

**THE STATUS OF GYMNAS TIC EDUCATION IN SELECTED
KANSAS PUBLIC HIGH SCHOOLS**

**A Thesis
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**by
James D. Brown**

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Approved for the Major Department

Wallace Browning

Approved for the Graduate Council

James L. Boylan

8.20.62 - Sign of author

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CHAPTER I

GYMNASTIC EDUCATION IN KANSAS

PUBLIC HIGH SCHOOLS

The 1960 Curriculum Planning Committee of the Kansas State Department of Public Instruction recommended that 25 per cent of instructional time in boys' physical education and 20 per cent in girls' physical education be devoted to gymnastic education.¹

Limited observation has indicated that Kansas public high schools are not meeting the standard set forth by the Kansas State Department of Public Instruction. During the 1960-1961 and 1961-1962 school terms at Kansas State Teachers College, Emporia, Kansas, this writer polled physical education major students enrolled in "Gymnastic 235," a required pre-professional course. It was discovered that of the 148 polled only 56 had received gymnastic instruction in high school. These resident students graduated from forty-one different Kansas public high schools.

¹Kansas State Department of Public Instruction, Curriculum Guide for Secondary Schools of Kansas (Topeka: Kansas State Department of Public Instruction, 1960), p. 6.

I. THE PROBLEM

Statement of the problem. The purpose of this study was to survey the status of gymnastic education in the physical education curricula of selected Kansas public high schools. In general, the aspects of this study were professional preparation of gymnastic instructors, amount of class time spent in gymnastic activities, and equipment available.

Specifically, this study sought answers to the following questions:

- (1) What was the professional preparation in gymnastic activities of individuals teaching gymnastics?
- (2) What gymnastic activities were being taught in selected Kansas public high schools?
- (3) What percentage of the physical education curricula was being devoted to gymnastic activity?
- (4) What types of gymnastic equipment were being used?
- (5) What differences were there between the gymnastic education programs of the high schools of different total enrollments?

Hypothesis. The major hypothesis of this study was that the gymnastic education programs in selected Kansas

public high schools were not meeting the standards set forth by the Kansas State Department of Public Instruction. The two minor hypothesis were (1) there is a significant difference in gymnastic education programs of schools of different total enrollments, and (2) gymnastic education programs are not being developed because of the high cost of purchasing the necessary equipment.

Significance of the problem. Gymnastic activity is an exceptional contributor to physical skill and fitness and should be included in the physical education curriculum.² The pilot study appeared indicative of the fact that gymnastic instruction in Kansas public high schools was falling far below the standard proposed by the State Department of Public Instruction.

The conclusion and recommendations of this study should present some of the basic information needed for taking the necessary steps toward raising the status of gymnastic education in the physical education program in Kansas.

Limitation. This study was limited to surveying the existing status of gymnastic education for girls' and boys'

²Carl W. Landiss, "Influence of Physical Education Activities on Motor Ability and Physical Fitness of Male Freshmen," Research Quarterly, 26:245-308, October, 1955.

physical education in certain Kansas public high schools. Elementary, private, and parochial physical education programs were not studied.

The secondary schools studied were classified into two groups according to total pupil enrollment. These two classifications were schools having total enrollments between 125 and 300 students and schools having enrollments between 450 and 650 students.

II. DEFINITIONS OF TERMS USED

Gymnastics. The term gymnastics in this study is made up of the following areas: (1) tumbling, (2) rebound tumbling, (3) apparatus work, (4) free exercise or individual calisthenics, and (5) group gymnastic or group demonstration work involving any or all of these areas.

Tumbling. The area of tumbling includes rolling, somersaulting, twisting, turning, springs, and balancing movements performed by an individual on mats or some other type of padded surface.

Rebound tumbling. The area of rebound tumbling refers to stunts and activities performed on the trampoline.

Apparatus. The area of apparatus includes any movements done on or over such gymnasium equipment as the

sidehorse, vaulting horse or buck, rings, trapeze, parallel bars, horizontal bars, ropes, balance beam, ladder, pole, and boom.

Free exercise. The area of free exercise or individual calisthenics is an advanced area of gymnastic activities. A free exercise or individual calisthenic routine is created and presented by the student. The male student executes stunts of flexibility, great strength, agility, tumbling movements, balancing, and stunts of imaginative rhythm in the course of a single routine. The female student free exercise routine is essentially the same with the exception of emphasizing feminine light movements and leaving out stunts that require great strength.

Group gymnastics. The area of group gymnastic or group demonstration work involves a group of two or more students developing routines, stunts, or acts in the areas of tumbling, apparatus, trampoline, free exercise, or a combination of any or all of these areas.

III. RESEARCH PROCEDURES

Sources of data. The normative survey method was selected for this study. The questionnaire used was a checklist (a copy of the questionnaire is listed in Appendix A, p. 72). The simple checklist made it easier for the

individual answering the questionnaire. The final question on the form, however, asked the individual completing the questionnaire for a statement, in their own opinion, of limiting factors in the development of a gymnastic education program in their school system.

The questionnaire forms were mailed to the principals of twenty-one Kansas secondary schools with enrollments of between 450 and 650 students and ninety-four schools having enrollments between 125 and 300 students. By reviewing statistical information on the number of public secondary schools and total pupil enrollments in Kansas, a representative sampling of two enrollment classifications was determined.³ The 1960-1961 Kansas Educational Directory was consulted for a listing of the enrollments of Kansas public high schools.⁴ A stamped, return business envelope was enclosed with each questionnaire. Those receiving the questionnaire were asked to return it within a month's time. After one month, a follow-up inquiry was sent to each school not returning the original questionnaire.

³United States Bureau of Census, Statistical Abstract of the United States (Washington: United States Department of Commerce, 1960), pp. 103-119.

⁴Kansas State Department of Public Instruction, 1960-1961 Kansas Educational Directory (Topeka: Kansas Department of Public Instruction, 1960), pp. 16-53.

The questionnaire was mailed to 115 Kansas public high schools. A total of sixty-one high schools with 125 to 300 pupils returned the questionnaire, and seventeen of the high schools with enrollments of 450 to 650 students returned the form. The over-all per cent return was 67.8 per cent with 63.8 per cent of the schools of smaller enrollments and 80.9 per cent of the schools with larger enrollments returning the questionnaire.

The questionnaire form was mailed to schools with specific geographic locations. A map of Kansas was divided into six sections. A north-south division was made by drawing a line from the west border through Leoti, Scott City, Emporia, and Osawatomi to the east border of Kansas. Two more lines were drawn from the north border to the south border of Kansas. One line extended from border to border through Manhattan and Eldorado, and the other line extended through Phillipsburg and Greensburg. These lines divided Kansas into the sections usually referred to as southeast, northeast, south central, north central, southwest, and northwest Kansas. The questionnaire returns according to geographic location were:

- (1) Southeast Kansas - Thirteen schools of 125 to 300 enrollment were sent questionnaires and ten forms were returned. Six schools of 450 to 650 students received questionnaires and five were returned.

- (2) Northeast Kansas - Twenty schools of 125 to 300 students were mailed questionnaires and ten forms were returned. Five schools of 450 to 650 students received questionnaires and four were returned.
- (3) South Central Kansas - Twenty-five schools with enrollments of 125 to 300 students were mailed questionnaires and seventeen were returned. Five schools with between 450 and 650 students received questionnaires and four forms were returned.
- (4) North Central Kansas - Thirteen schools with enrollments of 125 to 300 received the form and eight forms were returned. Three schools of 450 to 650 students received questionnaires and two forms were returned.
- (5) Southwest Kansas - Fourteen schools with enrollments of 125 to 300 students were mailed the questionnaires and ten forms were returned. One school with an enrollment of 450 to 650 students was mailed the questionnaire and the form was returned.
- (6) Northwest Kansas - Nine schools with enrollments between 125 and 300 students were mailed a questionnaire and six schools returned the

questionnaire. One school with an enrollment of 450 to 650 students received and returned the questionnaire.

Other sources of data and information included related research studies, publications of governmental agencies and professional organizations, related literature in the field of physical education, and personal observations and interviews.

Technique of analyzing the data. The data collected by the questionnaire were either extracted and compiled into tables and figures or explained in the text. These tables and figures illustrated some of the specific aspects of the gymnastic education program surveyed in this study.

The final conclusions and recommendations in this study were based on the data collected by the questionnaire and a review of related literature.

CHAPTER II

REVIEW OF THE LITERATURE

Specific information was not available on the status of gymnastic education in a state, city, or geographic location. It was necessary to gather the important background material for this study from a number of related sources.

Classification of physical education activities. It is recommended that the physical education curriculum should be made up of a complete program of physical activities. A classification of these activities usually includes:

(1) individual, dual, or team games and sports; (2) rhythmic activities; (3) self-testing activities; (4) aquatic; and (5) adaptive or corrective activities.¹

The 1960 Curriculum Planning Committee of the Kansas State Department of Public Instruction has presented a similar classification in the following recommendations:

A knowledge and possession of skills and techniques in the areas of rhythms, sports, individual and team games, aquatics, tumbling, and gymnastics should be acquired by every boy or girl.²

¹Clifford Lee Brownell and E. Patricia Hagman, Physical Education--Foundations and Principles (New York: McGraw-Hill Company, Inc., 1951), p. 192.

²Kansas State Department of Public Instruction, Curriculum Guide for Secondary Schools of Kansas (Topeka: Kansas State Department of Public Instruction, 1960), p. 2.

Programming of physical education activities. The Kansas State Department of Public Instruction recommended the percentage of instructional time which should be devoted to specific physical education areas. Its recommendations for boys' physical education were that 15 per cent of the instructional time should be spent in the area of rhythms activities, 25 per cent in individual and dual sports, team sports, and gymnastics, a percentage for aquatics was not proposed, and 10 per cent of total instructor time should be spent in games and relays. The recommendations for girls' physical education were 30 per cent for rhythmical activities, 20 per cent for individual and dual sports, team sports, and gymnastics, no percentage for aquatics was given, and 10 per cent of instructional time was recommended for games and relays.³

The Kansas State Department of Public Instruction recommended 25 per cent of boys' physical education time be devoted to gymnastic education and 20 per cent for girls' physical education. These percentages exceed the recommendations of La Porte's 1951 study. After surveying high schools throughout the United States, La Porte recommended that in secondary schools 12 per cent of boys' and girls' physical education programs should be devoted to gymnastic

³Ibid., p. 6.

education. LaPorte also recommended that elementary and advanced free exercise, heavy apparatus, marching, tumbling, and group work be included in the secondary school gymnastic education program.⁴

State requirement for physical education. The following is taken from the Kansas Secondary School Handbook 1956. It lists the minimum physical education requirements.

One unit of credit in physical education is required for graduation. Schools requiring more than seventeen units for graduation may offer additional units in physical education. The course may be pursued daily for one year or every other day for two years.

Athletic competition between organized groups in intra or inter-community leagues shall not be considered a part or be conducted as part of the activity in physical education courses, and in no case shall time spent by persons in such competition be counted as attendance upon school or class credit purposes. But the periods of practice conditioning participants for competitive games may be counted the same as that of the gymnasium class.

Credit in physical education not to exceed one-half unit may be granted for physiology and hygiene, first aid, and health.

Boys in physical education classes should be taught by men and girls should be taught by women.⁵

⁴Ralph W. LaPorte, The Physical Education Curriculum (A National Program) (Los Angeles: Parker and Company, 1951), pp. 18-19.

⁵State of Kansas Department of Public Instruction, The Kansas Secondary School Handbook (Topeka, Kansas: State of Kansas Department of Public Instruction, 1956), pp. 44-45.

Objectives and values of gymnastic education. The United States Naval Institute has summarized the objectives achieved through gymnastic activity. They are:

- (1) To give training in the native sense of balance.
- (2) To equip the performer with the strength and skill to extricate himself effectively from emergency situations requiring climbing, vaulting, tumbling, and balance.
- (3) To develop daring and courage.
- (4) To accustom the youth to being upside down for extended periods.
- (5) To teach falling and landing without injury.⁶

The separate areas of gymnastics include the general values and objectives listed by the United States Naval Academy. Each separate area, however, emphasizes specific values. The areas of gymnastic activity surveyed in this study emphasize the following values and objectives:

- (1) tumbling activities emphasize movements that develop flexibility, upper-body strength, agility, and balance;
- (2) the special contributions of rebound tumbling are in the development of re-location, cardio-respiratory endurance, and leg power;
- (3) apparatus work places special emphasis on the development of upper-body, arm and grip strength, courage, and body control;
- (4) free exercise activities develop lightness, rhythm, strength, and creativity; and
- (5) group

⁶The United States Naval Institute, The V-Five Physical Education Series, Gymnastics and Tumbling (Annapolis: United States Naval Institute, 1959), p. 12.

gymnastics promote the development of social skills and creativity.⁷

Gymnastic activities for boys and girls have similar values and objectives. Since girls' gymnastic movements emphasize femininity, the development of lightness, grace, flexibility, and rhythm should be stressed. Girls' gymnastic movements should not require great strength or courage.⁸

Research on the value of gymnastics. In 1955, Landiss investigated the relative effect of several physical education activities on motor ability and physical fitness using the Larson Test of Motor Ability and a modification of the Army Air Force Physical Fitness Rating Test. His results indicated that the course using the combined activities of tumbling and apparatus best developed all phases of physical fitness and motor ability tested.⁹

Wilbur performed a similar study in 1943. His findings indicate that a sports program of wrestling, track

⁷Newton C. Loken and Robert J. Willoughby, Complete Book of Gymnastics (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1959), pp. 17, 49-193.

⁸Virginia Lee Horne, Stunts and Tumbling for Girls (New York: Ronald Press Company, 1943), p. 3.

⁹Carl W. Landiss, "Influence of Physical Education Activities on Motor Fitness and Physical Fitness of Male Freshmen," Research Quarterly, 26:295-308, October, 1955.

and field, soccer, and swimming made greater progress in the area of physical fitness than a program of apparatus work. However, there seems to be some question of the accuracy of his experimental method.¹⁰

Professional preparation in physical education.

Snyder and Scott recommend the following curricular resource areas for the professional education of teachers and leaders in health education, physical education, and recreation:

Introduction to health education, physical education, and recreation, including vocational, scientific, and educational orientation in, and history of, the fields:

- (a) human physiology
- (b) human anatomy
- (c) personal and community health
- (d) evaluation, including testing and measuring in the three fields
- (e) first aid
- (f) professional laboratory experience, including student teaching and/or field work
- (g) facilities for the programs of the specialized areas

Authorities agree that undergraduate majors and minors in physical education should become skilled performers in the skills comprising the activities in physical education. In order to understand the problems involved in the learning process, the physical education student should acquire skill in a variety of activities appropriate to the interest and

¹⁰E. A. Wilbur, "Comparative Study of Physical Fitness Indices as Measured by Two Programs of Physical Education," Research Quarterly, 14:326-332, October, 1943.

needs of children. These activities should include fundamental movements, adapted physical education activities, aquatics, body mechanics, combative activities, dance, gymnastics, individual, dual, and team sports. The ability to demonstrate is very important in teaching physical activities. Along with the acquisition of skill, the prospective physical education teacher must develop a strong background in teaching methods, rules, regulation, and the history of the activity.¹¹

In Kansas, the State Board of Education has developed standard and minimum subject and field requirements for the certification of physical education instructors. They are:

Standard. Twenty-four semester hours including five semester hours in the fields of health, physiology, first aid or hygiene, and ten semester hours in the field of physical education, including teaching methods in physical education.

Minimum. Fifteen semester hours, with five semester hours in the fields of health, physiology, first aid or hygiene, and seven semester hours in the field of physical education, including teaching methods in physical education.¹²

After surveying the certification requirements of the forty-eight states, Sanger found the average minimum

¹¹Raymond A. Snyder and Harry A. Scott, Professional Preparation in Health, Physical Education and Recreation (New York: McGraw-Hill Book Company, Inc., 1954), pp. 80-176.

¹²Kansas State Board of Education, Certificate Handbook (Topeka: Kansas State Department of Public Instruction, 1959), p. 48.

number of hours required for a major in physical education was 27.5, and the average minimum number of hours for a minor in physical education was 15.6.¹³

Gymnastic facilities. In the ideal situation, a separate room or auxiliary area should be equipped to accommodate gymnastic activities. Such a facility, however, is not necessary for the administration of an excellent program. In general, the minimum dimensions of a gymnastic area are controlled by the linear space requirements for tumbling and the flying rings. An activity area sixty feet by eighty feet will provide sufficient space for a beginners class of twenty-five students or an advanced class with as many as forty participants. The minimum ceiling height should be twenty-four feet. It is recommended that an equipment storage space be provided of 360 square feet.¹⁴

Gymnastic equipment. A complete gymnastic program for a class of thirty students would include most of the following pieces of equipment: mats (fifteen square feet

¹³Charles E. Sanger, "A Comprehensive Study of the Certification Requirements for the Professional Physical Educators in the Various States" (unpublished Master's thesis, Kansas State Teachers College, Emporia, 1958), p. 18.

¹⁴Harry A. Scott and Richard B. Westkaemper, From Program to Facilities in Physical Education (New York: Harper and Brothers Publishers, 1958), pp. 131-132.

for each student), trampoline, safety belts, side horse, vaulting box, buck, beat board, springboard, rings, ladder, adjustable horizontal bar, ten foot parallel bars, low parallel bars, ropes, balance beams, and mat trucks.¹⁵ A wide variety of gymnastic apparatus and accessory equipment are not listed. The total cost of this equipment, if purchased new at school price, would be approximately two thousand five hundred dollars.¹⁶

Purchasing gymnastic equipment. The approximate cost of the various pieces of official gymnastic apparatus and equipment is:

Trampoline.....	\$ 550
Side horse.....	350
Parallel bars.....	450
Horizontal bar.....	150
Rings and strap.....	45
Rope, 20 feet.....	30
Beat board.....	35
Six mats - 5' x 10' x 2".....	351
Three mats - 5' x 20' x 2".....	351

¹⁵The United States Naval Institute, The V-Five Physical Education Series, Gymnastics and Tumbling (Annapolis: United States Naval Institute, 1959), pp. 13-14.

¹⁶Trade Catalog Number 160 (San Pedro, California: Gymnastic Supply Company, Inc., 1960), pp. 8-20.

Two mats - 3' x 8' x 1".....	\$ 45
One mat - 3' x 5' x 1".....	14
Safety belt.....	10
Total.....	<u>\$2381¹⁷</u>

Gymnastic apparatus is very costly. The purchase of apparatus is a long term investment. However, large pieces of gymnastic apparatus last for many years, oftentimes outlasting the life of the gymnasium. In comparison, the annual expense of football, basketball, and baseball would provide a school with several mats and gymnastic apparatus. In terms of students served, gymnastic equipment expense can very easily be justified. Every student in the school, including boys and girls, can use the mats and gymnastic apparatus while only a few can use varsity basketball, football, and baseball equipment.¹⁸

Very few schools can purchase all the necessary gymnastic equipment during a single year. It is recommended that the purchase of apparatus and equipment be spread over a period of years. For example, a school with a budget of \$1,500 for the purchasing of equipment should spread the purchase of equipment over four or more years. The first

¹⁷Ibid., pp. 8-20.

¹⁸Irwin E. Faria, "Why No Gymnastics," Journal of Health, Physical Education and Recreation, 31:37, January, 1960.

year approximately \$900 could be spent on three twenty foot mats, a trampoline, and safety belts. The trampoline coupled with mats would generate interest in gymnastics and develop fundamentals having carry-over value for other pieces of apparatus. The second-year expenses for equipment should include the purchase of parallel bars, rings, and six five foot by ten foot safety mats for approximately \$850. It is suggested that for the third year a side horse and horizontal bar be purchased for an approximate cost of \$500. The fourth year the gymnastic plant could be completed with the addition of a twenty foot rope, beat board, safety mats, and belts for a cost of less than \$150.

Each year after the fourth year, expenses for gymnastics should decrease greatly over the previous years. Normally, after the gymnastic plant has been completed, the only expenses that will arise each year will be for new safety ropes and a supply of safety chalk. Most heavy pieces of apparatus will last for two or more decades. Spread over a number of years the gymnastic program will become one of the least expensive activities in physical education.¹⁹

¹⁹Barry L. Johnson, "Purchase and Maintenance of Gymnastic Equipment," Journal of Health, Physical Education and Recreation, 31:39-40, January, 1960.

Minimum cost gymnastic equipment and facilities.

Many pieces of equipment can be manufactured by the school industrial arts classes or maintenance staff from materials purchased at a low cost. Two inch pipe, for example, can be used in making a set of parallel bars. Mats, balance beams, and springboards can be made of old mattresses, steel or wooden rails, and old automobile springs. If constructed properly, this type equipment will provide an adequate and safe gymnastics program. The small, rural high school of Hixton, Wisconsin has a fine gymnastics education program utilizing mats, a trampoline, horizontal bar, climbing ropes, parallel bars, flying rings, and a trapeze developed at a total cost to the school district of less than two hundred dollars.²⁰

An outdoor gymnastic facility could be constructed if suitable indoor space was not available. Permanent apparatus could be constructed from scrap pipe length and lumber. A pit seven inches deep, filled with sawdust and covered with heavy canvas securely held in place has proven effective for tumbling purposes. An outdoor gymnastic facility can readily develop the values and objectives of a gymnastic education program under capable supervision and instruction.

²⁰Richard Mulvihill, "Equipping the Program in A Small High School," Journal of Health, Physical Education and Recreation, 30:61, May, 1959.

Many schools have manufactured such equipment as parallel bars, vaulting boxes, beat boards, high bars, trampolines, and rings. Care must be taken to make such equipment as near to official standards as possible, and extreme caution must be exercised to ensure safe construction.²¹

²¹The United States Naval Institute, The V-Five Physical Education Series, Gymnasium and Tumbling (Annapolis: United States Naval Institute, 1959), p. 17.

CHAPTER III Physical Education

ANALYSIS OF DATA

The data taken from the questionnaire was organized into five areas. The specific areas of physical education in selected Kansas public high schools were: (1) physical education requirements; (2) gymnastic education activities; (3) gymnastic education equipment; (4) professional preparation of physical education teachers in gymnastic education; and (5) the attitude of selected Kansas public high schools toward gymnastic education.

I. PHYSICAL EDUCATION REQUIREMENTS IN SELECTED KANSAS PUBLIC HIGH SCHOOLS

The minimum state requirement in physical education was being met by 90.2 per cent of the sixty-one schools surveyed with enrollments between 125 and 300 students. The state physical education requirement was being met by all of the seventeen schools surveyed with enrollments of 450 to 650 students. Table I and II illustrate the survey findings in the areas of physical education requirements.

Elective programs. Several schools indicated the inclusion of elective physical education programs. The sixty-one schools with enrollments of 125 to 300 students

indicated that seven had an elective physical education program for boys and eight had an elective program for girls. The seventeen larger schools with enrollments of 450 to 650 students indicated that four schools had an elective physical education program for boys, and four schools had an elective program for girls.

TABLE I
SEMESTERS OF PHYSICAL EDUCATION REQUIRED AND ELECTIVE PROGRAMS AS REPORTED BY SIXTY-ONE SCHOOLS OF 125-300 STUDENTS

Required Physical Education			Elective Physical Education		
Number of Semesters	Number of Boys	Number of Schools Girls	Number of Semesters	Number of Boys	Number of Schools Girls
0.	2	2	0.		
.5	4	4	.5		
1.0	15	16	1.0		1
2.0	34	33	2.0		
3.0			3.0		
4.0	5	5	4.0	1	1
5.0			5.0		
6.0			6.0	5	5
7.0			7.0		
8.0	1	1	8.0	1	1

Required semesters in physical education. The mode for schools of 125 to 300 students was requiring two semesters of physical education for boys and two for girls. The mode for schools of 450 to 650 students was also two semesters of required physical education for boys and two

semesters for girls. The average number of semesters required in the smaller schools was 1.89 for boys and 1.87 for girls. The larger schools had a considerable different mean of 2.82 required semester of physical education for boys and 2.82 for girls.

TABLE II

SEMESTERS OF PHYSICAL EDUCATION REQUIRED AND ELECTIVE PROGRAMS AS REPORTED BY SEVENTEEN SCHOOLS OF 450-650 STUDENTS

Required Physical Education			Elective Physical Education		
Number of Semesters	Number of Boys	Number of Schools Girls	Number of Semesters	Number of Boys	Number of Schools Girls
0.			0.		
.5			.5		
1.0	1	1	1.0		
2.0	9	9	2.0	1	1
3.0			3.0		
4.0	6	6	4.0	2	2
5.0			5.0		
6.0	1	1	6.0	1	1
7.0			7.0		
8.0			8.0		

Participation in physical education classes by varsity athletes. For additional background information on physical education requirements, each school was asked if varsity athletes were exempt from physical education class participation during the season they were members of a varsity team. Schools were also asked to indicate whether

or not credit was awarded for varsity participation. An interpretation of the state regulations in this area is that varsity athletes cannot receive credit toward graduation for participation in an inter or intra-scholastic sport.

The smaller schools with enrollments of 125 to 300 students indicated that 19.7 per cent were exempting their varsity athletes from in-season physical education class participation. The larger schools with enrollments of 450 to 650 students indicated that of the seventeen schools returning the questionnaire only one or 5.9 per cent were exempting varsity athletes from in-season participation in physical education classes.

The smaller schools indicated that of the twelve exempting varsity athletes from physical education classes four gave their athletes .5 credit; three, 1.0 credits; one, 2.5 credits; and one, no credit toward graduation. The one larger school exempting varsity athletes from physical education class did not award credit toward graduation for participation in varsity athletics.

Classes enrolled in physical education. Schools participating in the survey were asked what high school grades were enrolled in physical education. Interestingly, the sixty-one schools with enrollments of 125 to 300 students indicated that 1.8 per cent did not have physical

education classes. All of the larger schools with enrollments between 450 and 650 indicated having physical education.

The smaller schools participating in this study indicated that 57.4 per cent had only freshmen boys enrolled in physical education and 52.5 per cent had only freshmen girls in physical education classes. In comparison, only 17.6 per cent of the larger schools returning the questionnaire had only freshmen boys in physical education and 23.5 per cent freshmen girls only. Other findings included:

1. 19.7 per cent of the smaller schools had physical education for freshmen and sophomore boys only and 22.95 per cent had physical education for freshmen and sophomore girls only, while 29.4 per cent of the larger schools had physical education for freshmen and sophomore boys and girls only.
2. 14.8 per cent of the smaller schools had physical education for freshmen, sophomore, junior, and senior boys and girls, while 35.3 per cent and 29.4 per cent of the larger schools had physical education for boys and girls respectively for all secondary grades.
3. Only 41.8 per cent of the smaller schools had two or more years of physical education for boys and 45.7 per cent had two or more years for girls,

while 82.4 per cent of the larger schools had two or more years of physical education for boys and 76.5 per cent had two or more years of physical education for girls.

Table III, Secondary Grades Enrolled in Physical Education in Selected Kansas High Schools, illustrates the exact number and percentages of the schools surveyed indicating specific secondary grades enrolled in physical education.

Minutes of physical education class time per week.

Each school surveyed was asked to indicate the number of minutes devoted to physical education class time each week. The schools were asked not to include physical education time spent in health, safety, or driver education.

There was a large range of responses from the sixty-one schools with enrollments between 125 and 300 students. The range of minutes per week in physical education varied from no minutes to three hundred minutes. The schools of 450 to 650 students indicated a range of sixty to two hundred eighty minutes of physical education a week.

In boys' physical education, 10.8 per cent of the smaller schools had two hours of physical education or less per week and 5.4 per cent had one hour or less each week. Other findings included: (1) 44.2 per cent had between two and three hours of physical education a week; (2) 24.6 per

TABLE III
SECONDARY SCHOOLS ENROLLED IN PHYSICAL EDUCATION
IN SELECTED KANSAS HIGH SCHOOLS

61 Schools of 125-300					17 Schools of 450-650				
Grades	Boys		Girls		Grades	Boys		Girls	
	No.	%	No.	%		No.	%	No.	%
O	1	1.8	1	1.8	O	3	17.6	4	23.5
Fr	35	57.8	32	52.5	Fr				
So	1	1.8	2	3.5	So				
Jr					Jr				
Sr					Sr				
Fr, So	12	19.7	14	22.9	Fr, So	5	29.4	5	29.4
So, Jr					So, Jr	3	17.6	3	17.6
Jr, Sr			1	1.8	Jr, Sr				
Fr, So, Jr	1	1.8	1	1.8	Fr, So, Jr				
So, Jr, Sr	2	3.3	1	1.8	So, Jr, Sr				
Fr, So, Jr, Sr	9	14.8	9	14.8	Fr, So, Jr, Sr	6	35.3	5	29.4

cent had exactly three hours a week; (3) 10.3 per cent had between three and four hours a week; (4) 36.1 per cent had between four and five hours of physical education a week; and (5) 18.0 per cent had five hours a week.

In girls' physical education, 9.0 per cent of the smaller schools had two hours of physical education or less, while 3.6 per cent had one hour or less of physical education a week. Other percentages of the sixty-one schools participating in the survey were: (1) 42.5 per cent had between two and three hours of physical education a week; (2) 22.95 per cent had exactly three hours; (3) 10.3 per cent had between three and four hours; (4) 39.3 per cent between four and five hours; and (5) 18.0 per cent had exactly five hours of physical education per week.

The seventeen schools of 450 to 650 students returning the questionnaire indicated that in boys' physical education 5.9 per cent had only one hour of physical education a week, with 11.8 per cent between one and two hours, 41.2 per cent between two and three hours, and 17.6 per cent having exactly three hours of physical education per week. The larger schools indicated that none had four hours of physical education a week and 42.2 per cent had five hours of physical education classroom time a week.

The larger schools indicated that in girls' physical education 5.9 per cent of the schools were having only one hour of physical education a week, 17.7 per cent between one and two hours, 41.2 per cent between two and three hours, and 11.8 per cent had exactly three hours of physical education each week. The larger schools indicated that 5.9 per cent had exactly four hours of physical education and 29.4 per cent had five hours of physical education a week.

Table IV on the following page illustrates the number of minutes per week selected Kansas high schools have in physical education.

Number of Schools	Percentage of Schools	Minutes per Week
1	5.9	60
3	17.7	120
17	41.2	180
4	11.8	240
2	5.9	300
9	29.4	360
Total	100.0	1,740

TABLE IV

MINUTES OF PHYSICAL EDUCATION PER WEEK IN SELECTED
KANSAS PUBLIC HIGH SCHOOLS

61 Schools of 125-300 Students					17 Schools of 450-650 Students				
Min. Per Week	Boys		Girls		Min. Per Week	Boys		Girls	
	Number of Schools	Per cent	Number of Schools	Per cent		Number of Schools	Per cent	Number of Schools	Per cent
0	1	1.8	1	1.8	0				
55	1	1.8			55				
60	1	1.8	1	1.8	60	1	5.9	1	5.9
110	1	1.8	1	1.8	110	1	5.9	1	5.9
120					120	1		1	5.9
125	1	1.8	1	1.8	125	1	5.9	1	5.9
130	1	1.8	1	1.8	130				
135	2	3.3	2	3.3	135	1	5.9	1	5.9
140	2	3.3	2	3.3	140				
150	5	8.1	5	8.1	150	2	11.8	3	17.6
165	3	4.9	3	4.9	165	1	5.9	1	5.9
180	15	24.6	14	22.9	180	3	17.6	2	11.8
200	3	4.9	3	4.9	200				
220	1	1.8	1	1.8	220				
225	1	1.8	1	1.8	225			1	5.9
240	1	1.8	1	1.8	240				
250	7	11.5	7	11.5	250				
275	4	6.6	6	9.8	275	6	35.3	4	23.5
280					280	1	5.9	1	5.9
300	11	18.0	11	18.0	300				

II. GYMNASTIC EDUCATION ACTIVITIES IN SELECTED
KANSAS PUBLIC HIGH SCHOOLS

The Kansas State Department of Public Instruction recommends that 25 per cent of boys' physical education and 20 per cent of girls' physical education be spent in gymnastic education activity. This survey discovered interesting data comparing what is actually done in Kansas public schools with the Kansas State Department of Education recommendations. Table V illustrates these comparisons.

TABLE V

COMPARISONS OF GYMNASTIC EDUCATION IN SELECTED
KANSAS PUBLIC HIGH SCHOOLS WITH
STATE RECOMMENDATIONS

Per cent of P.E. in Gymn. Educ.	State of Kansas Recommendations		61 Kansas Schools 125-300 Students		17 Kansas Schools 450-650 Students	
	Boys	Girls	Boys	Girls	Boys	Girls
0.			10	13		1
.5			7	8	1	1
10.			12	9	4	2
15.			5	7	2	5
20.		X	4	9	2	2
25.	X		9	4	1	2
30.			1	1		
35.			2	2	6	3
40.			4	1		
45.				1		
50.			7	6		
55.						
60.					1	1

Physical education time devoted to gymnastic education experience. The smaller schools of 125 to 300 students indicated an average percentage of 20.94 per cent of physical education time devoted to gymnastic education for boys and 18.4 per cent for girls. In schools of 450 to 650 students, the average amount of physical education time devoted to gymnastic education was 26.1 per cent for boys' physical education and 23.2 per cent for girls' physical education.

In boys' physical education, 16.3 per cent of the sixty-one schools of 125 to 300 students did not have gymnastic education and 11.5 per cent spent as much as 50 per cent of physical education time in gymnastic activity. The smaller schools indicated that 14.8 per cent were meeting state recommendations for gymnastic education. A large percentage of 62.3 were under state recommendations and 23.2 per cent were over the standard. The smaller schools indicated that 47.6 per cent of the schools spent between zero and 10 per cent of physical education time in gymnastic education and 29.5 per cent spent between 10 per cent and 25 per cent of instructional time in gymnastic education. Ten of the smaller schools indicated they did not have gymnastics for either boys or girls.

In boy's physical education, all of the larger schools were teaching gymnastics, and 5.9 per cent were

spending 60 per cent of physical education time in gymnastics. The larger schools indicated that 52.9 per cent were under state recommendations for gymnastic education and 41.0 per cent were over the recommendations. The larger schools also indicated that over one-fourth or 29.4 per cent were devoting between 5 and 10 per cent of instructional time to gymnastic education, and 29.4 per cent had between 10 and 25 per cent of physical education time devoted to gymnastic education.

In girls' physical education 21.3 per cent of the schools of smaller enrollments did not have gymnastic education in their physical education programs, and 9.8 per cent devoted 50 per cent of physical education time to gymnastic activity. The state recommendation of having 25 per cent of total physical education time spent in gymnastic activity was being met by 14.8 per cent of the smaller schools. These schools indicated that 60.7 per cent were under state recommendations for gymnastic education, and 23.2 per cent were over the standard. Other comparisons were 49.2 per cent of the schools devoted between 0 and 10 per cent of physical education time to gymnastic education and 26.3 per cent spent between 10 and 25 per cent of instructional time in gymnastic education.

The schools of larger enrollment returning the questionnaire indicated that 5.9 per cent did not have gymnastic education in their girls' physical education programs

and 5.9 per cent devoted 60 per cent of their total physical education time to gymnastic activity. A percentage of 11.8 were meeting state recommendations exactly. The state recommendations were not being met by 53 per cent of the schools, and 35.3 per cent were over the recommendations. Approximately one-fourth, or 23.6 per cent, were devoting between 0 and 10 per cent to gymnastic education, and 41.2 per cent devoted between 10 and 25 per cent of their physical education time to gymnastic education.

Table VI illustrates the percentages of selected Kansas schools devoting specific instructional time to gymnastic education.

Gymnastic education activities in selected Kansas high schools. Each school receiving the questionnaire was asked to check one or more of the following activities if they were included in their physical education program: (1) tumbling; (2) apparatus work; (3) group or exhibition work; (4) trampolining; (5) free exercise; or (6) other gymnastic activities. Each school was also asked to state the percentage of their total gymnastic education time this activity was presented.

The seventeen larger schools of 450 to 650 enrollment indicated that in boys' physical education: (1) seventeen schools were teaching tumbling; (2) twelve were teaching

apparatus; (3) eight were teaching group or exhibition work; (4) twelve were teaching trampolining; (5) twelve were teaching free exercise; and (6) three schools were teaching other gymnastic education activities.

TABLE VI

PERCENTAGES OF SELECTED KANSAS PUBLIC SCHOOLS DEVOTING SPECIFIC PHYSICAL EDUCATION TIME TO GYMNASTIC EDUCATION

61 Schools of 125-300			17 Schools of 450-650		
Per cent of P.E. in Gym. Educ.	Per cent of Gymn. Educ. Time		Per cent of P.E. in Gymn. Educ.	Per cent of Gymn. Educ. Time	
	Boys	Girls		Boys	Girls
0.	16.3	21.3	0.		5.9
5.	11.5	13.1	5.	5.9	5.9
10.	19.8	14.8	10.	23.5	11.8
15.	8.1	11.5	15.	11.8	29.4
20.	6.6	14.8	20.	11.8	11.8
25.	14.8	6.6	25.	5.9	11.8
30.	1.8	1.8	30.		
35.	3.3	3.3	35.	35.3	17.6
40.		1.8	40.		
45.		1.8	45.		
50.	11.5	9.8	50.		
55.			55.		
60.			60.	5.9	5.9

In girls' physical education the larger schools indicated that: (1) sixteen were teaching tumbling; (2) ten were teaching apparatus; (3) nine were teaching group or exhibition work; (4) nine were teaching trampolining;

(5) thirteen were teaching free exercise; and (6) two were teaching some other gymnastic education activity.

The sixty-one smaller schools with enrollment of 125-300 returning the questionnaire indicated that in boys' physical education: (1) forty-eight schools were teaching tumbling; (2) thirty-three were teaching apparatus; (3) twenty-four were teaching group or exhibition work; (4) thirty-three were teaching trampolining; (5) twenty-four were teaching free exercise; and (6) eleven were teaching some other gymnastic activity.

In girls' physical education the smaller schools indicated that: (1) forty-three were teaching tumbling; (2) twenty-three were teaching apparatus; (3) twenty-one were teaching group or exhibition work; (4) twenty-eight were teaching trampolining; (5) twenty-three were teaching free exercise; and (6) eleven were teaching some other gymnastic activity.

In terms of percentage the seventeen larger schools indicated that in boys' physical education: (1) 100 per cent were teaching tumbling; (2) 70.5 per cent apparatus; (3) 47.1 per cent group or exhibition work; (4) 70.5 per cent trampolining; (5) 70.5 per cent free exercise; and (6) 17.6 per cent some other gymnastic activity. In girls' physical education the larger schools indicated: (1) 94.1 per cent were teaching tumbling; (2) 58.8 per cent apparatus;

(3) 52.9 per cent group or exhibition work; (4) 52.9 per cent trampolining; (5) 76.5 per cent free exercise; and (6) 11.8 per cent were teaching some other gymnastic education activity.

The sixty-one smaller schools indicated that in boys' physical education: (1) 78.7 per cent were teaching tumbling; (2) 54.1 per cent apparatus; (3) 39.3 per cent group or exhibition work; (4) 54.1 per cent trampolining; (5) 39.3 per cent free exercise; and (6) 18.0 per cent some other gymnastic activity. In girls' physical education, the smaller schools participating in the survey indicated: (1) 70.5 per cent were teaching tumbling; (2) 37.7 per cent were teaching apparatus, (3) 34.4 per cent group or exhibition work; (4) 45.9 per cent trampolining; (5) 37.7 per cent free exercise; and (6) 18.0 per cent were teaching some other gymnastic education activity.

Table VII illustrates the gymnastic activities taught by the sixty-one schools of 125 to 300 students and the seventeen schools with enrollment of 450 to 650 students that participated in the survey. Table VII expresses the gymnastic education activities in terms of total numbers and percentages.

In comparison, it was interesting to note than in boys' physical education there was a difference of 21.8 per cent between the percentage of the larger and smaller

TABLE VII
GYMNASTIC ACTIVITIES IN SELECTED KANSAS
PUBLIC HIGH SCHOOLS

Gymnastic Activities	17 Schools of 450-650				61 Schools of 125-300			
	Boys		Girls		Boys		Girls	
	No. of Schools	Per cent	No. of Schools	Per cent	No. of Schools	Per cent	No. of Schools	Per cent
Tumbling	17	100.0	16	94.1	48	78.7	43	70.5
Apparatus	12	70.5	10	58.8	33	54.1	23	37.7
Group or Exhibition	8	47.1	9	52.9	24	39.3	21	34.4
Trampoline	12	70.5	9	52.9	33	54.1	28	45.9
Free exercise	12	70.5	13	76.5	24	39.3	23	37.7
Other	3	17.6	2	11.8	11	18.0	11	18.0

schools having tumbling in physical education. The smaller schools were also behind the larger schools by 16.4 per cent in the percentage of schools having apparatus, 7.8 per cent in group or exhibition work, 16.4 per cent in trampolining, and 31.2 per cent in free exercise. The smaller schools were, as an average, 18.7 per cent behind the larger schools in the percentage of schools having the above activities in physical education.

In girls' physical education, there was a difference of 23.6 per cent between the percentage of larger schools and the percentage of smaller schools having tumbling in physical education. There was a difference of 21.1 per cent between the percentage of larger schools and smaller schools having apparatus in girls' physical education. Other differences, the smaller schools were behind the larger schools 18.5 per cent in group or exhibition work, 7.0 per cent in trampolining, and 38.8 per cent in free exercise in the percentage of schools teaching these activities in physical education. On the average, the smaller schools were 27.3 per cent behind the larger schools in the percentage of schools having the specific areas of gymnastic education listed.

Combinations of gymnastic education activities. In boys' physical education, the seventeen larger schools indicated they were all teaching tumbling. In combination with

tumbling, 70.6 per cent included apparatus; 47.1 per cent apparatus, group or exhibition work; 47.1 per cent apparatus, group or exhibition work, and trampolining; 29.4 per cent apparatus, group or exhibition work, trampolining, and free exercise; and 17.6 per cent apparatus, group or exhibition work, trampolining, free exercise, and other gymnastic activities.

In boys' physical education, the sixty-one smaller schools indicated that 16.4 per cent were not teaching any gymnastic activities, and 78.7 per cent were teaching tumbling. In combination with tumbling 58.8 per cent included apparatus; 27.9 per cent apparatus and group or exhibition work; 21.3 per cent apparatus, group or exhibition work, and trampolining; 8.2 per cent apparatus, group or exhibition work, trampolining, and free exercise; and 1.8 per cent included apparatus, group or exhibition work, trampolining, free exercise, and some other gymnastic education activity.

In girls' physical education, the larger schools indicated that 5.9 per cent were not teaching any gymnastic activity, and 94.1 per cent included tumbling in their gymnastic education program. In combination with tumbling 35.3 per cent included apparatus; 52.9 per cent apparatus and group or exhibition work; 41.1 per cent apparatus, group or exhibition work, and trampolining; 29.4 per cent apparatus,

group or exhibition work, trampolining, and free exercise; and 5.9 per cent included apparatus, group work, trampolining, free exercise, and some other gymnastic activity.

In girls' physical education, the smaller schools indicated that 18.0 per cent were not teaching any gymnastic activity, and 70.5 per cent included tumbling in physical education. In combination with tumbling 37.7 per cent included apparatus; 16.4 per cent apparatus and group or exhibition work; 9.8 per cent apparatus, group or exhibition work, and trampolining; 1.8 per cent apparatus, group or exhibition work, trampolining, and free exercise; and none of the smaller schools included all six of the gymnastic areas previously mentioned.

In all cases, tumbling, apparatus, and trampolining were the gymnastic education activities indicated most frequently in physical education for boys and girls in both the larger and smaller schools surveyed. In boys' physical education, 52.9 per cent of the larger schools were teaching a combination of tumbling, apparatus, and trampolining. In the smaller schools, only 32.8 per cent indicated they were teaching all three. In girls' physical education, 52.9 per cent of the larger schools were teaching a combination of tumbling, apparatus, and trampolining. In the smaller schools, only 24.6 per cent indicated they were teaching the three most frequently taught gymnastic education

activities. All the combinations and percentages indicated by the schools participating in the survey are illustrated in Appendix B, p. 76.

This survey discovered that some schools were not teaching gymnastic activity, while others were teaching all six of the gymnastic education areas studies. In boys' physical education, the seventeen larger schools indicated: (1) none of the schools were teaching less than two gymnastic activities; (2) 23.5 per cent were teaching two gymnastic activities; (3) 29.4 per cent three activities; (4) 17.6 per cent four activities; (5) 11.8 per cent five activities; and (6) 17.6 per cent were teaching six different gymnastic education activities. The average larger school was teaching 3.3 different gymnastic education activities in physical education.

In boys' physical education, the sixty-one smaller schools indicated that: (1) 16.4 per cent were not teaching any gymnastic education activity; (2) 6.6 per cent one activity; (3) 13.3 per cent two activities; (4) 19.7 per cent three activities; (5) 26.2 per cent four activities; (6) 16.4 per cent five activities; and (7) 1.8 per cent were teaching six different gymnastic education activities. The average smaller school was teaching 3.0 different activities.

In girls' physical education, 5.9 per cent of the seventeen larger schools were not teaching any gymnastic

education activities; 5.9 per cent were teaching one activity; 17.6 per cent of the schools two different gymnastic activities; and 17.6 per cent were teaching three of the activities mentioned. The other percentages were 23.5 per cent teaching four activities; 23.5 per cent five; and 5.9 per cent of the schools were teaching six different gymnastic activities in girls' physical education. The average school was teaching 3.5 different gymnastic education activities.

The smaller schools surveyed indicated that in girls' physical education 18.6 per cent were not teaching any gymnastic education activities, and 6.6 per cent were teaching only one activity. Also, 16.4 per cent were teaching two gymnastic activities, and 26.2 per cent three activities. The percentages of schools teaching the other gymnastic activities were that 22.9 per cent were teaching four activities, 9.8 per cent five activities, and none of the sixty-one smaller schools returning the questionnaire were teaching all six gymnastic activities in girls' physical education. On the average, the smaller schools were teaching 2.8 different gymnastic education activities in girls' physical education.

III. GYMNASTIC EDUCATION EQUIPMENT IN SELECTED KANSAS PUBLIC HIGH SCHOOLS

Gymnastic equipment. Each school in the survey was asked to indicate the indoor gymnastic education equipment they had on hand. All seventeen of the schools of 450-650 students returning the questionnaire possessed tumbling mats. Other figures were: ten schools had a sidehorse, twelve schools possessed a trampoline; fourteen schools had parallel bars, ten schools had a horizontal bar, ten had hanging ropes, two had still and flying rings, five had a springboard, five had a balance beam, two had a buck, one a mini-tramp, one stall bars, and one school possessed a trapeze. The average larger school possessed nine tumbling mats, and the average for schools possessing ropes was three.

The smaller schools with enrollments between 125 and 300 students indicated that of the sixty-one schools returning the questionnaire fifty-six possessed tumbling mats, eleven had a sidehorse, thirty-three a trampoline, twenty-seven parallel bars, sixteen a horizontal bar, thirty-five hanging ropes, six had still and flying rings, fourteen had a springboard, four had a balance beam, two possessed a vaulting box, three a mini-tramp, one school possessed a buck, one stall bars, and one a ladder. Two schools indicated they had no gymnastic education equipment whatsoever. On the average, the smaller schools having tumbling mats

possessed six, and schools having ropes possessed one.

Table VIII illustrates the percentages of gymnastic equipment possessed by both the larger and smaller schools.

TABLE VIII
GYMNASTIC EDUCATION EQUIPMENT IN SELECTED
KANSAS PUBLIC HIGH SCHOOLS

Equipment	61 Schools of 125-300		17 Schools of 450-650	
	No. of Schools	Per cent	No. of Schools	Per cent
O	2	3.3	0	0.0
Mats	56	91.8	17	100.0
Sidehorse	11	18.0	10	58.8
Trampoline	33	54.1	12	70.5
Parallel bars	27	44.3	14	82.4
Horizontal bar	16	26.2	9	52.9
Hanging ropes	35	57.4	10	58.8
Still rings	6	9.8	2	11.8
Flying rings	6	9.8	2	11.8
Springboard	14	22.9	5	29.4
Balance beam	4	6.6	5	29.4
Buck	1	1.8	2	11.8
Mini-tramp	3	4.9	1	5.9
Stall bars	1	1.8	1	5.9
Trapeze			1	5.9
Ladder	1	1.8		

Combinations of gymnastic education equipment. This survey discovered a very wide range of apparatus combinations in selected Kansas Public High Schools. Some schools did not have gymnastic equipment while others possessed as many as eight different pieces of apparatus.

The seventeen schools of 450 to 650 students returning the questionnaire indicated: each school had more than one piece of gymnastic equipment, 11.8 per cent had two pieces of equipment, 5.9 per cent possessed three pieces of equipment, 17.6 per cent four pieces, 17.6 per cent five pieces, 17.6 per cent six pieces, 23.5 per cent seven pieces, and 5.9 per cent possessed eight pieces.

The sixty-one schools of 125 to 300 students returning the questionnaire indicated the following combinations of gymnastic education equipment: 3.3 per cent possessed no equipment whatsoever, 13.3 per cent had only one piece of equipment (mats), 14.8 per cent two pieces, 21.3 per cent three pieces, 13.3 per cent four pieces, 22.9 per cent five pieces, 6.6 per cent six pieces, 4.9 per cent seven pieces, and none of the smaller schools had as many as eight pieces of gymnastic education equipment.

There was a large difference between the larger and smaller schools in the average number of gymnastic education pieces each school possessed. The larger schools indicated an average of 5.2 pieces of gymnastic equipment for each

school, and the smaller schools had, as an average, 3.5 pieces of equipment for each school. Appendix B, p. 78, illustrates the number of schools that had specific combinations of gymnastic education equipment.

Mats, sidehorse, trampoline, parallel bars, horizontal bar, ropes, and spring board were the seven most common pieces of gymnastic equipment possessed by the schools surveyed in this study. In retrospect, almost all of the schools (91.8 per cent of the smaller schools and all of the larger schools) possessed mats. All of the larger schools were utilizing two or more of the apparatus mentioned, while 3.3 per cent of the smaller schools did not possess any equipment; 13.3 per cent one piece of equipment, and 83.6 per cent two pieces. The larger schools indicated that 88.2 per cent owned three pieces of gymnastic equipment, 70.5 per cent four pieces, 58.8 per cent five pieces, 17.6 per cent six pieces, and 11.8 per cent possessed all eight pieces of equipment mentioned. The smaller schools indicated that 63.9 per cent owned three pieces of equipment, 49.2 per cent four pieces, 26.2 per cent five pieces, 4.9 per cent six pieces, and 1.8 per cent possessed seven of the most common pieces of gymnastic equipment.

The average number of the most common pieces of gymnastic equipment owned by the larger schools was 3.4 pieces. The average number of pieces possessed by the smaller schools was 2.5 pieces.

It was interesting to note that all the larger schools had at least a gymnastic education program for boys. In the smaller schools, however, ten schools indicated that they had gymnastic equipment on hand but still did not have gymnastic education in their physical education program.

IV. PROFESSIONAL PREPARATION OF SELECTED KANSAS PUBLIC HIGH SCHOOLS TEACHERS IN GYMNASTIC EDUCATION

The seventeen public high schools with enrollments between 450 and 650 all had a female and a male physical education teacher. Fifteen of the male physical education teachers had received their undergraduate degree from a Kansas college or university, and two had completed their undergraduate at a college or university in some other state. Fourteen of the female physical education teachers had received their undergraduate degree from a Kansas college or university and three had received their undergraduate degree from some other state.

The sixty-one smaller schools with enrollments between 125 and 300 students indicated that twenty-five, or 40.9 per cent, did not have a female physical education teacher; and five, or 8.2 per cent, did not have a male physical education teacher. Three, or 4.9 per cent of the smaller schools did not have a male or female physical education teacher. Of

the thirty-six female physical education instructors completing the questionnaire, twenty-eight had received their undergraduate degree from a Kansas college or university, and eight had received undergraduate training from colleges or universities outside of the state of Kansas. The male physical education teachers indicated that fifty of the fifty-six men returning the questionnaire form had received their undergraduate degree from a Kansas college or university, and six had received a degree out of the state of Kansas.

Semester hours of preparation in gymnastic education.

The women physical education teachers in the larger schools indicated that in regard to professional preparation 41.2 per cent did not have an undergraduate course in gymnastics. Those having one-half a credit and one credit represented 5.9 and 17.6 per cent respectively of the women teachers returning the questionnaire. Other percentages were none of the female teachers in the larger school had 1.5 credits of gymnastic instruction in college; 23.5 per cent had 4 credits, none had 2.5, 3.0, or 3.5 credits; and 11.8 per cent had as much as 4 credits of gymnastic instruction.

The men physical education teachers in the larger schools indicated that 47.1 per cent did not have a course in gymnastic education in their undergraduate preparation. Only 5.9 per cent of the men had taken .5 and 1 credit of

gymnastics in college and none had taken 1.5 credits. Other percentages were: 23.5 per cent had 2 credits of gymnastics instruction on the undergraduate level, none had 2.5 credits, 5.9 per cent had 3 and 3.5 credits respectively, none of the men had 4 credits of gymnastic education preparation, and 5.9 per cent had 5 credits.

The survey of the sixty-one smaller schools discovered that there were only thirty-six women physical education teachers and fifty-six male physical education teachers. In the professional background of gymnastic education of the female teacher, 55.6 per cent indicated they had no preparation in gymnastics on the undergraduate level. In studying the number of semester hours in gymnastic education taken by each teacher, it was discovered that 5.6 per cent had .5 credit, 11.1 per cent 1.5 credits, 11.5 per cent 2 credits, none 2.5 credits, 5.6 per cent 3 credits, and none had taken over 3 credits of gymnastic instruction.

The male physical education teachers in the smaller schools indicated that 44.6 per cent had not received any instruction in gymnastic education on the undergraduate level. The fifty-six men completing the questionnaire indicated that 3.6 per cent had received .5 credit of gymnastics education, 16.2 per cent 1.0 credit, none 1.5 credits, 21.4 per cent 2 credits, 3.6 per cent 2.5 credits, 8.9 per cent 3.0 credits, and none of the men had taken more than 3.0 credits of gymnastic activity in college.

The average male physical education teacher in the Kansas schools of 125 to 300 students had .9 credits of gymnastics instruction on the undergraduate level. The average female physical education teacher had .7 credits. The average male teacher in the larger schools had 1.0 credits and the average female teacher .9 credits. The over-all average of semester hours in gymnastic education preparation for men was .95 and women physical education teachers was .8. It was interesting to note that the nineteen teachers surveyed that had received their undergraduate degree out of the state, twelve had gymnastic instruction in college. Also, only three individuals had competed in a gymnastic exhibition or meet. Table IX illustrates the exact number of men and women taking specific credit hours of gymnastic education on the undergraduate level.

TABLE IX

PROFESSIONAL PREPARATION OF SELECTED KANSAS PHYSICAL
EDUCATION TEACHERS IN GYMNASTIC EDUCATION

Semester Hours	17 Schools of 450-650		61 Schools of 125-300	
	Number of Female	Number of Male	Number of Female	Number of Male
0	7	8	20	25
.5	1	1	2	2
1.0	3	1	4	9
1.5			4	
2.0	4	4	4	12
2.5				2
3.0		1	2	5
3.5		1		
4.0	2			
4.5				
5.0		1		

V. ATTITUDES OF SELECTED KANSAS HIGH SCHOOL PHYSICAL
EDUCATION TEACHERS TOWARD GYMNASTIC EDUCATION

Each Kansas School surveyed was asked to express opinions on why gymnastic education does not have a more prominent position in the physical education programs of Kansas public high schools. All of the schools did not respond to this particular phase of the questionnaire. Numerically, thirteen of the seventeen schools of 450 to 650 students responded and forty-three of the sixty-one schools of 125 to 300 responded. Most of the schools offered a series of opinions. The frequency with which

certain opinions were expressed gave a valuable insight into the attitude many Kansas secondary schools have toward gymnastic education.

Many of the individuals completing the questionnaire expressed the opinion that gymnastic education was not receiving more emphasis in Kansas because of a lack of qualified teachers. Almost half or 46.4 per cent stated this. Lack of equipment was a reason expressed by 41.1 per cent of the individuals. Other opinions frequently expressed were:

1. Poor college preparation - 39.3 per cent.
2. Cost of equipment - 36.5 per cent.
3. Coaches teaching varsity athletics during physical education class time - 21.4 per cent.
4. Lack of emphasis in physical education - 16.1 per cent.
5. Limited physical education class time - 14.3 per cent.
6. Lack of interest by physical education instructors - 14.3 per cent.
7. Poor selling of gymnastic education to school personnel and the general public - 14.3 per cent.

A large variety of opinions were given by teachers in both the smaller and larger schools. Most of the opinions concerned equipment, professional preparation in gymnastic

education, and a lack of adequate selling of the program. The following is a list of all the reasons certain Kansas teachers gave in relation to why Kansas has a lack of emphasis on gymnastic education.

1. Lack of qualified teachers - 46.4 per cent.
2. Lack of equipment - 41.1 per cent.
3. Poor college preparation in gymnastics education - 39.3 per cent.
4. Cost of equipment - 36.5 per cent.
5. Coaches teaching varsity athletics in physical education classes - 21.4 per cent.
6. Lack of emphasis in physical education - 16.1 per cent.
7. Lack of interest by physical education teachers - 14.3 per cent.
8. Lack of proper selling of the program to teachers and public - 14.3 per cent.
9. Limited physical education class time - 14.3 per cent.
10. Lack of physical education floor space - 7.2 per cent.
11. Lack of large enough classes - 7.2 per cent.
12. Current emphasis on individual and leisure time activities - 5.4 per cent.
13. Pressure on coach-physical education teacher to produce winning athletic teams - 3.6 per cent.

14. Low state physical education requirements - 3.6 per cent.
15. Lack of equipment storage space - 3.6 per cent.
16. Having to put equipment up and take it down each day - 1.8 per cent.
17. Gymnastic education is not necessary - 1.8 per cent.
18. All students are not good enough to participate - 1.8 per cent.
19. Gymnastics should be a large part of the athletic program but a small part of physical education - 1.8 per cent.
20. Lack of adequate teaching aids and material - 1.8 per cent.
21. Too many other activities - 1.8 per cent.
22. Too dangerous - 1.8 per cent.
23. Classes are too large - 1.8 per cent.

The attitudes the physical education teachers of the larger schools had toward gymnastic education were different in many respects than the attitudes expressed by the physical education teachers in the smaller schools. Several of the reasons given for a possible lack of emphasis on gymnastic education in Kansas were given by eight or more different individuals. It was significant to note the percentage of the larger schools and the smaller schools listing the most

frequently given reasons. The following is a list of the nine most frequently given reasons broken down by percentage of the larger schools and smaller schools expressing each.

1. Lack of qualified teachers
Larger schools - 69.2 per cent
Smaller schools - 39.5 per cent
2. Lack of equipment
Larger schools - 15.4 per cent
Smaller schools - 48.8 per cent
3. Poor college preparation in gymnastic education
Larger schools - 46.2 per cent
Smaller schools - 37.2 per cent
4. Cost of equipment
Larger schools - 46.2 per cent
Smaller schools - 34.9 per cent
5. Coaches teaching varsity athletics in physical education classes.
Larger schools - 0 per cent
Smaller schools - 27.9 per cent
6. Lack of emphasis in physical education
Larger schools - 30.8 per cent
Smaller schools - 11.6 per cent
7. Lack of interest by physical education teachers
Larger schools - 23.1 per cent
Smaller schools - 11.6 per cent

8. Lack of selling the program to teachers and public

Larger schools - 7.7 per cent

Smaller schools - 16.3 per cent

9. Limited physical education class time

Larger schools - 0 per cent

Smaller schools - 18.6 per cent

The main body of the report contains a detailed analysis of the data. It discusses the reasons for the lack of program adoption, such as insufficient teacher training and limited resources. The report also provides recommendations for improving the program's reach and effectiveness. Key findings include that smaller schools face more significant challenges in implementing physical education programs compared to larger schools. The report concludes with a call for increased support and resources to ensure that all students have access to quality physical education.

CHAPTER IV

SUMMARY AND CONCLUSIONS

I. SUMMARY

The major hypothesis of this study was that gymnastic programs in selected Kansas public high schools were not meeting the standards set forth by the Kansas State Department of Public Instruction. The major hypothesis was proven. In general, Kansas high schools taking part in this survey were not meeting the recommendations of the state or of authorities in the field of physical education in the areas of teacher preparation, percentage of physical education curricula devoted to gymnastic education, selection of gymnastic activities, and gymnastic facilities and equipment.

Related literature revealed that in professional preparation in physical education, authorities recommended that undergraduate physical education major and minor students should become skilled performers in the activities comprising physical education. The recommended activities included fundamental movements, aquatics, body mechanics, gymnastic combatives, dance, and individual and team sports.

The physical education teachers in the seventeen schools of 450 to 650 students surveyed indicated that 41.2 per cent of the female teachers and 47.1 per cent of the male

teachers did not have undergraduate preparation in gymnastics. The physical education teachers in the schools of 125 to 300 students surveyed indicated that 55.6 per cent of the female teachers and 44.6 per cent of the male teachers did not have gymnastic training in undergraduate work. On the average, the female teachers in the larger schools having undergraduate preparation in gymnastics had .9 credit and the male teachers 1.0 credit. In the smaller schools the female teachers had an average of .7 credit and the male teachers .9 credit of gymnastic preparation.

It was significant that all of the larger schools surveyed had a female and a male physical education teacher while twenty-five of the sixty-one smaller schools did not have a female physical education teacher, five did not have a male teacher and three schools did not have a physical education teacher. Of the thirty-six female and fifty-six male physical education teachers surveyed only eight women and six men had graduated from colleges or universities not in Kansas.

The minimum state requirements in physical education, as published in the Kansas Secondary School Handbook, were being met by 90.2 per cent of the smaller schools and 100 per cent of the larger schools. The average number of semesters in physical education required in the smaller schools was 1.89 for boys and 1.87 for girls. The schools

with larger enrollments had a higher average of 2.82 required semesters of physical education for boys and 2.82 for girls. The smaller schools also indicated that 19.7 per cent were exempting their varsity athletes from in season physical education class participation with some schools giving as much as 2.5 credits toward graduation for varsity participation. One of the larger schools was exempting varsity athletes from in season physical education class participation and the athletes were not awarded credit toward graduation. The smaller schools had an average of 194 minutes of physical education per week for boys and 208 minutes for girls. The larger schools had an average of 198 minutes per week for boys and 184 minutes for girls.

The Kansas State Department of Public Instruction recommends that 25 per cent of boys' physical education time and 20 per cent of girls' physical education time be spent in gymnastic education. The smaller schools were not meeting these recommendations. In boys' physical education the smaller schools had an average of 20.9 per cent of instructional time devoted to gymnastics and in girls' physical education an average of 18.4 per cent of instructional time devoted to gymnastics and in girls' physical education an average of 18.4 per cent of instructional time devoted to gymnastics. Many schools, 16.3 per cent and 21.3 per cent did not have gymnastics in boys' or girls'

physical education. Also, 60.5 per cent of the smaller schools were under the state recommendations in boys' physical education and 68.7 per cent in girls' physical education.

The larger schools were closer to state recommendations for gymnastics education than the smaller schools. In boys' physical education these schools had an average of 26.1 per cent of instructional time devoted to gymnastics. In girls' physical education the larger schools averaged 23.2 per cent of instructional time devoted to gymnastic education. It was also interesting to note that 52.9 per cent of these schools were under state recommendations for boys' physical education and 50.0 per cent for girls. All of the larger schools had gymnastic activities for boys but 5.9 per cent did not teach gymnastics in girls' physical education.

The schools participating in the survey were asked to indicate if they were teaching tumbling, apparatus, group or exhibition work, trampoline, free exercise or some other gymnastic activity. Several schools were not teaching gymnastics while others were teaching all six of the activities mentioned.

In boys' physical education none of the larger schools were teaching less than two of the gymnastic activities mentioned with 23.5 per cent teaching two activities, 23.5

per cent three, 17.6 per cent four, 11.8 per cent five and 17.6 all six activities. The smaller schools indicated 16.4 per cent were not teaching gymnastics in boys' physical education, 6.6 per cent one activity, 13.3 per cent two, 19.7 per cent three, 26.2 per cent four, 16.4 per cent five and 1.8 per cent six activities. On the average the larger schools were teaching 3.3 different activities and the smaller schools 3.0 activities in boys' physical education. The three most frequently taught activities were tumbling, trampoline, and apparatus, in that order.

In girls' physical education the larger schools indicated that 5.9 per cent were not teaching gymnastics, 5.9 per cent were teaching one activity, 17.6 per cent two, 17.6 per cent three, 23.5 per cent four, 23.5 per cent five and 5.9 per cent all six activities. In girls' physical education 18.6 per cent of the smaller schools were not teaching gymnastics, 6.6 per cent one activity, 16.4 per cent two, 26.2 per cent three, 22.9 per cent four, 9.8 per cent five and none of the smaller schools were teaching all six activities. The average larger school was teaching 3.5 different activities in girls' physical education and the average smaller school 2.8 activities. The three most frequently taught activities in the larger schools were tumbling, free exercise and apparatus. Tumbling, trampoline and apparatus were the three most frequently taught activities in the smaller schools.

The survey discovered a very wide range of apparatus combinations in selected Kansas secondary schools. Some schools did not have gymnastic equipment while others possessed as many as eight different pieces of apparatus. The seventeen schools of 450 to 650 students had an average of 5.2 pieces of equipment per school while the sixty-one schools of 125 to 300 students had an average of 3.5 pieces of equipment per school.

Mats, sidehorse, trampoline, parallel bars, horizontal bar, ropes and spring board were the seven most common pieces of gymnastic equipment possessed by the schools surveyed in this study. The percentage of schools in each division having this equipment were:

1. Mats - smaller schools 91.8 per cent, larger schools 100 per cent.
2. Sidehorse - smaller schools 18.0 per cent, larger schools 58.8 per cent.
3. Trampoline - smaller schools 54.1 per cent, larger schools 70.5 per cent.
4. Parallel bars - smaller schools 44.3 per cent, larger schools 82.4 per cent.
5. Horizontal bar - smaller schools 26.2 per cent, larger schools 52.9 per cent.
6. Hanging ropes - smaller schools 57.4 per cent, larger schools 58.8 per cent.

7. Spring board - smaller schools 22.9 per cent, larger schools 29.4 per cent.

The average number of the seven most common pieces of gymnastic equipment possessed by the larger schools was 3.4. The average number possessed by the smaller schools was 2.5. All of the larger schools were using two or more of the seven most common pieces of equipment. The smaller schools indicated 3.3 per cent did not possess gymnastic equipment, 13.3 per cent on piece of equipment (mats) and 83.6 per cent two pieces.

Each Kansas school surveyed was asked to express opinions on why gymnastic education does not receive more emphasis in the physical education programs in Kansas secondary schools. It was significant to note the percentage of the larger schools and the smaller schools listing the nine most frequently opinions. The nine most frequently listed reasons were:

1. Lack of qualified teachers - larger schools 69.2 per cent, smaller schools 39.5 per cent.
2. Lack of equipment - larger schools 15.4 per cent, smaller schools 48.8 per cent.
3. Poor college preparation - larger schools 46.2 per cent, smaller schools 37.2 per cent.
4. Cost of equipment - larger schools 46.2 per cent smaller schools 34.9 per cent.

5. Coaches teaching varsity athletics in physical education classes - larger schools 0.0 per cent, smaller schools 27.9 per cent.
6. Lack of emphasis in physical education - larger schools 30.8 per cent, smaller schools 11.6 per cent.
7. Lack of interest by physical education teachers - larger schools 23.1 per cent, smaller schools 11.6 per cent.
8. Poor selling of the program - larger schools 7.7 per cent, smaller schools 16.3 per cent.
9. Limited physical education classtime - larger schools 0.0 per cent, smaller schools 18.6 per cent.

A significant difference in attitude towards gymnastic education became apparent by comparing the reasons that were given only by the larger schools with the reasons given only by the smaller schools. Only the teachers in the larger schools stated that classes were too large, a lack of teaching aids and materials and a unique reason that gymnastics should be a large part of the athletic program but a small part of the physical education program.

Significantly, two of the most frequent of all the reasons given, coaches teaching varsity athletics in physical education classes and lack of classtime were expressed by the

teachers in the smaller schools only. Other opinions given by the teachers in the smaller schools were similar. These opinions were too dangerous, too many other activities, all students are not capable of participation, lack of large enough classes, pressures on coaches to produce winning varsity teams, low state regulations, not necessary, lack of storage space and having to put equipment up and down each day.

The data compiled from this questionnaire represented a sampling of schools from southwest and northwest Kansas, south central and north central Kansas, and southeast and northeast Kansas. This survey revealed that geographic location did not have a significant influence on gymnastic education in Kansas.

II. CONCLUSIONS AND RECOMMENDATIONS

The percentages and averages in some of the areas in this study are generally higher than they should actually be. All of the returned questionnaires were used even though some of the listings such as minutes per week, percentage of physical education time devoted to gymnastic education activity and activities presented seemed unrealistically high.

The Kansas public high schools surveyed in this study were generally weak in the area of gymnastic education. In

general, the seventeen schools with enrollments between 450 and 650 students were slightly deficient compared to the poor status of gymnastic education in the sixty-one schools of 125 to 300 students.

The fact that 41.2 per cent of the female teachers and 47.1 per cent of the male teachers did not have undergraduate preparation in gymnastic education indicates the reason why the area of gymnastics is not receiving greater emphasis in Kansas public schools. Poor undergraduate preparation has been the major contributing factor in the low status of gymnastic education in Kansas.

As well as poor undergraduate preparation, other contributing factors have been the apparent high cost of equipment, current emphasis on leisure time activities, poor selling of the program, low state requirements, and the coach-physical education teacher developing varsity athletes during physical education classtime.

Recommendations for improving the status of gymnastic education in Kansas secondary schools are:

1. Raise the level of undergraduate preparation in the area of gymnastic education in the institutions of higher learning in Kansas and the surrounding areas.
2. Gymnastic education needs greater emphasis by the leaders in the field of physical education. The

program must be sold to administrators, teachers, students and the public. The values and advantages should be emphasized and that over a period of time a gymnastic program becomes one of the least expensive physical activities. The manufacturers of gymnastic equipment should be approached. The non-competitive prices of equipment have hindered the expansion of the program.

3. The Kansas State Department of Public Instruction should raise the minimum physical education requirements. Physical education over a period of two years, for example, would allow the development of more substantial and varied physical education programs. Also, more strict enforcement of the state requirements would help alleviate the unfortunate situation of the development of the varsity athlete at the expense of physically educating the student body.

Recommendations for future study in the area of gymnastic education are:

1. The effect the current national emphasis on physical fitness will have on the status of gymnastic education.

2. Purchase, maintenance and improvisation of gymnastic equipment.
3. Public relations in gymnastic education.
4. What activities should be presented at specific grade levels and their contributions toward physical fitness.
5. Experimental research on the values of gymnastics.
6. Safety in gymnastic education.
7. Suggested gymnastic programs for elementary schools.

**KANSAS STATE TEACHERS COLLEGE
Emporia, Kansas**

self-addressed envelope is enclosed.

high school physical education requirements

How many students of physical education courses do you include in your school's physical education program?

After a long period of neglect, gymnastics education has been receiving new impetus in the public high schools of Kansas as well as secondary schools throughout the country. Enclosed is a questionnaire form surveying the status of gymnastics education in Kansas public high schools. Please have your physical education staff complete the form and return it within the next twenty days.

The information provided by you will be used by the Physical Education Department here at Kansas State Teachers College in the preparation of future physical education teachers.

Thank you very much for your participation.

Sincerely yours,

**James Brown, Instructor
Department of Men's
Physical Education**

JB:bk

Enclosures

- Apparatus
- Group or exhibition work
- Irregularity
- Free
- Other

Please complete this survey form and return it to:

James Brown
Physical Education Department
Kansas State Teachers College
Emporia, Kansas

A stamped, self-addressed envelope is enclosed.

I. High school physical education requirements

- A. How many semesters of physical education (please do not include health or safety education) does your high school require for boys? _____, girls? _____.
- B. Is your varsity athlete exempt from physical education class participation during a season if he is a member of an athletic team? Yes, _____. No, _____. If your athletes are exempt from class participation, how many hours of class credit does he receive for each season he is a member of a team? _____ Cr.
- C. What High School grades are enrolled in physical education? Boys _____. Girls _____.
- D. How many minutes a week does the student participate in physical education? Boys _____. Girls _____.

II. Instructional time devoted to gymnastic experiences

- A. What percentage of the high school student's total physical education class experience is devoted to gymnastics education? Boys _____. Girls _____.
- B. Please check the gymnastic activities presented in your physical education program. List the percentage of gymnastics education time devoted to each activity.

	Boys	Girls
Tumbling	_____ %	_____ %
Apparatus	_____ %	_____ %
Group or exhibition work	_____ %	_____ %
Trampolining	_____ %	_____ %
Free exercise	_____ %	_____ %
Other	_____ %	_____ %

GYMNASTIC ACTIVITY COMBINATIONS IN SELECTED
KANSAS PUBLIC HIGH SCHOOL

Gymnastic Activity Combinations	67 Schools 450-650				61 Schools 125-300			
	Boys		Girls		Boys		Girls	
	No.	%	No.	%	No.	%	No.	%
0			1	5.9	10	16.4	11	18.0
Tumbling			1	5.9	4	6.6	4	6.6
Tumb, tramp.	2	11.8			3	4.9	6	9.8
Tumb, apparatus					1	1.8		
Apparatus, tramp.					2	3.3		
Tumb, free exercise	2	11.8	3	17.6	2	3.3	2	3.3
Tumb, group							1	1.8
Free exercise, other							1	1.8
Tumb, app, group			1	5.9	2	3.3	2	3.3
Tumb, app, other					1	1.8	1	1.8
Tumb, tramp, free exercise	1	5.9	1	5.9	1	1.8	1	1.8
Tumb, tramp, apparatus	2	11.8			4	6.6	4	6.6
Tumb, free exercise, other					1	1.8	1	1.8
Tumb, tramp, group					1	1.8	4	6.6
Tumb, group, free exercise					2	3.3	1	1.8
Tumb, apparatus, free exer.	2	11.8	1	5.9				
Appr, tramp, free exercise							1	1.8
Group, free exer, other							1	1.8
Tumb, appr, group, tramp.	2	11.8	2	11.8	6	9.8	3	4.9
Tumb, appr, tramp, free exer.			2	11.8	5	8.2	4	6.6
App, group, free exer, other					1	1.8		
Tumb, app, free exer, other					1	1.8	1	1.8
Tumb, group, free exer, other					2	3.3	2	3.3
Tumb, app, group, free exer.	1	5.9			1	1.8	1	1.8
Tumb, group, tramp, free exer.							3	4.9
Tumb, app, group, tramp, other					2	3.3	2	3.3
Tumb, app, group, free x, other					1	1.8	1	1.8
Tumb, app, group, tramp, free x.	2	11.8	4	23.5	4	6.6	1	1.8
Tumb, app, tramp, free x, other					2	3.3	1	1.8
Tumb, group, tramp, free x, other					1	1.8	1	1.8
Tumb, app, group, tramp, free x, other	3	17.6	1	5.9	1	1.8		

GYMNASTIC EDUCATION EQUIPMENT COMBINATIONS

Combinations	Schools of 125-300 number	Schools of 450-650 number
1. 0	2	0
2. Mats	8	0
3. Mats, ropes	5	1
4. Mats, trampoline	4	1
5. Mats, H.bar, tramp.	2	0
6. Mats, ropes, tramp.	4	0
7. Mats, ropes, S.horse	1	0
8. Mats, P.bars, tramp	2	1
9. Mats, ropes, x.box	1	0
10. Mats, S.board, P.bars	1	0
11. Mats, P.bars, Mini-tramp.	1	0
12. Mats, ropes, rings	1	0
13. Mats, ropes, H.bar, rings	1	0
14. Mats, S.horse, P.bars, S.board	1	0
15. Mats, ropes, P.bars, H.bars	1	1
16. Mats, S.horse, P.bars, tramp.	1	0
17. Mats, S.board, buck, H.bar	1	0
18. Mats, S.board, P.bars, tramp	1	0
19. Mats, P.bars, H.bars, tramp	1	0
20. Mats, ropes, P.bars, tramp.	1	0
21. Mats, S.board, P.bars, H.bar	0	1
22. Mats, Bal.beam, S.horse, tramp.	0	1
23. Mats, ropes, steel bars, ladder, tramp.	1	0
24. Mats, ropes, R.bars, S.horse, S.board	1	0
25. Mats, ropes, S.board, P.bars, tramp	1	0
26. Mats, ropes, P.bars, H.bar, tramp	3	0
27. Mats, ropes, S.horse, P.bars, tramp	2	0
28. Mats, S.board, S.horse, P.bars, H.bars	1	0
29. Mats, ropes, Bal.beam, P.bars, tramp.	1	1

GYMNASTIC EDUCATION EQUIPMENT COMBINATIONS (Continued)

Combinations	Schools of 125-300 number	Schools of 450-650 number
30. Mats, ropes, V.box, P.bars, tramp	1	0
31. Mats, S.horse, P.bars, H.bars, tramp	0	1
32. Mats, ropes, stall bars, P.bars	0	1
33. Mats, ropes, S.board, rings, tramp	1	0
34. Mats, ropes, P.bars, H.bar, rings	1	0
35. Mats, ropes, S.board, S.horse, tramp	1	0
36. Mats, ropes, S.board, P.bars, rings, tramp	1	0
37. Mats, S.horse, P.bars, H.bar, rings, tramp	1	1
38. Mats, ropes, S.board, Bal.beam, H.bar, tramp	1	0
39. Mats, S.horse, Bal.beam, P.bars, H.bar, tramp	1	1
40. Mats, S.board, S.horse, P.bars, tramp	0	1
41. Mats, ropes, S.board, S.horse, P.bars, H.bar, tramp	1	2
42. Mats, ropes, bal.beam, P.bars, H.bar, S.board, tramp	1	0
43. Mats, ropes, S.board, P.bars, H.bars, mini-tramp, tramp	1	0
44. Mats, ropes, bal.beam, S.horse, P.bars, H.bar, mini-tramp	0	1
45. Mats, ropes, S.horse, Bal.beam, P.bars, H.bars, rings	0	1
46. Mats, ropes, S.board, S.horse, P.bars, V.box, trapeze, tramp	0	1

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