THE RELATIONSHIP OF MOTOR ABILITY AND DESIRABILITY

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B.L.L.

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CHAPTER I

INTRODUCTION

Since 1927, when Brace published his text for measuring motor ability, researchers in the field have been trying to determine whether there is any significant correlation between motor ability and personality and motor ability and intelligence or academic performance. Brace[1] proposed that all desirable human traits tend to correlate positively with each other, but that any correlation between motor ability and intelligence would be small.

Many studies and articles have been written to show the relationship between motor ability and personality and motor ability and academic performance. Articles have been written comparing athletes and nonathletes, students with high and low physical fitness scores, and the relationship of motor skills to behavioral adjustment.

The purpose of this study was to determine if there was a relationship between a student's motor ability and his being selected as desirable or undesirable by his teachers.

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[1]David K. Brace, Measuring Motor Ability, (New York: A. S. Barnes and Company, 1927), p. 89.

I. STATEMENT OF THE PROBLEM

The problem was to determine if their was a relationship between a student's motor ability and his desirability.

II. DEFINTIONS OF TERMS

Motor Ability. Motor ability is an individual's ability in a wide range of activities involving such traits as strength, endurance, power, speed, agility, balance, reaction time and coordination.

Desirable. Those students whom teachers would select who were most like sons or daughters they would like to have were considered desirable.

Undesirable. Those students whom teachers would not select for sons or daughters were considered undesirable.

III. IMPORTANCE OF THE PROBLEM

The educational program is concerned with developing the student physically, mentally, socially and intellectually. This study was conducted to see if their is a relationship between motor achievement test results of students and their being selected as desirable or undesirable. The study was concerned with seeing if students who were high in motor

ability were considered desirable and if students who were low in motor ability were considered undesirable.

IV. SCOPE AND LIMITATION

The null hypothesis was applied to this study. It was hypothesized that a student's motor ability has no relationship to his being selected as either desirable or undesirable by his teachers.

This study was restricted to the fourth, fifth, and sixth grade students at Sacred Heart School in Emporia, Kansas. This population was choosen because the teachers who were involved in the study were well acquainted with all of the subjects.

This study also involved three teachers and the principal at the Sacred Heart School. The teachers were asked to select the desirable and undesirable students for the study. The teachers in making their selections had no specific qualifications that they had to follow in selecting the desirable and undesirable students. The students were selected solely upon each teachers' specifications whether it was on personality, character, academic performance, conduct in class or on all of these characteristics.

CHAPTER II

REVIEW OF RELATED LITERATURE

Much has been written in regard to motor ability and personality, and motor ability and intelligence or academic performance. However, very little has been written comparing the desirability and undesirability of students in regard to their motor ability.

Since 1927, when Brace published his text for measuring motor ability, researchers in the field of physical education have been trying to determine whether there is any correlation between motor ability and personality and motor ability and intelligence or academic performance. In this book Brace[2] proposed that all desirable human traits tend to correlate positively with each other, but that any correlation between motor ability and intelligence would be small.

The literature in this study is divided into two sections. In the first section those studies which deal with motor ability and personality are discussed. Studies dealing with motor ability and adjustment are reviewed in the second section.

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[2]David K. Brace, Measuring Motor Ability, (New York: A. S. Barnes and Company, 1927), p. 89.

I. MOTOR ABILITY AND PERSONALITY

The purpose of Merriman's[3] study was to determine the relationship between motor ability (as measured by the Phillips JCR Test) and the personality traits (as measured by the California Psychological Inventory). A secondary purpose of this study was to determine the difference between personality scores of subjects who scored in the upper 25 per cent in motor ability and the personality scores of subjects who scored in the lower 25 per cent in motor ability.

The subjects for this study were 808 boys from two four-year high schools in Iowa. The Phillips JCR Test and the California Psychological Inventory were administered to each subject at the beginning of the 1958-59 school year.

The findings showed that:

> (1) motor ability is related to personality traits, and (2) the upper motor ability group scored significantly higher than the lower motor ability group on the measures of poise, acceptance by others, ascendancy and self-assurance.[4]

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[3] J. Burton Merriman, "Relationship of Personality Traits to Motor Ability," Research Quarterly, May, 1960, p. 163-64.

[4] Ibid.

In another study Schendel[5] identified the psychological characteristics of athletes and nonathletes at three educational levels (ninth grade, twelfth grade and college junior and seniors) by administering the same assessment to subjects from each of the educational levels. An attempt was made to identify differences between the psychological characteristics of athletic groups which were made up of (a) outstanding, (b) regular and (c) substitute players in team sports. These classifications were based on playing skill and competitive spirit as rated by the coaches of the athletic subjects.

The subjects who provided the data for this study were 334 team sport athletes and nonathletes from the ninth and twelfth grades in the Eugene and Springfield, Oregon, public schools, and college men who were members of the junior and senior classes at the University of Oregon.

All subjects were given the California Psychological Inventory Test, in an attempt to determine if any difference existed. The California Psychological Inventory Test was designed primarily for use with what has been defined as the "normal" subject since the characteristics (scales) deal

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[5]Jack Schendel, "Psychological Difference Between Athletes and Nonparticipants in Athletics at Three Educational Levels," Research Quarterly, March, 1965, p. 52-53.

with concern for social living and social interaction. The raw inventory of each subject provided raw scores on 18 separate scales such as acceptance, self-assurance, ascendancy, sociability, social presence and tolerance.

The findings showed:

> (1) the use of the California Psychological Inventory Test in this study identified significant differences between the means of athletes and nonparticipants in athletics on eight scales at the ninth grade level, on four scales at the twelfth grade level and on nine scales at the college level, (2) there are specific differences between the psychological characteristics of athletes and nonparticipants in athletics at all three educational levels, (3) ninth grade athletes generally possess desirable personal-social psychological characteristics to a greater extent than nonparticipants in athletics from the same grade, (4) twelfth grade athletes generally possess desirable personal-social psychological characteristics to a greater extent than twelfth grade nonparticipants in athletics, (5) college men in the senior year who are nonparticipants in athletics generally possess desirable personal-social psychological characteristics to a greater extent than college athletes. The nonparticipants in athletics: (a) possess more of the qualities which lead to status, (b) are more capable of independent achievement, (c) have greater intellectual efficiency; and (d) are more adaptable in their thinking and social behavior; and (6) few differences in psychological characteristics exist between athletes rating as substitutes, regulars and outstanding athletes.[6]

Cooper[7] in his study reviewed the empirical work con-

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[6] Ibid. p. 66-67.

[7] Lowell Cooper, "Athletics, Activity and Personality: A Review of the Literature," Research Quarterly, March, 1969, p. 17-22.

cerning the relationship between athletes and various personality factors. "While no intellectual differences was noted, a greater motivation to achieve was noted among athletes. The personality features of athletes pointed to greater social adjustment and ascendancy."[8]

An attempt was made to separate conceptually athletic participation from the physical activity itself, and the point was underlined that the psychology of team membership may be different in important ways from the influence of physical activity on individuals because of the widely acknowledged importance of physical activity for both physical and psychological development.

The relationship between physical status or basic physical fitness elements and desirable social adjustment during adolescence has been studied by several investigators. Physically unfit boys and girls experience difficulty in day by day personal adjustment with others. Jones[9] stated that:

> (1) boys high in strength tend to have good physiques and tend to enjoy favorable social status during adolescence, and (2) boys who are low in strength show a tendency toward asthenic physiques, and have social difficulties and lack status with others.

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[8] Ibid. p. 20.

[9] Harold E. Jones, "Physical Ability as a Factor in Social Adjustment in Adolescence," Journal of Educational Research, December, 1946, p. 287-301.

Popp[10] was concerned with comparing the 20 boys with the lowest Physical Fitness Index and the 20 boys with the highest Physical Fitness Index in the sophomore high school class at Marshfield High School, Coos Bay, Oregon.

He arranged the 40 subjects in a single alphabetical list. Five judges (principal, vice-principal, dean of boys, and two physical educators) each independently selected the ten most desirable boys (those most nearly like sons they would like to have). Sixteen boys were named by at least one judge in the "desirable" classification. Of these, 11 (69%) had high PFI's and 5 (31%) had low PFI's. In selecting the "undesirable" boys, sixteen were choosen by at least one judge. Of this group, 4 (25%) had high PFI's and 12 (75%) had low PFI's. Thus the five judges, without knowledge of each boy's PFI, generally recognized in the boys with high scores on this test the many and varied traits they would like most to see in a son of their own.

The purpose of Tillman's[11] study was twofold: First, he investigated the differences in personality traits of

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[10] James Clark Popp, "Comparison of Sophomore High School Boys who have High and Low Physical Fitness Index Through Case Study Procedures," Unpublished Master's Thesis, (Eugene, Oregon: University of Oregon, 1959), p. 19.

[11] Kenneth Tillman, "Relationship Between Physical Fitness and Selected Personality Traits," Research Quarterly, December, 1965, p. 483-84.

physically fit high school boys and boys in a low state of physical fitness. The second phase consisted of setting up an experimental and a control group using the boys who ranked low on the chosen physical fitness test. The experimental group members were then compared with the control group subjects on the personality test after they had completed a 9-month physical fitness program.

In the first phase of this study 386 high school junior and senior boys from a Davenport, Iowa, high school were administered the 600 yard-run-walk and the pull up test. The boys who finished in the upper 15 per cent on those two tests were compared by use of a battery of personality tests with the boys who were in the lower 15 per cent. The personality tests used in this study were the (1) Cattell's Sixteen Personality Questionaire, (2) the Kuder Preference Record, and (3) A-S Reaction Study of Allport (ascendance-submission trait). There were 63 boys in the upper group and 50 boys in the lower group who completed the study.

The results of the study were:

> (1) the upper physical fitness group had a significantly higher ascendance rating on the A-S Reaction Scale Test than did the lower group, (2) a difference was found between the personality traits of the two extreme groups used in the study. The group that ranked in the upper 15 per cent on the physical fitness test was found to

> exhibit more dominance than the group that finished in the lower 15 per cent. The test results indicated that the physically fit group had personality traits that were more extroverted than those of the lower group. The upper group revealed personality traits that were more socially oriented than those of the lower group, and they were found to be more interested in people and group interaction; and (3) the experimental group changed significantly on only one out of twenty-eight personality trait measurements after a 9-month physical fitness program that resulted in a significant improvement in the physically fit. However, the experimental group improved significantly more than did the physical fit level of the control group which participated in the school physical education program.[12]

Yarnall[13] studied the relationship of physical fitness to selected measures of popularity among high school senior boys.

The subjects used in the study were 75 high school boys. They were tested during their regular physical education classes. The Motor Fitness Test I of the Indiana Motor Fitness Test for high school and college men was used to determine the physical fitness of each of the subjects.

A sociometric measure was administered to the subjects in order to determine who were the more popular members of the class. One sociometric criterion was used and worded as follows: "Name the five boys whom you like

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[12] Ibid. p. 88-89.

[13] C. Douglas Yarnall, "Relationship of Physical Fitness to Selected Measures of Popularity," Research Quarterly, May, 1966, p. 286-88.

best in the senior class." The subjects whose names were mentioned most often were considered the more popular students.

Yarnall concluded that the findings of the study showed that there tends to be a positive relationship between popularity and physical status, and between physical strength and athletic ability. Therefore, physical fitness may be of some social value to the high school students.

II. MOTOR ABILITY AND ADJUSTMENT

Carter and Shannon[14] in their study found no significant difference between adjustment (as measured by the Symonds Adjustment Questionnaire) of athletes and nonathletes. They found that the nonathletes excelled in the "academic" items of adjustment (curriculum, administration, and teacher ratings), and the athletes excelled in the "social" items of adjustment (social life of the school, other pupils' ratings, home and family). However, they found no significant differences between teachers', coaches', and principals' ratings of athletes and teachers', coaches', and principals' ratings of nonathletes.

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[14] Gerald C. Carter, and J. R. Shannon, "Adjustment and Personality Traits of Athletes and Nonathletes," School Review, February, 1940, p. 127-130.

Biddulph[15] measured the personal and social adjustment of high school boys high in athletic achievement with the adjustment of boys low in athletic achievement.

The general procedures of the study were:

1. Measurement of athletic achievement, classification and rating of 461 boys in the sophomore and junior physical education classes at Granite and West High Schools in Salt Lake City, Utah, to determine a high athletic achievement group and a low athletic achievement group.

2. Measurement of personal and social adjustment of the two comparison groups.

3. Comparison of mean and standard deviations of the two comparison groups using the critical ratio technique.

The following procedure and tests were used to compare the high and low athletic achievement groups in social and emotional adjustment:

1. The California Test of Personality (Adult Series) was used to determine the extent to which the individual has developed a normal, happy, and socially effective personality.

2. All high-school grades earned by the students in the two groups were obtained and grade point averages were

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[15]Lowell G. Biddulph, "Athletic Achievement and the Personal and Social Adjustment of High School boys," Research Quarterly, March, 1954, p. 1-2.

calculated to obtain an index of scholastic achievement.

3. Four different teachers rated each student on a prepared form which included six adjustment items with scores ranging from one to seven. Adjustment scores were determined on the following items: (a) social adjustment, (b) scholastic achievement, (c) attitude toward school, (d) general appearance; and (e) checking of positive and negative traits which best described the student.

4. A sociogram was administered to the 461 students who were involved in the study to determine whether the well-adjusted individuals were choosen more frequently by their associates in work, play and social situations and whether they listed a greater number of associates as friends.

The major findings were as follows:

> (1) the superior athletic achievement group showed a higher mean self-adjustment score on the California Test of Personality, (2) the higher athletic achievement group showed superior achievement in school as measured by grade point average, (3) members of the superior athletic achievement group was rated considerable higher on items of adjustment by their respective teachers, (4) members of the superior athletic group listed more personal friends and were choosen more frequently by associates in work, play and social situations; and (5) because of the significant relationship between athletic achievement and personal and social adjustment as indicated, it becomes

important for all boys, instead of a specialized few, to develop motor ability.[16]

The purpose of Olson's[17] study was twofold: (1) to study the effectiveness of a supplementary physical education program in improving selected motor skills of primary school children demostrating low achievement in motor skill and deficiency in behavior adjustment, and (2) to investigate the behavior adjustment of these children who participated in the supplementary physical education program.

The subjects used in the study were 42 boys and 43 girls selected from among 783 primary school students (grades 1, 2, and 3) of Cedar Rapids, Iowa. Students demostrating both low achievement in motor skills and deficiency in behavior adjustment were randomly assigned to the experimental instruction group, the experimental noninstructional group, or to the deviant control group. Subjects randomly selected from among students who were not deficient in behavior adjustment and were not rated below average in motor skills constituted the normal control group.

Four motor skill tests (jump and reach, zig zag run, throw and catch, and kicking) and two tests of behavior adjustment (sociometric tests and behavior adjustment rating

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[16] Ibid. p. 6-7.

[17] David M. Olson, "Motor Skill and Behavior Adjustment: An Exploratory Study," Research Quarterly, May, 1968, p. 321-22.

scales) were used to obtain data relative to motor skill and behavior adjustment.

Motor skill tests and tests of behavior adjustment were administered to each subject at the beginning of the study and again one year later. The rating scale was used to determine the teacher's evaluation of the behavior adjustment of each of her students. Fifteen conduct problems and fifteen personality problems were included in the rating scale. Thus, "a conduct score, personality score, and a composite score was determined for each subject."[18]

The findings in this study appear to warrant the following conclusions:

> (1) primary school children, deficient in behavior adjustment and poor in motor skills who participated in a supplemental physical education program achieve a greater level of motor performance than a corresponding group of children who do not participate in a supplemental physical education program. Low skilled children who participated in a supplemental physical education program may attain a level of motor performance exhibited by normal primary school children who do not participate in supplemental physical education programs, (2) improvement in the behavior adjustment of primary school children, deficient in behavior adjustment and poor in motor skills, as a consequence of participants in a supplemental physical education program was not established; and (3) primary school children, deficient in behavior adjustment and poor in motor skills, who participated in a supplemental physical education program, together with instruction in motor skills, do not

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[18] Ibid. p. 322-23.

demonstrate greater improvement in motor skills, than a corresponding group of children who participated in a supplemental physical education program in which no instruction is given. Instruction in motor skills may aid in the subsequent retention of such skills.[19]

III. SUMMARY OF LITERATURE

The literature that has been reviewed in this chapter shows a relationship between motor ability and personality. Students who tend to rank high in motor ability tend to excel in other aspects of life. They are developed more socially. They have more personal friends and are choosen more frequently by associates in work, play and social situations. These students tend to enjoy favorable social status during adolescence and rank high in popularity with others. They tend to achieve academic performance and rate high with others. Because of the significant relationship between motor ability and personal and social adjustment it becomes important for all students, instead of a specialized few, to develop motor ability.

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[19] Ibid. p. 325-26.

CHAPTER III

METHODS AND PROCEDURES

I. SUBJECTS

The subjects who participated in this study were fourth, fifth, and sixth grade students at the Sacred Heart School in Emporia, Kansas. Of the 105 subjects two were excluded because of medical reasons. This population was choosen because all of the teachers involved in this study were acquainted with all of the subjects.

II. TESTING PROCEDURES

In order to determine the motor ability of the subjects the Peacock Achievement Scale was administered to the subjects.

The test was conducted in accordance with standard procedures described by Peacock[20] with the exception of three changes made by the investigator. In this test, Peacock suggested that a tennis ball and a volleyball be used by the 7-9 year old group when throwing and punting for distance. In this study a tennis ball was used when

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[20]William H. Peacock, "Achievement Scales in Physical Education Activities for Boys and Girls," University Research Council, (Chapel Hill: University of North Carolina), 1964.

throwing for distance, and a soccer ball was used when punting for distance so that all subjects used the same type ball.

Peacock also stated that when throwing and punting for distance the subject may stand at any distance he chooses behind the restraining line in making his run up to the line prior to throwing or punting. In this study the subjects were allowed a twelve foot area in which to make their run before throwing or punting the ball. (Refer to Appendix A for instruction in administering the Peacock Achievement Scale)

Each subject was required to wear tennis shoes and gym shorts while participating in the tests. Three afternoons were used to administer the grip strength test, the side stepping test and the standing broad jump test. This was done in the gymnasium. Five afternoons were used to administer the tennis ball throw test, the soccer ball punt test and the forty yard dash test. This was done outside on a hard surfaced playground. Both the boys and girls participated in the tests at the same time.

Each subject was individually instructed on the rules to follow in taking each test. This instruction was done just prior to the subjects taking of each test.

Two junior high school boys at the Sacred Heart School were used as helpers during the test administration. They helped the investigator in starting, in measuring and in watching for fouls at the restraining lines.

III. SELECTION PROCEDURES

Three teachers and the principal at the Sacred Heart School were asked to select ten boys and ten girls they would consider as desirable and undesirable sons and daughters. These four faculty members were choosen because they had had all the students in their classes.

An alphabetized list of all boys was submitted to the teachers. They were asked to select the ten boys that they would consider as most desirable as sons and the ten boys they would consider undesirable as sons. They were instructed to place a D in front of the name of the desirable sons and a U in front of the name of the undesirable sons. This list was given to the teachers on a Monday and was returned to the investigator the following Wednesday.

At this time these same selectors were given an alphabetized list of all girls who participated in the test. They were asked to select ten girls they would consider as desirable as daughters and ten girls they would consider

undesirable as daughters. They were again instructed to place a D in front of the name of the desirable daughters and a U in front of the name of the undesirable daughters. The list of the teachers selections was returned on Friday.

There were no established criteria that the teachers followed in making their selections of desirable and undesirable students. The teachers made their selections independently.

IV. STATISTICAL PROCEDURES

The data collected on each of the motor skill tests was converted to T Scale Scores. The T Scale Scores were established in relationship to each subject's grade level and sex. A Composite T Scale Score of all the motor skill items was calculated separately for each boy and girl in accordance to his sex and grade level. These Composite T Scale Scores were then arranged in lists from the highest to the lowest score. Each of these lists contained only the data for one sex and one grade level. Each of these lists were then divided in half so that the upper half were in one group and the lower half in the other group. This was done so that it would be possible to determine how many desirable and undesirable subjects ranked in the upper half on the

Peacock Achievement Scale and how many desirable and undesirable subjects ranked in the lower half. The scores that constituted the upper and lower half was determined by the number of subjects in each grade. When there was an even number of subjects they were divided in half and the same number of scores in the upper half as in the lower half. When there was an odd number of subjects in a group they were again divided into an upper half and a lower half, but when a subject's score was the odd score and he had been selected as desirable or undesirable half of his selections were placed in the upper half and half were counted in the lower half. (Refer to Appendix B for each subject's Peacock Achievement Scale Scores) This data was used to determine the relationship between motor ability and desirability.

CHAPTER IV

ANALYSIS OF DATA

The data were analyzed by:

1. Determining how many students who ranked high in motor ability were selected as desirable.

2. Determining how many students who ranked high in motor ability were selected as undesirable.

3. Determining how many students who ranked low in motor ability were selected as desirable.

4. Determining how many students who ranked low in motor ability were selected as undesirable.

The teachers' selections of fourth grade girls had no (0%) desirable selections in the upper half on the Peacock Achievement Scores and four (10%) desirable selections in the lower half on the Peacock Achievement Scores. There were nine (22.5%) undesirable selections in the upper half on the Peacock Achievement Scores and three (7.5%) undesirable selections in the lower half on the Peacock Achievement Scores. (Refer to Table I for selections of 4th grade girls)

TABLE I

SELECTION OF 4TH GRADE GIRLS

Subject	Composite T Scores	No. of times picked as Desirable	No. of times picked as Undesirable
42	411.6	0	1
13	394.3	0	4
20	380.3	0	0
22	378.9	0	0
33	349.2	0	4
			---**
27	349.0	2	0
17	342.6	2	0
1	312.8	0	0
8	274.0	0	2
21	263.3	0	1

**Indicates division line between upper half and lower half on Peacock Achievement Scores

The fifth grade girls had 11 (27.5%) desirable selections in the upper half on the Peacock Achievement Scores and eight (20%) desirable selections in the lower half on the Peacock Achievement Scores. There were 8.5 (21%) undesirable selections in the upper half on the Peacock Achievement Scores and 11.5 (29%) undesirable selections that had scores in the lower half on the Peacock Achievement Scores. (Refer to Table II for selections of 5th grade girls)

TABLE II

SELECTION OF 5TH GRADE GIRLS

Subject	Composite T Score	No. of times picked as Desirable	No. of times picked as Undesirable
32	422.8	4	0
16	400.0	0	1
26	399.5	2	0
6	391.6	1	2
18	382.6	2	0
9	370.2	1	1
10	349.6	1	0
34	327.5	0	3
29	315.5	0	3----**
25	312.7	0	2
43	303.1	0	2
11	293.0	0	0
12	285.1	1	0
28	284.3	1	2
2	279.1	1	3
44	261.7	2	0
45	254.8	3	1

**Indicates division line between upper half and lower half on Peacock Achievement Scores

There were seven (17.5%) sixth grade girls selected as desirable in the upper half on the Peacock Achievement Scores and 10 (25%) desirable selections in the lower half on the Peacock Achievement Scores. There was one (2.5%)

undesirable selection in the upper half on the Peacock Achievement Scores and there were seven (17.5%) undesirable selections in the lower half on the Peacock Achievement Scores. (Refer to Table III for selection of 6th grade girls)

TABLE III

SELECTION OF 6TH GRADE GIRLS

Subject	Composite T Scores	No. of times picked as Desirable	No. of times picked as Undesirable
31	411.1	1	1
15	375.1	1	0
35	360.6	0	0
36	357.1	0	0
19	346.1	0	0
24	341.7	2	0
7	340.0	1	0
41	339.0	1	0
37	333.7	1	0
23	332.4	2	0---**
38	320.7	1	1
5	319.0	3	0
4	306.3	1	0
46	303.4	0	0
3	303.2	0	0
30	297.0	1	2
14	290.8	2	1
39	276.4	1	0
40	235.3	0	3

**Indicates division line between upper half and lower half on Peacock Achievement Scores

As a result of the teachers' selections of desirable and undesirable girls there were 18 (45%) of the desirable girls in the upper half on the Peacock Achievement Scores and 22 (55%) of the desirable selections in the lower half on the Peacock Achievement Scores. There were 18.5 (46%) of the undesirable selections in the upper half on the Peacock Achievement Scores and 21.5 (54%) of the undesirable selections in the lower half on the Peacock Achievement Scores.

From the results of the teachers' selections of desirable and undesirable boys the 4th grade boys had 12 (30%) desirable selections in the upper half on the Peacock Achievement Scores and one (2.5%) desirable selection in the lower half on the Peacock Achievement Scores. There was one (2.5%) undesirable selection in the upper half on the Peacock Achievement Scores and 12 (30%) undesirable selections in the lower half on the Peacock Achievement Scores. (Refer to Table IV for the selection of 4th grade boys)

There were 16 (40%) desirable selections in the upper half on the Peacock Achievement Scores and two (5%) desirable selections in the lower half on the Peacock Achievement

TABLE IV

SELECTION OF 4TH GRADE BOYS

Subject	Composite T Score	No. of times picked as Desirable	No. of times picked as Undesirable
65	404.5	2	0
88	401.2	1	0
51	391.7	2	0
78	386.3	3	0
98	374.6	0	1
53	356.2	1	0
77	351.8	0	0
52	348.1	1	0
69	342.5	1	0
68	338.4	1	0
50	321.8	0	0---**
90	318.7	1	1
62	318.2	0	2
99	309.5	0	1
86	302.7	0	0
74	296.6	0	0
84	296.4	0	0
60	295.1	0	0
91	269.1	0	4
48	265.8	0	3
71	209.8	0	1

**Indicates division line between upper half and lower half on Peacock Achievement Scores

Scores. There were no (0%) undesirable selections in the upper half on the Peacock Achievement Scores and five

(12.5%) undesirable selections in the lower half on the Peacock Achievement Scores. (Refer to Table V for the selection of 5th grade boys)

TABLE V

SELECTION OF 5TH GRADE BOYS

Subject	Composite T Scores	No. of times picked as Desirable	No. of times picked as Undesirable
64	410.7	4	0
75	408.5	2	0
80	397.9	0	0
95	360.5	3	0
72	353.4	3	0
102	338.8	3	0
79	338.3	1	0
54	328.1	0	0
76	328.0	0	2---**
57	317.4	2	0
103	315.4	0	2
83	315.3	0	0
67	307.1	0	1
66	289.5	0	0
56	269.6	0	0
49	260.3	0	0

**Indicates division line between upper half and lower half on Peacock Achievement Scores

From the teachers' selections of 6th grade boys there were eight (20%) desirable selections in the upper half on

the Peacock Achievement Scores and one (2.5%) desirable selection in the lower half on the Peacock Achievement Scores. There were nine (22.5%) undesirable selections in the upper half on the Peacock Achievement Scores and 13 (32.5%) undesirable selections in the lower half on the Peacock Achievement Scores. (Refer to Table VI for selections of 6th grade boys)

TABLE VI

SELECTION OF 6TH GRADE BOYS

Subject	Composite T Score	No. of times picked as Desirable	No. of times picked as Undesirable
58	412.4	0	1
85	402.0	0	2
47	401.1	0	3
97	376.8	1	0
63	376.1	2	0
87	358.7	0	2
73	341.8	1	1
81	331.5	0	0
59	325.5	2	0
98	322.9	2	0
			---**
96	321.1	0	0
89	308.5	0	1
92	297.7	0	0
100	293.7	0	2
101	293.3	1	0
82	292.2	0	1
55	288.6	0	0
61	287.5	0	3
70	284.9	0	3
93	250.2	0	3

**Indicates division line between upper half and lower half on Peacock Achievement Scores

As a result of the teachers' selections of desirable and undesirable boys there were 36 (90%) of the desirable selections in the upper half on the Peacock Achievement Scores and 4 (10%) of the desirable selections in the lower half on the Peacock Achievement Scores. There were 10 (25%) of the undesirable selections in the upper half on the Peacock Achievement Scores and 30 (75%) of the undesirable selections in the lower half on the Peacock Achievement Scores.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, COMMENT AND RECOMMENDATIONS

I. SUMMARY

This study investigated the relationship between a student's motor ability and his being selected as desirable or undesirable by his teachers.

The Peacock Achievement Scale was administered to fourth, fifth and sixth grade students at the Sacred Heart School in Emporia, Kansas. Three teachers and the principal at this school selected those students whom they considered desirable and undesirable.

II. FINDINGS

1. Eighteen of the girls selected as desirable and 18.5 of the girls selected as undesirable ranked in the upper half on the Peacock Achievement Scores.

2. Thirty-six of the boys selected as desirable and 10 of the boys selected as undesirable ranked in the upper half on the Peacock Achievement Scores.

III. CONCLUSIONS

Within the limits of this study, the following conclusions seem justified:

1. There is no relationship between girls' motor ability and desirability.

2. There is a positive relationship between boys' motor ability and desirability.

IV. COMMENT

The teachers who selected the desirable and undesirable subjects were all females. The investigator felt that this may have had some influence on the different results obtained for the boys and the girls.

V. RECOMMENDATIONS FOR FURTHER STUDY

With the educational program being concerned with developing the individual physically, mentally, socially and intellectually, research must be continued so as to find a way to develop the whole individual.

The following are suggestions for further research:

1. Perform similar studies using:
   a. High school girls and male instructors.
   b. High school girls and female instructors.
   c. High school boys and male instructors.
   d. High school boys and female instructors.
2. Conduct a study in which the motor ability of the youngest child in the family is compared to the motor ability of the only child in the family.

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APPENDIX A

TENNIS BALL THROW FOR DISTANCE

Each subject was given ten practice throws. Each subject was allowed to stand twelve feet behind the restraining line. In making the throw he was allowed to run up to the line but not cross it. He could throw the ball in any method he choose, such as overhand, underhand or side arm. The thrower was permitted four throws. The longest throw was measured to the nearest foot.

SOCCER PUNT FOR DISTANCE

The subject held the soccer ball in his hand while he was standing behind the restraining line. He could take several steps and then punt the ball for distance or he could stand in one place and punt the ball. It was a foul to step over the restraining line. The ball was marked where it first touched the ground. One practice punt was permitted and then three trials were taken and the longest was measured to the nearest foot.

FORTY-YARD DASH

In this event the standing start was used. The starter raised his arm and gave the command, "Ready,"

"Go!" The starter brought his hand down when he gave the command. At the command the subject started his run and the timer, stationed at the finish line, started his stop watch. The timer stopped his watch as the runner crossed the finish line. Each subject in this study ran the race separately because the investigator used only one stop watch. The score was the elapsed time recorded to the nearest 10th of a second.

STANDING BROAD JUMP

A take off line was drawn on the gymnasium floor. The subject took a position with toes just touching the take off line, feet slightly apart. Taking off from both feet simultaneously, he jumped as far as possible, landing on both feet. In jumping he crouched slightly and swung his arms to aid the jump. Three trials were permitted. The jumps were measured from the take off line to the point closest to the line which the subject touched with any part of his body. The longest jump was measured to the nearest inch.

SIDE STEPPING

Three parallel lines were drawn four feet apart on tho gymnasium floor. The subject took his standing position astride the middle line. On the signal "Go" he side step-

ped to the right until his right foot touched or passed the side line. He then side stepped to his left until his left foot touched or passed the left side line. He repeated this right to left and left to right movement as rapidly as possible for fifteen seconds. The subject faced forward throughout the test. If he crossed his feet or did not touch the line he repeated the test after a thirty second rest period. The score was the number of times the subject crossed the middle line in fifteen seconds.

GRIP STRENGTH

The subject grasped the dynamometer in his hand and assumed a position with his arm straight above his head. The concave portion of the dynamometer is held against the first and second joints of the fingers and the convex portion against the base of the hand. The face of the indicator was turned away from the palm of the hand so it could be easily read and also so the indicator would have freedom of movement. In taking the test the subject's elbow had to be slightly bent and his hand described a sweeping arc downward as he squeezes the dynamometer. The hand was not permitted to touch the body. The right hand was tested first then the left. The score was taken for each hand and recorded to the nearest pound.

APPENDIX B

PEACOCK SCORES AND TEACHER SELECTIONS FOR 4TH GRADE GIRLS

Subject	Age	Tennis B. Throw	Soccer Punt	40 Yd. Dash	St.B. Jump	Side Step	Total G.St.	Composite T Score	No. of times picked as Desirable	No. of times picked as Undesirable
42	9-8	35	42	7.6	47	9	25	411.6	0	1
13	10-2	53	30	7.5	46	9	25	304.3	0	4
20	10-2	80	37	8.3	44	8	32	380.3	0	0
22	9-9	67	25	7.9	47	8	24	378.9	0	0
33	9-10	54	27	7.8	44	9	27	349.2	0	4
27	9-7	72	41	9.0	47	8	19	349.0	2	0
17	9-7	45	31	7.8	51	6	25	342.6	2	0
1	10	59	27	8.3	46	7	22	312.8	0	0
8	10-4	73	19	8.6	38	6	18	274.0	0	2
21	9-10	60	12	8.4	37	7	13	263.3	0	1

PEACOCK SCORES AND TEACHER SELECTIONS FOR 5TH GRADE GIRLS

Subject	Age	Tennis B. Throw	Soccer Punt	40 Yd. Dash	St.B. Jump	Side Step	Total G.St.	Composite T Score	No. of times picked as Desireable	No. of times picked as Undesireable
32	11-1	86	49	7.2	52	9	35	422.8	4	0
16	10-11	89	49	7.6	50	9	28	400.0	0	1
26	10-11	86	52	7.5	48	10	30	399.5	2	0
6	10-6	63	47	7.1	54	9	45	391.6	1	2
18	10-10	70	38	7.0	52	8	28	382.6	2	0
9	10-5	65	39	7.3	49	9	49	370.2	1	1
10	11-3	67	40	7.1	48	8	38	340.6	1	0
34	11-2	73	39	7.5	48	8	28	327.5	0	3
29	11-3	59	35	7.5	49	7	39	315.5	0	3
25	10-6	77	31	8.2	42	9	20	312.7	0	2
43	10-4	80	34	7.8	48	8	25	303.1	0	2
11	10-8	57	37	7.3	49	7	19	293.0	0	0
12	10-3	52	30	7.6	37	8	33	285.1	1	0
28	10-3	64	25	8.5	47	8	22	284.3	1	2
2	10-7	55	27	8.0	37	9	17	279.1	1	3
44	10-3	62	24	8.5	38	8	19	261.7	2	0
45	10-9	45	16	8.0	41	8	25	254.8	3	1

PEACOCK SCORES AND TEACHER SELECTIONS FOR 6TH GRADE GIRLS

Subject	Age	Tennis B. Throw	Soccer Punt	40 Yd. Dash	St.B. Jump	Side Step	Total G.St.	Composite T Score	No. of times picked as Desirable	No. of times picked as Undesirable
31	11-7	84	51	6.3	71	10	44	411.1	1	1
15	11-8	78	42	6.8	64	12	43	375.1	1	0
35	11-5	72	47	6.6	63	11	36	360.6	0	0
36	11-8	120	39	6.6	62	8	28	352.0	0	0
19	11-9	78	62	7.9	51	9	30	346.1	0	0
24	12-1	73	30	6.6	69	10	37	341.7	2	0
7	12-2	62	43	7.2	54	10	45	340.0	0	0
41	12-5	100	60	7.4	52	8	28	339.0	1	0
37	12	97	48	6.9	60	9	32	333.7	1	0
23	11-9	100	49	7.0	55	10	29	332.4	2	0
38	11-10	103	52	7.7	46	8	43	320.7	1	1
5	11-11	55	45	6.7	54	11	30	319.0	3	0
4	11-11	62	44	7.3	54	10	30	306.3	1	0
46	12-1	67	35	7.7	55	10	39	303.4	0	0
3	11-3	66	42	7.2	48	10	30	303.2	0	0
30	11-6	79	26	7.0	57	9	34	297.0	1	2
14	11-4	75	41	7.4	51	9	28	290.8	2	1
39	11-5	60	31	7.3	47	10	34	287.4	1	0
40	11-8	62	31	8.5	40	8	19	235.3	0	3

PEACOCK SCORES AND TEACHER SELECTIONS FOR 4TH GRADE BOYS

Subject	Age	Tennis B. Throw	Soccer Punt	40 Yd. Dash	St.B. Jump	Side Step	Total G.St.	Composite T Score	No. of times picked as Desirable	No. of times picked as Undesirable
64	10-2	102	47	6.7	66	10	27	404.5	2	0
88	10-6	111	70	6.8	55	8	37	401.2	1	0
51	10	116	51	7.0	53	10	32	391.7	2	0
78	9-5	106	71	7.1	54	9	31	386.3	3	0
94	9-10	110	59	6.9	59	9	33	374.6	0	1
53	10-4	95	46	7.4	50	10	37	356.2	1	0
77	9-4	100	57	7.5	49	9	42	351.8	0	0
52	9-6	93	32	7.0	53	10	32	348.1	1	0
69	10-3	101	60	7.5	50	9	31	342.5	1	0
68	10-1	81	43	7.0	50	8	42	338.4	1	0
50	9-7	91	51	7.1	48	9	26	321.8	0	0
90	10-7	103	54	7.4	52	8	25	318.7	1	1
62	10-8	104	44	7.4	53	8	33	318.2	0	2
99	9-11	95	55	7.6	47	9	25	309.5	0	1
86	10-2	108	51	7.8	40	8	34	302.7	0	0
74	10-1	96	47	7.8	45	9	26	296.6	0	0
84	9-11	108	49	7.2	39	8	28	296.4	0	0
60	9-3	85	42	7.0	49	8	26	295.1	0	0
91	9-6	67	18	7.1	48	6	28	269.1	0	4
48	10-5	75	37	8.7	51	7	29	265.8	0	3
71	10	63	17	9.5	30	7	10	209.8	0	1

PEACOCK SCORES AND TEACHER SELECTIONS FOR 5TH GRADE BOYS

Subject	Age	Tennis B. Throw	Soccer Punt	40 Yd. Dash	St.B. Jump	Side Step	Total G.St.	Composite T Score	No. of times picked as Desirable	No. of times picked as Undesirable
65	11-3	111	65	6.5	60	10	36	410.7	4	0
75	10-10	135	73	6.1	55	9	35	408.5	2	0
80	10-6	108	84	6.8	55	9	42	397.9	0	0
95	10-7	81	49	7.1	59	9	33	360.5	3	0
72	10-7	111	71	6.6	56	9	29	359.4	3	0
102	10-10	98	62	6.9	55	9	35	338.8	2	0
79	11	95	46	6.9	61	9	26	338.3	1	0
54	10-8	99	62	7.5	52	10	29	328.1	0	0
76	11-2	88	57	7.4	52	9	43	328.0	0	2
57	10-4	95	34	7.0	53	10	32	317.4	2	0
103	11-2	100	64	7.4	56	8	36	315.4	0	2
83	10-8	108	49	7.3	39	8	28	315.3	0	0
67	12	111	35	7.4	47	9	35	307.1	0	1
66	10-11	122	53	7.9	48	9	30	289.9	0	0
56	10-6	100	43	7.2	46	7	25	269.6	0	0
49	10-10	91	42	7.5	35	9	22	260.3	0	0

PEACOCK SCORES AND TEACHER SELECTIONS FOR 6TH GRADE GIRLS

Subject	Age	Tennis B. Throw	Soccer Punt	40 Yd. Dash	St.B. Jump	Side Step	Total G.St.	Composite T Score	No. of times picked as Desirable	No. of times picked as Undesirable
58	12-6	129	70	6.8	57	11	56	412.4	0	1
35	11-8	115	64	6.8	58	12	64	402.0	0	2
47	12-7	122	63	6.9	59	12	60	401.1	0	3
97	12-1	140	49	7.0	60	9	54	376.8	1	0
63	12-4	116	72	7.0	60	8	41	376.1	2	0
87	11-11	116	58	7.0	61	11	34	359.7	0	2
73	11-7	142	68	7.3	53	10	32	341.8	1	1
81	11-8	134	51	7.0	54	10	50	331.5	0	0
59	12-3	113	51	7.4	59	11	55	325.5	2	0
98	11-4	125	68	7.4	49	11	41	322.9	2	0
96	11-4	126	62	7.0	48	9	47	321.1	0	0
89	11-9	97	57	7.0	57	10	25	309.5	0	1
92	11-4	129	69	7.9	51	9	33	297.7	0	0
100	12-2	86	52	7.2	55	11	17	293.7	0	2
101	11-11	109	45	7.3	57	9	34	293.3	1	0
82	12	115	62	7.5	51	8	38	292.2	0	1
55	11-10	90	49	7.0	54	8	37	288.6	0	0
61	11-9	100	54	7.0	53	8	25	287.5	0	0
70	11-4	86	41	7.5	59	11	34	284.9	0	3
93	11-11	85	47	7.1	38	8	29	250.2	0	3