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GRADUATE COLLEGE

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We recommend acceptance of this thesis to the Graduate College in partial fulfillment of this candidate's requirements for the degree Master of Science.

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ABSTRACT

This was a two phase, experimental study conducted at Westby, Wisconsin high school. The first phase was designed to test the hypothesis that there exists a relationship between a person's skill in an activity and his desire to participate in the activity. The second phase was designed to determine if an individual's personality affected the aforementioned relationship.

Forty students, 21 girls and 19 boys, were given skill tests in archery, softball, tennis, and volleyball. This resulted in an activity skill ranking. The forty students were then required to fill out an activity preference form. This resulted in an activity preference ranking. The activity skill ranking was correlated with the activity preference ranking and the results were: $r = .418$ for the boys, $r = .643$ for the girls, and $r = .548$ for both. From this, the conclusion was made that there exists positive relationship between skill in an activity and the desire to participate in the activity.

The forty students were given the Edward Personality Test. Each student was placed into a high correlation group or a low correlation group and each personality factor was divided into a high group and a low group. This resulted in a mutual exclusive two by two table and a chi-square test was then used to assess significance. From

this phase of the study, it was impossible to make any clear cut conclusions. There did seem to be certain trends in differences between the personalities of those in the high correlation group compared with those in the low correlation group but trends were not significant.

EFFECT OF SKILL AND PERSONALITY ON ACTIVITY CHOICE

A Thesis

Presented to

the Faculty of the Department of Physical Education

Wisconsin State University--LaCrosse

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

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by

Larry Allen Mosley

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ACKNOWLEDGMENTS

I wish to express thanks to Mark Nelson and Ann Kurth for allowing me to use their classes at Westby High School for this study. I want to thank Pete Van Handle, Hector Fisher, and Karen Toburen for helping in administering the skill tests. I wish to thank my thesis committee; Dr. Kaufman, Dr. Smith, and Dr. Foss; for their help and guidance throughout the study.

CHAPTER I

INTRODUCTION

Statement of Problem

The problem of this study was divided into two parts. In part one, the study attempts to determine whether an individual's developed skill in an activity significantly influences his decision to participate in the activity during his leisure time. In part two, the study attempts to determine whether certain personality characteristics of the individual significantly influence the relationship between his developed skill in an activity and his decision to participate in the activity during his leisure time.

Hypotheses

1. The amount of developed skill in an activity will affect the decision to participate in the activity.

2. Certain personality characteristics will affect the relationship between the developed skill in an activity and the decision to participate in the activity.

Purpose of Study

The purpose of this study is to determine whether an individual's developed skill in an activity and his personality have a significant effect on his choice of leisure time activity.

Need for Study

In the past, it has been an assumption of physical

educators that people tend to participate in those activities they do best. This means that it is assumed that developed skill in an activity does have a significant effect on an individual's decision to participate in the activity during his leisure hours.

The physical education curriculum has been developed with this assumption in mind. One of the curriculum's major objectives is to develop skill in a variety of activities so that the student will continue to participate in the activities throughout adulthood. If, however, the assumption is false, and people tend to choose recreational activities based primarily on reasons other than developed skill, perhaps the curriculum should develop along a more elective line.

There has been little attempt to verify the assumption that people prefer to participate in the activities they do well. For this reason, this researcher believes there to be a definite need to test its validity.

It is helpful to the teacher to have a good understanding of each of his students' personalities. It aids him in evaluating the meaning of their behavior, helps him in predicting what their future behavior might be, and increases his ability to help them with any of their problems. If it is found that personality does effect the relationship between developed skill in an activity and

the student's decision to participate in the activity, this study should help the teacher to develop a better understanding of each student. He could observe the student's choice of elected activity and compare it to his skill in the activity. This would give him some insight to the student's personality. For example, if a student chose to participate only in those activities he was proficient in, this might indicate to the teacher that the student has a high achievement need. Because of this, it is believed that there is a need for the second phase of this study.

Delimitations

The subjects for this study were classes from Westby High School in Westby, Wisconsin. There were twenty-one girls and nineteen boys ranging in age from 16 to 18. The developed skill in archery, softball, tennis, and volleyball was ascertained by skill tests administered in each activity to each subject.

Limitations

The subjects of the study were not selected at random. They were intact classes at Westby High School and the halo effect might result. There were not enough subjects to make any highly conclusive generalizations, nor was there a way to compare their scores with the norms of the population.

CHAPTER II

RELATED LITERATURE

Relationship Between Skill and Participation

The literature concerning skill and participation which was available, indicated that a study of this nature has not been conducted using the methods and approach of this study. The literature that is available is highly inconclusive, with some maintaining that skill does influence participation, and others maintaining that it does not.

Driftmier[1], in a study using approximately three hundred high school girls, concluded that ability had little affect upon choice of activities. She said, "motor ability ... does not influence the choice of activities noticable."[2] In her related literature, she cited Seashore[3] who concurs with her and states that likes and dislikes are not indications of skill or talent.

Baker[4] in a questionnaire-survey study using 1150

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[1]Driftmier, Erna, "Individual Differences in Interests and Physical Traits as Related to High School Girls in Physical Education," Research Quarterly, IV (March, 1933), pp. 198-220.

[2]Ibid., pp. 217.

[3]Seashore, Carl. Introduction to Psychology, ch. 24.

[4]Baker, Mary C., "Factors Which May Influence the Participation in Physical Education of Girls and Women 15-25 Years of Age", Research Quarterly, XI, no. 2 (May, 1940), pp. 126-131.

girls and women between the ages of 15 and 25, concluded that skill did influence participation. She maintained, however, that other factors were more important and skill exerted only a "fair amount of influence".[5] She does not define the meaning of "a fair amount of influence".

Stuhr[6] in her study implied the relationship between skill and participation when she said, "lack of interest in an activity is apt to be due to a lack of skill in that activity."[7] Even though she has the data to do so in her study, she does not develop this idea. While examining her data, especially charts I and II,[8] this researcher felt that the data did indicate that the girls desired to enroll in the activities that they were skilled in.

Kopel[9] maintains that skill is very influential in determining a persons choice of activities and interests. He said, "people like to do what they do well"[10]. He does

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[5] Ibid., pp. 128.

[6] Stuhr, Elsie Johnson, "Interests and Abilities as a Basis for Program Planning," Research Quarterly, VII, no. 2, (May, 1936), pp. 92-98.

[7] Ibid., pp. 92.

[8] Ibid., pp. 93.

[9] Kopel, David, "The Nature of Interests," Education, LXXXIII, no. 8, (April, 1963), pp. 497-502.

[10] Ibid., pp. 498.

not substantiate this statement with any research, but rather bases the statement on certain psychological factors. He says that people derive satisfaction and pleasure from situations which they can master and control. He explains, "we become most interested in, and perceive as part of ourselves, what we control. The greater our feeling of control, the more central a part of ourselves the interest becomes."[11] He then cites the following example, "the better we play golf, the more involved in the game we are likely to be."[12]

Effect of Personality Upon Relationship Between Skill and Participation

From the material available, this researcher concluded that there has been no attempt made to determine the effect which personality has upon the relationship between skill and participation. There have been studies done concerning personality and participation. All of these seem to concur that personality characteristics play an important role in choice of activities.

Vroom,[13] in a study concerning job participation and personality, concluded that a person's decision to partic-

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[11] Ibid., pp. 498.

[12] Ibid., pp. 498.

[13] Vroom, Victor H. Some Personality Determinants of the Effects of Participation (Prentice-Hall, Inc., 1960), 88 pp.

ipate in any activity, whether recreational or not, is related to, and affected by his personality. He stated:

> The findings in this study have been interpreted as supporting our hypothesis that the effects of participation in decision-making depend on certain personality characteristics of the participant. [14]

Kopel,[15] also expresses the idea that personality and participation (interests) are closely interrelated. He believes a person's interests are a direct result of his personality. This belief is shown when he states:

> In the constellation of qualities which comprise the human personality, none perhaps serves better than interests to characterize a man and to distinguish him from his fellows.[16]

Lentz,[17] in a study using 750 persons, concluded that personality has a definite affect on a person's choice of recreational activity. It was his purpose in his study to demonstrate the need for and usefulness of recreational guidance. His hypothesis was that personality did effect recreational choice and success; therefore, by determining a person's personality, one could guide him into the proper recreational activities. His data verified his hypothesis.

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[14] Ibid., p. 71.

[15] Kopel, David, "The Nature of Interests," Education, LXXXIII, no. 8, (April, 1963), pp. 497-502.

[16] Ibid., p. 497.

[17] Lentz, Theodore F., "Evidence for a Science of Recreational Guidance", Research Quarterly, XIV, no. 3, (Oct., 1943), pp. 310-320.

He stated, concerning his statistical data:

> These figures lead to the tentative conclusion that personality differences, measured by way of non-recreational responses, have a definite relationship with responses to recreational items.[18]

In his final conclusion, he summed up the findings of his study:

> This investigation has revealed an abundance of crude, but significant, correlations between recreational preferences and non-recreational symptoms... Specific recreational preference appears to be a function of highly generalized features of personaligy...[19]

Havinghurst,[20] in a study using 234 persons between the ages of 40-70, concluded that personality was the most important factor in the choice of leisure time activity. He stated:

> The significance of leisure activities is more closely related to personality than to the social variables of age, sex, and social class. Thus, lesiure activity is an aspect of personality. It is a response to personality needs, being one of the ways by which people express themselves.[21]

If one carries the idea of expression to its fullest, he gets to the self-expression theory of play as described by Sapora and Mitchell.[22] This theory was first advanced

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[19] Ibid., p. 319.

[20] Havighurst, Robert J, "The Leisure Activities of the Middle-aged," American Journal of Sociology, LXII, 2, (Sept., 1957), p. 152-161.

[21] Ibid., p. 161.

[22] Sapora & Mitchell, Play and Recreation (New York: Ronald Press, Co., 1961), pp. 89-103.

in 1934 by Mitchell and Mason. It is based on the idea that all of man's play is a means to express his inner self or personality. Brightbill[23] seems to best express the accepted hypothesis, that personality and leisure activity are closely interrelated, when he states:

> Tell me what you do in your leisure, when you are free to do what you wish, and with whom you wish, and I shall tell you what kind of a person you are! As a mirror for reflecting our personalities, leisure is unsurpassable. [24]

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[23]Brightbill, Charles K., Man and Leisure (New Jersey: Prentice-Hall, INc., 1961), 283 pp.

[24]Ibid., p. 160.

CHAPTER III

METHOD AND PROCEDURE

Forty students from the regular physical education classes at Westby, Wisconsin high school were given skill tests in each of four activities. A T score was then calculated for every student in each activity, and the activities ranked according to the T scores. This resulted in an activity skill ranking for each student. Next, the students were required to list in order of preference, the four sports in which they had been tested. This resulted in an activity preference ranking for each student. The student's activity skill ranking was then correlated with his activity preference ranking and the final relationship was determined.

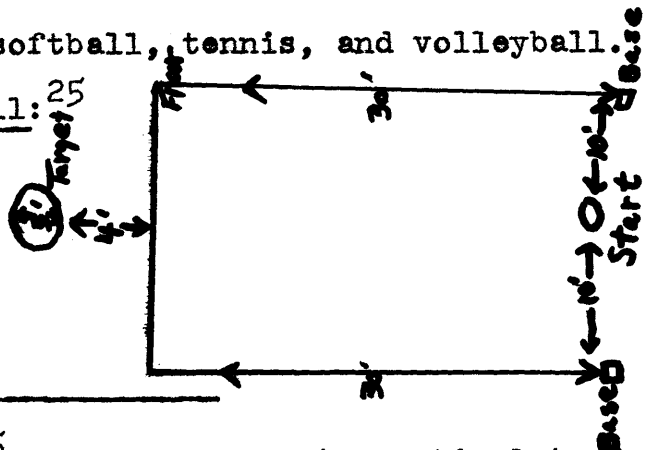
The four activities tested were archery, softball, tennis, and volleyball. They were chosen for several reasons. One important reason was the availability of good, reliable, validated skill tests which could be administered in a short time period. Other reasons were: that the students had some experience in each of the four activities, that both boys and girls were familiar with the activities, and that there was sufficient equipment and facilities to administer the tests.

Both the classes were divided alphabetically into two groups. They will be referred to as BI and BII for the boys groups and GI and GII for the girls groups. On the first day of testing, groups BI and GI were given skill tests in softball, tennis, and volleyball. On the second day of testing, groups BII and GII were given skill tests in softball, tennis, and volleyball. On the third day of testing, all groups were given the archery skill tests.

The station method was used in testing softball, tennis, and volleyball. The testing was conducted by graduate students from Wisconsin State University at La Crosse. These students were familiar with the tests and their administration. The students being tested went from the softball testing station, to the tennis testing station, to the volleyballl testing station until they had completed all three skill tests.

The following are the skill tests that were administered in softball, tennis, and volleyball.

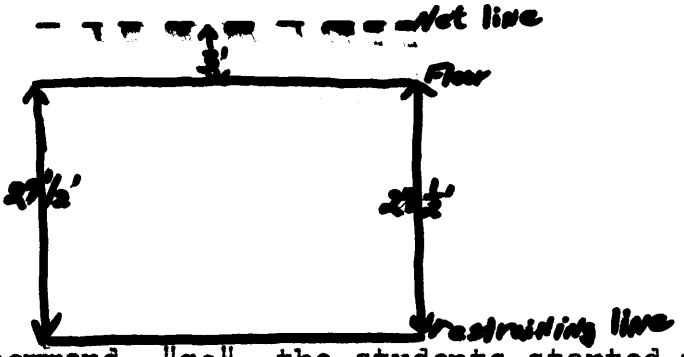
Softball:[25]



[25]Barrow & McGee, A Practical Approach to Measurement in Physical Education (Philadelphia: Lea & Febiger, 1964), p.305-6.

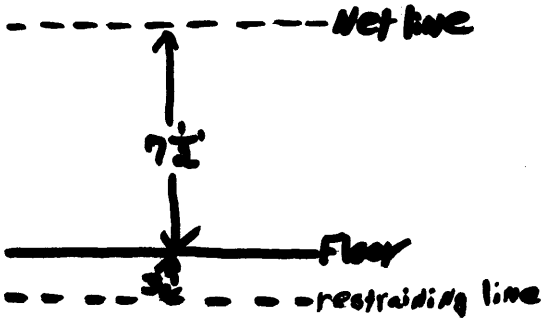
At the command, "go", the student ran from the start position to either base and threw into the target. He fielded the ball, ran to the other base and threw into the target. The score was the total number of hits in the target in three 45 sec. trials.

Tennis:[26]



At the command, "go", the students started volleying from behind the restraining line. The ball must hit above the net line. The score was the total number of volleys hit from behind the restraining line and over the net line in three 30 sec. trials.

Volleyball:[27]



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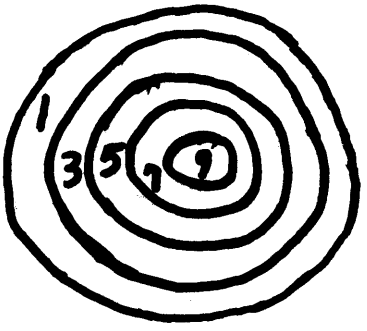
[26] Ibid., p. 323-324.

[27] Ibid., p. 332.

On the command, "go", the student stood behind the restraining line and tapped the ball over the net line. The score was the total number of legal taps made in three 30 sec. trials.

In the archery testing, three targets were used. The boys shot three rounds of seven arrows from 20 yards and the girls shot three rounds of seven arrows from 10 yards. A regulation 48 inch target was used with the center being 9.6 inches in diameter and the rings 4.8 inches in width. The target values were as follows:

9 - Gold
7 - Red
5 - Blue
3 - Black
1 - White



Any arrow that cut two colors was given the higher value, and any arrow which struck the target but did not stick was given 5 points. This test was constructed solely for this study. After consultation with the students' regular physical education instructors, it was felt that 21 arrows would be sufficient to discriminate between abilities, and the proper distances, considering past experience in archery, would be 10 yards for the girls and 20 yards for the boys.

After the testing, an activity skill ranking was determined for each student by figuring a T score in each

activity and ranking the four activities for each student with the highest T score number one and the lowest number four. (It is important to note here that throughout this study all data were handled separately for the boys and girls.) The following statistical method was used in determining the T scores.

The mean score in each activity was calculated by the formula $\bar{x} = \frac{\Sigma x}{n}$ where $\bar{x}$ is the mean score, x each raw score, and n the number of students. Next, the standard deviation was derived by the formula $\sigma = \sqrt{\frac{\Sigma(x-\bar{x})^2}{n}}$ where σ is the standard deviation, $\bar{x}$ the mean score, x each raw score, and n the number of students. Lastly, a T score was determined by the formula $T = 50 + \frac{10(x-\bar{x})}{\sigma}$ where σ is the standard deviation, $\bar{x}$ the mean score, and x each raw score. When this was finished, each student had a T score for each activity which made it possible to rank the activities according to developed skill.

In order to determine the students' preferences in the four activities, each student was required to fill out the following form:

NAME:_____

List in order your preference of participation from the four activities of archery, softball, tennis, & volleyball. Put the one you like best in #1 position and the one you like least in #4 position.

#1_____

#2_____

#3_____

#4_____

The realtionship between each student's developed skill and participation preference was determined by correlating his skill ranking with his preference ranking. The Spearman Rand-Difference correlation method was used. The formula is $r = \frac{1-6\Sigma D^2}{n(n^2-1)}$ where r is the rho correlation, D the difference between skill rank and preference rank of an activity, and n the number of activities. The correlations for the individuals were transferred into a total class correlation by converting each individual correlation into a Z score, averaging the Z scores, and converting the mean Z score back into a class correlation. A Z- transformation of the correlation coefficient table[28] was used in the conversions.

Effect of Personality Upon Relationship Between Skill and Participation.

For measurement purposes, it was necessary to assess the overall personality by dividing it into certain basic personality factors. This had to be done so that all personality factors or characteristics could be identified and analyzed for each student. This made it possible to determine whether any one factor or any combination of factors significantly influenced the students' relationship between

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[28]Pearson, E. S. & Hartley, H. O., (ed.), Biometrika Tables for Statisticians (Cambridge, 1966), p. 147.

skill and participation. For this study, personality was divided into the following factors:

1. Achievement:

   Need to be successful, to be recognized as an authority, to be able to do things better than others. Excell

2. Exhibition:

   Need to be the center of attention, talk of oneself and experiences, to show superiority to others.

3. Autonomy:

   Need for independence, come and go as desired, avoid responsibilities and obligations; nonconformist.

4. Affiliation:

   Need to participate in friendly groups, loyal to friends, to do things for friends, to make many friends.

5. Succorance:

   Need for sympathy and understanding from others, seek encouragement from others, to have a great deal of affection from others, to have others feel sorry when things go wrong.

6. Dominance:

   Need to be a leader in one's group, regarded as a leader by others, to persuade and influence others, to dominate or control others.

7. Abasement:

   Need to feel guilty when something goes wrong, to accept the blame for others, to feel misery suffered does more good than harm; inferiority complex.

8. Change:

   Need to do new and different things, unsatisfied with present, experiment and try new things.

9. Endurance:

   Need to keep at a job until it is finished, to work hard at a difficult job, to put in long hours on a puzzle or problem until it is solved.

10. Aggression:

    Need to become angry, attack others, defend oneself against all insults, blame others when something goes wrong, not self.

The Edwards Personal Preference Schedule was the personality test chosen by this researcher because it clearly defined and tested for the above ten factors, it could be administered in one class period, and national norms were available for the above ten factors. On the first day of testing, the Edwards test was administered to groups BII and GII. On the second day of testing, the test was administered to groups BI and GI. The tests were administered to the students by their regular physical education teachers.

In order to analyze the students' personality characteristics, to see if they do affect the relationship between skill and participation, the following statistical procedure was used:

Both the boys and the girls were divided into two

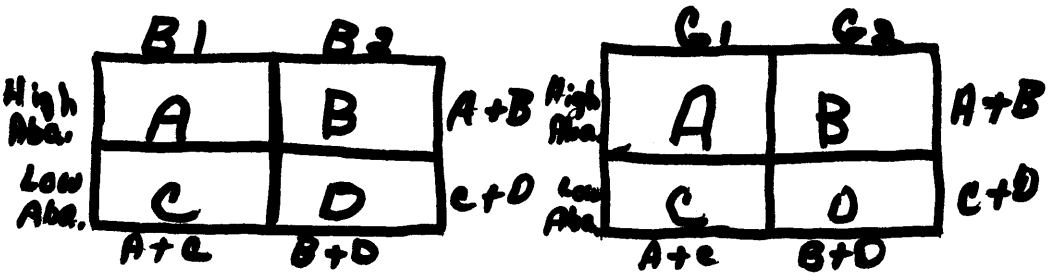
groups, B1, B2 and G1, G2 respectively. Group B1 consisted of boys who had a correlation between skill and participation of greater than or equal to .60 and group B2 consisted of all boys with a correlation of less than .60. Group G1 consisted of all girls who had a correlation between skill and participation of greater than or equal to .60 and group G2 consisted of all girls with acorrelation of less than .60.

Using the results obtained from the Edwards Personality test, a chi-square was run on each of the two groups for each personality factor. The chi-square test pointed out the difference in the personalities of those in groups B1 and G1, which had high correlation between skill and participation, with the personalities of those in groups B2 and G2, which had a low correlation between skill and participation.

The chi-square was computed by dividing each personality characteristic into a high group and a low group. The high group consisted of all students who scored greater than or equal to the 50 percentile compared to a national norm. The low group consisted of all students who scored less than the 50 percentile compared to a national norm. A two by two table was then constructed, as shown in the example, and the data was programmed and computerized to find the

final chi-square values.

Example: Personality factor, abasement.



The formula used to compute the chi-square is

$$\chi^2 = \frac{(AD - BC)^2}{(A+B)(C+D)(A+C)(B+D)}.$$

CHAPTER IV

ORGANIZATION AND ANALYSIS OF DATA

Relationship Between Skill and Participation

The first step in treating the data obtained from the skill tests was to determine the mean score in each activity for both the boys and girls. This was done by the use of the mean formula, $\bar{x} = \frac{\Sigma x}{n}$. The results obtained are shown in table 1.

The next step was to compute the standard deviation in each activity for both the boys and girls. The formula, $\sigma = \sqrt{\frac{\Sigma(x-\bar{x})^2}{n}}$, was used, and the results obtained are shown in table 2. Having computed the mean and the standard deviation, it was possible to determine a T score for each student in each activity by using the formula, $T = 50 + \frac{10(x-\bar{x})}{\sigma}$. This was done so that an activity skill ranking could be made for each student. Tables 3 and 4 show the T scores for each individual. Tables 5 and 6 show the activity skill ranking for each student with the highest T score ranked number one and the lowest ranked number four. In tables 3 and 5 each boy is denoted by b1, b2, b3, ... b19 and in tables 4 and 6 each girl is denoted by g1, g2, g3, ... g21. This is done throughout the study.

Table 1

$$\bar{x} = \frac{\Sigma x}{n}$$

A	B
Boys, n = 19	Girls, n = 21
Archery:	Archery:
$\Sigma x = 1181$	$\Sigma x = 317$
$\bar{x} = 62.1$	$\bar{x} = 15.1$
Softball:	Softball:
$\Sigma x = 523$	$\Sigma x = 288$
$\bar{x} = 27.5$	$\bar{x} = 13.7$
Tennis:	Tennis:
$\Sigma x = 483$	$\Sigma x = 273$
$\bar{x} = 25.4$	$\bar{x} = 13$
Volleyball:	Volleyball:
$\Sigma x = 1929$	$\Sigma x = 1517$
$\bar{x} = 101.5$	$\bar{x} = 71.8$

TABLE 2

$$\sigma = \sqrt{\frac{\Sigma(x - \bar{x})^2}{n}}$$

A	B
Boys, n = 19	Girls, n = 21
Archery:	Archery:
$\Sigma(x-\bar{x})^2$ =7863.59	$\Sigma(x-\bar{x})^2$ =1247.81
σ = 20.34	σ = 7.70
Softball:	Softball:
$\Sigma(x-\bar{x})^2$ = 412.75	$\Sigma(x-\bar{x})^2$ = 600.29
σ = 4.66	σ = 5.34
Tennis:	Tennis:
$\Sigma(x-\bar{x})^2$ = 338.64	$\Sigma(x-\bar{x})^2$ = 324
σ = 4.22	σ = 3.93
Volleyball:	Volleyball:
$\Sigma(x-\bar{x})^2$ =3664.75	$\Sigma(x-\bar{x})^2$ =4869.64
σ = 13.89	σ = 15.22

TABLE 3

BOYS T SCORES

$$T = 50 + \frac{10(x-\bar{x})}{\sigma}$$

Student	Archery	Softball	Tennis	Volleyball
b1	43.6	53.2	58.5	52.5
b2	42.6	40.0	58.5	57.6
b3	64.7	31.8	53.8	43.9
b4	42.6	31.8	34.8	45.3
b5	50.0	42.5	39.6	39.6
b6	45.1	59.6	51.4	45.3
b7	53.3	57.5	56.1	61.2
b8	36.3	49.0	53.8	36.0
b9	59.2	51.0	51.4	49.0
b10	38.7	44.7	49.0	36.0
b11	39.2	45.3	46.7	40.3
b12	73.0	66.1	56.1	69.1
b13	44.6	63.9	39.6	49.0
b14	55.8	53.2	70.4	55.4
b15	61.7	49.0	49.0	51.0
b16	40.7	53.2	39.6	41.7
b17	61.7	40.4	68.0	73.4
b18	49.5	36.1	34.8	53.2
b19	49.0	63.9	39.6	51.0

TABLE 4

GIRLS T SCORES

$$T = 50 + \frac{10(x-\bar{x})}{\sigma}$$

Student	Archery	Softball	Tennis	Volleyball
g1	69.3	48.7	52.5	65.9
g2	44.7	46.8	47.5	44.9
g3	43.4	48.7	44.9	47.9
g4	35.6	58.1	57.6	33.7
g5	51.2	50.6	57.6	44.9
g6	62.8	78.7	50.0	66.5
g7	57.6	59.9	67.8	49.5
g8	57.6	44.9	52.5	56.7
g9	46.0	54.3	44.9	40.9
g10	51.2	46.8	70.4	64.5
g11	46.0	48.7	42.4	50.1
g12	44.7	30.0	24.6	33.1
g13	56.3	50.6	50.0	57.3
g14	75.8	61.8	47.5	50.8
g15	38.2	31.8	39.8	45.5
g16	43.4	44.9	47.5	33.1
g17	48.6	50.6	52.5	61.3
g18	44.7	48.7	39.8	48.3
g19	48.6	50.6	55.1	61.3
g20	36.9	39.3	42.4	50.1
g21	47.3	56.2	62.7	48.8

TABLE 5

BOYS ACTIVITY SKILL RANKING

Student	#1	#2	#3	#4
b1	Tennis	Softball	Volleyball	Archery
b2	Tennis	Volleyball	Softball	Archery
b3	Archery	Tennis	Volleyball	Softball
b4	Volleyball	Archery	Softball	Tennis
b5	Archery	Softball	Tennis (Tie) Volleyball	
b6	Softball	Tennis	Volleyball	Archery
b7	Volleyball	Softball	Tennis	Archery
b8	Tennis	Softball	Archery	Volleyball
b9	Archery	Tennis	Softball	Volleyball
b10	Tennis	Softball	Archery	Volleyball
b11	Tennis	Softball	Volleyball	Archery
b12	Archery	Volleyball	Softball	Tennis
b13	Softball	Volleyball	Archery	Tennis
b14	Tennis	Archery	Volleyball	Softball
b15	Archery	Volleyball	Tennis (Tie) Softball	
b16	Softball	Volleyball	Archery	Tennis
b17	Volleyball	Tennis	Archery	Softball
b18	Volleyball	Arhcery	Softball	Tennis
b19	Softball	Volleyball	Archery	Tennis

TABLE 6

GIRLS ACTIVITY SKILL RANKING

Student	#1	#2	#3	#4
g1	Archery	Volleyball	Tennis	Softball
g2	Tennis	Softball	Volleyball	Archery
g3	Softball	Volleyball	Tennis	Archery
g4	Softball	Tennis	Archery	Volleyball
g5	Tennis	Archery	Softball	Volleyball
g6	Softball	Volleyball	Archery	Tennis
g7	Tennis	Softball	Archery	Volleyball
g8	Archery	Volleyball	Tennis	Softball
g9	Softball	Archery	Tennis	Volleyball
g10	Tennis	Volleyball	Archery	Softball
g11	Volleyball	Softball	Archery	Tennis
g12	Archery	Volleyball	Softball	Tennis
g13	Volleyball	Archery	Softball	Tennis
g14	Archery	Softball	Volleyball	Tennis
g15	Volleyball	Tennis	Archery	Softball
g16	Tennis	Softball	Archery	Volleyball
g17	Volleyball	Softball	Tennis	Archery
g18	Softball	Volleyball	Archery	Tennis
g19	Volleyball	Tennis	Softball	Archery
g20	Volleyball	Tennis	Softball	Archery
g21	Tennis	Softball	Volleyball	Archery

Each student had already ranked the four activities on the basis of his preference of participation by filling out the form on page 14. The data obtained from the forms was organized into tables 7 and 8 so that the activity preference ranking could be compared to the activity skill ranking.

The next step in determining the relationship between skill and participation was to correlate each student's activity skill ranking with his activity preference ranking. The method used was the Spearmen Rand-Difference correlation method; formula, $r = \frac{1-6\Sigma d^2}{n(n-1)}$. This resulted in the individual correlations between skill and participation for each student shown in tables 9 and 10.

From the individual correlations in tables 9 and 10, group correlations were computed for the boys (19), the girls (21), and the entire group (40). This was done by using a z- transformation of the correlation coefficient table. The individual correlations were changed into z scores, the z scores were averaged, and the mean z score was changed back into a group correlation. The correlation for the boys was, r = .418; for the girls, r = .643; and for the total group, r = .548.

TABLE 7

BOYS ACTIVITY PREFERENCE RANKING

Student	#1	#2	#3	#4
b1	Volleyball	Softball	Archery	Tennis
b2	Volleyball	Tennis	Softball	Archery
b3	Archery	Volleyball	Tennis	Softball
b4	Volleyball	Archery	Softball	Tennis
b5	Archery	Softball	Tennis	Volleyball
b6	Archery	Softball	Volleyball	Tennis
b7	Archery	Softball	Volleyball	Tennis
b8	Volleyball	Softball	Tennis	Archery
b9	Softball	Tennis	Volleyball	Archery
b10	Softball	Tennis	Volleyball	Archery
b11	Volleyball	Tennis	Softball	Archery
b12	Volleyball	Softball	Tennis	Archery
b13	Softball	Volleyball	Archery	Tennis
b14	Softball	Volleyball	Tennis	Archery
b15	Softball	Archery	Tennis	Volleyball
b16	Volleyball	Tennis	Softball	Archery
b17	Volleyball	Tennis	Softball	Archery
b18	Archery	Volleyball	Tennis	Softball
b19	Volleyball	Softball	Tennis	Archery

TABLE 8

GIRLS ACTIVITY PREFERENCE RANKING

Student	#1	#2	#3	#4
g1	Volleyball	Softball	Tennis	Archery
g2	Volleyball	Softball	Tennis	Archery
g3	Softball	Volleyball	Tennis	Archery
g4	Tennis	Volleyball	Softball	Archery
g5	Volleyball	Tennis	Archery	Softball
g6	Softball	Volleyball	Tennis	Archery
g7	Tennis	Softball	Archery	Volleyball
g8	Volleyball	Tennis	Archery	Softball
g9	Softball	Volleyball	Archery	Tennis
g10	Tennis	Volleyball	Softball	Archery
g11	Tennis	Softball	Archery	Volleyball
g12	Volleyball	Tennis	Archery	Softball
g13	Volleyball	Tennis	Softball	Archery
g14	Softball	Volleyball	Tennis	Archery
g15	Volleyball	Tennis	Archery	Softball
g16	Tennis	Volleyball	Softball	Archery
g17	Volleyball	Tennis	Softball	Archery
g18	Volleyball	Tennis	Softball	Archery
g19	Tennis	Softball	Volleyball	Archery
g20	Volleyball	Softball	Tennis	Archery
g21	Softball	Tennis	Volleyball	Archery

TABLE 9

RELATIONSHIP BETWEEN SKILL AND PARTICIPATION FOR BOYS

P = participation rank
S = skill rank
D = difference
D^2 = difference squared
r = Rank-order correlation, $1-\frac{6\Sigma d^2}{n(n^2-1)}$

Student	P	S	D	D^2	r
b1					-.40
Archery	3	4	1	1	
Softball	2	2	0	0	
Tennis	4	1	3	9	
Volleyball	1	3	2	4	
b2					.80
Archery	4	4	0	0	
Softball	3	3	0	0	
Tennis	2	1	1	1	
Volleyball	1	2	1	1	
b3					.80
Archery	1	1	0	0	
Softball	4	4	0	0	
Tennis	3	2	1	1	
Volleyball	2	3	1	1	
b4					.80
Archery	2	2	0	0	
Softball	3	4	1	1	
Tennis	4	3	1	1	
Volleyball	1	1	0	0	

TABLE 9 (Continued)

Student	P	S	D	D^2	r
b5					.95
Archery	1	1	0	0	
Softball	2	2	0	0	
Tennis	3	3.5	.5	.25	
Volleyball	4	3.5	.5	.25	
b6					-.40
Archery	1	4	3	9	
Softball	2	1	1	1	
Tennis	4	2	2	4	
Volleyball	3	3	0	0	
b7					-.40
Archery	1	4	3	9	
Softball	2	2	0	0	
Tennis	4	3	1	1	
Volleyball	3	1	2	4	
b8					-.40
Archery	4	3	1	1	
Softball	2	2	0	0	
Tennis	3	1	2	4	
Volleyball	1	4	3	9	
b9					-.40
Archery	4	1	3	9	
Softball	1	3	2	4	
Tennis	2	2	0	0	
Volleyball	3	4	1	1	
b10					.60
Archery	4	3	1	1	
Softball	1	2	1	1	
Tennis	2	1	1	1	
Volleyball	3	4	1	1	

TABLE 9 (Continued)

Student	P	S	D	D^2	r
b11					.40
Archery	4	4	0	0	
Softball	3	2	1	1	
Tennis	2	1	1	1	
Volleyball	1	3	2	4	
b12					-.20
Archery	4	1	3	9	
Softball	2	3	1	1	
Tennis	3	4	1	1	
Volleyball	1	2	1	1	
b13					1.0
Archery	3	3	0	0	
Softball	1	1	0	0	
Tennis	4	4	0	0	
Volleyball	2	2	0	0	
b14					-.80
Archery	4	2	2	4	
Softball	1	4	3	9	
Tennis	3	1	2	4	
Volleyball	2	3	1	1	
b15					-.15
Archery	2	1	1	1	
Softball	1	3.5	2.5	6.25	
Tennis	3	3.5	.5	.25	
Volleyball	4	2	2	4	
b16					0.0
Archery	4	3	1	1	
Softball	3	1	2	4	
Tennis	2	4	2	4	
Volleyball	1	2	1	1	

TABLE 9 (Continued)

Student	P	S	D	D^2	r
b17					.80
Archery	4	3	1	1	
Softball	3	4	1	1	
Tennis	2	2	0	0	
Volleyball	1	1	0	0	
b18					.60
Archery	1	2	1	1	
Softball	4	3	1	1	
Tennis	3	4	1	1	
Volleyball	2	1	1	1	
b19					.60
Archery	4	3	1	1	
Softball	2	1	1	1	
Tennis	3	4	1	1	
Volleyball	1	2	1	1	

TABLE 10

RELATIONSHIP BETWEEN SKILL AND PARTICIPATION

FOR GIRLS

P = participation rank
S = skill rank
D = difference
D^2 = difference squared
r = Rank-order correlation, $1-\frac{6\Sigma d^2}{n(n^2-1)}$

Student	P	S	D	D^2	r
g1					-.40
Archery	4	1	3	9	
Softball	2	4	2	4	
Tennis	3	3	0	0	
Volleyball	1	2	1	1	
g2					.20
Archery	4	4	0	0	
Softball	2	2	0	0	
Tennis	3	1	2	4	
Volleyball	1	3	2	4	
g3					1.0
Archery	4	4	0	0	
Softball	1	1	0	0	
Tennis	3	3	0	0	
Volleyball	2	2	0	0	
g4					0
Archery	4	3	1	1	
Softball	3	1	2	4	
Tennis	1	2	1	1	
Volleyball	2	4	2	4	

TABLE 10 (Continued)

Student	P	S	D	D^2	r
g5					-.20
Archery	3	2	1	1	
Softball	4	3	1	1	
Tennis	2	1	1	1	
Volleyball	1	4	3	9	
g6					.80
Archery	4	3	1	1	
Softball	1	1	0	0	
Tennis	3	4	1	1	
Volleyball	2	2	0	0	
g7					1.0
Archery	3	3	0	0	
Softball	2	2	0	0	
Tennis	1	1	0	0	
Volleyball	4	4	0	0	
g8					.40
Archery	3	1	2	4	
Softball	4	4	0	0	
Tennis	2	3	1	1	
Volleyball	1	2	1	1	
g9					.40
Archery	3	2	1	1	
Softball	1	1	0	0	
Tennis	4	3	1	1	
Volleyball	2	4	2	4	
g10					.80
Archery	4	3	1	1	
Softball	3	4	1	1	
Tennis	1	1	0	0	
Volleyball	2	2	0	0	

TABLE 10 (Continued)

Student	P	S	D	D^2	r
g11					-.80
Archery	3	3	0	0	
Softball	2	2	0	0	
Tennis	1	4	3	9	
Volleyball	4	1	3	9	
g12					0.0
Archery	3	1	2	4	
Softball	4	3	1	1	
Tennis	2	4	2	4	
Volleyball	1	2	1	1	
g13					.20
Archery	4	2	2	4	
Softball	3	3	0	0	
Tennis	2	4	2	4	
Volleyball	1	1	0	0	
g14					-.20
Archery	4	1	3	9	
Softball	1	2	1	1	
Tennis	3	4	1	1	
Volleyball	2	3	1	1	
g15					1.0
Archery	3	3	0	0	
Softball	4	4	0	0	
Tennis	2	2	0	0	
Volleyball	1	1	0	0	
g16					.40
Archery	4	3	1	1	
Softball	3	2	1	1	
Tennis	1	1	0	0	
Volleyball	2	4	2	4	

TABLE 10 (Continued)

Student	P	S	D	D^2	r
g17					.80
Archery	4	4	0	0	
Softball	3	2	1	1	
Tennis	2	3	1	1	
Volleyball	1	1	0	0	
g18					0.0
Archery	4	3	1	1	
Softball	3	1	2	4	
Tennis	2	4	2	4	
Volleyball	1	2	1	1	
g19					.40
Archery	4	4	0	0	
Softball	2	3	1	1	
Tennis	1	2	1	1	
Volleyball	3	1	2	4	
g20					.80
Archery	4	4	0	0	
Softball	2	3	1	1	
Tennis	3	2	1	1	
Volleyball	1	1	0	0	
g21					.80
Archery	4	4	0	0	
Softball	1	2	1	1	
Tennis	2	1	1	1	
Volleyball	3	3	0	0	

In order for the group correlations to be significant, this researcher decided the correlations must exceed the .05 level of confidence. Both the girls' correlation of .643 and the overall correlation of .548 not only exceeded the .05 level of confidence, but also exceeded the .01 level of confidence.[29] However, the boys' correlation of .418 did not fall within the .05 level of confidence but was extremely close; therefore, this researcher decided to find its exact level of confidence.

To find the level of confidence for the correlation of .418, a t test as described by Ezekiel[30] was used. The formula is $t = \frac{r\sqrt{n-2}}{1-r}$ where r is the sample correlation and n is the sample number. Using r = .418 and n = 19, the t = 1.896 which indicated a level of confidence of approximately .08.

Because of the obvious difference between the correlation for the girls, .643, and the boys, .418, this researcher decided to test to see if it was a significant difference. The method used is described by Fisher.[31]

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[29]Yamane, Taro. Appendix Tables for Statistics, An Introductory Analysis. (New York: Harper & Row, Pub., 1964),p. 15.

[30]Ezekiel, Mordecia. Methods of Correlation Analysis. (New York: John Wiley & Sons, Inc., 1941), p. 318-319.

[31]Fisher, Rondal. Statistical Methods for Research Workers, (New York: Hafner Publishing Co. Inc., 1954), p. 203-204.

If a z difference exceeds twice the standard error of the difference, then one can assume there is a significant difference at the .05 level of confidence. The results as shown in table 11 indicate that there is not a significant difference.

Effect of Personality Upon Relationship Between Skill and Participation.

The boys were divided into groups, B1 and B2 and the girls were divided into groups G1 and G2. Groups B1 and G1 contained those students who had a correlation between skill and participation of greater than or equal to .60. Groups B2 and G2 consisted of those students who had a correlation between skill and participation of less than .60.

Each personality characteristic was also divided into two groups. The high group consisted of all those who had scored greater than or equal to, the 50th percentile. The low group contained all those who had scored less than the 50th percentile.

A chi-square test was then run on each personality characteristic for the boys, for the girls, and for both. This was done by the use of the computer at Wisconsin State University, La Crosse. The results of the chi-square tests for the three groups and the two by two tables for the three goups are all shown in table 12. The numbers in parenthesis in the two by two tables are the expected values and the numbers not in parenthesis are the observed values.

TABLE 11

DIFFERENCE BETWEEN GIRLS CORRELATION

AND BOYS CORRELATION

	r	z	V' (n-3)	reciprocal
Boys	.418	.4453	16	.0625
Girls	.643	.7633	18	.0556

Difference of z = .3183 Variance of difference = .1181

Standard error = .3436

TABLE 12

EFFECT OF PERSONALITY FACTORS ON RELATIONSHIP BETWEEN SKILL AND PARTICIPATION

.05 level of confidence, χ^2 = 3.841
.10 level of confidence, χ^2 = 2.705
.25 level of confidence, χ^2 = 1.323

Achievement

Boys

	B1	B2
High Ach.	4 (2.3)	1 (2.6)
Low Ach.	5 (6.6)	9 (7.3)

χ^2 = 2.89

Girls

	G1	G2
High Ach.	4 (3.8)	6 (6.1)
Low Ach.	4 (4.1)	7 (6.8)

χ^2 = 0.02

Both

	B1, G1	B2,G2
High Ach.	8 (6.3)	7 (8.6)
Low Ach.	9 (10.6)	16 (14.3)

χ^2 = 1.15

TABLE 12 (Continued)

Exhibition

Boys

	B1	B2
High Exh.	6 (5.2)	5 (5.7)
Low Exh.	3 (3.7)	5 (4.2)

$\chi^2 = 0.53$

Girls

	G1	G2
High Exh.	5 (4.1)	6 (6.8)
Low Exh.	3 (3.8)	7 (6.1)

$\chi^2 = 0.53$

Both

	B1,G1	B2,G2
High Exh.	11 (9.3)	11 (12.6)
Low Exh.	6 (7.6)	12 (10.3)

$\chi^2 = 1.12$

TABLE 12 (Continued)

Autonomy

Boys

	B1	B2
High Aut.	6 (4.7)	4 (5.2)
Low Aut.	3 (4.2)	6 (4.7)

$x^2 = 1.35$

Girls

	G1	G2
High Aut.	2 (2.6)	5 (4.3)
Low Aut.	6 (5.3)	8 (8.6)

$x^2 = 0.40$

Both

	B1,G1	B2,G2
High Aut.	8 (7.2)	9 (9.7)
Low Aut.	9 (9.7)	14 (13.2)

$x^2 = 0.25$

TABLE 12 (Continued)

Affiliation

Boys

	B1	B2
High Aff.	3 (2.8)	3 (3.1)
Low Aff.	6 (6.1)	7 (6.8)

$x^2 = 0.02$

Girls

	G1	G2
High Aff.	4 (4.5)	8 (7.4)
Low Aff.	4 (3.4)	5 (5.5)

$x^2 = 0.26$

Both

	B1,G1	B2,G2
High Aff.	7 (7.6)	11 (10.3)
Low Aff.	10 (9.3)	12 (12.6)

$x^2 = 0.17$

TABLE 12 (Continued)

Succorance

Boys

	B1	B2
High Suc.	5 (5.6)	7 (6.3)
Low Suc.	4 (3.3)	3 (3.6)

$\chi^2 = 0.42$

Girls

	G1	G2
High Suc.	6 (6.0)	10 (9.9)
Low Suc.	2 (1.9)	3 (3.0)

$\chi^2 = 0.01$

Both

	B1,G1	B2, G2
High Suc.	11 (11.9)	17 (16.1)
Low Suc.	6 (5.1)	6 (6.9)

$\chi^2 = 0.39$

TABLES 12 (Continued)

Dominance

Boys

	B1	B2
High Dom.	2 (1.4)	1 (1.5)
Low Dom.	7 (7.5)	9 (8.4)

$\chi^2 = 0.53$

Girls

	G1	G2
High Dom.	1 (1.1)	2 (1.8)
Low Dom.	7 (6.8)	11 (11.1)

$\chi^2 = 0.03$

Both

	B1,G1	B2,G2
High Dom.	3 (2.5)	3 (3.4)
Low Dom.	14 (14.4)	20 (19.5)

$\chi^2 = 0.16$

TABLE 12 (Continued)

Abasement

Boys

	B1	B2
High Aba.	8 (8.0)	9 (8.9)
Low Aba.	1 (0.0)	1 (1.0)

$\chi^2 = 0.00$

Girls

	G1	G2
High Aba.	6 (6.8)	12 (11.1)
Low Aba.	2 (1.1)	1 (1.8)

$\chi^2 = 1.21$

Both

	B1,G1	B2,G2
High Aba.	14 (14.8)	21 (20.1)
Low Aba.	3 (2.1)	2 (2.8)

$\chi^2 = 0.71$

TABLE 12 (Continued)

Change

Boys

	B1	B2
High Ch.	6 (7.5)	10 (8.4)
Low Ch.	3 (1.4)	0 (1.5)

$\chi^2 = 3.95$

Girls

	G1	G2
High Ch.	7 (6.0)	9 (9.9)
Low Ch.	1 (1.9)	4 (3.0)

$\chi^2 = 0.91$

Both

	B1,G1	B2,G2
High Ch.	13 (13.6)	19 (18.4)
Low Ch.	4 (3.4)	4 (4.6)

$\chi^2 = 0.23$

TABLE 12 (Continued)

Endurance

Boys

	B1	B2
High End.	6 (5.6)	6 (6.3)
Low End.	3 (3.3)	4 (3.6)

$\chi^2 = 0.09$

Girls

	G1	G2
High End.	5 (5.3)	9 (8.6)
Low End.	3 (2.6)	4 (4.3)

$\chi^2 = 0.10$

Both

	B1,G1	B2, G2
High End.	11 (11.0)	15 (14.9)
Low End.	6 (5.9)	8 (8.0)

$\chi^2 = 0.00$

TABLE 12 (Continued)

Aggression

Boys

	B1	B2
High Agg.	7 (5.6)	5 (6.3)
Low Agg.	2 (3.3)	5 (3.6)

$\chi^2 = 1.57$

Girls

	G1	G2
High Agg.	6 (5.7)	9 (9.2)
Low Agg.	2 (2.2)	4 (3.7)

$\chi^2 = 0.08$

Both

	B1,G1	B2,G2
High Agg.	13 (11.4)	14 (15.4)
Low Agg.	4 (5.5)	9 (7.4)

$\chi^2 = 1.08$

The level of confidence for the chi-square test was also chosen to be .05. There was only one personality characteristic, and it was only for the boys, that met the .05 criteria. There were, however, several other personality characteristics for the boys that did indicate a difference between the personalities of those who had a high correlation between skill and participation and those who had a low correlation. Since these characteristics did not meet the .05 level of confidence they cannot be considered significant but it is felt that the tendencies should be reported.

The personality characteristic that fell within the .05 level of confidence was change for the boys. The chi-square test indicated that the boys who had a high correlation were more likely to have a low need for change, and the boys that had a low correlation were more likely to have a high need for change.

The other characteristics for the boys that the chi-square test indicated there might be a difference were achievement, aggression, and autonomy. The test showed a 90% probability that boys who have a high need for achievement are more likely to have a low correlation. The test showed there was an 80% probability that the boys who had a high correlation were more likely to have a high level of

aggression and the boys who had a low correlation were more likely to have a low level of aggression. The test indicated a 75% probability that the boys who have a high need for autonomy are more likely to have a high correlation and the boys who have a low need for autonomy are more likely to have a low correlation.

There was one personality characteristic for the girls and three for both that showed there to be a slight chance that the personalities of the high correlation group and the low correlation group differ. However, in this study their probabilities were not sufficient to merit discussion of them.

CHAPTER V

SUMMARY & CONCLUSIONS

The correlations obtained between skill and participation definitely lead to the conclusion that the original hypothesis, "the amount of developed skill in an activity will affect the decision to participate in the activity", can be accepted. The correlations of .643 for the 21 girls and .548 for the 40 boys and girls statistically indicate a 99% probability that people do tend to participate in those activities in which they are more highly skilled. The 19 boys' correlation of .418 statistically indicates a 92% probability that boys tend to participate in those activities in which they are more highly skilled. Even though the girls did have a higher correlation than the boys, the difference was not significant. Therefore, the conclusion is made that there is no appreciable difference between the boys and the girls correlations and they both come from the same population.

This researcher concludes, on the basis of this investigation, that there definitely is a positive relationship between skill in an activity and the decision to participate in the activity. In other words, people prefer to participate in the activities that they are more highly skilled in.

The results obtained from the chi-square test gives no clear cut indication as to whether personality significantly affects the relationship between skill and participation. Only one factor for the boys met the .05 level of confidence but three others for the boys showed a definite trend and three other factors for both showed a slight trend. What is more important is that the trends seem consistent with what one might expect.

In the one significant factor, the boys who had a high correlation were more likely to score low on the need for change. They seemed to be more satisfied with the status quo which appears consistent with the fact they chose activities that they were familiar with and skilled in. On the other hand, those who had a low correlation were more likely to score high in the need for change. Again this appears consistent with the fact that they chose activities that they were not as familiar with or as highly skilled in.

In the factors that indicated a trend, again the findings appear consistent. The boys who had indicated a high need for achievement were the ones who were likely to have a high correlation between skill and participation because they could satisfy this need. Those who had a high need for aggression were likely to have a high correlation as they could better satisfy this aggressive drive in activities

they are skilled in. Those who showed a high need for autonomy were likely to have a high correlation because they would be more likely to be on their own in an activity they are highly skilled in than in one in which they are not.

From the results obtained from this phase of the investigation it is impossible with any degree of assurance, to either accept or reject the hypothesis that personality does affect the relationship between skill and participation. This researcher can only conclude that certain tendencies do appear to be evident but in this investigation they were not completely significant; therefore, further investigation needs to be done where a larger sample size could be used.

Resulting from this study are the following recommendations:

1. There is a definite need for normative studies to be conducted for the skill in particular activities. While reviewing the literature to obtain skill tests it became quite evident that there have been no national norms determined for skill in particular activities. Therefore, it is impossible to evaluate and compare the developed skill in an activity of one segment of the population to the entire population.

2. The curriculum should be designed so as to develop

skill in a variety of activities and still be flexible enough to allow some electives.

3. There is a need for further investigation into the effect of personality upon the relationship between skill and participation. This needs to be done with a larger sample covering a wider segment of the population. The benefits derived from investigating this further would be in the field of recreational guidance as described by Lentz.

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APPENDIX

APPENDIX A

RAW SCORES ON SKILL TESTS

BOYS

Student	Archery	Softball	Tennis	Volleyball
b1	49	29	29	105
b2	47	27	29	112
b3	92	19	27	93
b4	47	19	19	95
b5	62	24	21	87
b6	52	32	26	95
b7	69	31	28	117
b8	34	27	27	82
b9	81	28	26	99
b10	38	25	25	82
b11	40	30	24	88
b12	109	35	28	128
b13	51	34	21	99
b14	74	29	34	109
b15	86	27	25	104
b16	43	29	21	90
b17	86	23	33	134
b18	61	21	19	106
b19	60	34	21	104

APPENDIX B

RAW SCORES ON SKILL TESTS

GIRLS

Student	Archery	Softball	Tennis	Volleyball
g1	30	13	14	96
g2	11	12	12	64
g3	10	13	11	70
g4	4	18	16	47
g5	16	14	16	64
g6	25	29	13	97
g7	21	19	20	71
g8	21	11	14	82
g9	12	16	11	58
g10	16	12	21	94
g11	12	13	10	72
g12	11	3	3	46
g13	20	14	13	83
g14	35	20	12	73
g15	6	4	9	65
g16	10	11	12	46
g17	14	14	14	89
g18	11	13	9	69
g19	14	14	15	89
g20	5	8	10	72
g21	13	17	18	70

APPENDIX C

PERCENTILE SCORES ON EDWARDS PERSONAL PREFERENCE SCHEDULE

(Natinnal Norms)

BOYS

Student	Ach.	Exh.	Aut.	Aff.	Suc.	Dom.	Abase.	Chg.	End.	Aggres.
b1	16	28	68	45	90	45	84	50	64	40
b2	30	37	28	76	58	13	61	71	75	40
b3	22	15	68	36	2	2	99	57	99	77
b4	40	49	61	21	83	13	67	33	75	65
b5	50	98	52	28	58	21	61	71	69	17
b6	22	15	43	76	83	27	75	57	29	17
b7	10	62	28	76	65	32	88	78	57	72
b8	30	97	28	21	34	27	67	78	6	72
b9	86	72	61	21	42	32	45	78	69	88
b10	66	81	2	45	34	13	75	33	85	88
b11	10	93	43	64	83	45	88	71	57	24
b12	16	9	76	45	72	5	99	89	57	9
b13	58	89	82	45	5	17	61	99	85	98
b14	10	37	43	79	83	13	92	50	29	72
b15	30	81	11	16	42	2	99	98	79	47
b16	4	49	96	11	78	54	75	57	18	95
b17	16	62	43	84	50	63	79	97	13	65
b18	1	62	61	72	78	45	79	78	37	77
b19	86	72	76	36	42	63	45	33	18	65

APPENDIX D

PERCENTILE SCORES ON EDWARDS PERSONAL PREFERENCE SCHEDULE

(National Norms)

GIRLS

Student	Ach.	Exh.	Aut.	Aff.	Suc.	Dom.	Abase.	Chg.	End.	Aggres.
g1	64	15	28	7	76	87	98	17	44	95
g2	36	21	82	32	59	17	86	52	90	89
g3	72	63	20	68	51	5	74	94	90	51
g4	36	73	6	58	51	17	96	68	63	36
g5	58	82	53	17	9	11	74	59	63	99
g6	72	42	82	32	59	17	37	68	85	89
g7	2	15	28	99	93	32	92	64	57	47
g8	72	21	45	41	81	17	37	96	85	74
g9	3	82	53	84	59	17	90	59	50	9
g10	84	30	1	77	44	9	81	35	69	27
g11	13	42	1	68	87	5	99	35	44	51
g12	93	42	45	58	59	11	58	52	93	44
g13	64	73	82	12	76	36	90	28	13	92
g14	36	52	45	77	6	51	90	99	57	74
g15	5	73	28	77	76	11	31	73	30	51
g16	13	82	36	84	25	36	51	94	93	89
g17	19	88	82	12	18	3	99	90	69	74
g18	64	10	13	94	86	23	93	68	30	44
g19	27	21	87	50	86	42	93	13	63	66
g20	8	97	45	17	51	59	58	68	36	60
g21	72	63	28	32	59	42	86	81	24	95