The Influence of Friendship and Motor Skill upon the Choice of Teammates

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THE INFLUENCE OF FRIENDSHIP AND MOTOR SKILL
UPON THE CHOICE OF TEAMMATES

By

Joanne G. Osmond

A Thesis Submitted to the Faculty of the Graduate School of Loyola University in Partial Fulfillment of the Requirements for the Degree of Master of Arts

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LIFE

Joanne Gertrude Osmond, the youngest of five children, was born in Burlington, Wisconsin, February 4, 1934. Her childhood and adolescence were spent in the rural community of Antioch, Illinois, which is fifty miles north of Chicago. The members of her family, basically farmers, are interested in the civic and political life of the community.

She was graduated from the Antioch Township High School, Antioch, Illinois, in June, 1952. During her high school years, the author was: secretary of her Junior Class, president of the Girls' Athletic Association, had a part in the Junior Class play, and was a member of the Catholic Youth Organization and Saint Peter's Choir.

In June 1956, at the University of Michigan, the author received the degree of Bachelor of Science with a major in Physical Education and minors in Health and Chemistry. In the summer of 1955, she took part in the Counselor in Training Program at Interlochen, Michigan. As an undergraduate, she was active in the student government of the campus, serving as the president of the dormitory and holding the following campus offices: Vice President of the Independent Women's Association, and a member of the Joint Committee of Independent and Sorority Women to study the problem of rushing at the University.
From September 1956 to June 1958 she taught Physical Education at Bremen Township High School, Midlothian, Illinois. Miss Osmond taught the above stated subject at Bloom Township High School, Chicago Heights, Illinois, during the school years 1958 through 1961.

The author had been employed during the summers of 1951 through 1956 as: a waitress, a telephone operator for the Illinois Bell Telephone Company, a swimming instructor for the Young Women's Christian Association, and as a travel agent.

Miss Osmond's cultural interests turn to the theater and classical music. Other interests include golfing, boating, swimming, skiing, tennis, horseback riding, and interior decorating.

Currently the author is the co-leader of the Senior Girl Scout Troop number 309 in Blue Island, Illinois, and helping to manage the Osmond Sisters real estate.
ACKNOWLEDGMENTS

Doctor Harold Metcalf, superintendent of Bloom Township High School and Community College, granted permission for this study; the girls' physical education furnished the students. All data used in this thesis was secured through a motor skill test battery, and the employment of a sociometric technique.

Very special thanks are due to the girls' physical education staff at Bloom Township High School for their cooperation during the obtaining of the data for this project.
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CHAPTER I

THE PROBLEM OF OBTAINING THE INFLUENCE OF FRIENDSHIP AND SKILL ON THE CHOICE OF TEAMMATES

Introduction

One of the general objectives of physical education is to develop socially acceptable and personally rewarding behaviors, in and through relationships with others in physical education. Each social class has within itself some admired behaviors which are not acceptable to the other classes. Because this is true, there are times when the members of minority social classes are rejected for actions not acceptable to the majority group. If a child hopes to gain the social acceptance of a class other than her own, she must be willing to learn to conform to its social patterns. Therefore, the child must take over the ideas, beliefs, values, and behavior patterns of individuals of the social class with which she wishes to identify herself.  

Twelve year old girls of the higher classes are expected to show a tendency to conform to adult standards of behavior. During the same age period, girls of the lower social group are admired if they are

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2 Ibid.
assertive, pugnacious, attention-getting, bossy and tomboyish.  

Children of the lower social classes have more freedom of choice in the selection of their friends, than do children of the middle classes whose parents exert pressure on them to choose the "right" type of friends. However, a lower class child is often barred from participation in social activities with those of the other classes. Therefore, she is forced to select her friends mainly from her own group. Also the barring of the lower class from the social activities of the other classes causes a non-mingling of the social groups. This forcing of a person to select friends from within her own group affects her relationships with others in physical education where team cooperation is stressed.

Statement of the Problem and Purpose

The idea for the problem of this thesis grew out of an actual class situation at Bloom Township High School. Bloom Township High School is located in Chicago Heights, Illinois. There are no private institutions of learning in the area except one co-educational Catholic high school. Being an industrial area, therefore, to a large extent the school reflects its surroundings. The industrial area and its suburbs are composed of people of differing religions, races, and social classes. The high

3 Ibid., p. 296.  
4 Ibid., p. 298.  
5 Ibid., p. 299.
school is composed of these varying types of people. The students
of this divergent population are expected to work democratically
together in a public school. This is especially true in a physi-
cal education class where team cooperation is stressed.

In one of the author's sophomore classes there were many
social class conflicts, believed to be due to the non-mingling of
the social classes. It is known that the choice of teammate is
dependent upon the two variables—friendship and skill. Though
both friendship and physical skill are involved, it is desirable
to learn which factor dominates the choice. More emphasis given
to the value of physical skill might offset the pressure of the
criterion of friendship in the choosing of teammates. The stu-
dents attending Bloom receive credit or failure in physical edu-
cation—not a letter grade or a numerical mark. This credit is
not based, and would never be based, on physical skill alone.

It is desirable for the students to recognize the capabil-
ities of their classmates regardless of race, creed, or social-
economic standing in the community. It is hoped that the results
of this study can be used by physical education teachers in
guiding their students toward democratic beliefs, skills in
human relationship, and the recognition of each person's skills
and capabilities.
CHAPTER II

REVIEW OF THE LITERATURE PERTAINING TO THE
USE OF SOCIOMETRY IN PHYSICAL EDUCATION,
VOLLEYBALL SKILL TESTS, AND METHODS
OF FORMING TEAMS

The question has arisen, which influences a girl the most in
the choosing of her teammates—skill or friendship? Several
tests can be used in determining the answer. In partially re-
solving the question, friendship and teammates statuses can be
measured by using a sociometric technique. To cover the physical
skill aspect, tests can be administered to compute the pupil's
ability.

Sociometry in Physical Education

Sociometry is a method of studying the organization of groups.
Simple techniques are employed in sociometry, and reveal valuable
clues for effective guidance, evaluation of this guidance, and
for efficient class organization. The structure of relations,
existing at a given time among members of a given group, can be
presented simply and graphically. In the presentation the major
lines of communication and patterns of acceptance and rejection
are apparent. If the instructor follows the rules when setting
up teams, committees or other groups based on the results of a
sociogram, an increase in the acquaintanceship and a decrease in the number of rejected persons is likely to be seen. Frances E. Todd found this to be true on the senior high school level during a one-semester experimental period. The pupils in her study found the sociometrically selected squads more enjoyable and efficient than any other grouping method they had experienced.

There are two types of sociometric tests found to be especially adaptable to physical education classes: the acquaintance volume test, and the functional choice test. The acquaintance volume test measures the expansiveness of an individual within a given time period. The student is asked to list the first and last names of those she knows in the class. This is then repeated at some future time. By arithmetical differences it is readily apparent how many new friends each individual has made. The functional choice test is explained in detail in the following chapter of this thesis. This test requires each girl to list three of her fellow classmates who are or are desired friends. The student may also reject anyone. Through this method the lines of communication, patterns of acceptance and rejection, and the individual's status in the class can be studied. The author of this thesis found in the previous writings on the problem of choosing teammates, the functional choice test was

7 Ibid.
the sociometric technique preferred.

Several professionals in the field of physical education have suggested that sociometric techniques are both applicable and practical in physical education classes. Jesse Feiring Williams stated that physical education is education through the physical, not of the physical. In this field the effort to eliminate racial and religious bias should operate in all aspects of the activity program. Jesse Williams wrote that the intelligent planning of programs to reduce opportunity for needless conflict should take into account the techniques of sociometry. Sociograms can be a help in organizing a class into a harmonious and productive group. The reliability and validity of the sociometric test have been indicated in several studies by Cook, Jennings, Moreno, and Zelany. In these studies the coefficients of reliability ranged from .93 to .95. Sabina Breck also suggested the use of sociometric techniques in physical education classes. She further stated that the extent to which these measures can contribute to research and teaching in the field depends on the clarification of the factors which influence students' choices of teammates.

9 Ibid., p. 90.
11 Ruth E. Fulton, "Relationship Between Teammate Status and
A study was made by Sabina J. Breck on the relationship between friendship and teammate scores. This study involved 586 college women in 1945. The statistics disclose low positive correlations of .43 and .57 between friendship and teammate scores.

Ardith B. Frost obtained a correlation coefficient of .40 between friendship and teammate scores. She used sociometric techniques to determine whether or not skill in the French and Cooper Repeated Volleys Test was a factor in the choice of teammates and friends in volleyball classes. Frost correlated the scores of the volleying test and measures of teammates status. The correlation coefficients of these two factors were .51 and .50. The correlation coefficients between friendship and volleying scores were not significantly different from zero. From these results it would seem that student choices of teammates are related somewhat to friendship and skill. The students seem to differentiate between the two conditions affecting status. Frost did not apply the full skill test battery of French and Cooper. This study was completed in 1947.

Another study which was made by Ruth E. Fulton and pub-


12 Ibid.
13 Ibid.
14 French and Cooper Volley Test described in Chapter II, p. 11.
15 Fulton, p. 276.
lished in 1950 involved sixty-four college women. The French volleys and serve tests were administered; and Fulton extended the measurement of volleyball skill even further by making skill judgments. Fulton and the class instructor made the judgment of each student's ability. The students listed five members of the class for teammates and all five were given equal credit for being picked. The correlation .54 between the volleying test and the teammate status indicated that the two measures overlap but, are not measuring exclusively the same variables. The volleying test scores correlated .71 with the rating made by the teachers; the scores of teammate status and the rating of skill by the teachers correlated .71. This may mean that one element measured by the teammate status score, which is not measured by the volleying scores, is a social element. The teacher judgments of skill might also be influenced by the social adjustment aspect.

To measure the friendship and teammate statuses of each girl, the functional choice test was selected for this thesis.

**Volleyball Skill Tests**

After analyzing the physical skills demanded in the game of volleyball, the two major factors are the abilities to serve and volley. These two factors are the basis on which the tests, reported in the literature, are formed.

Volleyball tests have been developed by Bassett, Glassow, and Locke in 1937; French and Cooper in 1937; Russell and Lange in
1940; Crogen in 1943; and Brady in 1945. With the exception of the work by Brady, the volleyball tests listed above have been developed for use with girls and women.

Gladys Bassett, Ruth Glassow and Mabel Locks used the repeated volleys test utilizing a starting line six feet from the wall; but thereafter the player could stand anywhere. The test consists of three thirty second trials. Using the best trial out of three, a reliability of .84 was found. When using the total of the three trials a .89 reliability was computed. The validity was equal to .51 using instructors' ratings. This study was conducted with college women.

During the same year, French and Cooper were developing a repeated volleys and serve test battery. To validate the battery, four professionals in physical education used a check list to judge the skills of a number of high school girls. This is an accepted procedure for validating motor skill tests. The validity on the serving test was reported as .83, and for the repeated volleys .72. Reliability of the serve test was .68, and for the repeated volleys .78 to .96. The test setup permits ten trials


18 National Research Council of the Research Section, p. 71.
on the repeated volleys test and ten trials should be allowed on the serve test. There is a restraining line ten feet in length and three feet from the wall, which the player must stay behind during the test.

The volleyball test battery of French and Cooper was modified by Elizabeth Lange and Naomi Russell\textsuperscript{19} for use in the seventh, eighth, and ninth grades. The repeated volleys test was changed to three trials of thirty seconds each. This reduced the testing time by one minute. The serving test was changed to two trials each consisting of ten serves. The increase in time needed for the serve test was partly compensated for by the first modification. The validity and reliability approximates that of the French and Cooper battery.

Three years later Crogen\textsuperscript{20} reported a repeated volleys test for high school girls. It is a one-item test which was a variation of the repeated volleys. The player started from behind a six foot restraining line, but she could move anywhere thereafter. There was no time factor. The player volleyed repeatedly for a specified number of hits such as ten, twenty-five or thirty. The score was the number of fouls subtracted from the specified number of hits. The validity was based on the ability to play


\textsuperscript{20} National Research Council of the Research Section, p. 71.
volleyball in a competitive situation. Those who scored high on this test won more games than the players who scored low. The reliabilities with 129 high school girls ranged from .48 to .52 for ten hits and for twenty hits .83.21 Scores were found to improve with practice and reflected the player's experience.

Brady22 made an activity analysis of volleyball as played by college men. His study on the repeated volleys test used 522 college men and fifteen Young Men's Christian Association expert players. There were no floor restrictions to his test. The time limit was one minute. The skill of these players was on a higher ability level than that needed for high school girls. Therefore, the author of this thesis could not apply Brady's test to her study.

A seven foot restraining line to limit body build advantage in the repeated volleys test was suggested by Dorothy Mohr and Martha Haverstick23 as reported in 1955.

The French and Cooper volleyball test battery is objective and involves only one performer. It is easily administered and scored. The battery has acceptable reliability and validity which was standardized on the high school level. This battery tests two important skills in girls' volleyball as played on the high school level. Because French's and Cooper's battery covers two

22 Ibid.
23 Ibid., p. 184.
skills, it indicates the students' ability more completely than a one-item test.

If the height of a girl is an advantage in playing volleyball, then this should be to the player's advantage in any skill test. Therefore, before Dorothy Mohr's and Martha Haverstick's suggestion (to limit body build advantage in testing) is followed in the repeated volleys test more research should be done.

Russell and Lange modified the volleyball test battery of French and Cooper. The modifications involve twice as many serve test trials which require more space than the repeated volleys test. The serve test does not require much time per pupil. However, if as in this study, 441 girls are to be tested on three courts, twice as many trials would make the administering much more difficult. The reliabilities and validities of the French and Cooper, and the Russell and Lange tests are about equal.

Crogen's repeated volleys test is a one-item test. Therefore, it does not cover as completely the skills necessary in volleyball as does a test battery such as the French and Cooper battery.

Brady's volleyball test is designed for men and is therefore not applicable to the study in this thesis.

Gladys Bassett, Ruth Glassow and Mabel Locke conducted a study using college women. This is again a one-item test.

Taking all of these factors into consideration, the repeated volleys and serve test battery by French and Cooper was chosen to
measure the skill of the girls involved in this study.

Methods of Forming Teams

The author of this thesis desired to further explore the factors involved when the students choose teammates without the influence of the teacher.

Many ways of forming teams can be found. Basically there are five major methods ranging from teacher selection to the pupils' control. The five methods are as follows:

1. The instructor may divide the pupils into teams and appoint the captains with little regard to the pupils' wishes.
2. The girls may be separated into teams and each team elects its own captain.
3. The captains are appointed, and they choose the teams either in private or in front of the class.
4. The students elect the captains, and then the captains choose the teams.
5. The sociometric approach.

In the sociometric approach each girl may privately indicate her choice of teammates in writing. The teacher then forms the teams according to each girl's wish. With this last method, the captain may be elected by the team; or appointed by the teacher (taking into consideration the girl most frequently selected by each group).
By applying the sociometric techniques, Frances Todd\textsuperscript{24} found an increase in acquaintanceship and a decrease in the number of unpopular girls during a one-semester experimental period on the senior high school level. The pupils found the sociometrically selected teams more enjoyable and more efficient than other grouping methods they had experienced.

The fifth method described was selected for the research of this thesis because of the lack of teacher influence upon the choice of teammates which gives a truer picture of the girls' wishes. By using the sociometric technique of choosing teams an individual status index can be computed to show each girl's teammate status within the class. This is the only method which will lead to a figure for making comparisons. The sociometric technique is also objective in that it does not depend upon the influence of the teacher. For these reasons the sociometric technique was selected for use in this thesis.

A review of the literature shows no study on the high school level in which friendship status and volleyball skill were correlated with teammate status. Therefore, it was considered profitable to conduct the present study.

\textsuperscript{24}Todd, p. 24.
CHAPTER III

PROCEDURES OF TESTING THE INFLUENCE OF
FRIENDSHIP AND MOTOR SKILL ON THE
CHOICE OF TEAMMATES

The population has a bearing on the correlation coefficients resulting from a study and on their further use.

Description of Population and Procedures in General

The population involved in this study attend Bloom Township High School. Bloom Township High School is a school in a cosmopolitan industrial community—a melting pot—located in Cook and Will counties. The population of the township high school district is approximately 63,000 as reported in the sheet "School Characteristics and Profile of Class of 1961." This district includes Chicago Heights, East Chicago Heights, South Chicago Heights, Steger, Glenwood, and Sauk Village. Bloom is a comprehensive four year institution with a 1960-61 enrollment of 2,686 students. The non-white population totals 15 per cent of the enrollment or about 403 students. There are 140 members in the

faculty and administration.

In 1961 the size of the graduating class was 692. Forty-eight per cent of this class attend 66 colleges, and two per cent attend schools of nursing.\(^{26}\) This indicates the community has a desire for higher education for its children. A proof of this desire is the Bloom Community College.

The particular talents of each child are considered in the educational program. Accelerated programs are offered in English, mathematics and science. Ability groupings are given in English, mathematics, science, American history, and homemaking. Girls' physical education classes are heterogeneous. The social, emotional, physical, and mental aspects of each child are an integral part of the program.

Ten people make up the guidance personnel. "Guidance personnel and individual teachers assist each student with realistic educational and vocational planning, according to the needs of the student."\(^{27}\) The class load of twenty-eight pupils brings a close relationship between teacher and pupil.

To find the coefficients of correlation for friendship and teammates, five progressive steps were used in the project during the gathering of the material. They were as follows:

1. Choosing classes to participate and the granting of cooperation from the teachers.

\(^{26}\)Ibid.  
\(^{27}\)Ibid.
2. Filling out friendship cards by the students.

3. Administering the French and Cooper volleyball battery.

4. Filling out teammate cards by the students.

5. Computing the correlation coefficients.

The coefficient of correlation for motor skill and friendship was figured as a check.

A detailed description of the segments composing the study, in order of their occurrence, comprise the remainder of this chapter.

Sociometric Techniques Used

The relationships based on friendship and desired teammates existing among the classmates had to be determined for this study. This called for the use of sociometry. The functional choice test is a means of finding out who wants to be with whom—not just who is with whom.

The criterion for the student's choice should be clearly stated, but may vary with the teacher's purpose. In this study the criteria for the two separate listings were clearly stated as friendship in the first instance and teammates in the second case.

There are several ways of tabulating the findings such as a matrix chart, sociograms, individual status index and the group cohesion score.28 The author felt the individual status index

28 Todd, p. 24.
to be the most effective for this study. Because this method involves finding a number, she felt it to be the most concrete method for making comparisons.

In order to find this number the following operation was employed. The individual student chose, according to the criterion, three of her classmates by writing their names in the order of preference. The student had the opportunity to reject anyone by writing the name of the person on the bottom section of the card. A tally was then made of the number of times each student was chosen and rejected. The individual status index was then computed from this tally sheet. This index was equal to the total number of times each student was chosen by the other members of the class, minus the total number of times rejected, divided by the number of pupils in the class minus one. 29

Through the use of the individual status index, each student's relationship with her classmates was determined. In addition, it was found, to what degree the student was a desired teammate.

Motor Skill Tests Used

After reviewing many skill tests in the area of volleyball, the author chose the battery by French and Cooper. 30 This bat-

29 Ibid., p. 36.

tery was composed of the repeated volleys and serve tests. To validate the battery, four professionals in physical education used a check list to judge the skills of a number of high school age girls. This was an accepted procedure for validating motor skill tests. The validating of this battery on high school age girls was one reason for the choosing of this test. The battery yielded a validity coefficient of .81 for the serve and repeated volleys using instructors' ratings. The reliability of the repeated volleys was reported as .78 and that of the serve test was .68.

The score for the repeated volleys skill test was the sum of the five best trials out of ten. The ball had to be clearly batted by the participant who stood three feet or further from the wall. The ball had to hit the wall at a point higher than seven and one-half feet from the floor. These two measurements were marked by tape ten feet long. The tape on the wall, above which the ball had to hit in order to be counted, was equal in height to a volleyball net; and is referred to hereafter as the net line. The participant, standing behind the tape on the floor, started each trial by an underhand toss of the ball directing it above the net line. She volleyed the ball repeatedly against the wall above the net line for fifteen seconds. If the ball went out of control, it had to be recovered by the subject and brought back to the three foot line to be started over as at the beginning. Each trial was fifteen seconds in length. The score for one trial was the number of times the ball was clearly batted, not tossed, from behind the three foot line on the floor to the
wall above or on the net line. As stated before, the score for the test was the sum of the five best trials out of ten.

The second test in the battery, the serve test, measures the subject's ability to serve accurately. In this test the point value given to each serve depended upon where the ball hit the court. The number of points given each trial ranged from zero to five. In a game situation the value of a serve depends upon its effectiveness. A ball served to the back of the court is more effective than one served to the front. During the serve skill test, the score received for a trial corresponded to its effectiveness in a game situation. The court was divided into seven sections and the score values of each area were clearly marked on the floor. Diagram 1 shows the court markings. The students could see the markings. Therefore, they knew where to serve the ball to receive the highest point value. To take the serve test the participant stood in the proper serving area on the court opposite the target. Any legal serve was permitted. A foot fault, "let" serve, or a ball hit out of bounds were counted as trials with the point values of zero. A ball which landed on a line separating two spaces scored the higher value. Each girl was given ten trials. The score for the serve test was the total of the ten trials.
Administration of the Sociometric Techniques—
Criterion Friendship

In May 1961 at Bloom Township High School, Chicago Heights, Illinois, the physical education classes, numbering over 100 girls in each one of the four age levels, began to participate in the experiment of this thesis. The classes to participate were selected by random numbers when possible. Since this project was conducted in the actual school situation, the program and routine of the school could not be interrupted.

After the selection of the classes, each girl was asked to fill out an index card, listing in the order of preference, three persons in her class whom she wanted or had as friends. At the bottom of the card was a blank to be filled in, if there were anyone in the class with whom they absolutely could not be friends. The name, class, age level, and teacher of each student was filled in at the top of the card. This method, the functional choice test, is a means of finding out who wants to be with whom and not just who is with whom. The sociograms formed from the above in-
formation from each class involved showed only friendships, not teammates. By following the formula given in the article "Sociometry in Physical Education" by Frances Todd, the individual status index was figured for each student.

The girls were told they were participating in this study so the author might use the material in her thesis. They understood no change in the class routine or reprisal would occur because of the results. So the student would not become apprehensive over the results, they were not instructed on the next steps to be carried out. The girls also understood this was not to be a popularity contest. The results of the sociograms were held in strictest confidence, and the students were informed of this fact. It was assumed, therefore, that as much expression of true feelings as possible were obtained in this situation.

Administration of the Motor Skill Tests

The volleyball skill test battery by French and Cooper was administered after the friendship cards were completed. All the basic instructions for this volleyball skill test battery were given by the author to all of the classes. During the testing each student had a chance to observe the skills of others. This battery, being composed of two tests, was carried out in two separate gymnasiums. Whenever possible, according to the

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32 Scott and French, pp. 147-151.
school schedule, the classes in the project were divided into two groups. Each group completed one segment and then they exchanged areas to take the second part of the battery.

The students in girls' physical education at Bloom are seldom given skill tests as a part of their class work. Most of the girls—from freshmen to seniors—seemed particularly interested in this part of the project. They desired to know their skill level and that of their classmates; and gave each other encouragement to do better.

At the beginning of this second part of the project each teacher told her class that every member's physical skill level in volleyball would be determined. The girls' names with the three highest scores of the class were read by the teacher after the battery was finished. Announced were the high scores for each of the age levels and also how the four age levels ranked in physical ability in volleyball according to this study. By observing their classmates while the battery was in process, the girls made their own judgments concerning the results to be found by this section of the project.

There were thirteen stations laid out for the giving of the repeated volleys test. Score sheets were mimeographed and thirteen girls, one for each station, were appointed to record the scores. One of the two teachers of the classes involved each period was in charge of timing; whereas the other teacher supervised the recording.
Four volleyball courts were marked in another gymnasium for the serve test. Score sheets were mimeographed for recording these scores also. The teachers supervised the calling out of the point values and the recording of the scores done by the students.

The scores from each of the tests were totaled. The formula used in combining the scores from the serve and repeated volleys tests was given by French and Scott. This formula being one repeated volleys score to twice the serve score or a ratio of one to two.

Administration of the Sociometric Techniques—Criterion Teammate

Upon the termination of the motor skill tests portion of this project, the students were again requested to fill out index cards using the same form as in the previous functional choice test. However, this test differed in that the criterion was teammates, not friends. Each girl was instructed to list, in order of preference, the six girls of her class she personally would like on her volleyball team. The individual status index was again determined using the first three choices listed on the cards.

At the end of this study each student had two individual status indexes. One was based on friendship and the other on being a teammate.

33 Ibid., p. 151.
CHAPTER IV

ANALYSIS AND INTERPRETATION

A total of 441 girls attending Bloom Township High School participated in the entire study. The breakdown of this total figure was as follows: 126 freshmen, 103 sophomores, 111 juniors, and 101 seniors.

Friendship Status

The functional choice test was administered to determine the individual status index for each pupil. The criterion for the choice was friendship. A pupil could be rejected, therefore, it was possible to compute a negative Individual Status Index. The formula for this index was given in Chapter III, page 20.

Data from the administration of the functional choice test to the four age levels is shown in Table I. The junior class status scores varied the most, whereas, the freshman scores varied the least. The highest mean could also be seen in the junior class, and the lowest mean was in the freshman class. The largest range of scores appeared in the junior class, and the smallest in the senior class. A critical ratio of 2.85 was found between the lowest and highest means; therefore, it seems safe to assume that there was a significant difference between the freshman and junior classes as to friendship status.
TABLE I
RANGES, MEANS, AND STANDARD DEVIATIONS OF FRIENDSHIP STATUS ON THE FOUR AGE LEVELS

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fr.</td>
<td>126</td>
<td>-.0588 to +.3667</td>
<td>+.0833</td>
<td>.0612</td>
</tr>
<tr>
<td>Soph.</td>
<td>103</td>
<td>-.1111 to +.3333</td>
<td>+.1121</td>
<td>.0677</td>
</tr>
<tr>
<td>Jr.</td>
<td>111</td>
<td>-.1111 to +.4375</td>
<td>+.1132</td>
<td>.0950</td>
</tr>
<tr>
<td>Sr.</td>
<td>101</td>
<td>-.1034 to +.2758</td>
<td>+.0992</td>
<td>.0726</td>
</tr>
</tbody>
</table>

Motor Skill Ability in Volleyball

The French and Cooper repeated volleys and serve test battery was administered after the statements of friendship choices were completed. The scores from the two skill tests were combined as recommended by French and Scott\(^34\) in their book. Thus one score was finally figured for each student involved.

Data from the volleyball skill test battery is shown in Table II. The scores can be seen to vary the most in the junior year. The scores deviated the least in the sophomore year; however, the seniors with a standard deviation of 31.6 were close to the sophomores' standard deviation of 31.4. The juniors again showed the highest mean and the freshmen the lowest. The widest range of ability appeared in the junior class and the highest score was also in this age level. In the freshman class a range

\(^{34}\)Ibid.
of least ability can be seen; however, the shortest range appeared in the senior year. There was little difference in the length of the range between the freshman and senior groups tested. Since a critical ratio of 5.61 was obtained between the lowest and highest means, it would seem safe to assume there was a significant difference between the juniors and freshmen as to skill.

**TABLE II**

**RANGES, MEANS, AND STANDARD DEVIATIONS OF MOTOR SKILL ON THE FOUR AGE LEVELS**

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fr.</td>
<td>128</td>
<td>36 to 180</td>
<td>99.58</td>
<td>32.0</td>
</tr>
<tr>
<td>Soph.</td>
<td>103</td>
<td>32 to 182</td>
<td>107.32</td>
<td>31.4</td>
</tr>
<tr>
<td>Jr.</td>
<td>111</td>
<td>43 to 205</td>
<td>124.14</td>
<td>34.8</td>
</tr>
<tr>
<td>Sr.</td>
<td>101</td>
<td>54 to 197</td>
<td>117.07</td>
<td>31.6</td>
</tr>
</tbody>
</table>

**Teammate Status**

In order to obtain a measure of the status of each pupil based upon the criterion of being a teammate, the functional choice test was again administered. The students were not able to reject anyone on this test. Again the individual status index was computed.

The data obtained in this section of the study appears in Table III. The seniors varied the most, whereas, the sophomores deviated the least. The widest range can also be seen in the
senior year and the shortest appears in the sophomore class. In 
the sophomore year the mean was the highest, and the lowest mean 
appeared in the freshmen age level. The difference between the 
lowest and highest means, a critical ratio of 5.65, seems to 
allow an assumption of significant difference between the fresh-
men and sophomores as to teammate status.

TABLE III

RANGES, MEANS, AND STANDARD DEVIATIONS OF TEAM-
MATE STATUS ON THE FOUR AGE LEVELS

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fr.</td>
<td>126</td>
<td>0 to .45161</td>
<td>.0919</td>
<td>.0852</td>
</tr>
<tr>
<td>Soph.</td>
<td>103</td>
<td>0 to .37037</td>
<td>.1541</td>
<td>.0805</td>
</tr>
<tr>
<td>Jr.</td>
<td>111</td>
<td>0 to .37500</td>
<td>.1426</td>
<td>.0912</td>
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<tr>
<td>Sr.</td>
<td>101</td>
<td>0 to .50000</td>
<td>.1195</td>
<td>.0980</td>
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</table>

Relation Between Friendship 
and Teammates

The Pearson correlation coefficients obtained between friend-
ship and teammate statuses for each of the four grade levels is 
shown in Table IV. A positive relationship can be seen at each 
of the four grade levels. All the correlation coefficients could 
be described roughly as positive, moderate correlations having 
substantial relationship. 35 Each of the coefficients were sta-

35 J. P. Guilford, Fundamental Statistics in Psychology and 
tistically significant at the 1 per cent level of significance. The highest correlation coefficient is shown in the junior year, .577. The sophomore year had the lowest correlation coefficient of .458.

**TABLE IV**

**FRIENDSHIP AND TEAMMATE STATUSES CORRELATION COEFFICIENTS ON THE FOUR AGE LEVELS, AND THE LEVEL OF SIGNIFICANCE**

<table>
<thead>
<tr>
<th>Number</th>
<th>Coefficients</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fr.</td>
<td>126</td>
<td>+.467</td>
</tr>
<tr>
<td>Soph.</td>
<td>103</td>
<td>+.458</td>
</tr>
<tr>
<td>Jr.</td>
<td>111</td>
<td>+.577</td>
</tr>
<tr>
<td>Sr.</td>
<td>101</td>
<td>+.474</td>
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</table>

**Relation Between Skill and Teammates**

The Pearson correlation coefficients obtained between the skill test scores in volleyball and the teammates status scores is shown for each age level in Table V. A moderate correlation with substantial positive relationship appeared in the freshmen and senior years. These correlations, .644 and .572 respectively, were statistically significant at the 1 per cent level of significance. In the sophomore and junior years the coefficients of .247 and .241 were significant at the 5 per cent level of sig-

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36 Ibid.
significance. They showed low positive relationships which are definite but small. 37

TABLE V

SKILL AND TEAMMATE STATUS CORRELATION COEFFICIENTS ON THE FOUR AGE LEVELS AND THE LEVEL OF SIGNIFICANCE

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Coefficients</th>
<th>Level of Significance</th>
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</thead>
<tbody>
<tr>
<td>Fr.</td>
<td>126</td>
<td>+.644</td>
<td>.01</td>
</tr>
<tr>
<td>Soph.</td>
<td>103</td>
<td>+.247</td>
<td>.05</td>
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<tr>
<td>Jr.</td>
<td>111</td>
<td>+.241</td>
<td>.05</td>
</tr>
<tr>
<td>Sr.</td>
<td>101</td>
<td>+.572</td>
<td>.01</td>
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</table>

Relation Between Skill and Friends

The relationship between skill and friends was correlated to verify that the same basic attribute in these two variables was not being measured. Motor skill and friendship status were the two independent variables while teammate status was the dependent variable.

The data obtained when correlating physical skill ability in volleyball and friendship status is shown in Table VI. The coefficients calculated for the freshmen, sophomore, and senior grade levels were positive but, low with almost negligible relationship. 38 The correlation coefficient computed for the juniors

37 Ibid.
38 Ibid.
was negative, low, and showed almost negligible relationship. None of the correlation coefficients, obtained between physical skill in volleyball and friendship status, were statistically significant at either the 1 per cent or 5 per cent levels of significance.

The data presented in Table VI shows little relationship between the two variables. Therefore, they seem to be independent.

**TABLE VI**

**SKILL AND FRIENDSHIP STATUS CORRELATION COEFFICIENTS ON THE FOUR AGE LEVELS AND THE LEVEL OF SIGNIFICANCE**

<table>
<thead>
<tr>
<th>Number</th>
<th>Coefficients</th>
<th>1% Level of Significance</th>
<th>5% Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fr. 126</td>
<td>+ .134</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Soph. 103</td>
<td>+ .064</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Jr. 111</td>
<td>- .112</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Sr. 101</td>
<td>+ .144</td>
<td>No</td>
<td>No</td>
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</tbody>
</table>

The data shown in Table VII is a combined picture of Tables IV, V, and VI. Variations in the strength of each of the relationships determined can be seen proceeding from the freshman year to the senior year. The three correlation coefficients computed for each grade level can also be followed.
TABLE VII
CORRELATION COEFFICIENTS FOR THE THREE RELATIONSHIPS ON THE FOUR AGE LEVELS

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Friendship/ Teammate</th>
<th>Skill/ Teammate</th>
<th>Friendship/ Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fr.</td>
<td>126</td>
<td>+ .467</td>
<td>+ .644</td>
<td>+ .134</td>
</tr>
<tr>
<td>Soph.</td>
<td>103</td>
<td>+ .458</td>
<td>+ .247</td>
<td>+ .064</td>
</tr>
<tr>
<td>Jr.</td>
<td>111</td>
<td>+ .577</td>
<td>+ .241</td>
<td>- .112</td>
</tr>
<tr>
<td>Sr.</td>
<td>101</td>
<td>+ .474</td>
<td>+ .572</td>
<td>+ .144</td>
</tr>
</tbody>
</table>

Figure 1 shows the same comparisons, but in graphic form. The highest relationship between friendship and teammate status can be seen in the junior year. During the freshman year the relationship of skill to teammate status seemed highest. In the sophomore year the correlation of friendship and teammate status appeared higher than that of skill and teammate status.
Correlation Coefficients

FIGURE 1
TRENDS OF CORRELATION COEFFICIENTS
ACCORDING TO THE FOUR CLASS LEVELS

- Friendship/Skill
- Teammate/Friendship
- Teammate/Skill
CHAPTER V

SUMMARY, CONCLUSIONS, EVALUATION,

AND RECOMMENDATIONS

The purpose of this study was to find the influences of friendship, and motor skill on the choice of teammates made by the girls at Bloom Township High School. Literature pertaining to this subject was reviewed to determine which volleyball skill tests were to be used, and how the author would measure the influence of friendship. Volleyball was chosen as the game involving skill because of two reasons; first, all of the students had played this game during the year; secondly, many acquaintances are formed in this team game. The Repeated Volleys and Serve Test Battery by French and Cooper was selected as the best measurement of high school girls' skill in this area. The functional choice test, a sociometric technique used by Frances Todd, was chosen as the instrument to measure friendship and teammate statuses.

A total of 441 girls attending Bloom Township High School took part in this study. This total includes 126 freshmen, 103 sophomores, 111 juniors, and 101 seniors.

The functional choice test was administered to determine the friendship status of each girl. The criterion stated for the
choice was strictly friendship. The individual status index was figured for each pupil. The author assayed the skill level of each student by administering the volleyball test battery. Teammate status was found next by again administering the function choice test; however, the criterion for this choice was stated to be teammate. The students were not told to pick according to skill or friendship. Each girl's teammate status index was then computed.

The means, standard deviations, and correlations of coefficients were figured for the variables in each of the four grade levels. The juniors had the highest means and standard deviations for both friendship and skill. The highest mean for the teammate variable was found in the sophomore year and the seniors had the largest standard deviation for this variable. The highest correlation coefficient found in the freshmen class was between skill and teammate status which was .644. During the sophomore year, the highest correlation was found between friendship status and teammate status which was .458. The juniors' highest correlation coefficient was also to be found between friendship status and teammate status which was .577. There seems to be a reversal to skill in the choosing of teammates in the senior year with a correlation coefficient of .572.

Conclusions

The following conclusions were drawn from this study:

1. The juniors had the widest range of ability in volley-
ball and the highest average ability.

2. There was a moderately high positive relationship existing throughout the high school years between friendship and teammate statuses.

3. Skill and friendship were only slightly related in a positive manner in the three age levels-freshmen, sophomore, and senior. There was a slightly negative relationship indicated in the junior year.

4. The impetus on skill in choosing teammates appears in the freshmen and senior years.

5. The sophomores and juniors seem to choose teammates on the basis of friendship more than on skill.

6. The results of this study agreed with those of previous studies, in that, freshmen place importance on physical skill; both sophomores and juniors are conscious of their need to be accepted by their peers in a social way.

Evaluation

The results of this study may have differed to a certain degree, if student help had not been necessary in the recording of the skill tests scores. The school routine could not be interrupted; therefore, the number of girls in certain grade levels was less than the author had desired. Also due to the school schedule, there was no opportunity to test the reliability of the French and Cooper volleyball test battery at Bloom Township High School. However, this skill test battery was highly recommended in the previous writings on volleyball.

Recommendations

The following recommendations are made as an outgrowth of this study:
1. A study of the kind presented in this thesis in a school where letter or numerical grades are given in physical education.

2. A study of the influences of friendship, and motor skill upon the choice of teammates using high school boys as subjects.

3. A study of the nature presented in this thesis using girls in a small high school where the freshmen girls would all know each other before entering.

4. A study of the influence of skill and friendship upon the choice of teammates using high school girls from a community containing only one race either Negro or Caucasian.

5. A study of the influence of skill and friendship upon the choice of teammates using high school girls; keeping a record of the responses according to the race of the student.

6. A study to be made in a high school where there are definite social class conflicts. Physical skill would then be stressed to find out if the importance one gives to this particular skill would reduce the choosing of teammates on the basis of friendship. An attempt should then be made to judge any increase or decrease of the conflicts as a result of the emphasis on physical skill.
BIBLIOGRAPHY

I. PRIMARY SOURCES

A. BOOKS


B. ARTICLES


C. UNPUBLISHED MATERIAL


II. SECONDARY SOURCES

## APPENDIX I

### CORRELATION CHARTS

#### A. Freshmen
1. Friendship/Skill
2. Skill/Teammates
3. Friendship/Teammates

#### B. Sophomores
1. Friendship/Skill
2. Skill/Teammates
3. Friendship/Teammates

#### C. Juniors
1. Friendship/Skill
2. Skill/Teammates
3. Friendship/Teammates

#### C. Seniors
1. Friendship/Skill
2. Skill/Teammates
3. Friendship/Teammates
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\[ M_s' = \frac{\sum X}{N} = \frac{64}{126} = .5079 \]
\[ M_f' = \frac{\sum X'}{N} = \frac{72}{126} = .5736 \]
\[ 6_s' = \sqrt{\frac{\sum X^2}{N} - M_s'^2} = 3.20 \]
\[ 6_f' = \sqrt{\frac{\sum X'^2}{N} - M_f'^2} = 2.04 \]
\[ Y_{SF} = \frac{\sum X' - M_s' \cdot M_f'}{\sqrt{(6_s')\cdot(6_f')}} \]
\[ Y_{SF} = \frac{138}{1.147} = .1471 \]
\[ Y_{SF} = \frac{128}{6.5280} \]
\[ Y_{SF} = \frac{134}{6.5280} \]
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\[
M_5 = \frac{\sum x}{N} = 5079
\]
\[
M_{t'} = \frac{\sum x'}{N} = 57.14
\]

\[
G = \sqrt{\frac{M_5^2 - M_{t'}^2}{N}} = \sqrt{78.2658}
\]

\[
g' = \frac{M_5}{M_{t'}} = \frac{5079}{57.14} = 90.0386
\]

\[
F_{3T} = \frac{\sum x' - M_{t'} M_{t''}}{N} = \frac{5.8477}{9.0080} = 0.644
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### FRESHMEN

- 1967 = \frac{363 - 1678}{(64 - 64)}
- 1968 = \frac{363 - 1678}{(64 - 64)}

### SENIORS

- 1967 = \frac{363 - 1678}{(64 - 64)}
- 1968 = \frac{363 - 1678}{(64 - 64)}
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Friendship

\[
m_{3} = \frac{\kappa_{3} f}{N} = -0.7184
\]

\[
m_{3} = \frac{\kappa_{3} f}{N} = 0.2524
\]

\[
6_{3} = \sqrt{\frac{\kappa_{3} f^{2}}{N} - m_{3}^{2}} = 3.14
\]

\[
6_{3} = \sqrt{\frac{\kappa_{3} f^{2}}{N} - m_{3}^{2}} = 2.59
\]

Sophomores

\[
Y_{3f} = \frac{\kappa_{3} f - m_{3} f}{(6_{3}) (6_{3})}
\]

\[
Y_{3f} = +0.064
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<td>18</td>
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$$M_s = \frac{E_{ST}'}{N} = -2.184$$

$$M_{s'} = \frac{E_{ST}'}{N} = -3.522$$

$$G_s = \sqrt{\frac{E_{ST}'}{N} - M_s^2} = 3.14$$

$$G_{s'} = \sqrt{\frac{E_{ST}'}{N} - M_{s'}^2} = 1.61$$

$$Y_{ST} = \frac{E_{ST} - M_s M_{s'}}{(G_s X G_{s'})}$$

$$Y_{ST} = \frac{1.23506}{5.0554} = 0.247$$

**Sophomores**
### Sophomores

**Formulae**

\[ \mu_{EF'} = \frac{\varepsilon_{EF'}}{\pi} = 0.5922 \]

\[ \varepsilon_{EF'} = \frac{\varepsilon_{EF} - \mu_{EF'}}{\sigma_{EF}} = 1.61 \]

\[ \sigma_{EF} = \sqrt{\varepsilon_{EF}^2 - \mu_{EF}^2} = 2.59 \]

\[ \gamma_{EF'} = \frac{\varepsilon_{EF'}}{\pi} \left( \frac{\sigma_{EF}}{\varepsilon_{EF'}} \right) = \pm 45.8 \]
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\[ z' = \sqrt{\frac{X^2}{N}} \]

\[ z' = 1.90 \]

\[ N = 250 \]

\[ M_f = \frac{\bar{z'}_f}{N} = -0.2252 \]

\[ M_s = \frac{\bar{z'}_s}{N} = -0.0360 \]

\[ 6_f' = 1.90 \]

\[ 6_s' = 3.48 \]

\[ r = \frac{\bar{z'}_f - M_f' \cdot M_f'}{6_f' \cdot 6_s'} = -0.7477 \]

\[ r = -0.0081 \]

\[ \text{Juniors} \]

\[ r = -0.66120 \]

\[ r = -0.112 \]
<table>
<thead>
<tr>
<th>Skill Tests</th>
<th>0.0-29</th>
<th>23-209</th>
<th>106-189</th>
<th>12-149</th>
<th>16-219</th>
<th>18-269</th>
<th>21-279</th>
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\[ \varepsilon_{Y} = +28.2 \]

\[ M_{5}' = \frac{E_{S}}{N} = -0.360 \]
\[ \sigma_{Y} = \sqrt{\frac{E_{S}^{2}}{N}} = 3.48 \]
\[ Y_{T} = \frac{\varepsilon_{Y} - M_{5}'}{(6.5 \times 10^6)} \]

\[ M_{4}' = \frac{E_{S}}{N} = 2.703 \]
\[ \sigma_{Y} = \sqrt{\frac{E_{S}^{2}}{N}} = 3.04 \]
\[ Y_{T} = +1.241 \]

**Juniors**
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\[ E_F = 362 \]

\[ M_F = \frac{E_F}{N} = \frac{362}{11} = 32.92 \]

\[ V_F = \frac{E_{F'} - M_F M_{F'}}{G_F} \]

\[ G_F = \sqrt{\frac{E_F^2}{N} - M_F^2} = 1.90 \]

\[ V_{F'} = \frac{3.2613 - (0.0609)}{5.7740} \]

\[ G_{F'} = \sqrt{\frac{E_{F'}^2}{N} - M_{F'}^2} = 3.04 \]
### Teammates

<table>
<thead>
<tr>
<th>Skill Tests</th>
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<td>190-199</td>
<td>2 + 8/16/128/96/0</td>
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<tr>
<td>180-189</td>
<td>1 + 7/7/49/49/0</td>
</tr>
<tr>
<td>170-179</td>
<td>2 + 6/12/72/30/0</td>
</tr>
<tr>
<td>160-169</td>
<td>6 + 5/30/150/60/0</td>
</tr>
<tr>
<td>150-159</td>
<td>6 + 4/24/96/32/8</td>
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<tr>
<td>140-149</td>
<td>9 + 3/29/81/15/18</td>
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<td>130-139</td>
<td>9 + 2/18/36/8/18</td>
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<tr>
<td>120-129</td>
<td>11 + 1/11/1/3/7</td>
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<tr>
<td>110-119</td>
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<tr>
<td>100-109</td>
<td>9 - 1/9/9/8/1</td>
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<td>90-99</td>
<td>18 - 2/36/72/26/6</td>
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\[ \sum_{i=1}^{3} \text{FT} = 355 \]

### Seniors

\[ M_x = \frac{\sum_{i=1}^{N} x_i}{N}; M_y = \frac{\sum_{i=1}^{N} y_i}{N}; M_{xy} = \frac{\sum_{i=1}^{N} (x_i - \bar{x})(y_i - \bar{y})}{N} \]

\[ M_x = 2574; M_y = 336; M_{xy} = 9.16 \]

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</table>

\[ \varepsilon = \frac{M_{xy}}{M_x M_y}; \eta = \frac{M_{xy}}{(M_x M_y)} \]

\[ \varepsilon = 0.572 \]

\[ \eta = 0.572 \]
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<tr>
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<th>EF'</th>
<th>EF''</th>
<th>EF'''</th>
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**Seniors**

\[
\begin{align*}
M' &= \frac{\varepsilon_{x'y'}}{\gamma} = -0.1785 \\
M'' &= \frac{\varepsilon_{x'z'}}{\gamma} = -0.1089 \\
6' &= \sqrt{\frac{\varepsilon_{x'y''}^2 - \varepsilon_{x'y'}^2}{\gamma}} = 2.42 \\
6'' &= \sqrt{\frac{\varepsilon_{x'z''}^2 - \varepsilon_{x'z'}^2}{\gamma}} = 1.96
\end{align*}
\]

\[
\begin{align*}
\varepsilon_{x'y'} &= 229 \\
\varepsilon_{x'z'} &= 17.85 \\
\varepsilon_{x'y''} &= -(0.0195) \\
\varepsilon_{x'z''} &= 1.96
\end{align*}
\]
School Characteristics
and Profile of Class of 1961

BLOOM TOWNSHIP HIGH SCHOOL
Dr. Harold H. Metcalf, Superintendent
Chicago Heights, Illinois
SK 5-1122

COMMUNITY:
A cosmopolitan community located in Cook and Will counties within 30 miles commuting distance from the loop of Chicago. Population of Bloom Township High School District is approximately 63,000.

SCHOOL:
Comprehensive 4 year high school with 1960-1961 enrollment of 2,686. Non-white population: 15%. Average class size: 28. Faculty: 140, 33 with Bachelor’s, 105 with Master’s, 2 with Doctor’s degrees. Accreditation: North Central Association and Illinois State Department of Public Instruction.

CURRICULUM:
Broadly samples college Preparatory, technical, business, industrial arts, homemaking, agriculture and general studies. Guidance personnel and individual teachers assist each student with realistic educational and vocational planning, according to the needs of the student.

GUIDANCE PERSONNEL:
(1961-1962)
Director of Guidance .......... Alex Feldvebel, Assistant Principal
Senior Counselors ............. Marjorie Cain and Samuel Paravonian
Junior Counselors ............. Drusilla Emerson and James Stockel
Sophomore Counselors ......... Juanita Schott and Ralph Schmidt
Freshmen Counselors .......... Margaret Ayers and Eugene Neubauer
Supervisor of Testing and Counselor .......... Gene Kamp
Counselors remain at the same class level while home room advisers remain with the same group of students through four years.

ABILITY GROUPING:

ACCELERATED PROGRAMS:

ACCELERATED PROGRAMS: English, Mathematics, Science, American History, Homemaking

GRADING SYSTEM:

A—94-100% B—86-93% C—78-85% D—70-77% E—below 70%
College recommending grade: C

EXTRACURRICULAR ACTIVITIES:
Wide range including interest clubs, student government, vocal and instrumental music, publications, intramural and inter-scholastic athletics, National Honor Society, and service groups.

GRADUATING CLASS OF 1961:
Size: 534 Median I.Q.: OTIS GAMMA D 103 TERMAN-MCNEMAR 107
48% of class attending 68 colleges in 17 states, 60 students receiving scholarships
2% of class attending schools of nursing

NUMBER TAKING ADVANCED PLACEMENT EXAMINATIONS:
Physics 1, Mathematics 3, English Literature and Composition 1

CLASS RANK:
All grades of all students regardless of curriculum are figured in the class rank allowing: 4 points for an A, 3 for a B, 2 for a C, 1 for a D, and O for an E. For students in accelerated classes an A is 4.5, a B 3.5, and a C 2.5.

REQUIREMENTS FOR GRADUATION:
Each college bound graduate must earn 17 units including two majors and one minor. All graduates are required to have 4 units of English, 1 in science, 1 in mathematics, 1 in American history, 4 years of physical education, and a ½ unit in citizenship and a ½ in physiology. Citizenship and physiology are waived if the student is in the accelerated program.

COLLEGE BOARD RESULTS (68 students)

<table>
<thead>
<tr>
<th>Range</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>700 and above</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>650-699</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>600-649</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>550-599</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>500-549</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>450-499</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>400-449</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>350-399</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>below 350</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

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APPROVAL SHEET

The thesis submitted by Joanne G. Osmond has been read and approved by three members of the Department of Education.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

Date: 10/24/62

[Signature of Adviser]