THE SIGNIFICANCE AND VALUE OF GYMNASTICS IN CONTEMPORARY PHYSICAL EDUCATION

A Thesis

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by

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This study was undertaken in order that professional educators, and the lay public might possibly become better acquainted with the functions and values of gymnastics in the public schools and every day life.

The writer wishes to acknowledge the kind and valuable assistance of all people who contributed time and effort toward helping make this research study. Special gratitude is due to Dr. E. Don McCullough, Graduate Adviser of the Graduate Division of Health, Physical Education, and Recreation at Kansas State Teachers College, Emporia, for his valuable assistance, and for so graciously consenting to direct the efforts of the writer in making the study.

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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

Is physical education losing its original purpose of fitness training? Despite recent gains, approximately 20 per cent of the public school pupils in grades 4-12 still have no physical fitness programs at all.[1] Many of the pupils listed as participants in physical fitness programs participate only one or two days a week, and many physical education programs still do not give proper attention to the development of physical fitness.[2] Evidence indicates that this may be due to competitive sports which are so frequently designed for the spectator and financial benefit, both in schools and on the professional level. Unfortunately, what forms the basis of the ethical values of sport is not always recognized in the general culture of contemporary societies. The fact is that the ethics of sport are based on the body and, in our civilization, the body still ranks low in the scale of values.[3] All this adds up to the astounding, dismaying, and

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[1]Progress Report from the President's Council on Physical Fitness, "Keeping Up With Fitness," Journal of Health, Physical Education and Recreation, 34:10, October, 1963.

[2]Ibid.

[3]Rene Mahew, "Sport and Culture," Journal of Health, Physical Education and Recreation, 34:30, October, 1963.

infuriating, and even scandalous situations which many times govern the physical education of the sports world. Under this situation the real meaning of "triumph" is excluded from true culture, and is actually only a culture's mode of expression. History shows that in the past gymnastic activities satisfied adequately the needs for fitness training and also the bio-physical needs of the individual. Slowly this activity has given way to the demands of social aggregate. Gymnastics are once again being recognized as an activity that can adequately fill the needs for physical education, and also the organic needs of fitness to society.

I. THE PROBLEM

Statement of the problem. The purpose of this study was to determine the significance and value of gymnastics and its activities with respect to biological value to fitness and physical education, as compared to the many contemporary programs of physical education now being conducted.

The survey conducted in obtaining factual information concerning the stated problem was determined by the use of a questionnaire, personal contacts, and intense study of relative research. Though there has been research done in the area of this problem and some similarity may exist, this research project calls attention to the specific problem

which pursues completely different means for the resulting answer.

This problem specifically pursues answers concerning the needs which physical education instructors actually feel concerning gymnastic activities in physical education and fitness training, and the existence of these activities in practice at the time of the research study. The questions asked in the questionnaire and in all areas of the research techniques were made in the interest of biological values rather than social values. The questions were designed to include both boy's and girl's physical education.

The basic questions are:

(1) Does your school offer gymnastics in its physical education program?

(2) Please check after the listed gymnastic type activity that you have in your physical education program.

(3) Without regard to activities or types of physical education programs you offer, do you feel gymnastics should be offered in today's physical education program?

(4) List in order (by number) the gymnastic activities as is thought they should be offered. Use the given list of suggested activities.

(5) Where should the sport gymnastics be rated on the basis of biological, physical education and how is it a benefit to the individual in regard to exercise, muscle develop-

ment, agility, self-discipline, self-testing, emotional value and the carry-over value of exercise for later life?

Hypothesis. The major hypothesis of this study is that most schools rate gymnastic activities at a high level of value to the physical education programs in schools. Yet, few schools offer a good program in their systems, or really know what a good gymnastic program is. In many cases this limitation was due to time conflicts and, quite noticeably, the bias opinions of the program controls. The significance of the minor hypothesis is that prejudice and unwillingness to learn the true value and merit of an existing force is not willingly admitted even if factual truth was evident. This denotes the factor that has become so prevalent in a contemporary way of life. Society allows the likes and dislikes of individual preferences and needs to subdue the actual needs and values of the masses. A minor hypothesis was the increased significance of dance for the value of balance, timing, coordination, and body control. Gymnastics includes dance in its scope and has in common with it the desire to develop all the above mentioned aspects of movement, mental needs and satisfactions.

Significance of the problem. Gymnastics have been known almost since the beginning of knowledge. Gymnastics

and tumbling, comprising some of our most basic motor skills, also includes some of the oldest skills.[4]

Since the origin and developing stages of gymnastics there have been questions and suggestions in search for its value and need. Beyond any doubt the human body must maintain, repair, and comprise itself. This can be done only through the biological method of physical exercise. Through the knowledge of gymnastic activities and their values to the development of the human biologically, physically, and mentally, a comparison can be made to other activities used in physical education and fitness training.

The conclusions and recommendations of this study should direct interest and information concerning gymnastics and its values. It is hoped that the desires, opinions and experiences of the many people connected in this research may help in some way to inform and clarify the abilities of gymnastic activities, and to show the people what gymnastics have to offer in measurement of biological development and fitness techniques.

Limitation or scope. This study was limited to the research of biological values to fitness training and physical

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[4]Newton C. Loken and Robert J. Willoughly, Complete Book of Gymnastics (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1960), p. 18.

education. The study is interested in reaching decisions about gymnastics concerning exercise, muscle development, agility, self-discipline, self-testing, emotional value and the carry-over value of exercise through life.

The questionnaires, that were sent out as part of the research dealing with this study, were sent to selected secondary schools throughout the entire state of Kansas. The selection of these schools was done, simply, by sending a questionnaire to every county seat secondary school. This automatically designated the number of questionnaires, and the schools to which they were sent.

II. DEFINITIONS OF TERMS USED

Gymnastics. The term gymnastics, as used throughout the world today, involves the heavy apparatus plus the so-called free exercise or free calisthenics.[5] In this study the term also considers pyramids, hand balancing, individual stunts and dance.

Gymnastic activities. The term, gymnastic activities, mentioned in this study refers to any activity that incorporates a movement that would relate to any gymnastic movement or exercise.

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[5]Wesley E. Ruff, Ph.D., Gymnastics Beginner to Competitor (Dubuque, Iowa: Wm. C. Brown Company Publishers, 1959), p. 1.

Bio-physical value. That branch of mental science which uses the methods and is based upon the facts and principles of biology and its relations to the phenomena and laws of life.[6] It is also considered in view of physical growth, and supporting life needs due to controlled physical exercise.

Carry-over value. Carry-over value of gymnastic education means the ability to retain and perform stunts, exercises and physical activities after their teaching and on through life. Emphasis is on the recreation as well as the physical and mental health of individuals through all ages.

Free exercise. The range of ideas and the scope of imagination that enhances this event is unlimited. A performer can execute stunts of great flexibility, stunts of tremendous strength, stunts of soft agility, stunts of keen tumbling, balances and stunts of imaginative rhythm.[7]

Calisthenics. The term is derived from Greek words meaning "beautiful strength," and implies light free exercise

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[6]Funk and Wagnalls, New "Standard" Dictionary of the English Language: New York, 1951.

[7]Loken and Willoughby, op. cit., p. 5.

in contrast to the vigorous exercises using apparatus, usually known as "gymnastics."[8]

Contemporary physical education. To provide an instruction and supervision for desirable margin of motor activity which is not otherwise supplied in the school curriculum or in later life of the pupil outside of the school.[9]

Physical education. Physical education, an integral part of the total education process, is a field of endeavor which has as its aim the development of physically, mentally, emotionally, and socially fit citizens through the medium of physical activities which have been selected with the view of realizing these outcomes.[10]

Physical fitness and fitness training. Physical fitness is not to be confused with total fitness. Fitness training within this research project refers to knowledge and learning of the hereditary qualities of the vital organs; the lack of pathological functioning of the organs; good

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[8]Ibid., p. 49.

[9]Arthur Weston, a treatise on new physical education as written for the book, The Making of American Physical Education (New York: Appleton-Century-Crofts, 1962), p. 155.

[10]Charles A. Bucher, Foundations of Physical Education (St. Louis: The C. V. Mosby Company, 1960), p. 40.

hygienic habits, or conversely, the absence of bad hygienic habits.[11]

III. RESEARCH PROCEDURES

Sources of data. The information for this study was derived from several sources. The sources included available textbooks, periodicals, guides and manuals. Much time was spent on related research studies, publications of governmental agencies and professional organizations, related literature in the field of physical education, and personal observations and interviews. The major source of information was derived from the questionnaires. The questionnaire was a simple checklist answering selected questions for this study. A copy of the questionnaire used is listed in Appendix A, p. 51. One question asked was specifically for personal opinions and ratings. The question asked for biological and physical education benefits of several mentioned present-day sports, comparing them with gymnastics.

The questionnaire forms were mailed to principals, coaches, or physical education instructors of the 105 county seat secondary schools in Kansas. The reason for selecting county seat secondary schools to send questionnaires to was

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[11] Weston, op. cit., pp. 309-310.

to get an unbiased distribution of the questionnaires being sent out, plus a good even coverage of the state education systems. Also, it was felt that these schools are usually thought of as having better physical education programs than some of the smaller schools. The 1962-63 Kansas Educational Directory was consulted for a listing of all the county seat secondary schools in the state.[12] A stamped, return business envelope was enclosed with each questionnaire. Those receiving the questionnaire were asked to return it at their earliest convenience.

The questionnaire, as mentioned before, was mailed to 105 Kansas county seat secondary schools. A total of eighty-six high schools returned the questionnaires. The over-all percentage of return was 81.9 per cent for the 105 questionnaires sent out.

Technique of analyzing the data. The entire stock of data collected including the questionnaire was either extracted and compiled into tables and figures or explained in the text. The tables and figures explained and illustrated some of the specific aspects and phase of gymnastics which are concerned in this study.

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[12]Kansas State Department of Public Instruction, 1963-1964 Kansas Educational Directory (Topeka: Kansas State Department of Public Instruction, 1963), pp. 18-24.

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

CHAPTER II

REVIEW OF THE LITERATURE

To place gymnastics at a specific level within the programs of physical education would cause unaccountable controversy. There is no real way to measure the exact value and needs of every individual at a given time. Almost countless studies have been made in every known field of physical education and recreation. From these studies came information concerning only fraction sized answers to only a very few specific questions.

Basis for values and biophysical measurements. Quarrels, wars, political party splits, religious upheavals, acts of disloyalty (at the bottom) are caused by differences in values among men.[13] Even a short study of values began to shed some light on the real meaning of the words. Value becomes a little more understandable when it is realized that it always involves a subject and an object.[14] Generally, people judge values and their sources in many different ways, just as they judge values of themselves. Therefore, some

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[13] Elwood Craig Davis and Gene A. Logan, Biophysical Values of Muscular Activity (Dubuque, Iowa: Wm. C. Brown Company Publishers, 1961), p. 11.

[14] Ibid., p. 4.

select only one source as the source of all values. Some select two or more sources. Others prefer one source as a primary, with one or more others as secondary. For example, biophysical values come from the biophysical nature and needs of a man.

Emotionalized attitudes, motives and values form the steam that drives the so-called human machine to act. The action-producing power of values is almost frightening to look at, and equally as bad to admit. Man's destiny lies in his choices, has been many times said in all walks of life. We come closer to the truth and to reality when we say that our personal destinations are determined on the basis of our system of values.[15] In spite of man's unintentional neglect of some aspects of physical education, and most important his biophysical self, this phase of the human being certainly must be included in the things that really count.

When considering biophysical values and benefits of physical education, gymnastics cannot be overlooked. Whenever a need or a desire arises for conditioning, exercises, flexibility, strength and coordination for any game or personal reasons, some type of gymnastics are always sought.

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[15] Ibid., p. 13.

Historical study of exercises and gymnastics. Many interesting and informing studies pertaining to exercise have been made years ago. Some of these historical writings show the concerns of physical educators and the exercise that the average society received. Sim D. Kehoe in his book, Indian Club Exercise (1866), has many interesting comments on exercise, physical education and gymnastics of that era. He notes that physical education was far more important than is commonly imagined. At this time of a relatively young and agricultural America, it was already realized that man must rely on more than just physical work for proper exercise. As mankind acts from motives of necessity and interest, much more than from those of any other sort, physical education, the chief source of superior strength of a person, has been greatly neglected, especially by higher orders of society, for two to three centuries.[16]

The general utility of exercise, then, will only be questioned by those who are not aware that the health and vigor of all the bodily organs depend on the proportioned exercise of each.[17] Educators of this time, realizing the

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[16]Sim D. Kehoe, The Indian Club Exercise (New York: Published by Peck and Snyder, 1866), p. 12.

[17]Ibid.

problem and future problems of an already science developing country, noted these reports. They realized the importance of total exercise, so they stressed that a complete gymnasium must have a variety of gymnastic equipment. This is to be constructed with reference to the training of the entire muscular system. The gymnast, in his routine of exercise, after having fatigued one set of muscles, changes the apparatus to employ another set, and so on through the various evolutions on poles, bars, ladders, rings, etc., uniformly exerting his muscular system, with the object of giving each particular part or member its proportional development.[18]

Dudley Allen Sargent in his book, Health, Strength and Power (1904), states a system of exercises for use to attain exercise and fitness. The following was taken directly from his book:

> First, that the exercises selected shall tend to correct the special defects and deformities that accompany many occupations.
>
> Second, that many of the exercises shall contribute to the all-round development of the body.
>
> Thirdly, that most of the exercises selected shall tend to give organic vigour to the individual as well as strength to the muscles.
>
> Fourthly, that most of the exercises selected shall cultivate the power of producing objective as well as subjective effects.

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[18] Ibid., p. 17.

Even today there are some people who feel that exercise through a form of gymnastics is not proper or beneficial for girls. In the past, this, though, was even more noted by the general society. Physical educators of the past, however, knew differently but were gravely hampered by customs, social beliefs, and plain ignorance. Sargent stated that, "the exercises which are the best calculated to build up the muscular system of a boy or girl are those of a well-appointed gymnasium."

Evaluation of existing gymnastics programs. The following are some of the more recent studies that have been conducted in the mentioned area: "The status of gymnastics education in selected Kansas public high schools," "A guide for coaching competitive gymnastics in Kansas high schools," "A comparison of the effects of two courses in rhythmic gymnastics on the physical fitness level of college freshman women with implication for its inclusion in the physical education curriculum of secondary schools and colleges," "The mechanics of tumbling for a four, six or eight year program--three levels of difficulty," and "Gymnastics in Illinois high schools." These are a few related research studies that were done in the field of gymnastics. Southern Illinois University has conducted a study called the "S.I.U. Pilot Study." S.I.U. has instituted the first "Pilot" program of women's

gymnastics and the department of intercollegiate athletics. This was a program geared to stimulate elite women's competition and in doing so meet basic objectives. The following basic objectives are taken directly from the study:

1. Provide the female gymnast an opportunity to pursue an education, while training for national and ultimate international competition.
2. Stimulate other universities and colleges to follow "pilot" study example and establish similar programs, laying the ground work necessary to initiate intercollegiate competition for women.
3. Encourage female gymnasts so they will continue in gymnastics and prepare themselves professionally so that they may meet the growing need for coaches and instructors at the levels of gymnastic participation.
4. To open the avenue of possible graduate training for women already in the field to receive course work which can prepare them to accept positions of responsibility in all levels of instruction as well as administration.

United States Gymnastic Federation. The following was taken from the November-December edition of The Modern Gymnast 1963, p. 55.

> (USGF). The federation, organized December 9, 1962, has already become the dominant force in gymnastics in this country. A national championship was held in June. Clinics have brought expert gymnastic instructions to coaches and competitors. The federation has embarked upon an intensified national program to popularize gymnastics, particularly among school-age boys and girls.

Objectives of gymnastics and tumbling programs. Emphasis should be placed upon organized health and conditioning so that the developing individual may make adequate

adjustment to immediate circumstances and attain coordination together with mental and physical fitness.[19] Studies and general knowledge concerning fundamental factors of physical fitness and gymnastics list agility, balance, strength, endurance power, and flexibility as a necessity. It has also been noted that gymnastics may have more to offer than any other single activity toward an all-round development, but it is perhaps least effective so far as endurance is concerned. Therefore, gymnastics programs should set up requirements within the activities to supplement endurance promoting activities such as running and swimming, which demand substained maximum effort.

Research in the mechanics of gymnastics, tumbling and diving. Almost all the physical laws of statics, kinetics, and dynamics may be applied in one form or another to explain the basic principles of equilibrium or movement in gymnastic activities. In 1887 Dr. E. Kohlrausch wrote the first book on the mechanics of the gymnastic stunts. It was broadened later to cover other sports.[20] Cureton's laboratory manual

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[19]The United States Naval Institute, The V-Five Physical Education Series, Gymnastics and Tumbling (Annapolis, Maryland: United States Naval Institute, 1959), p. 10.

[20]Gladys M. Scott and Thomas K. Cureton, Research Methods Applied to Health, Physical Education, and Recreation (Washington, D. C.: American Association for Health, Physical Education, and Recreation, 1949), p. 226.

(1934) outlines the investigative procedures as employed by physical education students in making application of the mechanical principles to gymnastics and other sports, considering basic measurements of distance, force and time; then elasticity and strength of material, resolution and composition of forces, leverage and movements, center of gravity and equilibrium, fraction, laws of motion, and centrifugal forces.[21] From information acquired from these studies, a deductive application of these principles has challenged graduate students to make a number of objective studies of gymnastics.

The common problem, that seems to arise in connection with gymnastics and physical education, is the fact that there is an inadequate knowledge of the sport. Many coaches of the leading sports are aware that gymnastics probably has justification for their particular sport. Their question almost always is, how much value is gymnastics to sports and to the individual? Many studies have been made using gymnastics along with the other sports programs. The general feeling is usually that there is not enough time to incorporate both activities while getting ready for the main sport at that particular time. It should also be remembered that the human

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[21] Ibid., pp. 226-227.

body cannot develop or build certain muscles within a few days or even a few weeks. Gymnastics and its physiological development is a slow and quite permanent forming exercise. People who work gymnastics usually have participated in its functions for long periods of time. As in any sport, once in awhile a certain individual may be found that develops very rapidly in the field of gymnastics and can show great improvement in a short period of time. This is a rare and an ideal circumstance.

In viewing the history, winning gymnast of present times usually have had a long and very carefully laid program in the field of gymnastics. Many winning gymnasts started gymnastics exercises and training at about the age of six years. To become a world reknown gymnast, the person usually progresses through five levels of gymnastics status: the novice, junior, senior, national and international. Obviously, before anything like that can take place in gymnastics many months and even years must be spent in disciplining the mind and body by practicing the basic principles of the sport and its phases. As has been stated before, a gymnast does not happen--he is developed.

There are five questions that should be asked by people in connection with gymnastics. The following is taken directly from Amateur Athletic Union of the United States Gymnastics Guide, (1962-1963), p. 61.

1. Will the gymnast get the proper foundation to enable him to progress through the different levels of proficiency: novice, junior, senior, national and international? The most important thing to do, and perhaps the hardest, is to learn the fundamentals of the sport before attempting the more interesting, spectacular and difficult movements.
2. Will the gymnast participate in an all-around program that provides equal development of the entire body, rather than restricting himself to one or two events that may place over-emphasis only on support development, or mainly hanging exercises, or vaulting and acrobatic movements?
3. Will his program include compulsory exercises that teach him new movements, help him perfect form, and discipline him to practice movements and events in which he may be weak? Young gymnasts tend to practice only those exercises and events in which they are most proficient. By doing this they limit their future.
4. Will the gymnast develop competitive spirit by engaging in the competition offered by the Amateur Athletic Union, first on the local novice and junior levels and then nationally and internationally?
5. Will the gymnast enjoy participating in the sport of gymnastics to the extent of making it a year-round activity, rather than compressing his interest into an intensive short-term competitive period that hinders his full development?

Good competitive gymnastics must have a proper program which is started early in the formative years. Successful gymnasts develop in their late "teens" without the benefit of the basic program described here.[22] Many things have just been stated pertaining to gymnastics at the competitive levels. There are several other phases of this sport that are and

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[22]Jerry F. Hardy, "Chairman Men's Technical Committee," Gymnastics Official Guide 1962-1963 (New York: Amateur Athletic Union of United States, 1962), p. 61.

should be of equal importance to society. Not only from the viewpoint of developing championship-caliber gymnasts, but, more importantly, for the greatest benefit to the youngsters in proper early physical development of the body; to instill a sense of discipline, and to promote a healthy competitive spirit-qualities that endure and make the type of citizens of which our country is proud.[23]

Dance and gymnastics. Very little in today's living provides the strength we need, and nothing really provides the flexibility that the human body needs. Dancers do have flexibility or can attain much needed flexibility through their exercises and dance routines. They often fail, however, to develop real abdominal, back, chest, shoulder and arm strength. Men or women ballerinas can hardly do ten push-ups. This is not surprising when we consider that over 29 per cent of the eleven-year-old boys in America cannot chin themselves once.[24]

Russians use gymnastics as the first step in training for all other sports because it provides training in every

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[23] Ibid.

[24] Bonnie Prudden, "The Dancer and the Gymnast," Dance Magazine (New York: Rudolf Orthwine Publishers, April, 1961), XXXV, No. 4, p. 20.

basic quality except one, endurance.[25] The gymnast must develop strength, flexibility, coordination, timing, rhythm, courage, discipline, persistence and the desire for perfection. Gymnastics uses every part of the body and requires a great deal of character as well. The addition of endurance training later, when the body is mature enough to benefit from it without danger of injury, provides that final quality that makes the top athlete or citizen.[26]

Looking at statistics, it was found that the Soviet Union had 77,000 gymnasts so finely trained that they could have been considered as candidates for the Olympic team in 1960. In turn the United States had approximately 100 young men and women from whom to choose. It was very apparent during the warm-up and exercise periods of the Olympics that the Soviet gymnasts incorporated many dance exercises and movements. From the dance exercises the gymnasts moved into the individual work. The great success of dance has one main reason for all of this. Ballet is an accepted part of the culture of the European, and particularly the Russian.[27] Therefore, these people have no feeling of strangeness about

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[25] Ibid.

[26] Ibid.

[27] Grace Kaywell, "Can We Improve Our Olympic Chances," Dance Magazine, XXXVI (November, 1963), 52.

adapting dance to the field of gymnastics. In the United States the acceptance is fairly recent and is still not very wide, especially for men. Konstantin Andrianov, chairman of the 1960 Soviet Olympic Committee said, "We feel gymnastics is the basis of all sports, the foundation of true body development." He also stated that every Russian child starting to first grade is almost compelled to take courses in gymnastics. The child may concentrate on a special sport such as volleyball or basketball, later, but his gymnastic training must continue. Grace Kaywell, in her article, "Can We Improve Our Olympic Chances," in the Dance Magazine (1963) stated, "And I'm sure that it is only the beginning of a relationship between ballet and gymnastics which will make its mark in world competitions—even in the near future."

CHAPTER III

ANALYSIS OF DATA

The research contained in this study deals with a two-fold purpose. The related material and its sources as mentioned primarily in the review of literature deals with gymnastic programs, their techniques, variety of activities, opinions about programs, and facts of proven and tested phases of over-all gymnastics. The other portion of the research deals mainly with the questionnaire that was sent only within the state of Kansas. Its main objective was to collect information about existing programs, opinions, desires, and facts about physical education and gymnastics in the state. The data taken from the questionnaire were organized into eight areas. The specific areas of the physical education and gymnastic programs in selected Kansas secondary schools were:

1. The number of secondary schools that offered gymnastics in their physical education program.
2. A listing of the events in the gymnastic program, if they had any; this included dancing.
3. Opinions of instructors, "Should gymnastics be offered in present physical education programs?"
4. Percentage study of existing individual events in gymnastic programs currently in operation.
5. Rating scale of five selected sports, comparing them with gymnastics.
6. Schools listing competitive teams.
7. The listing of gymnastics as purely activity classes in school.
8. Listing schools that offered gymnastics in their program both at the competitive level and at the class activity level.

The questionnaire never asked specifically directed questions at only boys gymnastics and physical education programs, nor did it do so for the girls. Instead it was addressed at the co-educational as well as individual physical education programs. The questionnaire was not sent specifically to only men physical education instructors or coaches or only women of the same status. Since the questionnaire sought opinions, ideas, and facts of over-all knowledge and desires of the selected schools of Kansas, the questionnaire, therefore, was mailed only to the department of physical education or anyone that was responsible for physical education in a school. The writer felt the results were very good in obtaining varied opinions and answers. It proved to develop some very interesting research.

I. GYMNASTIC ACTIVITIES OFFERED IN SELECTED KANSAS COUNTY SEAT HIGH SCHOOLS

Questionnaires were returned from eighty-six schools of the 105 county seat high schools selected, which indicated that of the eighty-six schools returning answers, seventy-eight of these schools offer gymnastics in their physical education programs. Eight offered no gymnastic training in the school.

Types of gymnastic and dance activities. Several gymnastic activities were listed on the questionnaires. These included any type of dance, also any additional gymnastic type activity that might have not been mentioned in the listings. This section of the questionnaire was to be answered by only the schools that had gymnastics in their physical education program. This included both the class instructional level and the competitive level. The activities that were already listed on the questionnaire were not arranged in any certain order. They were mainly all the events that are usually considered to be the most important gymnastic events that constitute a good gymnastic program. Table I, page 28, illustrates the survey findings in these areas. The first column on the left hand side of the table illustrates the activities. The second column depicts the number of the reporting schools that offer the activities. The third column shows the percentage of the schools and their activity offerings. The activities offerings that were mentioned on the questionnaire were tumbling, acrobatics, trampoline, apparatus, pyramids and balancing, and dance activity. Dance was divided into an over-all program (boys and girls), and also for individuals.

Gymnastic activities offered. Tumbling rated as the most offered gymnastic activity in the selected high schools. Of the eighty-six returned questionnaires seventy-eight schools

reported teaching tumbling in their programs. Following this activity were pyramids and balancing activities, which showed that sixty-six schools were offering that activity. This indicated 89.5 per cent of the schools offer this activity. Apparatus was listed next in offerings, with a total of fifty-four schools teaching skill on various gymnastic apparatus.

TABLE I

GYMNASTIC ACTIVITIES OFFERED IN PHYSICAL EDUCATION PROGRAMS IN SELECTED KANSAS COUNTY SEAT HIGH SCHOOLS

Activities	Number of schools offering	Percentage of schools offering
Tumbling	77	89.5
Acrobatics	22	25.6
Trampoline	50	58.1
Apparatus	54	62.8
Pyramids and balancing	66	76.7
Dance	50	58.1
Boys	16	18.6
Girls	34	39.5

The fourth rated activity or activities were split between two events. The trampoline, apparatus type activity, and dancing was considered a free exercise or type of marching activity. Trampoline was listed by fifty schools and dancing was listed by fifty schools as being offered in their physical education programs. Each of these activities showed 58.1 per cent offering in the school programs. Dancing was subdivided into two groups. The schools offering dancing to

boys numbered sixteen. The number of schools offering dancing to girls was thirty-four. The survey showed that of the selected schools in the study, eighteen more schools offered dancing for girls than for boys. Therefore, the percentage of boys taking dancing was 18.6, whereas the girls were offered dancing at 39.5 per cent of the schools surveyed. To clarify the type of dancing, the survey did not specify a definite type or style of dancing; it asked only for dance activity, which could include any type of dance. Acrobatics was listed by only twenty-two schools as being offered in their programs. The writer felt that several of the schools that offered tumbling or a limited amount of gymnastic activity in their programs listed acrobatics as one of their gymnastic activities. The reason for this contention was that any free exercise or play periods that might develop during the school year or between sports seasons was used as a balancing, throwing, climbing, jumping and any other energy spending activity, calling it an acrobatic activity. The study showed that 25.6 schools participated in this type of program.

Gymnastics in contemporary physical education programs. The third question on the questionnaire sent out asked for a definite yes-or-no answer. The question asked was as follows: Without regard to activities or types of physical education

programs you offer, do you feel gymnastics should be offered in today's physical education program? Of all the questionnaires returned from the selected schools, all but two schools answered yes to the question, affirming they felt gymnastics should be offered in contemporary physical education. Two schools returning questionnaires did not commit themselves to answer the question.

The importance of various phases of gymnastic activities. Question four called for the order of placing various gymnastic activities. The question asked was: Please list in order (by number) the gymnastic activities as you think they should be offered. There were six listed activities which generally constitute a complete gymnastic program. So all the schools needed to do was to fill in behind the activities with numbers ranging from one to six. There was also a space left for those who wanted to add additional activities and rate them. Some schools did not list all the activities, so the answers are shown on an average percentage basis. See Table II, page 31, for details and rating scales.

The average ranking for Table II was compiled as follows: Example, tumbling: the schools that answered the listed activity could rank it from one to six. According to their opinion of the activities importance in physical education. All these rankings were then added together, this total

was then divided by the number of schools that ranked that question. This gave the mean rank of the activity. The activities on the table are listed in order from number one ranking through number six rank. On Table II the first column on the left side of the page lists the activities selected for the ranking. The second column to the right shows the number of schools that answered the particular question dealing with the activity listed across from the number in the first column. The third column on the right shows percentage rankings of the activities listed over in column one.

TABLE II

RANK OF GYMNASTIC ACTIVITIES ACCORDING TO THEIR IMPORTANCE TO PHYSICAL EDUCATION

Activities	Number of schools answering	Average ranking of the activities (percentage)
Tumbling	83	1.43
Apparatus	83	2.71
Balancing and pyramids	78	3.38
Trampoline	78	3.83
Acrobatics	79	4.17
Dancing	75	4.60

Beneficial rating of gymnastics compared to other listed sports. Question five of the questionnaire asked for a rating scale. This was the question: How would you rate this sport or activity (gymnastics) on the basis of

biological, physical education benefit to the individual in regard to exercise, muscle development, agility, self-discipline, self-testing, emotional value and carry-over value of exercise for later life? See Table III, page 33, for details. There were five listed activities that the schools were asked to evaluate. The table shows all answers in number form, there was no need for a percentage evaluation to help show the answers. The schools were asked to evaluate gymnastic activities on a beneficial basis, as mentioned in the question, which rated the activity with the other listed activities. The schools were to list gymnastic activities either "as beneficial" or "not as beneficial" as the listed activities. On the table the left hand column shows the activities. The first column to the right of this column shows the schools that rated gymnastics to be "as beneficial" or "not as beneficial" as the activity listed across in the first column. The third column from the left shows the number of schools who listed gymnastics not as beneficial as the activity across from it in the first column. The fourth column shows the number of schools that answered the question. The fifth column closely associates with the fourth in that it shows the number of schools that abstained.

The intention of this question was to find out opinions of people who were teaching or coaching physical education activities at the immediate time, and to indicate a

TABLE XII

RATING OF GYMNASTIC ACTIVITIES ON THE BASIS OF BIOLOGICAL AND PHYSICAL EDUCATION BENEFIT, COMPARED TO OTHER LISTED ACTIVITIES

Activities	Number of schools rating gymnastics as beneficial	Number of schools rating gymnastics as not beneficial	Number of schools answered	Schools abstained
Football	59	23	82	4
Basketball	65	15	80	6
Swimming	51	29	80	6
Track	59	23	82	4
Wrestling	68	11	79	7

showing of their knowledge or feeling about the value of gymnastics compared to the other listed sports. Although this question or no part of the questionnaire, for that matter, mentioned any connection of "spectator influence" and the importances of physical education, the writer feels this question makes an interesting study because after checking answers received from the questionnaire, it is found that many of the people answering the questionnaire were very poorly informed about the working knowledge of the various activities listed. By this it is meant that people, when asked on the questionnaire, to compare values of different activities many times rated the activities differently from what other test made by professional or medical reports show to be facts. This, although not proven, would tend to show inadequate general biological knowledge of different physical activities. Also many of these people answering may not have understood the question clearly. Some people may have let spectator and financial aspects of physical education enter into the answering of the question.

Gymnastic rating. Keeping in mind that eighty-six schools returned questionnaires, this is the way the schools rated gymnastic activities or training according to the other listed activities. This rating was supposed to be made in terms of the biological and physical education values to the

body, plus additional phases as mentioned in the questionnaire. Fifty-nine schools rated gymnastic activities to be, in their opinions, as beneficial as football. Twenty-three schools rated it not as beneficial. Eighty-two schools answered the question and four schools choose to be abstained. The next activity to be rated compared gymnastics with basketball. Sixty-five schools felt gymnastics was as beneficial as basketball. Fifteen schools abstained. Swimming followed as the next activity to be rated. Fifty-one schools stated that gymnastics was as beneficial as swimming. Twenty-nine schools felt gymnastics were not as beneficial as swimming. Eighty schools answered that question. Six schools did not answer. The fourth activity to be rated was track. Fifty-nine schools compared gymnastics to be as beneficial as track. Twenty-three schools said gymnastics was not as beneficial as track. Eighty-two schools answered this question, and four abstained. The fifth and final activity to be compared with gymnastic activities was wrestling. Sixty-eight schools choose gymnastics to be as beneficial as wrestling. Eleven felt wrestling was more beneficial than gymnastics. Seventy-nine schools answered the question and seven schools stood abstained.

Activity gymnastics and competitive gymnastics. The last three questions of the questionnaire ask similar

objectives pertaining to an over-all scope of gymnastic programs and training. These questions help show the types of existing gymnastic training programs in the selected schools of this study. Many times schools carry a fair program of tumbling or gymnastics teaching for activity or physical education class purposes, but have no varsity or competitive program. This situation also works in an opposite fashion for the mentioned school programs. Some schools place heavy emphasis on varsity or competitive gymnastics and tend to forget the teaching of physical education in the activity or physical education training classes. Therefore, these questions attempt to obtain answers that help illustrate the type of balance that is present between class gymnastics and competitive gymnastics in the schools used in this study.

Question six merely asks the question: Does your school have a competitive gymnastics team? From the eighty-six selected schools returning questionnaires, only six schools offered competitive gymnastics. This left eighty schools that indicated they did not have a competitive gymnastics team.

Question seven asked the schools to indicate if they offered gymnastics only in the physical education or as activity classes. The answers received on this question showed that seventy-five of the selected schools do offer gymnastic training in their physical education or activity

classes. This leaves eleven schools that apparently do not offer any gymnastics or tumbling training in their system for physical education or activity classes.

The final question or question eight on the questionnaire asked for a composite answer. The question asked was: Does your school have both courses offered? This question was somewhat confusing to the people answering, as it was probably not stated very clearly. The reason for this comment was because of the varied answers received about it. Therefore, the answers may not be as valid as the rest. Nevertheless, the question attempted to find an answer to show the number of the selected schools that offered gymnastics to the students in the classes, and also as a varsity or competitive sport in the sports program. This is a similar question to question seven; however, it showed that several schools were very interested in gymnastics at a varsity level or on a competitive basis and not much emphasis placed on gymnastics at class and activity levels. Eighty schools indicated they did not have both competitive and activity gymnastics in their physical education programs. Of the remaining six schools that showed they did have both competitive and activity-gymnastic courses offered, some seemed to indicate a preference of competitive or varsity gymnastic over only activity or class training of gymnastics. There were,

however, no definite statements made about a definite preference of course offerings in their school program. Personal interviews and discussions with people concerning this area of questioning revealed that some people felt gymnastics was such a highly skilled sport that it should be offered only to advanced people or varsity and competitive levels. It was also mentioned that it was too dangerous a sport or activity to use for class and activity training purposes.

CHAPTER IV

SUMMARY AND CONCLUSIONS

I. SUMMARY

General discussion among educators in physical education and in other fields of education have created the need for a study of this type. Through this research and presentation, a physical education teacher, or any teachers, coaches, and general public may get a better understanding of gymnastics and gymnastic training in physical education. By becoming aware of some of the existing gymnastic programs, anyone that is involved in some way with physical education and present school programs may overcome the fear of some of the unknown questions that are likely to exist in the minds of people concerned with contemporary physical education, fitness programs, and sports.

Related literature revealed that recent, well-known educators in the field of physical education have tested phases of gymnastics to find the values of it. It is quite apparent that almost everyone is becoming more interested in the Olympic games and their results. In a great part, countries are utilizing the results of these physical activities as a focal point upon the basic fitness of the entire represented country. The nature of people being that they

wish to be looked on as a leader, is developing great interest in recent programs in the contemporary physical education and physical fitness in the United States. Gymnastics is one of these activities or sports that almost all countries are starting to point toward as an indication of good physical training and fitness.

Any time a trend or change begins to take place in any facet of life, people require almost untold amounts of proof to accept the change. This is of value to a certain extent. Anything that is to remain a permanent factor to life and the world should be a proven fact. However, a movement must be expected so that testing and fact finding can be obtained. Therefore, educators for years have been aware of gymnastic activities, but few people have done any research to find the real value of the activity.

Many people involved in physical education and sports are afraid of losing present sports and games, thus losing their jobs. As has been mentioned before in this research study, money has become a big factor of control in the sports and activities of this country. So many of the programs that support any type of physical activity or sports programs have become almost entirely a spectator and financially interdependent of social society. This is the battle that must be won in order to develop physical education and fitness training of the body and individual for biological and health reasons and not financial and social likes.

While reviewing literature for this study, many tests, studies and opinion reports were found that were concerned in finding over-all facts that help develop better athletes which was hoped would in turn produce better teams for social values. Only a limited amount of studies can be found that are truly interested in the facts of biological studies and the human body concerning physical needs and values.

At the time of the writing of this report the question could be asked, "What do coaches and physical educators really know about the biological effects and values of varied activities and exercises on the human body"? This question still may be asked. It would be most interesting to know the number of professional people who could not give an answer of any more than a fair guess, and that would probably be bias for some reason. The major reason for any activity or exercise should be for development of fitness and enjoyment of play. In order to be fit the body must exercise. In order for the body to play it must be fit.

The major hypothesis of this study was that most schools rate gymnastic activities at a high level of value in the physical education programs of present physical education. It was further believed that while schools were aware of gymnastics, few schools offer much training for this activity or know the real value of the sport in physical education. According to all information obtained in the

studies for this research, the hypothesis proves to be true. Of all the selected schools reporting in the study all except two schools indicated they thought gymnastics should definitely be offered in present physical education programs. Two schools made no contentions on this statement. This proves that schools are aware of gymnastics and gymnastic activities. It also appears, by at least these selected schools, that they feel gymnastics would do no harm to existing physical education programs. The percentage of selected schools that offered some type of gymnastic activity in their programs was 89.5 per cent, which is a good percentage. An interesting note was in the discovery of the number of schools that offered some type of dance activity. Dancing was one area of activity that was listed on the questionnaire. The reports from the questionnaire show that of the eighty-six schools taking part in the study, fifty offer some type of dancing. The girls were offered dancing in 39.5 per cent of these schools. The rest of the schools offered it to boys also. According to past studies, this is a much higher percentage of schools offering dancing now, than were even five years ago.

The survey discovered a very wide range of opinions on the section of the questionnaire that asked for opinions on the rating of gymnastics. This was one of the main points in the study. It was hoped that from the answers of this question a rating scale would be obtained of the different

gymnastic phases that people of physical education feel are most important in physical education programs. The answers were to list all activities that were listed plus any additional activities people thought should be included. The results showed that the physical education programs that do offer any type of gymnastics, tumbling should be rated as the first activity to be offered. The results further show this activity was followed in rating by apparatus, balancing and pyramids, trampoline, and finally dancing.

This section of the questionnaire was followed by the major topic of the entire questionnaire and the main point of this entire research study. This main question of interest was finding the results of values placed on gymnastic activities compared along with other sports or physical activity. On this question people were given complete freedom to rate gymnastic activities against all listed sports and activities and place the value anywhere they desired. A wide variety of differences was noted on the returned questionnaires. In respect of all the activities or sports listed for answers to be chosen from, all selected schools in this study indicated, on an average basis, that gymnastics was as important to contemporary physical education as any sport or activity listed on the questionnaire.

When rated against all the listed sports or activities on the questionnaire, gymnastics always rated above the 50 per

cent level of being as important and valuable as the sport or activity compared against it. It is to be remembered that these ratings were based on the needs and values of biological and biophysical benefits gained through the various activities and sports. The answers to questions as this one would no doubt definitely be affected by likes and dislikes and prejudices of professional people. But, on an over-all study of this issue the answers still prove valid and a good basic opinion, and up-to-date trends were obtained.

II. CONCLUSIONS AND RECOMMENDATIONS

As has been mentioned before the outcome of this study at this time and by the people connected in the survey are opinions and answers that would change somewhat if the same study were to be given again. Trends and values change rapidly in the world today and these changes are brought about by the people in this world. Therefore, the conclusions in this study show what people of selected areas are doing or thinking at the time this study was made. It is felt by the writer of this research problem that the study was successful and that a good report was obtained from the selected schools. It is apparent from all the controversy found in much of present day sports and physical education, that we still have much to learn in terms of what is actually best for good biological and physical education of the human body.

As the world becomes more mechanized and people continue to use less or do less big muscle activity, new means and better knowledge of greater effective body needs must be developed.

Recommendations for future study in the area of biophysical values of gymnastics and physical education should be as follows:

1. Studies should be made comparing certain phases of gymnastic activities between the values to girls and boys.
2. Research on the harmful effects of certain continued exercises done by gymnasts. For example the cause or effect of kyphosis of the back, developed by many floor tumblers.
3. Study of apparatus to determine the apparatus most likely to be of first need in setting up a gymnasium for gymnastic training.
4. Study of various gymnastic stunts and movements to determine the values of these stunts in terms of their value to the biological and muscle development of the body.
5. The development of gymnastic activities as community recreation.
6. The development of gymnastic activities for adult groups, used as, or continuation of, carry-over value from school.

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APPENDIX

May 2, 1963

Dear Sir:

I am conducting a graduate research study on the place of gymnastics in the contemporary program of physical education. It will be of great assistance if you or a person in your school system who is associated in physical education would give opinions on several key questions raised during my research.

The attached questions are designed to include both boys and girls physical education. The answers should be made in the interest of biological values rather than of the social values of gymnastics. Reference to gymnastics in this study includes: (1) Tumbling, (2) Aerobatics, (3) Trampoline, (4) Apparatus, (5) Pyramids and balancing stunts, and (6) Dancing.

Feel free to use the reverse side for any additional information or viewpoints that you may have; it will be greatly appreciated. I will be most happy to send you a copy of the report analysis after the research is completed, if you indicate so on your returned report. Thank you kindly for your time and help.

Sincerely yours,

Glen F. Lojka

BIOLOGICAL VALUES OF GYMNASTICS ACTIVITIES

1. Does your school offer gymnastics in its physical education program? . . . . . .Yes ( ) No ( )

2. Please check, in the space after each listed activity, the gymnastic type activity that you have in your physical education program:

Tumbling	( )	Pyramids and Balancing	( )
Acrobatics	( )	Dancing - Boys	( )
Trampoline	( )	Girls	( )
Apparatus	( )		

3. Without regard to activities or types of physical education program you offer, do you feel gymnastics should be offered in today's physical education program? . . . . . .Yes ( ) No ( )

4. Please list in order (by number) the gymnastic activities as you think they should be offered: for example. . . . . .

Tumbling (2)
Apparatus (3)
Balancing (1)

Dancing	( )	Trampoline	( )
Apparatus	( )	Pyramids and Balancing	( )
Acrobatics	( )		
Tumbling	( )	And others _____	

5. How would you rate this sport or activity (gymnastics) on the basis of biological, physical education benefit to the individual in regard to exercise, muscle development, agility, self-discipline, self-testing, emotional value and carry-over value of exercise for later life?

1. as beneficial as football	( )	not as beneficial ( )
2. as beneficial as basketball	( )	not as beneficial ( )
3. as beneficial as swimming	( )	not as beneficial ( )
4. as beneficial as track	( )	not as beneficial ( )
5. as beneficial as wrestling	( )	not as beneficial ( )

6. Does your school have a competitive gymnastics team? Yes ( ) No ( )

7. Does your school have gymnastics only as an activity? . . . . . .Yes ( ) No ( )

8. Does your school have both courses offered?.Yes ( ) No ( )