5	1567	36.6	1241	30.8
TOTAL	155	8.8	375	12.7	718	22.1	1159	32.9	1729	45.3	224													

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