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A Comparative Study of Selected Physical Activity Skills on the Fifth and Sixth Grade at Storm Elementary School in San Antonio, Texas

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A COMPARATIVE STUDY OF SELECTED PHYSICAL ACTIVITY
SKILLS ON THE FIFTH AND SIXTH GRADE
A STORM ELEMENTARY SCHOOL IN
SAN ANTONIO, TEXAS



HAYWOOD
1968

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AT STORM ELEMENTARY SCHOOL IN
SAN ANTONIO, TEXAS

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Presented to
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Master of Science in Education

by
Charles A. Haywood

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C.A.H.

DEDICATION

For inspiration, encouragement, and assistance the writer is grateful to his parents, Mr. and Mrs. Emmett Haywood; his wife, Ruthie; and daughter, Sonya.

G.A.H.

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CHAPTER I

INTRODUCTION

Past research has proven, the average American youth is potentially the world's best physical specimen. He is taller than his age-mates in Japan, heavier than his brothers in Britain, and more free of disease than youths of Africa and Asia. But he is only potentially a fine example of good health and physical development; muscles and bones must be used if they are not to become so much dead weight on the complex mechanism of life, and health that is free from disease is not the same thing as physical fitness which is strength and endurance.

Throughout the history of mankind, physical fitness has often been an important objective of various groups. The earliest human beings were dependent mainly upon their individual strength, vigor, and vitality for physical survival, which involved such basic skills: ability, balance, running, climbing, and other skills employed in hunting for food, fighting animals and other groups of humans, providing adequate shelter and clothing, and other survival. It is evident that at first men were physical educators in the sense that they trained their youth in a variety of physical skills and other attributes necessary to survival.¹

¹Eugene W. Nixon and F. W. Cozens, An Introduction to Physical Education (London: W. B. Saunders Company, 1961), p. 208.

Most Americans are startled to learn that research indicates youth of foreign countries are physically more fit than our boys and girls.

Forbes in referring to a statement by Hersey reports:

Since October 1948, of some six million young men examined for military duty, more than a million have been rejected for physical reasons alone. Of these physically unaccepted men, a substantial number were in the preventible catalog and would not have been rejected had they participated in adequate physical developmental programs.²

In America today, we live in an automated civilization where the genius of man has removed the necessity for much of the physical activities from our daily lives. Carriages, automobiles, lack of physical education in our elementary schools, lack of recreational facilities in our communities are contributing factors to the decline of physical fitness.³

In physical fitness, strength and ability is one of the important basic components of motor skills. Movement is a fundamental dimension of large muscles, and internal smooth muscle acts to integrate and nourish these observable movements. Manual skill enables some of earn their livilihoods while accurate movement of large muscles allows others to express themselves in sports and games.

Physical Education is a medium for developing physical, mental, emotional, moral and social aspects of the student so that he may live effectively in a democratic society. The physical education program

²Ted Forbes, "Physical Fitness and Our Youth," The Bulletin of the National Association of Secondary School Principals, Vol. XLVI, No. 272 (March, 1962), p. 156.

³Bryant J. Grattz, Movement, Behavior and Motor Learning. (Philadelphia: Lea and Febiger, 1964), pp. 4-5.

contributes to the students total growth and development through forming good health habits, maintaining a balance between work and play, and developing a cheerful attitude toward life.

In recent years there has been an increase in the physical fitness of our youth. This concern has been expressed at our highest government levels and has provided the stimulus for new fitness programs.⁴

THE PROBLEM

Statement of the problem. The problem that was undertaken in this study was to compare twenty boys from the fifth grade and twenty boys from the sixth grade at Ollie Storm Elementary School. A physical fitness test was given to determine if there were any differences in the skills that they performed according to their age, height, and weight.

Importance of the study. The importance of this study is to design some satisfactory measurement of achievement in selected physical skills for twenty boys of the fifth grade and twenty boys of the sixth grade.

This was to get a true evaluation of their skills when compared to one another according to age, height, and weight.

Since the only way to develop true physical fitness is through exercise, and by taking a critical look at the physical education

⁴Secondary Physical Education Teaching Guide, Boys Grade 7-9, (Corpus Christi Public Schools, 1965), pp. 27-29.

program in Ollie Storm Elementary School, the program should be set up to suit and accomodate each individual.

The problem has significance for the program of expansion of opportunities for improving the physical fitness of students at Ollie Storm Elementary School. Southers and others have stated:

With the public conscience demanding of the health of the child and the school medical development of a simple economic but accurate means of assuring the child's state of well being of a physical fitness is in order.⁵

The problem was a comparative study of physical fitness as measured by the American Association for Health, Physical Education and Recreation Youth Fitness Test. The problem of this thesis is to compare the physical fitness skills of the fifth, sixth grade boy students of Ollie Storm Elementary School, according to their age, height, and weight in performing these physical skills and to motivate the pupils toward a higher level of physical fitness.

Storm School. A predominately Latin-American school with an enrollment of 1100 students located in San Antonio, Texas. The population of San Antonio, Texas is 750,000 with sixty per cent of its population being of Latin-American, twenty per cent being Anglo-American and the other fifteen per cent being American Negro. San Antonio is a military town with a Spanish background.

⁵S. P. Southers and others, " A Comparison of Devices Used in Judging the Physical Fitness of School Children." American Journal of Public Health, Vol. XXIX, No. 5 (May, 1939), p. 434.

DEFINITION OF TERMS

Most of the terms in this study are common to the education profession. The following terms are defined for clarification.

American Association of Health, Physical Education and Recreation. An organization of professional persons in the field of Health and Physical Education.

Physical fitness. The functional capacity of the individual for a task including strength and endurance.⁶

Pull-up. The pulling up of the body to where the chin touches the top of a parallel bar which is at a greater height than the students with raised arms. The palms shall be forwarded.⁷

Shuttle run. With two parallel lines, thirty feet apart, two blocks placed behind either, pupil runs to the block from the opposite line, picks up one block and returns it to the starting line, placing it behind it. He then returns for the second block and repeats procedures.⁸

Sit-up. The pupil lies on his back with his fingers interlocked behind his head. Another pupil holds his ankles. Pupil sits

⁶American Association for Health, Physical Education and Recreation. AAHPER Youth Fitness Test Manual (Washington, D.C.: The Association, 1962), p. 16.

⁷Ibid., p. 5.

⁸Ibid., p. 8.

up keeping fingers locked, touches right knee with his left elbow. He lies back to the spine, repeats the sitting alternating his elbows to the knees.⁹

Fifty-yard dash. Pupil runs as fast as he can for a 50-yard distance.¹⁰

LIMITATION OF STUDY

The following limitations were imposed upon the study:

(1) twenty boys from the fifth grade and twenty boys from the sixth grade, (2) the boys from each class will be selected according to age, height, and weight, (3) the study was limited to those who were physically fit in the past activities and those who enjoyed participation.

PROCEDURES AND METHODS

In this study the skills which are selected are skills in running, pulling up, sitting up. These skills were selected from American Association for Health Physical Education and Recreation Physical Fitness Test Manual. The test was administered in March of 1968 at Ollie B. Storm Elementary School. The four tests that were given were 50-yard dash, sit-ups, pull-ups and shuttle run. The scores were compared according to the boys age, weight, and height, to see if there is any difference. The age groups are 11 and 12 year olds. Skills are those activities which the forty selected students will perform.

⁹Ibid., p. 9.

¹⁰Ibid., p. 10.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

Physical fitness of youth is a topic of great national interest today. It is being discussed throughout the land at meetings, conferences, on radio, on television programs, in the press, and in most commercial magazines. Medical doctors, school authorities, private and public organizations, youth agencies, and service clubs are showing increasing interest for the physical fitness of our youth.¹¹

Much has been done in regard to physical fitness of the American youth; but only a brief results of the work on studies closely related to the one at hand will be given.

The Armed Forces find many young men to be lacking in arm and shoulder strengths and unable to pass the required physical test. Duncan found that over fifty per cent of the incoming freshmen men at colleges and universities do not have minimum physical skills and ability. The Krause-Weber studies indicated that American children were less physically fit than European children (56.7 per cent to 8.3 failures).¹²

¹¹Ray O. Duncan, "Youth Fitness," The Physical Educator, Vol. XX, No. 4 (December, 1963), p. 159.

¹²Ibid., p. 160.

Edwin A. Fleisman in his study on "The Dimensions of Physical Fitness--the Nationwide Normative and Developmental Study of Basic Tests," was concerned with the reliability and validity of the thirteen tests that were administered to 20,000 students between the ages of 12-18 in forty-five cities distributed throughout the United States, as a result the author's study provided a normative table by which individual performance can be evaluated by tests, age, and sex. He further found that growth curves which show the development of the different physical proficiency components during the adolescent and the sub adult period.¹³

Knutthen performed a study which involved 319 males and 134 females in the Danish schools. The findings were compared to the American standards, which are compiled in terms of both age and the Neilson-Cozens classification index. In general, the resulting statistics show that seventy per cent of boys scores and eighty-six per cent of girls' scores surpass the various Americans scores at the fifty percentile.

The Danish girls surpassed the American average in all seven of the tests. More than fifty per cent of the boys scores surpassed the American average in all seven of the tests. More than fifty per cent of the boys scores surpassed the American average in all events except the softball throw.¹⁴

¹³H. Douglas Whittie, "Effects of Elementary School Physical, Motor and Personality Development," Research Quarterly, Vol. XXXII, No. 2 (May, 1961), pp. 249-260.

¹⁴Howard G. Knutthen, "Comparison of Fitness of Danish and American School Children," Research Quarterly, Vol. XXXII, No. 2, (May, 1961), pp. 190-194.

Seymour performed a study to prove the results of Clark and Carter in Oregon concerning simplification of the strength and physical fitness index.

Tests were administered to 316 Massachusetts senior high school boys and the scores were compared with Oregon data, Seymour also indicated the possibility of decreasing the test items with actually no loss of accuracy.¹⁵

Namiko performed a study comparing the physical fitness of children in Tokoyo and Iowa. This researcher found that Iowa children were heavier, taller, and had longer legs than Tokoyo children, but Tokoyo children scored better in all Motor performance tests except one, sit-up. The physical education program in these schools also proved that Tokoyo children had more opportunity for activity through physical education classes than the Iowa group.¹⁶

A study was done in 1962 by Arnett, involving short (minimum item) motor fitness test batteries for high school girls which could be economically administered in form of equipment and class time.

The following items pertaining to the components were selected for their content, validity and suitability; push up, modified pull-up, sit-up, 50-yard dash, shuttle run, 600-yard run, standing broad jump, and softball throw for distance. It was concluded that where

¹⁵Emery W. Seymour, "Follow-up Study of Simplification of the Strength and Physical Fitness Induces," Journal of Health Physical Education and Recreation, Vol. XXVI, No. 6 (September, 1960), p. 74.

¹⁶Ikeda Namiko, "The Purdue Motor Fitness Batteries for Senior High School," Research Quarterly, Vol. XXX (October, 1962), p. 7.

the motors fitness test battery number one was rated over the other three batteries since this battery had a validity coefficient of at least .755 and an estimated reliability coefficient of .848.¹⁷

Balke and Ware made a study to obtain more information about normal range of physical performance in man.

The test consisted of walking on a treadmill at a speed of 3.3 mile per hour on a horizontal level. Attainment of a pulse rate 180 beats per minute served as a cut-off point. Of the 500 air force personnel tested, forty-two per cent were rated as being in "poor" physical condition, forty-nine per cent as "fair" and eighteen per cent as "good." These researchers conclude that those in emergency situations requiring a higher rate of energy expenditure.¹⁸

Josehans compared twelve overweight males with an equal number of normal males as to their circulatory performance muscular strength. No difference was found in circulatory fitness when surface area was taken into account. Significant greater strength was found in certain muscle groups of the overweight subjects. The pooled muscular endurance data favored the normal group. The results are most logically explained as the results of less physical activity in the overweight groups.¹⁹

¹⁷Arnett Chappel, "The Purdue Motor Fitness Batteries for Senior High School," Research Quarterly, Vol. XXX (October, 1962, p. 7.

¹⁸Bruno Balke and Ray W. Ware, "The Present Statue of Physical Fitness in the Air Force," School of Aviation Medicine, USAF Report, pp. 58-67.

¹⁹W. C. T. Josehans, "Physical Fitness Muscle Motor and Endurance of Male Adults of Overweight," Research Quarterly, Vol. XXXIV, No. 1 (March, 1963), p. 117.

In recognition of the fitness of youth, Paul Hunsicker, Chairman of the Department of Physical Education for men at the University of Michigan wrote:

There is no royal road to fitness. A child should be taught that he has to expend energy to keep fit. If he is willing to make the effort, he can enjoy being in top physical condition throughout life.²⁰

Berger studied the relationship of the AAHPER Youth Fitness test to total dynamic strength.

Physical fitness was measured by the AAHPER Youth Fitness Test. Each test item was weighed by means of factor analysis according to its relationship to total dynamic strength. The total fitness scores were determined by those weighed test items.

All tests used in this study had reliability coefficients of at least .90. The coefficient of .564 between the AAHPER Youth Fitness Test and total dynamic strength indicated the relatively high importance of the dynamic strength component in these fitness tests.²¹

Ruffer compared fifty highly active junior and senior high school boys to fifty physically inactive boys in the same schools and grades. A total of 101 variables was used; the data were collected through questionnaires concerning the subjects, physical activities, a motor performance test fat measurements, a step test,

²⁰Paul Hunsicker, "What About Testing"? Journal of the National Education Association, Vol. LI, No. 2, (February, 1962), p. 37.

²¹Richard A. Berger, "Relationship of the AAHPER Fitness Test to Total Dynamic Strength," Research Quarterly, Vol. XXXVIII, No. 2 (May, 1967), p. 314.

school records, and a parental interview. Statistically significant differences were found on thirty-one of the variables. In each case, the highly active group was either numerically higher or superior.²²

McGraw investigated the reliability of various methods of administering selected strength items frequently included in physical fitness batteries. Specifically, he compared the reliabilities of using one trail, the better of two trails, and the average of two trails obtained on separate days in administering push-ups, pull-ups and sit-ups to elementary and junior high school boys. With few exceptions, all groups improved significantly in performance during the four trails on each of the tests.²³

Costello and Marder tested 140 high school boys to determine the relationship of the New York State Physical Fitness Test. They concluded that the terms to strength and motor ability, the New York test did not measure the same type of fitness that is evident in the physical fitness index, strength index.²⁴

Fahrner investigated, among other things, the effect of out-of-school activities on physical fitness. The activity of each

²²William A. Ruffer, "A Study of Extreme Physical Activity Groups of Young Men," Research Quarterly, Vol. XXXVI, No. 2, (May, 1965), p. 183.

²³Lynn W. McGraw, "Reliability of Fitness Strength Tests," Research Quarterly, Vol. XXXVI, No. 3, (October, 1965), p. 289.

²⁴John J. Costello, and John F. Marder, "A Study to Determine the Relationship of the New York State Physical Fitness Test Other Selected Measures of Physical Fitness, (Unpublished Master's Thesis, Springfield College), 1958.

pupil was analyzed and related to scores on the AAHPER Fitness Test. Little relationship was found.²⁵

Mackenzie studied ten activities in the men's program and concluded that a general corrective program consisting of exercises, cross-country and hockey yielded the greatest dividends in physical development and that football yielded the least, with wrestling about par.²⁶

Wolbens studied volleyball and reported that improvements in physical fitness were not impressive and that the results created doubt that volleyball at the beginner's level is of much value in developing fitness.²⁷

Broot investigated the value of weight training to physical fitness. He found that it was effective in improving strength, Schneider and Browha Test scores, vital capacity, and speed in the ability to run.²⁸ Some authorities have suggested that weight training may, while developing strength, reduce speed; Wilkins studied this problem and found that no slowing effect in speed and of arm movement.²⁹

²⁵Carle J. Fahrner, "A Comparison of Physical Fitness with the Out-of-School Physical Activities," Academic Achievement (Unpublished Master's Thesis, University of Maryland, 1960).

²⁶D. H. Mackenzie, "Effects of Various Physical Activities on Physical Fitness of University Men," Research Quarterly, Vol. VI (March, 1935), pp. 123-143.

²⁷Charles P. Wolbens, "The Effect of Volleyball on the Physical Fitness of Adult Men," (Master's Thesis, University of Illinois, 1949).

²⁸Melvin E. Broot, "Changes in Physical Fitness Associated with Weight Lifting," Master's Thesis (Illinois, 1950).

²⁹Bruce M. Wilkins, "The Effect of Weight Training on Speed Movement," Research Quarterly, Vol. XXIII (December, 1952), pp. 311-369.

Landis reported in 1955, a study of the effect of eight activities on physical fitness and motor ability of college men. He found that tumbling-gymastics and conditioning groups made the greatest gains in physical fitness.³⁰

³⁰Carl L. Landis, "Influence of Physical Education Activities on Motor Ability and Physical Fitness of University Men," Research Quarterly, Vol. XXVI (October, 1955), pp. 295-308.

CHAPTER III

COLLECTION AND ANALYSIS OF DATA

Data for the investigation was obtained at the beginning of the academic year, 1967-68 on forty boys in the Ollie B. Storm Elementary School in San Antonio, Texas. The subjects comprised were classified according to their age, height, and weight.

Physical fitness was determined by the American Association for Health Physical Education and Recreation Youth Fitness Test. The tests were administered once during the school year, March of 1968. The test was administered after one semester of physical education activities.

The procedure for testing with the youth fitness test was precisely as described in the test manual.

The test battery consisted of four items given outdoors. The pull-ups, sit-ups, shuttle run and fifty-yard dash were administered at the first three periods.

All students were examined by their family doctor to determine their medical status. The students were given general body warm-ups before testing.

Pull-ups

Equipment. A metal or wooden bar approximately one and one fourth inches in diameter is preferred.

Description. The bar should be high enough so that the pupil can hang with his arms and legs fully extended and his feet free of the floor. After assuming the hanging position, the pupil raises his body by arms until his chin can be placed over the bar and then lowered his body until the elbows are fully extended. Repeat the exercise as many times as possible.

Rules:

1. The pull must not be a snap movement.
2. Knees must not be raised.
3. Kicking the legs is not permitted.
4. The body must not swing. If pupil starts to swing, his partner stops the motion by holding an extended arm across the front of the pupil's thighs.

Scoring. Record of the number of completed pull-ups to the nearest whole number.

Sit-ups

Description. The pupil lies on his back, either on the floor or on the mat, with legs extended and feet about two feet apart. His hands are placed on the back of the neck with fingers interlocked. Elbows are retracted. A partner holds the ankles down, the heels being in contact with the mat on the floor at all times.

The pupil sits up, turning the trunk to the left and touching the right elbow to the left knee, returns to the starting position,

then sits up turning the trunk to the right and touching the left elbow to the right knee. The exercise is repeated, alternating sides.

Rules:

1. The fingers must remain in contact behind the neck throughout the exercise.
2. The knees must be on the floor during the sit-up but may be slightly bent when touching the elbow to the knee.
3. The back should be rounded and the head and elbow brought forward when sitting up as a "curl" up.
4. When returning in starting position, elbows must be flat on the mat before sitting up again.

Scoring. One point is given for each completed movement of touching elbow to knee. The maximum limit in terms of number of sit-ups shall be 100 for boys.

Shuttle Run

Equipment. Two blocks of wood, 2 inches, x 2 inches x 4 inches and stop watch. Pupil should wear sneakers or run barefooted.

Description. Two parallel lines are marked on the floor thirty feet apart. The width of a regulation volleyball court serves as a suitable area. Place the blocks of wood behind one of the lines. The pupil starts from behind the other line. On the signal "Ready Go" the pupil runs to the blocks picks one of them up, runs back to the starting line and places the block behind the line; he then runs back and picks up the second block which he carries back across the starting line.

Rules: Allow the trials with some rest between.

Scoring. Record the better of the two trials to the nearest tenth of a second.

Fifty-yard Dash

Equipment. Two stop watches or one with a split-second timer.

Description. It is preferable to administer this test to two pupils at a time. Have both take positions behind the starting line. The starter will use the commands "are you ready" and "go." The latter will be accompanied by downward sweep of the starter's arm to give the timer a visual signal.

Rule: The score is the amount of time between the starter's signal and the instant the pupil crosses the finish line.

Scoring. Record in seconds to the nearest tenth of a second.

The test which was administered to the forty selected subjects classified according to age, height, and weight as previously stated in limitations of the study were from the fifth and sixth grades. In order to ascertain relative capabilities in the two classes their performance in four selected physical fitness test have been arranged in chart form in the order of best to poorest or greatest to least in performance. Data on tables, which fall on the following pages, indicate that the subjects in fifth grade out performed the sixth

grade in only one test that being pull-ups. It is assumed that the sixth grade out performed the fifth grade in the other three test because of the sixth grade being one year older. A further analysis of data obtained from these is facilitated and easily recognized by the tables included in the charts that follow.

Table I shows how each subject was classified according to weight and arranged on the chart in descending order from the height to the lowest. The ranges in height indicated in inches are also arranged in descending order from tallest to shortest. The fifth grade was eleven years old and each subject from the sixth grade was twelve years old. With the weight being ranked from the highest to the lowest weight of the fifth and sixth grades, the mean and standard deviation of each selected forty subjects paired in two groups of twenty was taken. The results showed that the mean of the fifth grade weight was 94.75 pounds and the mean weight of the sixth grade was 100 pounds making a difference of 5.25 pounds. The standard deviation showed the fifth grade 4.55 and the sixth grade 3.30 making a difference of 1.25. The mean height of the fifth grade was 59.40 and the sixth grade mean height was 57.5 making the difference of 1.65 inches. The standard deviation for the fifth grade in height was 4.05 and the sixth grade was 1.95.

Table II shows the ranking of scores from the highest to the lowest in pull-ups. The first test showed the mean of the fifth grade to be 3.5 and the sixth grade 3.46 making a difference

TABLE I

FIFTH AND SIXTH GRADE AGE, WEIGHT, HEIGHT, HEIGHT CHART

SIXTH GRADE AGE, WEIGHT AND HEIGHT

FIFTH GRADE AGE, WEIGHT, HEIGHT

Age	Weight	Height	Age	Weight	Height
11	108	64"	12	110	66"
11	102	63"	12	105	64"
11	101	62"	12	104	64"
11	100	62"	12	103	63"
11	98	62"	12	102	63"
11	98	61"	12	102	63"
11	96	60"	12	101	63"
11	96	60"	12	101	62"
11	95	60"	12	100	62"
11	95	59"	12	100	62"
11	94	59"	12	100	62"
11	93	58"	12	99	62"
11	92	58"	12	99	61"
11	91	58"	12	99	61"
11	91	58"	12	99	60"
11	90	58"	12	98	60"
11	90	57"	12	97	60"
11	90	56"	12	97	60"
11	89	56"	12	96	60"
11	88	56"	12	95	60"
	Mean Weight 94.75 pounds Standard Deviation 4.55	Mean Height 59.40 Standard Deviation 4.05		Mean Weight 100 pounds Standard Deviation 3.30	Mean Height 57.5 Standard Deviation 1.95

TABLE II

PULL-UPS EXECUTED BY FIFTH AND SIXTH GRADE BOYS

FIFTH GRADE TEST

SIXTH GRADE TEST

First Test	Second Test	First Test	Second Test
6	6	6	6
5	6	6	5
5	6	5	5
4	6	5	5
4	5	4	5
4	5	4	5
4	5	4	5
4	5	4	5
4	5	4	5
4	4	4	4
4	4	4	4
4	4	4	4
3	4	3	4
3	4	3	4
3	3	3	3
3	3	3	3
3	3	3	3
3	3	2	3
2	3	2	3
2	2	2	2
2	2	2	2
2	2	2	2
2	2	1	2
2	2	0	1
2	1	0	1
2	1	0	0
2	1	0	0
Mean 3.5	Mean 3.8	Mean 3.46	Mean 3.6
Standard Deviation 1.095	Standard Deviation 1.454	Standard Deviation .165	Standard Deviation 1.74

TABLE III

SIT-UPS FIFTH AND SIXTH GRADE BOYS

SIXTH GRADE TEST

FIFTH GRADE TEST		SIXTH GRADE TEST	
First Test	Second Test	First Test	Second Test
85	89	80	85
82	88	80	83
80	88	78	83
78	86	76	81
75	85	75	79
72	82	72	78
71	76	71	78
70	75	70	78
69	73	69	72
66	72	68	72
60	68	66	68
60	64	65	67
60	63	60	66
58	62	60	63
55	61	56	63
54	58	55	61
52	56	55	60
50	50	52	56
42	50	44	52
42	49	42	48
Mean 63.5	Mean 69.75	Mean 64	Mean 70
Standard Deviation 12.30	Standard Deviation 13.60	Standard Deviation 11.30	Standard Deviation 10.40

TABLE IV

SHUTTLE RUN

FIFTH AND SIXTH GRADE BOYS

FIFTH GRADE TEST

SIXTH GRADE TEST

First Test	Second Test	First Test	Second Test
12.4	12.2	11.6	11.6
12.2	11.8	11.4	11.4
12.1	11.7	11.4	11.1
12.0	11.6	11.3	11.1
11.8	11.5	11.3	11.1
11.8	11.4	11.2	11.0
11.7	11.2	11.2	10.9
11.3	11.2	11.0	10.8
11.2	11.0	10.9	10.8
11.1	11.0	10.9	10.8
11.0	10.8	10.9	10.7
10.9	10.7	10.9	10.6
10.7	10.6	10.8	10.6
10.7	10.4	10.7	10.5
10.6	10.4	10.7	10.5
10.6	10.4	10.6	10.4
10.6	10.3	10.6	10.4
10.6	10.3	10.6	10.3
10.2	10.0	10.3	10.2
10.0	9.8	10.3	10.2
Mean 11.2 seconds Standard Deviation 5.45	Mean 10.925 seconds Standard Deviation 3.30	Mean 10.95 seconds Standard Deviation 3.85	Mean 10.725 seconds Standard Deviation 2.45

TABLE V

FIFTY-YARD DASH

FIFTH AND SIXTH GRADE BOYS

FIFTH GRADE TEST

SIXTH GRADE TEST

First Test	Second Test	First Test	Second Test
8.2	8.1	7.8	7.6
8.1	7.8	7.5	7.5
7.6	7.7	7.3	7.3
7.5	7.5	7.2	7.3
7.4	7.4	7.2	7.2
7.4	7.3	7.1	7.0
7.3	7.3	7.0	7.0
7.3	7.1	7.0	6.9
7.2	7.1	7.0	6.9
7.2	7.1	6.9	6.8
7.2	7.1	6.9	6.8
7.2	7.1	6.9	6.8
7.2	7.0	6.8	6.7
7.1	7.0	6.7	6.7
7.0	6.8	6.7	6.7
7.0	6.6	6.6	6.6
6.9	6.6	6.6	6.5
6.8	6.6	6.5	6.4
6.8	6.5	6.4	6.3
6.8	6.5	6.4	6.3
6.7	6.2	6.2	6.0
Mean 7.220 seconds	Mean 7.025 seconds	Mean 6.98 seconds	Mean 6.70 seconds
Standard Deviation .1570	Standard Deviation .495	Standard Deviation .380	Standard Deviation .2735

of .04. The standard deviation to be 1.095 for the fifth and 1.26 for the sixth grade making the difference .165. The second test showed the mean for the fifth grade 3.8 and sixth grade 3.6 making the difference .2. The standard deviation in the second test showed the fifth grade 1.454 and sixth grade 1.74 making the difference .286.

Table III shows the ranking of scores from the highest to the lowest in sit-ups. The results of the first test showed the mean of the fifth was 63.5 and the sixth grade was 64 making a difference of .5. The standard deviation showed the fifth grade was 12.30 and sixth grade was 11.30 making the difference 1. Second test results showed the fifth grade mean was 69.75 and sixth grade mean was 70 making the difference .25. Standard deviation in the second test showed the fifth grade 13.60 and sixth grade 10.40 making the difference 3.20.

Table IV shows ranking the highest to the lowest time in the shuttle run, the results showed the fifth grade first test mean was 11.2 seconds and the sixth grade 10.95 seconds making a difference of .25 seconds. Standard deviation for fifth grade in the first test was 5.45 and sixth grade 3.85 making the difference 1.50. The second test showed the fifth grade mean to be 10.925 seconds and the sixth grade 10.725 seconds making the difference .200 seconds. In standard deviation of the second test showed the fifth grade was 5.75 and the sixth grade was 3.30 making the difference of 2.45.

Table V showed ranking the highest to the lowest time in the fifty-yard dash. The first test showed the mean of the fifth grade was 7.220 seconds and the sixth grade 6.98 seconds making the difference

.240 seconds. In the standard deviation of the first test showed the fifth grade was .1570 and the sixth grade .380 making the difference .2230. The second test showed mean of the fifth grade was 7.025 seconds and the sixth grade was 6.70 seconds making the difference .255 seconds. The standard deviation of the second test showed the fifth grade to be .495 and the sixth grade being .2735 making the difference .2215.

CHAPTER IV

SUMMARY, CONCLUSION AND RECOMMENDATIONS

SUMMARY

The purpose of this study was to compare the physical fitness skills of the fifth and the sixth grades boys of Ollie B. Storm Elementary School according to their age, height, and weight to see if there were any noted difference.

The importance of this investigation was to design some satisfactory measurement of achievement in a selected number of physical activity skills for forty selected subjects. Twenty of the selected subjects were from the fifth grade and twenty from the sixth grade. The four selected test were pull-ups, sit-ups, shuttle run, and fifty-yard dash. The tests were measured by ranking the scores from the highest score to the lowest, and finding the mean and standard deviation of each grade score.

As a result of this investigation, it is clear that a well administered program of physical fitness improves the physical fitness of the individual and is essential to maximum physical development. The four tests used in this problem were selected because they were better suited to fifth and sixth grade pupils and particularly because of limited equipment and allotted space available. The results showed

that the twenty selected subjects from the fifth grade was eleven years old, and the twenty selected subjects from the sixth grade was twelve years old. The weight results revealed the fifth grade weight mean was 94.75 and the sixth grade weight mean was 100 pounds, giving a weight advantage to the sixth grade of 5.25 pounds. The height results revealed that fifth grade height mean was 59.40 inches and the height mean of the sixth grade was 57.5, giving the fifth grade a height advantage of 1.65 inches. The results of the pull-ups test indicated the mean number of pull-ups performed by the fifth and sixth grade students improved from 3.5 to 3.8 and 3.46 to 3.6 respectively. In the sit-up test the mean number improved from 63.5 to 69.75 and 64 to 70 respectively. Again, an improvement was noted in the shuttle run revealed similar results in that the mean time in seconds was increased from 11.2 to 10.925 in the fifth grade and 10.95 to 10.725 in the sixth grade. The fifty-yard dash showed a mean time improvement from 7.220 to 7.025 seconds in the fifth grade and 6.98 to 6.70 seconds in the sixth grade. The results revealed that the sixth grade was faster, and performed better than the fifth grade in three of the four tests administered. These results obtained two weeks apart with constant work out in between indicates the importance of a continuous, well balanced program of physical education in improving the physical condition and the performance of elementary students.

CONCLUSION

As a result of this investigation the following conclusions were made:

1. The sixth grade had the highest performance in sit-ups, shuttle run, and fifty-yard dash.
2. The fifth grade showed better performances in pull-ups.
3. Both classes showed overall improvements after the first test.

RECOMMENDATIONS

1. That a physical fitness test should be administered at least once a year.
2. That another study be made to compare height of the fifth and sixth grade boys.
3. That a strength test be administered at least once a year to compare the strength of the fifth and sixth grade boys.
4. That a test be administered at the first of the school year and another one at the end of the school year in order to allow enough time to measure the growth of height and weight of subjects in the same age group.

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