ATTITUDES OF SPECIAL OLYMPIANS TOWARDS COED COMPETITION

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CHAPTER I

INTRODUCTION

> In the Special Olympics, special young athletes compete for medals in running, throwing, jumping, and swimming. But they are not out for world records. Their prize is the growth and confidence that comes from a healthy body and the mastery of physical skills (76, p. 25).

The Special Olympics program is an international program of sports training and athletic competition for mentally retarded children and adults. The major goal of the program is to promote the physical, social, and psychological development of the mentally retarded individual.

Special Olympics were created in 1968 by the Joseph P. Kennedy, Jr., Foundation. It began by inviting mentally retarded individuals from across the nation to participate in the First Special Olympics Meet held in Chicago, Illinois; approximately one thousand participants were involved in that meet. Since that time, the Special Olympics program has grown to the point where more than one million mentally retarded citizens are participating in the program (50).

In order to participate in Special Olympics, an individual must have been evaluated and assigned to a program designed for the mentally retarded. An Intelligence Quotient (I.Q.) of 75 or less is often

required for such an assignment (52). However, the precise I.Q. score used in the placement of individuals into special programs varies throughout the nation. Individuals who participate in regular school competition, Junior Olympics and/or AAU events are not eligible for participation in Special Olympics (52).

Competition in Special Olympics is unique in that it is designed to give each participant an equal chance to compete and to win. Special Olympians are assigned to competitive groupings based on their age, ability, and sex. Age of the participant is based on his/her age on the first day of competition. The age divisions suggested by Special Olympics, Inc. are as follows (52):

a) Individual events

8 and 9 years	16 and 17 years
10 and 11 years	18 and 19 years
12 and 13 years	20 to 29 years
14 and 15 years	30 years and older

b) Team events

Junior teams - 15 years and under

Senior teams - 16 years and above.

Participants' ability groupings are determined by performance scores from previously held area competitions in Special Olympics listed on the participants' entry forms, the meet director assigns scores to "divisions", and then assigns participants to appropriate competitive divisions. The suggested range of scores within a competitive division

allows for a deviation of 20% between the highest and lowest entry score. Divisions attempt to provide homogeneous groupings that match athletes of equal abilities for competition. In addition, participants are separated by sexes. Special Olympics competition is separate for males and females throughout the program with the exception of volleyball. Volleyball competition involves teams consisting of both male and female participants.

Recently, a question was raised in the minds of many concerning the necessity of separating the participants by sexes for competition. Current legislative actions such as Title IX of the Education Amendment of 1972 and the resulting move towards coeducational activities prompted several individuals to consider implementing coeducational (coed) competition in Special Olympics. Several Special Olympic state directors requested and received permission from the National Special Olympics, Inc. office to hold coed competition within the established framework of Special Olympics. These selected states, in return for being allowed to conduct coed competition, provided data and comments to the National Special Olympics, Inc. office concerning the competition. Data provided by these states were quite supportive of coed competition in Special Olympics (45).

Purpose of the Study

The purpose of this study was to determine if a sex preference for competitors or teammates exists among Special Olympians.

Information previously supplied by states holding coed competition had discussed the evenness of heats and the administrative ease of changing to coed competition (45). Previous feedback had not represented how Special Olympians feel about competing with members of the opposite sex. Therefore, this study was designed to determine how Special Olympians themselves feel about coed competition.

Need for the Study

On August 15, 1980, a national meeting was held of State Directors of Special Olympics to announce future policies of Special Olympics in regard to coed competition. In order to better understand how participants feel about coed competition, a means of assessing Special Olympians' attitudes was needed. This study was designed to meet that need.

Attitudes of Special Olympians as determined by this study, along with several other factors explored by the National Special Olympics, Inc. office, will be taken into consideration during the formation of new national policies related to coed competition in Special Olympics. In addition, through utilization of the results of this study, future educational activities may be planned coed or single sex to best meet the needs of the participants.

Assumptions

The first assumption in this study was that Special Olympians

understand that there are two different sexes of human beings, and that they are able to differentiate between male and female.

A second assumption concerned the mentally retarded individual's ability to understand and perform as instructed. It was assumed that participants in the study were able to understand the questions asked of them and replied to the questions to the best of their abilities.

A final assumption was that participants in the study were representative of Special Olympians nationwide, and attitudes they have expressed toward coed competition represented the attitudes of Special Olympians nationwide.

Definition of Terms

Special Olympics - Special Olympics is a program of physical education, sports training, athletic competition, and recreation for mentally retarded individuals. Special Olympics programs provide opportunities for mentally retarded individuals from the age of eight years and older to participate in a variety of activities on the local, state, regional, national, and international levels.

Area Games - Special Olympics competition held within a designated area of the state. The areas are geographical divisions of the state established by the Special Olympics Executive Committee of that state (4).

State Games - The official Special Olympics competitive event

including four or more sports, a parade, an opening ceremony, clinics, and a closing ceremony (4). In order to qualify to participate in the state games, an individual must participate in his/her area competition which is held previous to the state games. This study is specifically concerned with the state track and field meet which each state holds in the late spring or early summer.

State Director - The individual approved and authorized by Special Olympics, Inc. to operate a Special Olympics program in a particular state (4).

Coeducational Competition in Special Olympics - Coed competition in Special Olympics allows males and females within the same age and ability divisions to compete together.

Competitive Divisions - Special Olympians, within each age group, are assigned to divisions based on previous actual performances (4). Divisions allow for athletes to compete against other athletes of comparable skills.

Mental Retardation - The definition of mental retardation as suggested by the American Association of Mental Deficiency is: "Mental retardation refers to a significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period" (2). To insure complete comprehension of the proposed definition, each facet of it shall be clarified. The first component states that an individual must be "significantly subaverage in intellectual functioning". In order

to be described as significantly subaverage in functional intelligence, an individual must score at least two standard deviations below the mean on an individually administered intelligence test given by a competent professional person (57, 65). An intelligence quotient of 70 or less is illustrated in an intelligence test score falling two standard deviations below the mean (76).

A second factor in the definition deals with the concept of appropriate adaptive behavior. Adaptive behavior is illustrated by the manner in which an individual is able to take care of his personal needs both at home and at school, and in coping with both expected and unexpected daily occurrences (76).

The portion of the definition dealing with the concept of the developmental period is generally accepted as that period of development including the time span from the prenatal period through the eighteenth year (65).

Therefore, the definition precisely states that not only must an individual have a below average general intelligence, but that the individual must also have difficulty in dealing with daily experiences, and these characteristics must be present within the first eighteen years of life. Only when all of the above conditions are met may a person be described as mentally retarded.

Hypothesis

The null hypothesis was used in this study. The null hypothesis

states that there is no sexual preference in regard to either competitors or teammates of Special Olympians as illustrated through peer selections made by Special Olympic participants.

Delimitations

This study was limited to the sexual preference of competitors and teammates of Special Olympians as stated through an oral questionnaire at selected state track and field games. The subjects selected to participate in the study were members of the most highly skilled divisions of competition in the 50 meter dash. Participants were selected in each chronological age group, but no attempt was made to select subjects of specific mental ages, intelligence quotients, or of lower ability divisions. In addition, factors such as race, weight, height, etc. were not utilized in the selection of the subjects.

The subjects in this study were the four male and four female participants with the best qualifying scores for the 50 meter dash in each age group within the selected states. An exception to this selection procedure occurred if more than one participant within the top four scores was from the same area. In order to prevent friendships from influencing the subjects' choices, only one subject was selected from a specific area of the state. Therefore, if more than one subject was from the same area, the subject with the best score was used in the study and the second subject was not. In his/her

place, the individual with the fifth best qualifying time was selected to participate in the study.

The questionnaire used in the study was brief and to the point so that it would not interfere with the ongoing events at the state games. In addition, it was easy to understand and easy to administer so that the research could take place within the operation and excitement of the state games.

Limitations

A limitation of the study was that only six states of the United States were utilized in the study. The number of six states was decided upon due to time and monetary restrictions. An additional limitation to be considered in the selection of the states was the limited number of states holding coed competition in Special Olympics. Presently, there are only eleven states holding coed competition. Therefore, the three coed states to be used in the study had to be taken from these eleven states having coed Special Olympics.

A further limitation of the study was that only one event was utilized in the selection of the subjects. The selected event was the 50 meter dash. This event was chosen due to the large number of participants in this event and due to the organized manner in which it is run.

CHAPTER II

REVIEW OF RELATED LITERATURE

Coed competition in Special Olympics is a relatively new concept having very little information published concerning it. Therefore, in order for the reader to have an understanding of the various issues involved, a review of related literature will be presented discussing: 1) Special Olympics; 2) effects of motor training programs on the mentally retarded; 3) values of competition; and 4) effects of coed participation in physical education and athletics.

The Special Olympics section contains information designed to assist the reader in broadening his/her understanding of the entire Special Olympics program. This section will discuss Special Olympics in general terms. Information dealing with Special Olympics as it relates to the value of competition or coed competition will be presented in the following appropriate sections.

Special Olympics

> For great world athletes, the contest may last only minutes. Then it is over and they have won or lost. But for Special Olympians, the contest can last a lifetime. The challenge begins again each day. What they win by their courageous efforts is far greater than any game. They are winning life itself and in doing so, they give to

> others a most precious prize--faith in the unlimited possibilities of the human spirit (73).

These comments made by Eunice Kennedy Shriver to the Special Olympians gathered for competition in the International Games in New York in August of 1979 tell the story behind the founding of Special Olympics. Through her comments, Mrs. Shriver restated two basic goals of Special Olympics: 1) to improve the functioning of the mentally retarded physically, cognitively, and emotionally; and 2) to promote a more positive realistic attitude toward the mentally retarded on the part of others.

The Special Olympics organization has developed the following objectives which it strives to follow in an effort to meet the needs of mentally retarded individuals (77):

1) to provide motivation for beginning new programs of physical education and athletics;
2) to supply additional materials to enhance those programs currently in existence;
3) to provide opportunities for athletic training and competition through local, area, state, regional, and international Special Olympics games; and
4) to provide an opportunity for the retarded individual to achieve success through winning an award, having his name or picture in the paper, or being honored at school.

The Special Olympics program provides year round opportunities for mentally retarded individuals to engage in sports training and competitive activities (50). However, Special Olympics is not limited to sports training programs geared to preparing individuals for competition. Special Olympics, Inc. has developed and promoted programs that encompass a variety of activities such as physical and motor fitness, fundamental motor skills and patterns, body mechanics, individual and group games and sports, skills to include intramural and lifetime sports, dance and movement education, and the use of movement as a method for the organization of effective social, emotional, and cognitive skills (77).

Growth of Special Olympics has been phenomenal. Special Olympics began in 1968 at Soldier Field in Chicago by holding the first international sports event ever held specifically for mentally retarded participants. There were one thousand competitors present representing twenty-four states, the District of Columbia, Canada, and France (77). Today, Special Olympics programs are located in 95% of America's counties in every state of the Union. American territories of Samoa, Guam, Puerto Rico, and the Virgin Islands also have active Special Olympics programs. In addition, Special Olympics programs have grown internationally, and can be found in the countries of Argentina, Australia, Brazil, the Bahamas, Barbados, Belgium, Canada, Colombia, Costa Rica, El Salvador, England,

Federal Republic of Germany, France, Ghana, Guatemala, Honduras, Hong Kong, India, Ireland, Jamaica, Kenya, Korea, Luxemburg, Mexico, Nigeria, Okinawa, Paraguay, Phillipines, The Seychelles, Spain, and Venezuela (50).

Special Olympics, Inc. is the official organization responsible for activities and events within the Special Olympics Program. This program is sponsored by the Joseph P. Kennedy, Jr. Foundation through annual grants providing funds to maintain the National and International Special Olympics Headquarters in Washington, D.C., to develop program guidelines and materials, and to provide grants of cash, ribbons, and medals to State Chapters (77).

However, Special Olympics in actuality is a local program. The number of people comprising the Special Olympics staff is few. The financial support and volunteers necessary to run the program come from local communities. Numerous civic groups, organizations, and corporations have adopted Special Olympics as a special project. Several of these organizations include the Office Education Association, Kiwanis, Rotary, Civitans, National Basketball Association, North American Soccer League, National Hockey League, Non-Commissioned Officers Association, Jaycees, The American Legion, American Veterans, Coca Cola USA and Coca Cola Bottlers, Norelco, Warner Communications, McDonalds, and many more (50).

The National and International Office of Special Olympics, Inc.

provides guidelines for the operation and management of Special Olympics events. One of the National guidelines from Special Olympics, Inc. states that competitive events within the program should embody the Special Olympics Concept (52). This concept is exemplified by the following five characteristics:

1) The games should exhibit a spirit of sportmanship and spirit. This spirit is demonstrated by the Special Olympians in the Special Olympics Oath which is repeated by the athletes before the competition. The Special Olympics Oath states:

> Let Me Win
> But, if I cannot win,
> Let me be brave in the attempt (52).

2) A ceremonial atmosphere should prevail over the games. Every competitive event should have an opening ceremony, an awards presentation ceremony, and a closing ceremony. The opening ceremonies should include a parade of the athletes, the National Anthem, the reciting of the Special Olympics Oath, the lighting of the official torch, possibly guest speakers, and an official declaration for the games to begin. Closing ceremonies should include a friendship circle, singing of "Auld Lang Syne," and a formal declaration that the games have concluded (77).

3) A variety of sporting events should be available at the games. Wherever possible, Chapter games should include competitive events in more than one sport.

4) The "Greek Olympics" ideal should be promoted through providing a variety of events for participation in other than the competitive events. These events may include sports skills, arts, dancing, rhythmics, music, and painting.

5) Social Activities should be a crucial part of the Chapter Games. The participants should be involved in dances, informal games, carnivals, etc., whenever possible during Special Olympics. The National Office also suggests that overnight stays are worthwhile experiences for the mentally retarded and should be included in the Games whenever possible.

Special Olympics sports and events are currently divided into two major areas (77, 52, 53):

1) Official Special Olympics Sports and Events

2) Demonstration Sports and Events.

Official Special Olympics Sports and Events

Official Sports are year round sports officially approved by Special Olympics, Inc. because of their inherent ability to promote physical, mental, psychological, and social development of participants. Local, area, chapter, national, and international Special Olympics games or events include some or all of the following events:

Basketball. Basketball team competition is divided into two groups: senior-16 and over; and junior-15 and younger.

Within the two age groups, teams are divided into ability divisions as necessary. Run, dribble, and shoot competition is conducted for individual participation in the basketball competition.

Bowling. Bowling in Special Olympics is generally under the rules of the American Bowling Congress. Athletes are assigned to competitive divisions based on the age, sex, and previous performances of the participants.

Floor Hockey. There are two age groups of competition in Special Olympics floor hockey: junior-15 and under; and senior-16 and over. Skill divisions are made within the age groups as necessary. A team consists of eleven members with six individuals involved in play at any one time.

Frisbee Disc. Frisbee competition in Special Olympics includes events in both distance and accuracy. Participants are assigned to competitive groupings, as in other sports, by age, sex, and previous performances.

Gymnastics. Official Special Olympics gymnastics competition includes balance beam, free exercise, and tumbling.

One Meter Diving. Only one meter diving is recognized as an official Special Olympics sport. Each participant is allowed to attempt two or three different dives. The athletes are assigned into the regular groupings according

to age, ability, and sex.

Poly Hockey. Poly Hockey competition is divided into junior and senior divisions with ability divisions as necessary. The team consists of eleven players with a team of six playing at one time. The necessary equipment is a plastic hockey set.

Soccer. Individual soccer skills competition includes dribble, pass, shoot, and juggle. The team competition is divided into junior and senior age groupings. Each team consists of eighteen players with eleven players involved in play at one time.

Slow Pitch Softball. Slow pitch softball teams are divided into junior and senior age groups with ability divisions as needed. Each team must have at least ten players. Play is governed by the Amateur Softball Association rules.

Swimming. In the individual events, Special Olympians compete in regular groupings according to age, ability, and sex. In the relay, teams are assigned to junior and senior groupings. Official Special Olympics swimming events include 25 meter and 50 meter freestyle, 25 meter breaststroke, 25 meter butterfly, and 100 meter freestyle relay.

Track and Field. Track and field events are the 50 meter dash, 200 meter dash, 400 meter dash, mile run, 400 meter

run, high jump, standing long jump, softball throw, and pentathlon. Individuals are grouped for competition in the regular manner with consideration given to age, sex, and ability.

Volleyball. Volleyball teams consist of at least six team members. Teams may be all male, all female, or an even mixture of both sexes. The teams are assigned to junior or senior groupings according to age and are then assigned to ability divisions as necessary.

Wheelchair Events. Track events for wheelchair athletes include the 25 meter race, the 30 meter slalom, and the 100 yard relay. The regular age groupings are used for grouping the athletes.

Winter Sports. Special Olympics Winter Sports are: Alpine Skiing-giant slalom, slalom, and downhill; Nordic Skiing-100 meter sprint, 1 kilometer race, 3 kilometer race; and Ice Skating-50 meter race, 100 meter race, 400 meter race, and figure skating. The participants are grouped into junior and senior age groups with ability divisions as needed. Each sport is governed by the rules in the Official Special Olympics Sports Rule Book. In addition to these rules, the sports (with the exceptions of those noted) are played under the rules of the National Federation of State High School Associations.

Demonstration Sports and Events

Demonstration sports and events are those activities deemed to be healthy and safe for participation by Special Olympics athletes; however, the activities are not sufficiently developed to be classified as Official Special Olympics Sports. Through promotion and development, these sports may become future Special Olympics Official Sports and Events. These sports include:

badminton
cross country
equestrian events
golf
physical fitness events
rhythmic exercise and dance
tennis
touch football
water polo
wrestling

gymnastics- low horizontal bar
side horse vault
low parallel bars
vaulting horse
still rings
pommel horse

swimming- 100 meter freestyle
50 meter backstroke
50 meter breaststroke
100 meter individual medley
100 meter medley relay

track and field- 100 meter dash
800 meter run (16 and older)
200 meter race walk
running triple jump (16 and older)
shot put
hurdles (16 and older)
running long jump.

Since 1968, Special Olympics has become the largest sports program for the mentally retarded in the world. The program has played a major role in opening the door to public acceptance of mentally retarded individuals. The program has provided an opportunity for over a million children and adults to participate in sports training and athletic competition. In addition, Special Olympics has provided a medium for the public to understand the needs and to develop a sense of appreciation of the value of the retarded in our society (77).

Effects of Motor Training Programs on the Mentally Retarded

A popular area of research has been the motor abilities of mentally retarded individuals and the effect of motor training programs on fine and gross motor skills.

Research conducted by Rarick (63), Dobbins (22), and Chasey (12) has shown that normal children and mentally retarded children do not differ in the structural organization of the motor area within the brain. Their investigation indicated that some of the mentally handicapped children were well above the mean of normal children in motor functioning, suggesting that a motor deficiency is not strictly a function of subnormal intelligence. Stein (82) and Verhoven (87) helped substantiate this position by stating that despite underachievement, mentally retarded individuals are much nearer the norm physi-

cally then mentally. However, the majority of research reviewed suggested that mentally retarded children are less proficient on a variety of measures than non-retarded individuals of comparable ages (7, 36, 71), and that this deficiency is usually exhibited in a two to four year developmental lag in motor abilities and skill development. In addition, the differences between performances of normal children and mentally retarded children increased as the youngsters grew older (88), and as motor skills became more complex (28). Research also suggested that mentally retarded individuals are able to make substantial gains in motor skills when they are provided with an instructional program designed to meet their needs (23, 10, 12, 55). In some cases, this gain is substantial enough for the physical abilities of mentally retarded individuals to compare favorably with those of non-retarded peers (71).

Many of the investigations concerning the mentally retarded's ability to move effectively have been conducted using individuals classified as educable or mildly mentally retarded, having an I.Q. between 50 and 70 (15, 38, 32, 36). When evaluating the motor ability of the educable mentally retarded, the Sloan revision of the Linsoln-Oseretsky Motor Proficiency Test has been used by several researchers (55, 36). Much of this research pointed to the deficiencies in motor abilities of the mentally retarded as compared to non-retarded individuals (58).

Chasey (12) used the technique of overlearning in teaching gross

motor skills to institutionalized retarded individuals. The overlearning technique was used to observe what effect it might have on retention of skills by the subjects. The results show that those who overlearned acquired superior skills to the control group, and that they maintained a significant level of retention after four weeks of no reinforcement.

Through comparative studies, a marked difference was observed by Fait (25) when comparing non-retarded and mentally retarded children in physical abilities such as strength, endurance, agility, balance, running speed, and flexibility. In a study of balance involving 40 retarded children between the ages of 6 and 12, Howe (36) found only two subjects who were able to balance for one minute on one foot. The mean balancing time for the normals was 52 seconds; whereas the mean time for mentally retarded children on balancing on one foot was 15 seconds.

Chasey and Wyrick (13) conducted a program in which tumbling, balancing and conditioning exercises were administered to a group of educable mentally retarded children. The experimental group significantly improved in their gross motor tasks whereas the control group did not.

In two related studies by Ross (66, 67), the effects of a game skills program on educable mentally retarded children were investigated. The experimental groups were exposed to instructional programs in which game skills were explained and demonstrated

for the students, followed by rehearsel of skills by the students. In both studies, the subjects improved at the .001 level of confidence.

Lillie (40) researched the effects of a motor development program on the gross and fine motor skills of retarded children. Over a period of 65 individual lessons, he presented a program that included such items as tracing, coloring, gross motor activities, and trampoline activities. Lillie did not find a significant improvement in gross motor activities; however, a significant improvement was discovered for gross motor skills of the experimental group as compared to control group.

Motor abilities of mongoloids, mentally retarded individuals generally having I.Q.s below 50, have been studied by Pertejo (58), Malpass (41), and Kugel and Reque (38). Stedman and Eichorn (78) studied the motor competencies of mongoloids through the utilization of the California Infant Scale of Motor Development. The findings of these investigations indicated that the mongoloid child is inferior motorically to other groups of mentally retarded individuals.

Other researchers have investigated the effects of motor training programs on the profoundly mentally retarded individual. Auxter (5), Kral (39), Rarick and Broadhead (64), Stephens (83), and Webb (90) all reported improvements in the subject's abilities after a motor training program.

Research has also been conducted regarding the physical fitness of mentally retarded individuals. Many studies have attempted to

prove that physical fitness can be improved through the use of programs designed to meet the needs of the mentally retarded population. Results indicate that physical fitness of mentally retarded individuals can be improved through appropriate programs.

Corder (16) used the American Association of Health, Physical Education, and Recreation Physical Fitness Test as his measure of physical fitness in a project with educable mentally retarded boys. His work consisted of administering a program of exercises and track events to subjects and determining if there was a resultant change in the fitness of the subjects. His results found a significant improvement by the subjects on every item of the physical fitness test as compared to the control group. Similar results were reported by Hayden (34), Funk (31), Cratty (17), and Solomon and Pangle (75).

The question of whether motor programs have an effect on the social and emotional well-being of the mentally retarded has also been researched. The results are conflicting; however, the literature reviewed tends to lean towards the contention that the quality of a mentally retarded individual's motor functioning has a direct effect upon his social functioning.

Moran and Kalakian (48) found that participation in physical activities and improvement in physical skills enhance self-concept and promote the development of social awareness. The individual's self-concept was improved through participating in successful activities and experiencing the feeling of having done a job well.

Newman (51) studied mentally retarded adults in a swimming program and found that the emotional needs of the mentally retarded are the same as the needs of normal adults. Once the mentally retarded became more comfortable with their physical skills in the water, they began to relax and join in group activities. As their skill levels increased, the subjects also enjoyed organized competition.

Dunham's research (23) showed that the mentally retarded individual's ability to perform motor skills largely affected the degree of social competence of the individual. Teja and others (84) found a high correlation between delayed motor milestones and impairment of social functioning in profound, severe, and moderate mentally retarded children.

Smith and Hurst (74) conducted a study to determine the relationship between motor abilities and peer acceptance of mentally retarded children. They found that motor ability had a significant effect on the amount of physical contact an individual received. Cratty (17) has suggested that programs designed to improve motor problems may also tend to promote social interactions between retarded children and between retarded children and normal children.

The effects of an aquatics program on the psychomotor functioning of trainable mentally retarded children was studied by Miller and Throops (47). Results of their program appeared in improved personal relationships among peers, teachers, and parents with the

mentally retarded child. This program was further substantiated by studies by Crum (19), Oliver (55), and Ross (66, 67) in which motor training programs resulted in improved self-confidence, self-esteem, and independence of the mentally retarded individual.

However, some of the research does not substantiate the relationship between increased motor ability and improvement in the mental and/or social well being of the mentally retarded. Stein (79) has concluded that although the mentally retarded individual may experience gains in physical fitness, this gain may not result in a corresponding gain in regard to social status. In Corder's study (16) regarding physical fitness, he reported that his motor training program produced no effect on the social domain of the mentally retarded subjects.

Values Associated with Athletics

Mr. Alley, in his article "Athletics in Education: The Double-Edged Sword" (3) has stated that athletics should be regarded as a "double-edged sword" in education. The literature reviewed suggested that participation in athletics is bound to have an effect on the behavior pattern of the participant; the effects may be good or bad depending on the experience and the leadership provided during the experience.

In a platform statement made by the Division of Men's Athletics of the American Association for Health, Physical Education, and Recreation (4), the authors stated that a properly utilized athletic

program has the potential to serve as an educational media through which physical, mental, emotional, social and moral development of the individual may be promoted. The authors suggested that because of the emotionally charged atmosphere which often surrounds competition, the participants are more pliable and open to change than in most educational endeavors; therefore, educators should utilize this opportunity to promote cognitive, affective, and psychomotor development of all of the participants.

The role of athletic competition in education has been identified by Thomas (1) as: 1) developing a sense of responsibility for one's body; 2) developing a sense of fair play; 3) promoting a desire for individual excellence; and 4) fostering an attitude toward service without receiving material awards.

Daugherty (20) and others (49, 86, 3, 42) stated that participation in sports and athletics is a learning experience in which the individual is able to learn about himself and about his fellow being. Olds (54) suggested that through sports participation, one learns self-control, self-discovery, self-acceptance, and self-giving. Alley (3), Thomas (1), and Dumaree (1) suggested that through athletic contests an individual learns to appreciate the value of group loyality and group morale, and he can gain recognition, prestige, peer acceptance, and peer approval. Alley further stated that these factors contribute to one's self-confidence which helps to promote a positive self-concept.

Demarest (1) recognized three major values which are promoted

through participation in sports. The first value was that of personal integrity: a plain and simple honesty. The second value was that of fairness: not seeking an unfair advantage over an opponent. The final value was that of discipline: a promotion of inner-motivation and self-discipline.

McIntosh (30) and Alderman (2) stated that competitive sports often reflect the values of the society. Even though the participants are taught rules and regulations regarding their conduct during sports participation, the values they have learned at home are reflected through sports conduct. Pech and Havighurst (30) stated that one's value system is formed by the age of ten years and thereafter only superficial changes are made in one's values. Their findings pointed out that the manner in which games and sports are conducted in a child's early years may be critical to the value system exemplified later by the individual in athletics and in other areas of life.

The American Association for Health, Physical Education, and Recreation and the International Council of Sport and Physical Education have recognized four values in athletics as being noteworthy of recognition (20). The first is that of respect for one's opponent both on and off the playing field. The second aspect is the ability to accept the decision of the official without question. The third value is playing the game to the best of one's ability without attempting to cause harm to an opponent. And the fourth value is the ability to be honest and open in regard to all aspects of the game.

Several damaging aspects of competitive activities for children have been identified by Micheli (46). He suggested that today's society places too much emphasis on winning and not enough emphasis on sportsmanship. He further stated that children's self-concepts may not have a solid foundation and may be permanently damaged from bad experiences in competitive events.

A significant difference was found by Ryan (68) in the actions of winners and losers of competitive events. He found the losers to be significantly higher in the emotion of anger and in aggressive behavior as compared to the winners. Alley (3) discussed the effect on an individual of failing to make the team. He stated that the individual may develop a "Sour Grapes" attitude about athletics and convince himself that it does not matter. He also pointed out that the chances are rather small of that person continuing voluntarily in games and sports on a regular basis. This failure may affect the individual's self-concept as well as the physical fitness benefits that could have been recognized through physical activities.

McIntosh (30) suggested that the setting of a goal over the winning of a particular event or series of events is of particular importance. He stated that in this situation, the athlete is participating for the joy of participation and that winning is not the most important aspect of the event. The Olympics ideal, as well as the Special Olympics ideal, are representative of such a goal.

Fait (25) suggested that participation in physical activities

provides opportunities for the mentally retarded to experience social and emotional growth. Through play and athletic activities, mentally retarded students learn to respect rules and regulations, and begin to understand and internalize the concept of sportsmanship. In addition, the individual learns to respect one's own physical limitation as well as the limitations of others. However, Fait was not in favor of direct competition (26). Instead, he favored a type of indirect competition in which an individual competes against his/her own previous score. In this manner, all of the participants are able to have successful experiences.

Orr (56) stated that the handicapped individual needs the opportunity to express himself through competition. In order to compete, an individual must organize his actions, both physically and mentally, to operate within established rules and boundaries. Through learning to operate within established limitations, the handicapped individual learns to better understand movement components and develops a higher appreciation for sports achievement and participation.

Stein (79, 81) has stated that through participation in a program with competitive activities, the mentally retarded are given a chance to win an award, to understand the thrill of competition, and to have their names in the paper. Through these activities, the mentally retarded are able to develop a more positive self-image and are able to participate in activities that are similar to the activities of

normal individuals.

Evaluation of physical education for the mentally retarded (21) has shown that the mentally retarded students have benefited through competitive events experienced through the Special Olympics program. The research indicated that the students who participated in Special Olympics showed an improvement in gross and fine motor skills, appeared more interested in the academic areas in the school program, and became more involved in physical activities, with an emphasis on competitive sports.

The Journal of Health, Physical Education, and Recreation (89) made the following observations concerning competition and the handicapped. Competition is like play in that it progresses through several different stages beginning with individual competition and progressing to group competition. Through participation in Special Olympics, a mentally retarded individual may become an active participant instead of an inactive spectator. This participation leads to self-confidence which will help the individual in his daily activities.

Freischlag (29) has stated that competition is not desirable for the handicapped because of the stress and frustration involved. Educators have recommended an environment free of stress for maximum learning, and competition in the form of child versus child is definitely a stress environment. Therefore, Freischlag suggested that competition is not desirable for the handicapped. In addition, he stated that a child may be unduly frustrated when losing in compe-

tition to another child who is also handicapped. Zajonc (92) was also against competition for the mentally retarded. He stated that competition fails to benefit the individual and that it may deter children from achieving their capabilities in physical education.

Further research against competition for the handicapped has been suggested by Ferror-Hombravella (27). This researcher has stated that an individual should not compete until he has acquired a degree of social maturity including self-control, resistance to frustration, and a stable emotional base. He further stated that many handicapped children do not possess this type of social maturity, and therefore they should not be involved in athletic competition.

In an article discussing Special Olympics (37), Johnson stated that the idea behind the program is valid, and that the program has been beneficial for many students. However, he also recognized that some schools are neglecting the physical education program to train for Special Olympics, and suggested that only the athletically inclined students are receiving this training. Freischlag (29) pointed out that Special Olympics coaches have been known to manipulate qualifying times in order to insure that their students will win. Both of these authors stated that the program could be beneficial if run properly; but at this time, they felt that competition should be replaced by less threatening forms of participation for mentally retarded individuals.

However, a study focusing on the impact of Special Olympics made at Texas Tech (7) did not find results to promote the opinion

that competition is too threatening for participation by the mentally retarded. Instead, through the use of self-concept inventory, the researchers found no statistically significant difference between the winners and losers of the track events on the self-concept items. In addition, both the losers and the winners were optimistic toward competing again.

Review of Coed Activities and Participation

The literature reviewed concerning coed participation in activities and athletics is very much in favor of coed activities. Very little of the literature is not in favor of coed participation and competition.

A summary of the disadvantages of coed activities was presented by Selby (70) in which she grouped the disadvantages into three major areas. The three problem areas are: 1) dealing with physical contacts between male and female; 2) motor skill differences; and 3) the inability of instructors to deal with coed activities.

The problem area of physical contact was mentioned by several authors. McGrath (43), Selby (70), and others (60) recognized that there are physical differences between males and females, and that these differences need to be taken into consideration when planning activities. When activities involve pairing of students, special precautions need to be taken to insure that students of the same approxi-

mate body weights and builds are placed together.

Skill differences between males and females were also discussed by various authors. Again, Selby (70) and McGrath (43) stated that when boys and girls are taught activities together and participate together the differences in the skills seem to vanish. Through coed participation, the skills of the girls rather quickly catch up with skill levels of the boys.

The final major problem area cited in the literature is the inability of the instructors to deal with coed activities. Selby (70) stated that male teachers would have difficulties in dealing with girl's menstruation problems and emotional problems. Selby also stated that women may have problems in maintaining discipline with older boys. McGrath (43) stated that in the middle and secondary levels of education, the instructor may tend to underestimate his or her influence on students of the opposite sex.

The remainder of the literature reviewed was in favor of coed activities. Elliot (24) has stated that through coed activities, young people learn to make better life adjustments because the masculine and feminine concepts have not been imposed upon them in their youth. He also stated that physical activities lend themselves to participation by people, not to specific sexes; therefore, the activities should be participated in by people of both sexes. Elliot stated that perhaps physical education is one of the better areas in which students can learn informally to relate and understand members of

the opposite sex.

Selby (70) pointed out that through coed activities boys and girls learn to socialize and interact in a natural setting. In addition, sports are presented in a more natural setting, and boys are less likely to consider girls as non-athletes after participating in activities together.

A study conducted by the Boise City School District of Idaho (14) has stated that in order to insure that a student reaches his full emotional, social, and physical growth, he/she should be exposed to and participate in coeducational physical education program.

In regard to coed participation and competition, Torg (85) and Micheli (46) have pointed out that there is essentially no difference in bone structure, running speed, muscle mass, or reaction times of boys and girls prior to puberty, other than a slight advantage of girls over boys. Because of these similarities in structure, there is no rationale for preventing coed competition prior to and throughout the junior high years. In addition, Alderman (2) has stated that research has shown that males and females are not effected differently by competition, and both sexes have the same biological drive to compete.

Countiss (18) discussed the New Jersey model for athletics and pointed out that the athletic program including the intramural, extramural, and interscholastic sports are available for participation to all students on an equal basis. This model allows for any individual with the desire to participate to attempt to do so. Countiss also suggested that if boys and girls learn to compete together, and win and

lose together through athletics, then it might not be as painful to men when they find themselves competing and possibly losing to women later in various activities and employment opportunities.

The advantages and disadvantages of coed competition have been discussed by the National Collegiate Athletic Association (NCAA), the Association of Intercollegiate Athletics for Women (AIAW), and the National Association for Intercollegiate Athletics (NAIA); however, at the present time these organizations have not issued a policy statement for or against coed competition (35, 69, 91).

Dr. Robert Cooke, Chairman of the Scientific Advisory Board for the Joseph P. Kennedy, Jr. Foundation (59) has stated his opinion concerning coed competition for the mentally retarded by stating that mentally retarded individuals need to learn that there is a balanced relationship between the sexes and that the male is not always superior to the female. The female needs opportunities to compete and to win also.

In the summary of the handout concerning the evenness of heats and coed competition in Special Olympics (44), Songster has concluded: 1) that coed competition enables the heats to be filled with individuals of more equal abilities; 2) coed team sports increase the number of participants in team sports; 3) clerical errors are eliminated in regard to the sex of an individual and placing him/her in the wrong heat; and 4) coed competition promotes a better organized Special Olympics program through cutting down the number of separate events, providing better

organization of divisions, and through providing less confusion for parents and spectators.

CHAPTER III

METHODS AND PROCEDURES

On December 3, 1979, a meeting was held in the National Special Olympics, Inc. office in Washington, D. C. concerning coed competition. The purpose of this meeting was to discuss several key questions and the proposed plan to study coed competition. This committee meeting was instrumental in the development of the design and the methodology utilized in this study. Individuals present at this meeting were:

Dr. Ed Norris of West Chester State College
Dr. Larry Rarick of the University of California
Dr. George Oberle of Oklahoma State University
Ms. Ellen King of Oklahoma State University
Ms. Judy Ruscak of Northern Virginia Special Olympics
Dr. Robert Cooke of the Kennedy Foundation
Gen. Bob Montague of Special Olympics, Inc.
Dr. Tom Songster of Special Olympics, Inc.
Ms. Candy Johnstone, an intern with Special Olympics, Inc.

It was suggested in this meeting that a sampling of Special Olympians be utilized in assessing participants' attitudes toward coed competition. Committee members suggested the utilization of states having coed and single sex competition in the study.

States selected to be in the study were:

Coed Competition	Single Sex Competition
Louisiana	Mississippi
Washington	California
Maine	Indiana.

The committee also discussed the procedure for selecting subjects from the participants at the state games. The committee suggested that the participants in one event be utilized in the selection of the subjects. The event should be one in which many individuals participate and should be a quick event. For these reasons, the fifty meter dash was selected as the event from which to select subjects for the study.

Selection of the Subjects

The subjects in the study were involved in making selections for competitors and teammates within a peer group of individuals with equal abilities. Therefore, in order to participate in the study, male and female subjects needed to be approximately equal in abilities in the fifty meter dash within each age group. To provide subjects of equal abilities, the four male and four female participants within each age group with the best qualifying times for the fifty meter dash were selected to participate in the study. The exception to this selection procedure was if more than one participant within the top four scores was from the same area. In order to prevent friendships from influencing the subjects' choices, only one subject was selected from a specific area of the state. Therefore,

if more than one subject was from the same area, the subject with the best score was used in the study and the second subject was not. In his/her place, the individual with the fifth best qualifying time was selected to participate in the study.

Development of the Instrument

In order to determine the feelings of the subjects toward coed competition in Special Olympics, an oral questionnaire was used in which the subjects were asked to choose competitors and teammates orally from a specified peer group known as Superstars. The Superstars consisted of the four males and four females with the highest entry scores from the fifty meter dash within each age group. Each subject was wearing a star with a number on it, numbered 1 - 8, and the subjects were in a circle with a boy - girl alternating pattern. A trained volunteer stood behind the subject and wrote down his/her choices as the subjects participated in the study. The subjects were told that the members of the circle were all of equal abilities in the fifty meter dash and could all run with equal speed. The subjects were then told that this was a special event and they could each choose three individuals they wanted to run against in a heat. The subjects were then asked to tell the volunteer standing by them who their choices were; they were to choose competitors by the numbers on the stars the subjects were wearing. The subjects were reminded that they could choose whom they wanted regardless of who anybody else chose. It did not matter how

many times the same individual was chosen. Following the completion of their selections, the subjects were then asked to choose members of a relay team from the same peer group. Again, the volunteers wrote down the responses of the subjects. The volunteers then asked the subjects to tell them why they chose who they chose. Again, the volunteers wrote down the subjects' responses.

Collection of the Data

The Superstars events were conducted at the State Track and Field Games of the selected states. The researcher contacted the state directors by telephone prior to the state games to recruit the assistance of the director and his/her staff in carrying out the research study. The researcher traveled to each of the selected states to direct the Superstars events. The researcher personally asked the subjects the questions. In addition, the researcher personally trained volunteers to assist with the Superstars events in each state. The volunteers consisted of coaches, state Special Olympic committee members, and volunteers from civic groups, depending on who was available during the training and testing period.

Analysis of the Data

The data was analyzed through the use of the Chi Square statistical technique. The Chi Square procedure determined if there was a significant difference between selections made by the subjects and expected

selections which represented random selections. If Special Olympians chose at random in a group of 8 participants within an age group, the odds were they would choose as follows:

1 would choose all males
6 would choose a mixture of males and females
1 would choose all females.

If random choices were made, this would have implied that the subjects did not have a sexual preference regarding competitors for a race or teammates for a relay. If there was a significant difference between choices made by the subjects and random selections, this would have suggested a single sex preference for competitors and teammates. Two degrees of freedom were used in determining significance.

CHAPTER IV

RESULTS

A Chi Square statistical technique was used by the investigator to determine if there was a significant difference between selections made by the subjects and expected selections which represented choices made at random. If significant differences were not found between the selections, this suggested that Special Olympians did not have a sexual preference for competitors in a race of teammates for a relay. If significant differences were found, this suggested that the subjects did have a sexual preference for competitors and teammates, and actually preferred single sex competition. Two degrees of freedom were allowed in determining significance. The level of confidence utilized in the study was a .05.

Overall Totals

Through the use of the Chi Square statistical technique, three overall totals of the subjects' responses were compared and analyzed. The first comparison was of the combined totals of selections made by both male and female subjects toward both competitors in races and teammates for relays to expected or random selections. This comparison produced a Chi Square value that was significant. This significant difference reflected

a desire of Special Olympians to compete in single sex competition.

The next comparison of data utilized selections made by both male and female subjects regarding whom they preferred to race against and expected selections. This comparison yielded a Chi Square value which was significant. Although the data revealed a significant difference in selections made by the subjects and expected selections, in this instance the data did not necessarily state Special Olympians prefer to compete against members of the same sex. Instead, the selections made showed that the number of males selected to race against was only 2 selections below random selections, and selections of both males and females to race against was 17 selections below the expected amount. The number of all female selections for competitors in a race was 18 selections above the expected number of selections. The additional number of females chosen to race against caused a significant difference to occur between the selections made by the subjects and expected selections. This comparison, however, suggests that Special Olympians prefer to have females to race against rather than males or a mixture of males and females.

The following comparison between selections made by the subjects and expected selections utilized selections of both males and females regarding teammates for a relay. A significant difference at the .05 level of confidence was found between random selections and selections made by the subjects. This data showed that the number of males selected for teammates in a relay was markedly higher than the expected number

selected. These figures suggested that Special Olympians had a significant preference for males as teammates on a relay team. The overall totals of selections made by male and female subjects regarding selections for races and relays are listed in Table I.

TABLE I

OVERALL TOTALS OF SELECTIONS MADE BY MALE AND FEMALE SUBJECTS REGARDING SELECTIONS FOR RACES AND RELAYS

Selections	All Male	Mixed	All Female	Chi Sq. Value	Significance .05 Level
Overall Totals	114	547	107		
Random	96	576	96		
				6.09	Significant
Race Totals	46	271	67		
Random	48	288	48		
				8.61	Significant
Relay Totals	68	276	40		
Random	48	288	48		
				10.17	Significant

Totals of Male Selections

A comparison was made between selections of male subjects toward competitors for races and teammates for relays against expected selections. The comparison of selections made for competitors in a race and teammates for a relay against expected selections yielded a Chi Square value which was significant at the .05 level of confidence. In each of these sets of data, male subjects chose more males than expected. In choosing competitors for a race, the subjects chose 11 more males than expected and 11 fewer females than expected. In regard to the relay, male subjects chose 21 more males than expected; they also chose 12 fewer of all female selections than expected and 9 less selections of a mixture of males and females than expected. Both of these sets of data reflect a desire of male Special Olympians to compete against and with male subjects. Male selections are listed in Table II.

Totals of Female Selections

In the comparisons made between female subjects regarding competitors for a race and teammates for a relay and expected selections, interesting results were found. The comparison of female selections for competitors for a race and expected selections was significantly different at the .05 level of confidence. This level of confidence was illustrated by the fact that female subjects chose 28 more selections of all females to compete against than expected. In the relay, the Chi Square

value was not significant at the .05 level of confidence. The lack of a significant difference between selections made by female subjects and random selections for the relay suggested that the females did not exhibit a sexual preference toward teammates in relays. However, selections made regarding competitors in a race illustrated a definite sexual preference of female Special Olympians to compete against other females in a race. Table III lists the selections made by female subjects regarding competitors for a race and teammates for a relay.

TABLE II

TOTALS OF MALE SELECTIONS

Selections	All Male	Mixed	All Female	Chi Sq. Value	Significance .05 Level
Race Totals	33	144	15		
Random	24	144	24		
				6.75	Significant
Relay Totals	45	135	12		
Random	24	144	24		
				24.94	Significant

TABLE III

TOTALS OF FEMALE SELECTIONS

Selections	All Male	Mixed	All Female	Chi Sq. Value	Significance .05 Level
Race Totals	13	127	52		
Random	24	144	24		
				39.71	Significant
Relay Totals	23	141	28		
Random	24	144	24		
				.77	Not Significant

Comparison of States with Single Sex Competition to States with Coed Competition

In the comparison of the overall totals of male and female subjects toward competitors for a race and teammates for a relay between states with coed competition and single sex competition, a Chi Square value was found which was significant at the .05 level of confidence. The high Chi Square value suggested that those subjects in states with single sex competition felt quite differently about whom they competed against and with whom they competed, when compared with subjects who

competed in states with coed competition. A comparison of the data showed that single sex states chose more selections of all males and all females than coed states, and coed states chose more selections with a mixture of males and females than the single sex states.

In regard to selections made for competitors in a race, a significant difference was found between selections of single sex states and selections of coed states. Subjects in coed states chose more all male selections and coed selections than single sex states, and subjects in single sex states chose more all female selections than coed states.

Selections made in states with single sex competition and in states with coed competition were also significantly different regarding teammates for a relay. The coed states chose more mixtures of males and females than the single sex states, and the single sex states chose more selections of all males or all females than the coed states. Table IV lists the actual figures involved in the comparison of states with single sex competition to states with coed competition.

A further breakdown of the data provided a comparison of the overall totals of selections by males and females toward races and relays in states with single sex competition to random selections and in states with coed competition to random selections. The comparison between selections of subjects in states with single sex competition to random selections was significant at the .05 level of confidence. The data showed that all male and all female selections were made more than expected in single sex states and that selections of a mixture of males

TABLE IV

COMPARISON OF SELECTIONS MADE BY MALES AND FEMALES IN STATES WITH SINGLE SEX COMPETITION TO STATES WITH COED COMPETITION

Selections	All Male	Mixed	All Female	Chi Sq. Value	Significance .05 Level
Overall Totals					
Coed States	40	302	42		
Single Sex States	75	246	63		
				20.57	Significant
Race Totals					
Coed States	46	125	21		
Single Sex States	29	121	42		
				10.92	Significant
Relay Totals					
Coed States	25	150	17		
Single Sex States	46	125	21		
				8.90	Significant

and females were made less than expected. The comparison of overall selections made by males and females in coed states to expected selections did not have a significant difference at the .05 level of confidence. The lack of a significant difference between the subjects' selections in coed states and random selections suggested that Special Olympians in states having coed competition did not have a sexual preference toward competitors for a race or teammates for a relay. The comparison of coed states' selections and single sex states' selections to random selections are listed in Table V.

TABLE V

COMPARISON OF SELECTIONS MADE BY MALES AND FEMALES IN COED STATES AND SINGLE SEX STATES TO RANDOM SELECTIONS

Selections	All Male	Mixed	All Female	Chi Sq. Value	Significance .05 Level
Overall Totals					
Coed States	48	302	65		
Random	48	288	48	2.76	Not Significant
Single Sex States	74	245	65		
Random	48	288	48	26.52	Significant

Age Group Comparisons

An additional analysis of the data was made by grouping the subjects in the eight age groups of competition used by Special Olympics and by comparing the selections of age groups to random selections. The eight age groups were 8-9 years, 10-11 years, 12-13 years, 14-15 years, 16-17 years, 18-19 years, 20-29 years, and 30 years and over. The only two groups to exhibit a significant difference from the expected at the .05 level of confidence were the 12-13 year olds and the 16-17 year olds. These results implied that 12-13 year olds and 16-17 year olds preferred single sex competition. The lack of a significant difference between the selections of the other age groups and random selections stated that the other age groups did not exhibit a sexual preference for competitors and/or teammates. The selections for the age groups are listed in Table VI.

It should be pointed out that in many cases members of one sex chose members of the opposite sex. For example, if a male chose three females to compete against, this selection would be computed statistically as a single sex preference. However, in reality this selection does not reflect a desire to compete against members of the same sex. In sixty-three instances, members of one sex picked members of the opposite sex to compete against or have as teammates for a relay. A further analysis shows that:

1) 15 males picked all females to race against;
2) 12 males picked all females to have as teammates for a relay;

TABLE VI

COMPARISON OF SELECTIONS MADE BY MALES AND FEMALES BY AGE GROUPS TO RANDOM SELECTIONS

Selections	All Male	Mixed	All Female	Chi Sq. Value	Significance .05 Level
8-9 years	6	77	13		
Random	12	72	12	3.43	Not Significant
10-11 years	10	79	7		
Random	12	72	12	3.10	Not Significant
12-13 years	22	64	10		
Random	12	72	12	9.55	Significant
14-15 years	10	73	13		
Random	12	72	12	.43	Not Significant
16-17 years	20	58	18		
Random	12	72	12	11.05	Significant
18-19 years	12	66	18		
Random	12	72	12	3.5	Not Significant

TABLE VI (Continued)

Selections	All Male	Mixed	All Female	Chi Sq. Value	Significance .05 Level
20-29 years	18	66	12		
Random	12	72	12	3.5	Not Significant
30 years & Over	14	66	16		
Random	12	72	12	2.17	Not Significant

3) 13 females chose all males to compete against in a race; and
4) 23 females chose all males as teammates for a relay.

Subjects' Rationale for Selections

After choosing individuals to compete against in a race and within a relay, the subjects were then asked why they had made the previous selections. The responses given varied greatly. Examples of the responses are as follows:

1) "They have fast legs." (male and female subjects)
2) "She looks fast and tall." (a male subject)
3) "She has a nice shirt." (female subjects)
4) "He's little and I can beat him." (a female subject)
5) "I'll have to try hard to beat them." (male subject who picked all males)
6) "She will work well on a team and looks speedy." (male subject)
7) "Seems like a nice guy." (male subject)
8) "Cause they're boys." (male subjects)
9) "I'll have to do my best to beat them." (female subject who picked all males)
10) "I like their numbers." (male subject)
11) "We're the same height." (female and male subjects)
12) "I like competition." (male who picked all males)
13) "I can beat them; we'll win." (male and female subjects)
14) "I can run faster than them." (male and female subjects).

Selections made by the subjects often included most of the members of the circle. If the subject did not choose single sex competitors and teammates, then the selections rarely overlapped. For example, if subject number 2 was choosing, his choices could have been 1, 5, and 6 for a race and 3, 4, and 7 for a relay. The

following rationale often stated that the subject believed he/she could beat 1, 5, and 6 and that 3, 4, and 7 would make a good team for a relay.

Volunteers' Comments

Throughout the visits at each state games, the researcher asked coaches, volunteer workers, and/or parents their opinions concerning coed competition in Special Olympics. In general, most individuals preferred the type of competition that presently existed in their state. They also usually felt very strongly that their type of competition was the better type of competition for Special Olympians. The only exception to this was the state of California. California has single sex competition, but many of its workers prefer coed competition. These individuals suggested that it was just a matter of time before all competition in Special Olympics would be coed.

Both single sex and coed competition supporters provided various rationale to support their opinions. Coed supporters felt that coed competition provided more evenness in heats, was easier to administer, and in general the games were running more smoothly. In addition, they felt that males and females should compete together in athletics, just as they would in any other area of life. The single sex competition supporters felt that it was not "normal" for males and females to compete together. They stated that "normal" children do not have competition between males and females; therefore, Special Olympians should

not. They also stated that the Special Olympics program is modeled after the real Olympics and that the real Olympics do not have coed competition. In addition, many of the single sex competition supporters felt that it was not "fair to the athletes for males to compete against females." They believed that coed competition promoted a defeatist attitude in females and failed to challenge the males to compete to the best of their abilities.

Summary

Through the use of the Chi Square statistical technique, several significant differences were found between selections made by subjects in the study and expected selections. When combining the selections of male and female Special Olympians toward both races and relays, a single sex preference was revealed. This preference was illustrated through the higher than expected selections of all males or all females and lower than expected selections of a mixture of males and females.

The combined selections of males and females toward competitors in a race also revealed a single sex preference. The data in this comparison indicated a preference for females as competitors in a race. The relay selections made by both male and female Special Olympians demonstrated a single sex preference toward males as teammates in a relay.

An analysis of the selections made by male Special Olympians toward both races and relays disclosed a single sex preference

toward males for both competitors and teammates. The females' selections demonstrated a single sex preference toward females as competitors in a race; a single sex preference was not found in the female selections toward teammates in a relay.

Selections made by Special Olympians in coed states were found to be significantly different from those made in single sex states. The combined selections of male and female participants toward both races and relays were found to be different in that the coed states chose more mixtures of males and females for competitors and teammates than expected, and the single sex states chose more selections of all male or all female selections than expected. When comparing the selections of Special Olympians in coed states to expected selections, a significant difference was not found; however, a significant difference and single sex preference was found when comparing the selections of single sex states to expected random selections.

In comparisons made utilizing the subjects' age groups, two comparisons revealed a single sex preference. Both 12-13 year olds and 16-17 year olds made selections that were significantly different from expected selections. This preference was illustrated in both age groups by the larger than expected number of males choosing all males as competitors and teammates.

Due to the numerous significant differences found between selections made by the subjects and expected selections, the null hypothesis was rejected in this study. The results of this study indicated that

Special Olympians did have sexual preferences regarding competitors in races and teammates in relays.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to determine if a sexual preference for competitors or teammates existed among Special Olympians. Three hundred and eighty-four Special Olympians competing in the fifty meter dash of six selected track and field games were selected to participate in the study. These subjects were asked to choose competitors for a team and teammates for a relay from a designated peer group. In addition, the subjects were also asked to tell why they chose the selected individuals.

The Chi Square statistical technique was used to determine if there was a significant difference between selections made by the subjects and expected selections which represented random selections. If Special Olympians chose at random in a group of 8 participants within an age group, the odds were they would choose as follows:

1 would choose all males
6 would choose a mixture of males and females
1 would choose all females.

If random choices were made, this would have implied that the subjects did not have a sexual preference regarding competitors for a race or for teammates for a relay. If there was a significant difference between choices made by the subjects and random selections, this would have

suggested a single sex preference for competitors and teammates.

Results

Statistical analysis found numerous differences at the .05 level of confidence or higher. These significant differences recognized a single sex preference by Special Olympians for competitors and teammates.

The combined selections of male and female Special Olympians reflected a single sex preference for teammates and competitors. An analysis of the male selections revealed a preference for male teammates and competitors. The females' selections illustrated a single sex preference for competitors but no sex preference for teammates.

A comparison of the selections made by participants in coed states and single sex states revealed a significant difference in the two sets of data. When compared to expected random selections, the subjects in coed states chose more mixtures of males and females than expected, and the subjects in single sex states chose more selections of all males and all females than expected. This preference suggested that the participants preferred the type of competition that presently existed in each state.

Of the eight age groups, only two age groups made selections that reflected a single sex preference. The 12-13 year olds and 16-17 year olds made selections that were significantly different from the expected random selections. Discussions with volunteers at the state games suggested that these selections could possibly represent

the fact that these age groups represent the time span known as puberty for the adolescent. These results suggest that for the adolescent, single sex competition may be more advantageous in Special Olympics as well as in competition in physical education classes and recreational activities.

The data revealed that a large number of Special Olympians chose mixtures of males and females for competitors and teammates. A desire to participate with both males and females was illustrated by the fact that the Olympians chose 547 selections of males and females. However, statistically, this was not a significant number of selections. If the Special Olympians had chosen at random, they would have chosen 576 selections of mixtures of males and females. Thus, the total of 547 coed selections did not reflect a statistically significant preference for coed competitors or teammates. However, it should be noted that a large number of Special Olympians did make coed selections.

The subjects were asked to give a rationale for their selections after choosing competitors for a race and teammates for a relay. Their responses varied greatly. In general, the reasons they gave reflected that they thought they could beat the individuals they had chosen to run against, and that they thought the teammates they had chosen for a relay would make a winning team.

The volunteers interviewed were generally in favor of the type of competition presently being held in their state; furthermore, they were not in favor of changing from coed competition to single sex

competition, or vice versa.

Recommendations for Future Research

The author makes the following recommendations for future research in this area: additional research should be conducted with Special Olympians in events outside of the fifty meter dash and in games other than the track and field games. Ideally, this research would be conducted in each state of the Union to allow comparisons by states, regions, etc.

The author also strongly believes that Special Olympians of various abilities should be utilized in future studies. Future research should try to include as many ability levels within the population as possible.

An additional suggestion is that the athletes should be allowed to compete following an opinion questionnaire, and that the questionnaire be repeated after the actual competition. In this manner, the subjects would have seen each other's abilities and would have more data on which to base their selections. In order to conduct this type of research, the research study should be a recognized "event" in the games. In this manner, the athletes would receive medals for participating in the study, and the researcher would receive additional assistance in conducting the research.

Similar research could also be done utilizing a comparison of the attitudes of different groups of individuals. For example, one study may

compare the attitudes of mentally retarded individuals involved in Special Olympics to those of mentally retarded individuals not participating in Special Olympics. A variety of comparisons could be done using different populations as subjects.

Further research could also be done investigating the concept of equal competition in Special Olympics. Special Olympics promotes evenness of heats and equal competition throughout the program. An interesting research study would utilize the concept of equal competition and the Special Olympians' understanding of this concept. Perhaps individuals of various abilities could be brought together, and the subjects allowed to choose competitors from these individuals. In this manner, the subjects would be allowed to choose individuals of equal abilities or individuals of varying abilities.

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APPENDICES

APPENDIX A

SUBJECTS' SELECTIONS BY STATES

Chapter Games: Mississippi **Competition:** Single Sex

RACE

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	0	4	0	0	3	1
10-11	1	2	1	0	4	0
12-13	2	2	0	1	1	2
14-15	1	3	0	0	1	3
16-17	2	2	0	0	0	4
18-19	2	1	1	1	1	2
20-29	0	4	0	2	2	0
30 & Up	1	2	1	0	2	2
TOTAL	9	20	3	4	14	14

RELAY

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	0	3	1	0	2	2
10-11	2	2	0	0	4	0
12-13	1	3	0	0	3	1
14-15	2	2	0	0	3	1
16-17	4	0	0	0	1	3
18-19	2	2	0	1	1	2
20-29	0	4	0	0	4	0
30 & Up	2	1	1	0	3	1
TOTAL	13	17	2	1	21	10
RACE & RELAY TOTAL	22	37	5	5	35	24

COMBINED TOTAL: All Male 27 Mixed 72 All Female 29

Chapter Games: California Competition: Single Sex

RACE

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	0	4	0	0	3	1
10-11	1	3	0	0	3	1
12-13	1	3	0	0	3	1
14-15	0	4	0	0	4	0
16-17	0	4	0	1	3	0
18-19	1	3	0	0	3	1
20-29	1	2	1	0	3	1
30 & Up	1	3	0	0	3	1
TOTAL	5	26	1	1	25	6

RELAY

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	0	4	0	0	3	1
10-11	1	3	0	1	3	0
12-13	1	2	1	1	3	0
14-15	0	4	0	0	4	0
16-17	1	3	0	0	4	0
18-19	0	4	0	0	4	0
20-29	1	2	1	1	2	1
30 & Up	1	3	0	2	2	0
TOTAL	5	25	2	5	25	2
RACE & RELAY TOTAL	10	51	3	6	50	8

COMBINED TOTAL: All Male 16 Mixed 101 All Female 11

Chapter Games: Indiana Competition: Single Sex

RACE

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	1	2	1	0	2	2
10-11	1	3	0	1	2	1
12-13	1	2	1	0	3	1
14-15	1	3	0	0	1	3
16-17	2	2	0	0	2	2
18-19	1	2	1	0	0	4
20-29	0	4	0	0	3	1
30 & Up	2	1	1	0	4	0
TOTAL	9	19	4	1	17	14

RELAY

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	2	2	0	0	4	0
10-11	1	3	0	1	3	0
12-13	2	2	0	3	0	1
14-15	0	4	0	2	2	0
16-17	2	1	1	0	2	2
18-19	1	3	0	2	1	1
20-29	1	3	0	2	2	0
30 & Up	1	1	2	1	3	0
TOTAL	10	19	3	11	17	4
RACE & RELAY TOTAL	19	38	7	12	34	18

COMBINED TOTAL: All Male 31 Mixed 72 All Female 25

Chapter Games: Louisiana Competition: Coed

RACE

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	1	3	0	0	2	2
10-11	0	4	0	0	4	0
12-13	1	2	1	0	4	0
14-15	0	3	1	0	2	2
16-17	2	2	0	0	2	2
18-19	0	2	2	0	2	2
20-29	2	2	0	1	2	1
30 & Up	0	4	0	0	3	1
TOTAL	6	22	4	1	21	10

RELAY

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	0	4	0	0	4	0
10-11	0	4	0	0	4	0
12-13	2	2	0	0	4	0
14-15	0	4	0	0	2	2
16-17	2	2	0	0	3	1
18-19	0	4	0	0	2	2
20-29	2	1	1	1	1	2
30 & Up	0	4	0	0	3	1
TOTAL	6	25	1	1	23	8
RACE & RELAY TOTAL	12	47	5	2	44	18

COMBINED TOTAL: All Male 14 Mixed 91 All Female 23

Chapter Games: Washington Competition: Coed

RACE

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	0	4	0	1	3	0
10-11	0	4	0	0	4	0
12-13	1	3	0	0	3	1
14-15	0	4	0	1	3	0
16-17	0	3	1	1	2	1
18-19	0	4	0	0	4	0
20-29	0	4	0	3	1	0
30 & Up	0	3	1	0	3	1
TOTAL	1	29	2	6	23	3

RELAY

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	0	4	0	0	4	0
10-11	0	4	0	0	4	0
12-13	3	1	0	0	4	0
14-15	0	4	0	1	3	0
16-17	0	4	0	0	4	0
18-19	0	4	0	0	4	0
20-29	0	4	0	1	2	1
30 & Up	1	3	0	0	3	1
TOTAL	4	28	0	2	28	2
RACE & RELAY TOTAL	5	57	2	8	51	5

COMBINED TOTAL: All Male 13 Mixed 108 All Female 7

Chapter Games: Maine Competition: Coed

RACE

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	0	4	0	0	3	1
10-11	0	4	0	0	2	2
12-13	1	3	0	0	4	0
14-15	0	4	0	0	3	1
16-17	1	3	0	0	4	0
18-19	0	4	0	0	4	0
20-29	0	3	1	0	4	0
30 & Up	1	3	0	0	3	1
TOTAL	3	28	1	0	27	5

RELAY

Age Group	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
8-9	1	3	0	2	2	0
10-11	0	3	1	0	3	1
12-13	1	3	0	0	4	0
14-15	2	2	0	0	3	1
16-17	1	2	1	1	3	0
18-19	1	3	0	0	4	0
20-29	0	3	1	0	4	0
30 & Up	1	2	1	0	4	0
TOTAL	7	21	4	3	27	2
RACE & RELAY TOTAL	10	49	5	3	54	7

COMBINED TOTAL: All Male 13 Mixed 103 All Female 12

APPENDIX B

SUBJECTS' SELECTIONS BY AGE GROUPS

Selections by Age Groups Race and Relay Combined

Age Group: 8-9 years

STATES	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
Miss.	0	7	1	0	5	3
Calif.	0	8	0	0	6	2
Ind.	3	4	1	0	6	2
La.	1	7	0	0	6	2
Wash.	0	8	0	1	7	0
Maine	1	7	0	0	6	2

Selections by Age Groups Race and Relay Combined

Age Group: 10-11 years

	MALE SELECTIONS			FEMALE SELECTIONS		
STATES	All Male	Mixed	All Female	All Male	Mixed	All Female
Miss.	3	4	1	0	8	0
Calif.	2	6	0	1	6	1
Ind.	2	6	0	2	5	1
La.	0	8	0	0	8	0
Wash.	0	8	0	0	8	0
Maine	0	7	1	0	5	3

Selections by Age Groups Race and Relay Combined

Age Group: 12-13 years

	MALE SELECTIONS			FEMALE SELECTIONS		
STATES	All Male	Mixed	All Female	All Male	Mixed	All Female
Miss.	3	5	0	1	4	3
Calif.	2	5	1	1	6	1
Ind.	3	4	1	3	3	2
La.	3	4	1	0	8	0
Wash.	4	4	0	0	7	1
Maine	2	6	0	0	8	0

Selections by Age Groups Race and Relay Combined

Age Group: 14-15 years

STATES	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
Miss.	3	5	0	0	4	4
Calif.	0	8	0	0	8	0
Ind.	1	7	0	2	3	3
La.	0	7	1	0	4	4
Wash.	0	8	0	2	6	0
Maine	2	6	0	0	7	1

Selections by Age Groups Race and Relay Combined

Age Group: 16-17 years

STATES	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
Miss.	6	2	0	0	1	7
Calif.	1	7	0	1	7	0
Ind.	4	3	1	0	4	4
La.	4	4	0	0	5	3
Wash.	0	7	1	1	6	1
Maine	2	5	1	1	7	0

Selections by Age Groups Race and Relay Combined

Age Group: 18-19 years

STATES	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
Miss.	4	3	1	2	2	4
Calif.	1	7	0	0	7	1
Ind.	2	5	1	2	1	5
La.	0	6	2	0	4	4
Wash.	0	8	0	0	8	0
Maine	1	7	0	0	8	0

Selections by Age Groups Race and Relay Combined

Age Group: 20-29 years

STATES	MALE SELECTIONS			FEMALE SELECTIONS		
	All Male	Mixed	All Female	All Male	Mixed	All Female
Miss.	0	8	0	2	6	0
Calif.	2	4	2	1	5	2
Ind.	1	7	0	2	5	1
La.	4	3	1	2	3	3
Wash.	0	8	0	4	3	1
Maine	0	6	2	0	8	0

Selections by Age Groups Race and Relay Combined

Age Group: 30 & Over

	MALE SELECTIONS			FEMALE SELECTIONS		
STATES	All Male	Mixed	All Female	All Male	Mixed	All Female
Miss.	3	3	2	0	5	3
Calif.	2	6	0	2	5	1
Ind.	3	2	3	1	7	0
La.	0	8	0	0	6	2
Wash.	1	6	1	0	6	2
Maine	2	5	1	0	7	1

APPENDIX C

ANSWER FORM

AGE GROUP_____

SUBJECT'S NUMBER_____SEX _____

NAME_____AREA _____

RACE SELECTIONS

	NUMBER	SEX	RATIONALE
1.			
2.	_____	____	_____
			_____
3.	_____	____	_____
			_____
	_____	____	_____
			_____

RELAY SELECTIONS

	NUMBER	SEX	RATIONALE
1.	_____	____	_____
			_____
2.	_____	____	_____
			_____
3.	_____	____	_____
			_____

VITA[2]

Ellen Warine King

Candidate for the Degree of

Doctor of Education

Theses: SPECIAL OLYMPIANS ATTITUDES TOWARD COED COMPETITION

Major Field: Higher Education

Minor Field: Health, Physical Education, and Recreation

Biographical:

Personal Data: Born in Hattiesburg, Mississippi, December 1, 1954, the daughter of Mr. and Mrs. Joe R. King.

Education: Attended elementary, junior high, and high school in Hattiesburg, Mississippi; graduated from Hattiesburg High School, Blair Center, in 1972; received the Bachelor of Science in Education degree with cum laude honors from the University of Georgia, Athens, Georgia, in 1976 with a major in Recreation; received the Master of Science degree in Health, Physical Education and Recreation from the University of Southern Mississippi, Hattiesburg, Mississippi, in 1977; completed requirements for the Doctor of Education degree at Oklahoma State University, Stillwater, Oklahoma, in December, 1980.

Professional Experience: Elementary Physical Education Instructor, Gulfport, Mississippi, 1977-1978; Recreation Director of Harrison County Camp for Retarded Citizens, Biloxi, Mississippi, August, 1978; Graduate Research Assistant in Adapted Physical Education, School of Health, Physical Education and Leisure Sciences, Oklahoma State University, Stillwater, Oklahoma, 1978-1979; Supervisor in the National Youth Sports Program, Stillwater, Oklahoma,

May-July, 1979; Supervisor of Undergraduate Practicum Experiences in Adapted Physical Education, School of Health, Physical Education, and Leisure Sciences, Oklahoma State University, Stillwater, Oklahoma, 1978-1980; Graduate Teaching Assistant in the School of Health, Physical Education, and Leisure Sciences, Oklahoma State University, Stillwater, Oklahoma, 1979-1980; Intern with the Joseph P. Kennedy, Jr. Foundation to conduct research concerning coed competition in Special Olympics, June, 1980.

Professional Organizations: Oklahoma Alliance for Health, Physical Education, and Recreation; American Alliance of Health, Physical Education and Recreation; National Education Association; Council for Exceptional Children; National Association for Retarded Children; Phi Epsilon Kappa.