

THE CHILDREN'S COMMITMENT  
TO PHYSICAL ACTIVITY SCALE

by

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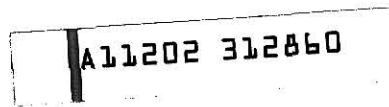
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## DEDICATION

This thesis is lovingly dedicated to my parents, Mr. and Mrs. Charles S. Wendelberger, for without their constant love and support this work would not have been possible.

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## Chapter 1

### INTRODUCTION

Exercise and physical fitness are becoming important aspects in the lives of many Americans. Physiological benefits of exercise are experienced by all who engage in physical activity, both young and old. Americans are becoming more active as the years pass. There is every reason for the trend to continue. Findings of The Perrier Study: Fitness in America (Harris & Associates, 1979) determined that whether or not they are active themselves, parents are eager that their children be concerned and involved with physical fitness. This study showed that 93 percent feel it is important for their sons to "grow up with a deep concern about staying in top physical shape". The same view is also held for daughters by an identical 93 percent of parents with daughters.

Developing good physical fitness involves physical activity on a regular basis. It then becomes of interest to researchers to investigate the determinants of involvement in physical activity. One determinant of regular participation in physical activity is possession of a positive attitude toward physical activity (Kenyon, 1968; Neale, Sonstroem & Metz, 1969; Richardson, 1960; and Wear, 1955). While these scales measured attitudes

toward physical activity as held by adults, only one recent study has devised a scale for children. Simon and Smoll (1974) adapted an instrument used by Kenyon (1968) for use with children.

Perhaps a more concise determinant of involvement in physical activity is a scale to measure commitment to physical activity. Commitment, as defined by Carmack and Martens (1979), is the actual adherence to a regular physical activity program.

Gruger (1981) developed a scale to measure commitment to physical activity. This scale was developed for use with college students and proved to be a valid and reliable scale for measuring commitment to physical activity for that age group.

In previous research Carmack and Martens (1979) developed a scale specifically for the measurement of commitment to running. Gruger (1981) then developed a scale to measure the more global commitment to physical activity. Both these scales were used with the adult population. This research was undertaken to develop a scale to measure commitment to physical activity in children.

#### STATEMENT OF THE PROBLEM

The purpose of this study was to construct a scale to measure commitment to physical activity for elementary school age children.

Specific objectives for test construction included:

1. The determination of test reliability.

2. The determination of individual item contribution to the total scale.
3. The determination of test validity.

#### DELIMITATIONS OF THE STUDY

The boundaries of the study were defined by the fact that the subjects were volunteer students enrolled in second, third, fourth, fifth, and sixth grade at Seven Dolors Elementary School in Manhattan, Kansas.

#### LIMITATIONS OF THE STUDY

1. The subjects being volunteers could inject bias into generalizations made from the findings.
2. Semantics of the questionnaire and responding with socially desirable answers could cause erroneous conclusions.
3. Comprehension level of elementary school age children in general may produce incorrect responses to items on the questionnaires and again lead to erroneous conclusions.

#### DEFINITION OF TERMS

The following terms will help the reader to interpret the literature.

Attitude A latent or non-observable, complex, but relatively stable behavioral disposition reflecting both direction and intensity of feeling toward a particular object, whether it be

concrete or abstract (Kenyon, 1968).

Commitment The actual adherence to the desired behavior (Carmack & Martens, 1979).

Self-Concept Perceptions of oneself accumulated from past successes and failures (Martinek & Zaichowsky, 1977).

## Chapter 2

### REVIEW OF LITERATURE

The literature pertaining to adult involvement in or commitment to physical activity is extensive. One in-depth study, The Perrier Study: Fitness in America, (Harris & Associates, 1979) was designed to evaluate: (1) attitudes and perceptions regarding physical fitness, (2) physical fitness behavior, and (3) awareness and knowledge about health and physical fitness.

This survey reported that more than ninety million Americans were participating in physical activity of some nature. This finding was consistent with those of previous studies in reporting that approximately fifty-nine percent, (59%), of the adult population engaged in some form of activity (Harris & Associates, 1979). It was reported that people who exercised regularly state that they 'feel better' in general. This concept has been supported in past literature (Mann, Garrett, Farhi, Murray & Billings, 1969; Morgan, 1968). Until recently very little literature had been conducted aimed at determining patterns of involvement in physical activity of elementary school age children.

This review of literature has been divided into four sections dealing with the psychological factors influencing



children's involvement in physical activity. The areas chosen for review are attitude research as a factor influencing commitment along with the research dealing specifically with commitment to physical activity. The second area pertains to self-concept in children. The third and fourth sections of the review deal with children's perceived outcomes of involvement in physical activity and activity levels of children, respectively.

#### ATTITUDE AND COMMITMENT RESEARCH

The professional literature contains numerous studies related to the attitudes of students toward physical education and physical activity (Campbell, 1968; Kenyon, 1968; Wear, 1951, 1955). In reviewing attitude literature it is assumed that one's attitude will, at least in part, dictate involvement in physical activity. It is for this reason that attitude research warrants investigation.

One of the first attempts to measure attitude was directed toward the measurement of attitude as it pertained to physical education classes (Wear, 1951, 1955). This inventory attempted evaluation of attitudes by presenting statements to subjects using a Likert-type scale. The inventory itself consists of one-hundred twenty statements. The subject indicated the degree of disagreement or agreement with each statement. These statements are related to the outcomes which should result from a well balanced and well conducted program of physical education. In scoring the inventory the response most favorable to physical education receives a five, while the least favorable is assigned

a point value of one. Scores for each item are then added to produce a composite score indicating the subject's attitude toward physical education as either favorable or unfavorable. A high score would indicate a favorable attitude toward physical education.

The Wear Attitude Inventory has been used in several studies of attitude toward physical education classes. In one study (Campbell, 1968) the Wear Attitude Inventory was used to determine if success or lack of success in a motor activity influences attitude toward physical education. Specifically, the study sought to determine the relationship between two physical fitness scores and the score on a physical education attitude inventory.

Form A of the Wear Attitude Inventory, the fifty yard dash, and the six hundred yard run were administered to one physical education class of eighth grade boys in each of six junior high schools to obtain a total of two hundred forty scores. It was concluded that no significant relationship existed between attitudes toward physical education as measured by an attitude inventory and the ability to perform the selected physical fitness items.

Even prior to the development of the Wear Inventory, Richardson (1960) developed a scale for measuring attitudes of college students toward physical fitness and exercise. A Richardson scale was used in which subjects were asked to read nineteen statements and respond to them by circling the item to denote agreement with it. Each item of the scale is given a point value by a panel of twenty judges depending on

the degree to which the statement displays a positive attitude toward physical fitness and exercise. A high score again indicated a favorable attitude toward physical fitness and exercise.

In a comparison of the Wear and Richardson Attitude Inventories it is easy to see that the Wear Inventory, using a Likert-type scale allows for more variance as to the degree of positive or negative attitude. This is one of the main reasons that the Wear Attitude Inventory was more widely used than the Richardson Inventory.

Perhaps the most widely used of all current attitude scales is the Attitude Toward Physical Activity Scale (Kenyon, 1968). Kenyon described physical activity as a multidimensional concept and proposed six separate scales for measuring attitude. Included in the six scales proposed by Kenyon (1968) are physical activity: (1) as a social experience, (2) for health and fitness, (3) as the pursuit of vertigo, (4) as an aesthetic experience, (5) as catharsis, and (6) as an ascetic experience.

The Attitude Toward Physical Activity Scale (ATPA) consists of statements relating to feelings about physical activity. The subject is asked to respond according to his/her agreement or disagreement with the statement on a seven point Likert scale ranging from very strongly agree to very strongly disagree. Each item is predetermined as belonging to one of the six scales. Point values are assigned to the statement depending on whether the statement is worded positively or negatively. In this fashion, a score is obtained for each of the six scales. A high score on a certain scale indicates a tendency to participate in

activity for that specific reason. A total attitude score can be obtained by adding the scores for each of the six scales.

While past literature has dealt with attitudes of students in physical education classes, or students in general, more recent literature has dealt with attitudes of champion athletes toward physical activity (Corbin, 1976; Alderman, 1970). While it would be expected that champion athletes would have a positive attitude toward physical activity, there are varying degrees of positive attitudes. Furthermore, the high scores obtained on the scales of the ATPA indicate participation in physical activity for that specific reason which can differ even among the most dedicated athletes. In research done by Corbin (1975, 1976) championship women basketball players and championship women track and field athletes scored significantly higher on the ascetic scale of the ATPA, indicating a desire to find satisfaction from long, strenuous and painful training and stiff competition. Alderman (1970) found that male and female athletes differed very little in their responses to a modified Kenyon scale. He found that the strongest attitude of athletes toward physical activity was as an aesthetic experience, and that physical activity as an ascetic experience held the least meaning for athletes.

The use of Kenyon's ATPA has been extremely broad because of its ability to distinguish further between the type of positive and negative attitudes held by students and athletes. Furthermore, this scale may suggest the reasons why people become 'committed' to physical activity.

There has been little research in the area of exploring

children's attitudes toward physical activity. However, Simon and Smoll (1974) developed the Children's Attitude Toward Physical Activity Scale (CATPA) for use in measuring children's attitudes. The format and content of Kenyon's attitudes toward physical activity scales were closely adhered to, but substantial changes in wording were made. Testing of the instrument was conducted with 992 fourth through sixth grade elementary school children. Correlation coefficients between subdomains were quite low, demonstrating the necessity of the six dimensions as a composite measure of children's attitudes toward physical activity. Based on the findings, the instrument was deemed appropriate for group testing with fourth through sixth grade children. Measuring attitude in children has been a problem since many times the comprehension level of the material used to measure this covert psychological phenomenon, is higher than the comprehension level possessed by the subjects. Also, it has been suggested that at the early stages of development of attitude, a state of instability exists.

In contrast to attitude which was defined as a latent or non-observable, complex but relatively stable behavioral disposition reflecting both direction and intensity of feeling toward a particular object, whether it be concrete or abstract (Kenyon, 1968), commitment is an observable behavior. While attitude is an expression of a willingness to become involved, commitment is actually becoming involved. In general, for one to be committed to or involved in physical activity it is usually, but not always the case, that a favorable attitude toward physical activity exists (Neale, Sonstroem, & Metz, 1969). It

has also been suggested that positive behaviors such as those brought about by participation in regular physical activity reap positive feelings and attitudes which in turn reinforce desirable behaviors (Hall, 1978).

Commitment is demonstrated by more than half of the population of Americans that now participate in regular physical activity (Harris & Associates, 1979). Research by Sonstroem (1976) involved determining the relationship between estimation of physical ability and attraction to the activity. Sonstroem (1976) developed the Physical Estimation and Attraction Scale (PEAS) to test this relationship. He determined that physical ability is a significant determinant of involvement in physical activity.

In dealing specifically with children, Smoll, Schutz, and Keeney (1975) collected data from one-hundred twenty seven boys and one-hundred thirty seven girls in grades four, five, and six. This research was aimed at determining the relationships among the children's attitudes, involvement, and proficiency in physical activities. The results showed a strong relationship between the attitude and involvement domains.

Other research by Schutz, Smoll and Wood (1981) was initiated because of other research which revealed low attitude-behavior relationships. The investigators revised the Children's Attitude Toward Physical Activity Scale (CATPA) originally developed by Simon and Smoll (1974). The revised CATPA inventory was deemed to be an improvement over the original instrument because of its superior psychometric characteristics and reduced length, thereby making it more efficient for administrative purposes.

When reviewing commitment literature it is relevant to discuss the ideas of Glasser (1976) who claims that individuals can become addicted to running. Addiction refers to a physical or psychological dependence on something which when removed produces withdrawal symptoms. Addiction or dependence is a step beyond commitment or dedication.

In a study designed specifically to measure commitment to running (Carmack & Martens, 1979), commitment to running was predicted from perceived addiction, state of mind, and length of run as significant factors. Two hundred fifty males and sixty-five females of various level and experience served as subjects for the study. They were asked to respond to a questionnaire which requested information regarding demographics, attitudes toward running, mental states during the run, and perceived outcomes of running. The validity and reliability of the instrument were well established. This scale was specific to running.

Gruger (1981) conducted a study to construct a scale to measure commitment to physical activity in a general sense. The subjects for the study were volunteers from seven classes of Concepts in Physical Education, a required physical education class at Kansas State University in Manhattan, Kansas. The final population completing the study consisted of seventy-one male and fifty-one female subjects with an average age of eighteen.

A four part questionnaire was administered to each of the seven classes. The four parts of the questionnaire were: (1) the Commitment to Physical Activity Scale, (2) the Psychological



Index of Self Assessment, (3) Self-Perception Profile and (4) Patterns of Activity Involvement Scale. These scales were modified from existing scales.

Since the literature suggests that those people who are active on a regular basis report greater positive benefits and greater positive personality attributes (Harris & Associates, 1979) the latter three questionnaires were used as predictors of commitment to physical activity as measured by the Commitment to Physical Activity Scale.

Gruger (1981) found her scale to be valid and reliable for use with college students. It was recommended that other scales be developed for use with different age groups.

#### SELF-CONCEPT IN CHILDREN

The psychological benefits of physical activity are not nearly as well represented in the literature as the physiological benefits. Perhaps this is due to the difficulty encountered when trying to measure covert behavior. Self-concept is one such covert behavior. Self-concept as defined by Martinek and Zaichowsky (1977) is the perception that one holds about oneself accumulated from past successes and failures. Positive self-concepts in children are related to their tendency to get involved in physical activity (Smoll, Schutz & Keeney, 1976). It therefore becomes important to review the literature pertaining to self-concepts in children.

The literature available does suggest a positive relationship between self-concept and physical fitness (Collingwood &



Willett, 1971; Sharp & Reilly, 1975). Collingwood and Willett (1971) reported an increase in self-attitude and self-acceptance. Sharp and Reilly (1975) found aerobic fitness scores to be positively correlated to favorable responses about self on the Minnesota Multiphasic Personality Inventory.

In a study by Sonstroem (1976), one-hundred nine high school males and one-hundred twelve junior high school males were administered the Physical Estimation and Attraction Scale (PEAS), the Tennessee Self-Concept Scale and a physical fitness battery. Among other things, it was found that high correlations existed between the estimation of ability scales and self-esteem.

Research has shown that young children have a relatively unstable self-concept. Piers (1969) and Taylor (1955) feel that attitudes toward the self are largely situational and cannot be measured as a consistent unit. This is generally accepted among very young children, but it has been found that self attitudes become more stable and established around the age of seven years (Felkner, 1974).

Since there is considerable question regarding the stability of the self-concept in children, a problem of measurement arises. Several attempts to measure self-concept in children using various instruments have occurred. One study was done with the purpose of investigating self-concepts of children in summer baseball programs (Bowlsby & Iso-Ahola, 1980). One commonly held belief about children's sports and games is that they foster positive self-concepts and otherwise benefit children psychologically. In the study at hand, the problem investigated

asked the question of whether self-concepts were improved by participation in summer baseball programs.

The Piers-Harris Children's Self-Concept Scale was administered to sixty-six novice players and ninety-nine nonplayers, nine to ten years old, before and after the baseball season. Of the novice group, thirty-five subjects were placed in a highly competitive league and thirty-one were placed in a recreational league.

The results showed a significant improvement in self-concept of those who participated in the competitive league and for the nonplayers. The subjects in the recreational league remained the same over the baseball season. This study suggests that traditional Little League baseball is no more a contributor to improvement in self-concept than various activities of nonplayers during the summer.

Several studies have been aimed at discovering the relationship between self-concept and motor performance (Philbrick, 1970; Torbert, 1972; Tyler, 1973). Tyler (1973) in a study of this nature, investigated this relationship in second grade children. One-hundred nine subjects were selected from four classes of second grade students enrolled in Whittier Elementary School in Westerville, Ohio. All one-hundred thirty students enrolled in second grade were initially given the Piers-Harris self opinion test. Those children who met the criteria were identified as having positive and negative self-concepts, were chosen as subjects for the study. A score of sixteen or higher indicated a positive self-concept, while a score of fourteen or lower indicated a negative self-concept. Subjects

were also asked to participate in five selected items to test motor performance: (1) the forty yard dash, (2) soccer punt for distance, (3) softball throw for distance, (4) standing broad jump, and (5) side stepping.

In correlating total self-concept scores and total motor performance scores, no significant correlations were reported. No particular pattern was indicated of a relationship between self-concept and motor performance.

Similar findings were reported by Philbrick (1970) in the study she conducted with twenty-five fourth grade girls attending a swimming program. During one testing session, the subjects were asked to complete a fine-motor task and four self-concept measures. The following week subjects were asked to complete a gross-motor task and the four self-concept measures.

The findings showed no significant relationship between either of the motor tasks and the four measures of self-concept, or between the two motor tasks, lending support to Tyler's (1973) conclusion that no significant relationship exists between self-concept and motor performance.

In a third study by Torbert (1972) the relationship between motor proficiency and self-concept of sixth grade boys was researched. The purpose of the study was to investigate whether sixth grade boys who ranked within the top twenty-seven percent on various motor tasks and combinations of these tasks had significantly different self-concepts from those boys who ranked in the bottom twenty-seven percent.

The motor tasks included: (1) grip strength, (2) rail walking, (3) rope skipping, (4) pitching for accuracy, (5)

standing broad jump, (6) fifty yard dash, (7) throw for distance and (8) the six hundred yard walk/run. The Piers-Harris Self-Concept Scale was also administered.

Data was collected from one-hundred randomly selected sixth grade boys enrolled in the public elementary schools of Jacksonville, Illinois. Subjects who scored in the upper and lower twenty-seven percent on the motor tasks were used as subjects for the study.

A statistical analysis of the data revealed specific relationships exist between motor proficiency and self-concept, but only in gross-motor as compared to fine-motor skills. It has been claimed that improvements in physical activities result in improved self-concepts (Martinek, Cheffers, & Zaichowsky, 1978). Higher self-concepts in turn, produce the tendency to be committed to physical activity (Gruger, 1981).

#### PERCEIVED OUTCOMES OF INVOLVEMENT IN PHYSICAL ACTIVITY

One reason why Americans become involved in physical activities stems from the benefits derived from such participation. Many Americans have become committed or involved in physical activity as a means of rehabilitation or of preventive medicine (Mann, Garrett, Farhi, Murray & Billings, 1969). The physiological effects of exercise are well known. It was not until recent years that psychiatric patients were treated with exercise.

Some researchers have suggested exercise as a treatment for depression (Brown, Ramirez, & Taub, 1978; Greist, Klein, Eischens

& Farris, 1978). One study by Brown and others (1978) involved five-hundred sixty one university students. One-hundred one of the students were clinically depressed. Ninety-one undertook the exercise program, and the other ten served as controls. Four-hundred six normal controls exercised and fifty four normal persons served as no-exercise controls. Subjects were given several scales as part of a battery of psychological tests to find out the pre and post depression levels of each subject. The results showed that jogging for five days a week for a ten week period was associated with significant reductions in the depression scores of both the depressed subjects and the non-depressed control group. Similar patterns were exhibited by those who jogged only three days a week for the same period. The subjects who did not exercise during the same interval had virtually unchanged scores.

A study by Greist and others (1978) reported similar findings. The researchers used subjects who scored at or above the sixty-fifth percentile on a cluster of depression scales. Thirteen men and fifteen women ages eighteen to thirty met the study criteria. Nine were assigned to time-limited psychotherapy, seven to time-unlimited psychotherapy, and eight to running treatment. The results showed that six of the eight patients who ran were essentially well within three weeks and remained well for the duration of active treatment. A seventh patient recovered after the sixteenth week of treatment. The eighth patient ran conscientiously according to prescription and showed neither improvement nor deterioration in level of depression, although the patients fitness level did improve.

Supporting both previous studies, Kostrobala (1976) claims also that running can be an effective way of treating depression. Furthermore, he claims that the committed runner, running forty to sixty minutes may experience a state of euphoria.

Children's perception of their own ability will influence not only participation in the activity, but a number of psychological factors as well. Most children by nature, are highly active individuals who exhibit willingness to participate in and an actual informal commitment to physical activity, independent of a conscious awareness of the benefits, either physical or psychological.

Scanlan and Passer (1978) stated that competitive stress occurs when a child perceives an imbalance between the demands of the competitive situation and his own abilities under conditions where failure to meet the demands has important consequences to him. This may also be a factor involved in the determining of initiating participation in the activity. The child's perception of the entire situation and its benefits dictates quality of performance and outcome, but also the willingness to become involved.

Children are often encouraged to participate in physical activity by parents, peers, and teachers (Gerson, 1977). This involvement may not be of a voluntary nature on the part of the participant.

The literature is well established in the area of perceived ability or perceived fitness. That is, that the perception is

what is most important. Heaps (1979) conducted a study aimed at interpreting this phenomenon. It was suggested from this study that a person's feeling or attitude about his physical condition, not his actual fitness, is related to certain types of psychological functioning.

#### ACTIVITY LEVEL

When measuring perception in children problems can arise especially when using self-report inventories (Martinek & Zaichowsky, 1977). In order that a more reliable measure be obtained, teacher ratings of students can be employed. It is important to determine the relationship between a reported commitment to physical activity and actual adherence to a program of regular physical activity.

Martinek (1980) conducted a study to determine the stability of teacher expectations. Six elementary physical education specialists were asked to rate their students on four variables: (1) overall physical performance, (2) social relations with peers, (3) cooperative behavior during class and (4) ability to reason. Each teacher was asked to rate students from a second, fourth, and sixth grade class that they were teaching. Eight weeks after the first rating was taken, the teachers were again asked to rate the same students. Correlations for each teacher showed a high degree of stability lending support to the use of teacher ratings as a predictor of student behavior.

In another study (Hovell, Bursick, Sharkey & McClure, 1978) an attempt was made to evaluate elementary students' voluntary



physical activity during recess. The purposes of this observational study were: (1) to develop a practical measurement system for recording children's activity, (2) to use this measurement procedure to establish elementary students' usual level of recess activity, and (3) to determine the degree to which children obtained high standards of cardiorespiratory fitness.

One-hundred thirty three boys and one-hundred forty one girls, third through sixth grade were observed. The children resided in a midwestern college town and attended five elementary schools within the city. Observers were taught to use a five-second interval time-sampling recording system. After locating a target child, the observer started a stopwatch, and when the sweep second hand reached a five-second point, the observer looked up and noted the child's activity. Next, the observer rated the activity level as observed, returned attention to the watch, and repeated the sequence. This continued until scores were recorded for fifty consecutive five-second intervals.

The results of this study strongly suggested that third through sixth grade students do not engage in much activity during recess, which in no way detracts from other possible benefits. The authors warn against using activity levels of children at recess to determine the general activity level of the child.



## SUMMARY

In the review of literature, four subsections were explored. These included attitude and commitment research, children's self-concepts, children's perceived outcomes from participation in regular physical activity, and activity levels of children.

In general, most literature relates to the adult population or high school or college students. A need is present for research with children in all the forementioned areas, since findings from research with the adult population cannot be generalized to include children.

Commitment to physical activity is a measurable entity as demonstrated by Gruger (1981). The scale used for this study was validated and proved reliable for use with college students in measuring general commitment to physical activity. This scale represents a modification of a Commitment to Running Scale developed by Carmack and Martens (1979).

Attitude and Commitment research seems to indicate that a relationship exists between expressing a favorable attitude toward physical activity and actual commitment or adherence to some program of physical activity.

Literature pertaining to perceived benefits from involvement in physical activity suggested that many people experience definite benefits from physical activity. It further suggests that those who perceive these benefits as real display a stronger commitment to physical activity.

Self-concept also plays a distinct role in a persons' behavior pattern. In general the literature indicated that those with higher self-concepts are more committed to physical activity. Authors of articles pertaining to self-concept also warn that measuring self-concept can be difficult in children because of relatively unstable self-concepts at early ages.

An accurate means of measuring activity levels of individuals would give more accurate representations of actual involvement in physical activity than simply relying on individuals responses to items on a questionnaire. Caution must be exercised when depending on ratings of activity level to indicate commitment as it may not always be a true indicator of actual commitment.

The literature, in general, supports that a relationship exists between commitment and attitude toward physical activity, perceived outcomes of involvement in physical activity, self-concept, and activity levels of individuals.

## Chapter 3

### PROCEDURES

The purpose of this study was to construct a scale to measure commitment to physical activity in elementary school age children.

#### SELECTION OF SUBJECTS

Volunteers from second, third, fourth, fifth, and sixth grades at Seven Dolors Elementary School in Manhattan, Kansas served as subjects for this study. These students were enrolled in the spring of 1982. One-hundred and sixty five students were enrolled in these five grades. Eighty of the students failed to return informed consent documents signed by their parents and for this reason did not participate in the study. Eight subjects returned negative responses on the informed consent and an additional three subjects were absent on the day the questionnaires were administered. This resulted in a total of seventy four subjects in the final sample. Of these, twenty were second graders, thirteen were third graders, twelve were fourth graders, eleven were fifth graders and eighteen were sixth graders.

The parents of the subjects were informed about the study. They were asked to return an informed consent document (Appendix E) which outlined the risks involved to subjects who might participate. Parents were asked to sign the document in approval of their child's participation in the study. Subjects were also informed of the risks and were asked to sign the informed consent document if they were willing to participate. Subjects and their parents were assured that results would be kept confidential and that names would not be used in any private or public report of the results.

#### DATA COLLECTION

The informed consent document (Appendix E) was passed out to children in grades two, three, four, and six at the beginning of the first week of the spring semester. Two weeks later informed consent documents were distributed to students in the fifth grade due to the poor return of students in the other grades. Children were instructed to take the document home to their parents to sign and then return it to their classroom teacher.

During the fifth week of class a pilot study was conducted with one class of third grade students whose parents had previously given permission for their children to be part of such a pilot study. The procedures of the pilot and actual studies were explained to parents and students alike, and informed consent was obtained from both groups. The purpose of the pilot study was to discuss the student's comprehension of the

questionnaires administered before their use in the actual study.

Data for the actual study were collected during the period March 1, 1982 to March 11, 1982. On days of data collection, the researcher introduced herself and told the children that she was a physical education teacher interested in their answers to a few questions about physical activity. Each of the three parts of the questionnaire were distributed separately. Subjects were asked to put their names on each of the three questionnaires. After the questionnaires were matched the names were removed and numbers assigned. This was done to ensure confidentiality.

Directions for each questionnaire were given aloud and separate from each other with students following along. In addition, each individual item on each questionnaire was read aloud as students followed. All students worked at the same pace. Subjects were reminded that there were no right or wrong answers. Subjects were also reminded to answer the questions as they pertain to themselves. Students were told to raise their hands to be helped individually with any further questions.

The Children's Commitment to Physical Activity Scale, modified after Gruger (1981) comprised the first portion of the questionnaire (Appendix A). This scale was designed to measure or describe a persons involvement in physical activity. The questionnaire contained ten pairs of items to which the subject responded by picking one statement or the other for each item as it pertained to themselves.

The Perceived Benefits of Physical Activity Scale (Appendix B),

modified after Harris and Associates (1979), was administered to subjects following the completion of the Children's Commitment to Physical Activity Scale. The scale consisted of fifteen possible psychological benefits a child may perceive to be the outcome of regular participation in physical activity. Responses were indicated as either yes or no depending on whether the child perceived it to be a benefit of participation in regular physical activity. This scale was used as a predictor of commitment and to establish the validity of the Children's Commitment to Physical Activity Scale.

Following the completion of the Perceived Benefits of Physical Activity Scale, the Self-Concept Scale for Children (Martinek & Zaichowsky, 1977) was administered (Appendix C). The scale consisted of twenty five pictorial representations of children in different situations. Children are asked to indicate which picture best represents them in that particular situation. This indication was made by placing a mark in the circle under the appropriate picture on the answer sheet.

While subjects completed each of the three parts of the questionnaire, the classroom teacher and the physical education teacher of students in the study were asked to make activity ratings for subjects. Both teachers were asked to rate all children in their classes according to their relative activity level. A sheet provided the teachers by the researcher asked them to list the five most active children and the next most active in each class. The teachers were also asked to list the five least active and the next least active. The teachers were then asked to list the remaining students in order from

most to least active. A sample rating sheet is provided in Appendix D.

One week following the original administration of the questionnaires, the Children's Commitment to Physical Activity Scale was readministered to all original subjects. Of the seventy four subjects who completed the questionnaires on the first day they were administered, twelve more were absent on the day of readministration resulting in sixty two subjects answering the questions for a second time. Subjects were instructed that the questionniare was part of the one they had completed a week earlier and to follow along with the administrator in answering the questions. Readminstration was identical in nature to the original administration of the scale.

## QUESTIONNAIRES

### Children's Commitment to Physical Activity Scale

The Children's Commitment to Physical Activity Scale (Appendix A) was modified from the Commitment to Physical Activity Scale (Gruger, 1981). The semantics of the questionnaire was changed in part to meet the comprehension level of the subjects. The scale consisted of ten items rather than twelve in the original scale. Responses were given by choosing one of a pair of statements for each item as it pertained to the individual subject. Placing an "X" over a smile face - 😊 indicated a positive response, while placing an "X" over a frown face - ☹ indicated a negative response. The faces displaying positive

and negative expressions were positioned directly in front of the positive and negative statements respectively.

### Perceived Benefits of Physical Activity Scale

The Perceived Benefits of Physical Activity Scale (Appendix B) was modified from Harris and Associates (1979). It has been suggested that people reported a definite psychological benefit from participating in regular physical activity (Harris & Associates, 1979; Gruger, 1981; Carmack & Martens, 1979). In addition the higher the degree of commitment, the greater the benefits reported.

This scale consists of fifteen statements perceived to be appropriate benefits for elementary school age children. Subjects were asked to respond by circling either yes or no for each item depending on whether or not they perceive this to be a benefit of participation in regular physical activity. This scale was used to predict commitment and also as a variable to test the validity of the Children's Commitment to Physical Activity Scale.

### Self-Concept Scale for Children

The Children's Self-Concept scale was developed by Martinek and Zaichowsky (1977). The scale consists of twenty five pairs of pictures. The subjects were asked to look at both pictures and indicate which of the two pictures best represents how they are in similar situations. The child that represents the subject is depicted in dotted clothing because some of the pictures



contain more than one individual. The subject indicates this by placing a mark in the circle under the appropriate picture. Martinek and Zaichowsky (1977) reported the scale to be high in validity and reliability. A sample item from the Children's Self-Concept Scale is given in Appendix C. This scale was used as a predictor of commitment and to help establish the validity of the Children's Commitment to Physical Activity Scale.

#### Teacher's Ratings of Children's Activity Level

In addition to the self-report inventories completed by children, teachers were asked to rate the activity level of each child in their class. Classroom teachers who see their students in several different situations were used along with ratings from the physical education teacher. Teachers were asked to list the five most active children in their class followed by the next most active. They were also asked to list the five least active and the next least active. Teachers were then asked to list the remaining students in order from most to least active. Teachers were encouraged to consider each child in as many different situations as possible before deciding on a final rating. The teacher's rating sheets (Appendix D) were used as a predictor of commitment and as an aid in establishing the validity of the Children's Commitment to Physical Activity Scale.

## DATA ANALYSIS

The data collected was transferred on to data cards for analysis. The data was analyzed statistically in the following manner: (1) Test-retest and split-halves reliability of the Children's Commitment to Physical Activity Scale was determined using correlation coefficient. (2) Item analysis of the Children's Commitment to Physical Activity Scale was done using the item discrimination index. (3) The validity of the Children's Commitment to Physical Activity Scale was established using analysis of variance.

## Chapter 4

### RESULTS

The completed study was divided into two phases. The initial phase conducted was a pilot study to determine the ability of the subjects to comprehend the instruments. The pilot study was followed by the actual investigation.

#### PILOT STUDY

A pilot study was conducted to determine the comprehension level of the children. The questionnaires were discussed with the children after they responded to them to ensure that they interpreted the questions correctly.

A group of thirteen third grade students served as subjects for the pilot study. The procedures for the pilot study were exactly as described in Chapter 3.

One change was made after the pilot study. The initial Children's Commitment to Physical Activity Scale provided the subject with ten statements about physical activity. The subject was then to choose one of three responses. The first, a smile face - ☺ , denoted agreement with the statement, a neutral face

- ☹ , denoted no feeling about the statement and the third choice, a frown face - ☹ , indicated disagreement with the statement.

In a discussion following the administration of the Children's Commitment to Physical Activity Scale, the Perceived Benefits Scale, and the Self-Concept Scale, it was discovered that students had extreme difficulty choosing the correct symbol to represent their feelings about the statement. This was especially true of those statements presented using negatives.

Subjects had no difficulty in comprehending either the Perceived Benefits Scale or the Self-Concept Scale. The Children's Commitment to Physical Activity Scale was revised to include ten pairs of statements. The subject was then asked to pick the one statement for each item that best described their feelings.

#### ACTUAL STUDY

The main purpose of this research project was the construction of a scale to measure Children's Commitment to Physical Activity. In previous chapters the purposes and procedures employed were discussed. The statistical analysis included analysis of variance, correlation coefficient and item discrimination index.

The subjects responded to a three part questionnaire. This questionnaire was comprised of: (1) a ten item Children's Commitment to Physical Activity Scale to determine feelings about involvement in physical activity, (2) a Perceived Benefits

from Physical Activity Scale consisting of fifteen items related to perceived psychological benefits from physical activity and (3) the Self-Concept Scale for Children (Martinek & Zaichowsky, 1977) a twenty five item scale which indicated children's perceptions about themselves in several different situations. Activity scores were obtained for each subject by having classroom teachers and the physical education teacher rate the activity level of each child from most to least active. In addition, a Combined Activity Score was obtained by using classroom teacher ratings in conjunction with the ratings from the physical education teacher. These scales were used to determine activity levels of children.

Responses were coded for each individual on a separate code sheet. Scores for each of the scales were calculated. The means and standard deviations for each instrument are represented in Table 1.

Table 1  
Mean and Standard Deviation  
Scores for Instruments

Instrument	Cases	Mean	Std. Dev.
Commitment Pretest	74	9.62	1.01
Commitment Posttest	62	9.31	1.64
Perceived Benefits	74	11.15	2.76
Global Self-Concept	74	21.61	3.67
Physical Self-Concept	74	5.86	1.33
Teacher Ratings	70	13.10	7.85
P.E. Teacher Ratings	74	11.74	7.20
Combined Activity	70	25.51	14.89

### Specific Objective One

The first objective of the study was to determine the test-retest reliability of the Children's Commitment to Physical Activity Scale. This was determined using a Pearson Product Moment Correlation Coefficient.

Seventy four subjects were administered the Children's Commitment to Physical Activity Scale originally. One week later, sixty two of these subjects completed a retest of the Children's Commitment to Physical Activity Scale. The first and second test scores for these sixty two subjects were used to obtain the test-retest reliability. A Pearson Product reliability coefficient of .77 was obtained.

A split-halves reliability was also determined to help establish the reliability of the scale. Split-halves reliability is calculated by correlating odd and even items. This gave a correlation coefficient for a five item test. A reliability coefficient using the Kuder-Richardson method of .72 was obtained.

### Specific Objective Two

The second specific objective dealt with the individual item contribution to the overall scale. To measure the concept of whether each individual test item was a good one, an item discrimination index was used. The item discrimination index indicated to what extent success on an item is related to success on the scale as a whole. A high discrimination index indicated that those who did well on that particular item also did well on the test as a whole. The upper and lower twenty seven percent

were separated out in order to detect any severe discrepancies between any one item and total test scores. An acceptable criterion level was established. The minimum acceptable index level should be approximately .20 for all but extremely easy or difficult items (Kerlinger, 1973). Only items five, seven, and ten neared the acceptable level. These three items were the most effective discriminators between subjects. Item indices for all items are presented in Table 2. The high endorsement of all items by subjects (in excess of 90%) is the probable reason for the low item discrimination indices of items.

Table 2  
Item Discrimination

Item No.	No. Correct	% Correct	Item Discrimination		
			Hi 27%	Lo 27%	Index
1	72	98.6	20	19	0.05
2	71	97.3	20	18	0.10
3	72	98.6	20	19	0.05
4	72	98.6	20	19	0.05
5	70	95.9	20	17	0.15
6	72	98.6	20	19	0.05
7	64	87.8	20	11	0.45
8	71	97.3	20	18	0.10
9	71	97.3	20	18	0.10
10	67	91.8	20	14	0.30

### Specific Objective Three

The validity of the Children's Commitment to Physical Activity Scale, or more specifically, the concurrent validity was determined by correlation coefficients which were determined between the Commitment to Physical Activity Scale and the

selected measures obtained from the Perceived Benefits Scale, Self-Concept Scale, and Teacher Ratings.

An analysis was made within each grade, within each sex, and for all subjects. In addition, the same correlations were made for a revised commitment score consisting of the scores on items five, seven, and ten.

### All Subjects

A Pearson Product Correlation was computed between each of the measures for all subjects. All subjects included seventy four total. Of the seventy four subjects thirty four were boys and forty were girls. The Pearson Product Correlations are shown in Table 3.

Table 3  
Pearson Product Correlations  
All Subjects

Commitment Pretest:	Perceived Benefits	Global S.C.	Physical S.C.	Teacher Ratings	P.E. Teach Ratings
Boys	.400	.133	.169	.143	.107
Girls	.068	.415	.312	.343	.095
All Children	.448	.384	.821	.511	.203

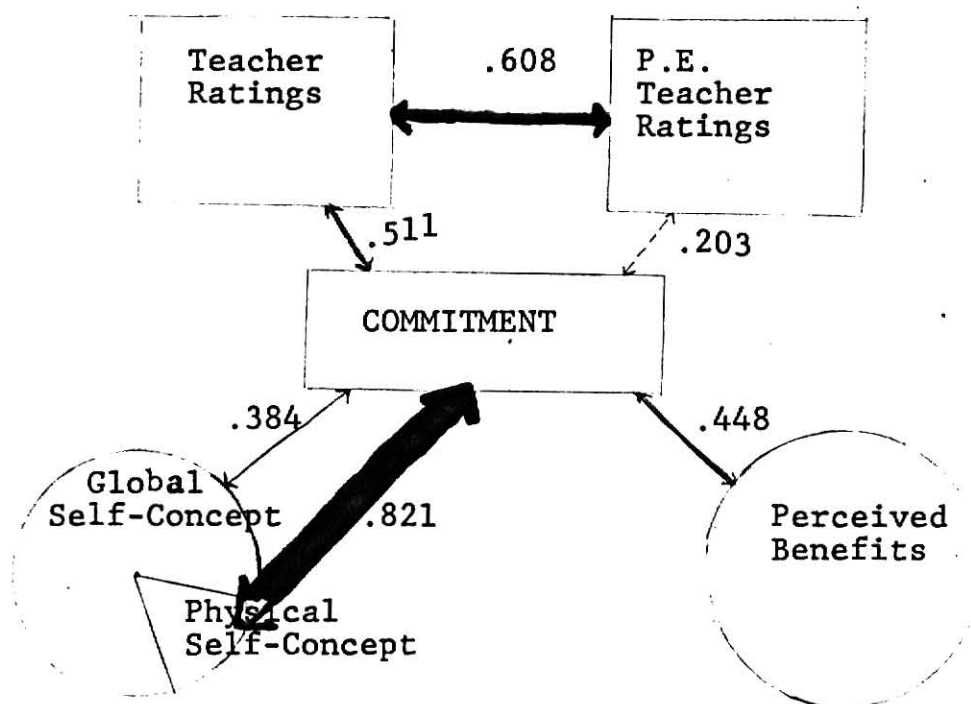
The data as noted in the table shows that none of the correlations were extremely high. Only the relationship of self-concept to commitment was higher than .821. This correlation along with the correlation of .511 between teacher



ratings and commitment may have occurred spuriously. It appears that the correlations within each sex are relatively low, but when the sexes are combined the result is a much higher correlation than was found within either of the sexes.

To further help the reader understand the data the following model is proposed. The model represents the strength of the relationships found using correlation coefficients. The strongest relationship was found between commitment and physical self-concept which was found to have a correlation of .821. As mentioned previously this finding needs further exploration since this high correlation cannot be accounted for within each of the sexes and seems to occur spuriously when the sexes are combined. When correlating global self-concept with commitment, however, it was found that the relationship was not nearly as strong. A correlation of .384 was calculated. The correlation between commitment and perceived benefits was moderately low at .448. As shown below the correlations found between commitment and teacher ratings were also moderately low. Classroom teacher ratings were found to have a correlation of .511 with commitment which was higher than the correlation of .203 for the physical education teacher. One correlation that was also calculated was that between the classroom teacher ratings and the physical education teacher ratings. A correlation of .608 was obtained. This data is pictorially represented in Figure 1.

Figure 1  
Relationships Between Measures



An analysis of the data was also made within each grade and within each sex. This data is outlined by grade and correlations for each selected measures are given.

#### Grade Two

The subjects in the second grade totaled twenty. Of these twenty subjects twelve were boys and eight were girls. The correlation coefficients found are presented in Table 4.

Table 4  
Correlations with Commitment Test  
Grade 2

Commitment Pretest:	Perceived Benefits	Global S.C.	Physical S.C.	Teacher Ratings	P.E. Teach Ratings
Boys	.27	.59	.66	.58	.49
Girls	.14	.62	.72	.38	.26
All Children	.70	.57	.61	.55	.36

In addition, correlations between ratings given by the classroom teacher and those given by the physical education teacher were calculated. For boys the correlation was .10, for girls it was .26 and for all children it was .32.

### Grade Three

There were thirteen total subjects represented in the third grade. Nine of the subjects were girls while only four were boys. When the Commitment Pretest was correlated with all other measures the results were found as indicated in Table 5.

Table 5  
Correlations with Commitment Test  
Grade 3

Commitment Pretest:	Perceived Benefits	Global S.C.	Physical S.C.	Teacher Ratings	P.E. Teach Ratings
Boys	.80	.85	1.00	.40	.80
Girls	.67	.32	.45	.05	.21
All Children	.68	.48	.64	.24	.33

The correlations for the third grade between the ratings of activity given by the classroom teacher and those given by the physical education teacher were .60, .68, and .42 for boys, girls, and all children respectively.

#### Grade Four

The fourth grade subjects consisted of seven boys and five girls for a total of twelve subjects. For these twelve subjects correlation coefficients between the Commitment Pretest and all other measures were computed. These values are represented in Table 6.

Table 6  
Correlations with Commitment Test  
Grade 4

Commitment Pretest:	Perceived Benefits	Global S.C.	Physical S.C.	Teacher Ratings	P.E. Teach Ratings
Boys	.50	.87	.63	.39	.14
Girls	.78	.78	.38	.25	.25
All Children	.58	.79	.46	.40	.21

Correlations for boys between classroom teacher ratings and physical education teacher ratings were .72. For girls the correlation coefficient was .80 and for all children the coefficient was .82. Correlations for the group of fourth graders as a whole were high. Scores were not consistently higher or lower for one sex or the other.

#### Grade Five

The fifth grade subjects numbered the fewest at eleven. Of these eleven subjects four were boys and seven were girls. The correlation coefficients between Commitment test scores and all other measures are given in Table 7.

Table 7  
Correlations with Commitment Test  
Grade 5

Commitment Pretest:	Perceived Benefits	Global S.C.	Physical S.C.	Teacher Ratings	P.E. Teach Ratings
Boys	-.05	.00	-.15	.40	.00
Girls	-.24	.05	-.26	.16	.48
All Children	-.08	.07	-.19	.26	.41

Correlation coefficients for all subjects between and within sexes were consistently low. This may have been due to the extremely small number of subjects in the group to begin with. A little higher were the correlations between classroom teacher ratings and ratings given by the physical education teacher. These correlations were .40, .75, and .60 for boys, girls, and all subjects respectively.

#### Grade Six

Subjects in the sixth grade consisted of seven boys and eleven girls. This made the total subject pool for the sixth graders eighteen. The correlation coefficients for sixth grade subjects between Commitment test scores and all other measures are given in Table 8.

Table 8  
Correlations with Commitment Test  
Grade 6

Commitment Pretest:	Perceived Benefits	Global S.C.	Physical S.C.	Teacher Ratings	P.E. Teach Ratings
Boys	.66	.36	.48	.80	.83
Girls	.53	.31	.48	.19	.29
All Children	.64	.33	.44	.38	.57

The correlations show slightly higher coefficients for boys and lower coefficients for girls. In some cases the lower scores for girls tended to lower the overall correlation coefficients for all children.

The correlation between ratings given by the classroom teacher and those given by the physical education teacher were .75 for boys, .77 for girls, and .83 for all sixth graders.

#### Revised Commitment Scores

Through use of the item discrimination index it was found that only items five, seven, and ten were good discriminators. For this reason, additional correlations were made using a revised commitment score which consisted of the scores on items five, seven, and ten. The correlations using the revised commitment scores differed slightly from the actual commitment scores but only in grades four and six. Pearson Product Correlations with the revised commitment test and all other measures are represented in Table 9.

Table 9

Pearson Product Correlations with Revised Commitment Test  
All Subjects

Revised Commitment Pretest:	Perceived Benefits	Global S.C.	Physical S.C.	Teacher Ratings	P.E. Teach Ratings
Boys	.429	.303	.386	.573	.349
Girls	.300	.309	.149	.356	.085
All Children	.369	.262	.221	.212	.130

Most of the correlations presented follow in logical sequence. That is, the correlations for all subjects falls between that for boys and for girls. This is not the case for the correlations for all subjects found for global self-concept and that found for teacher ratings. This can only be explained by a spurious correlation downward from those of boys and girls. The same explanation is offered for the spuriously high correlations found for all subjects with the total commitment scores.

In addition, Pearson Product Correlations between ratings reported by classroom teachers and those reported by the physical education teacher showed a correlation coefficient of .695 for boys, .542 for girls, and .608 for all children.



## DISCUSSION

Gruger (1981) developed the Commitment to Physical Activity Scale to measure commitment in college students. The scale was used and proven to be valid and reliable.

This research was undertaken to modify this scale for use with elementary school age children. The formats of the instruments used by Gruger (1981) were closely followed, however, substantial changes in wording were made. The test-retest reliability and the split-halves reliability of the instrument were found to be at the accepted level. This lends support to the overall reliability of the scale.

When determining how each item contributed to the total scale it was found that only three items were good discriminators. Items five, seven, and ten were the only items that produced discriminating responses. When a revised commitment score was correlated with all other measures it was found that this score produced approximately the same correlations with other measures as the original commitment score obtained using all ten items on the scale.

One possible reason for the high consistency of responses is the general activity level of all elementary school age children. Most children at this age believe that they are extremely active and this was demonstrated by their responses to the Children's Commitment to Physical Activity Scale. Another possible reason for the high consistency of responses can be found in the instrument itself. A smile face was positioned in front of positive answers while a frown face was positioned

in front of negative answers. Children had a tendency to pick the smile face over the frown face regardless of the wording of the statement.

The scale as it is now is not a very good determinant of commitment or actual involvement in physical activity. Rather, the scale seems to elicit socially desirable responses rather than true responses.

When correlating the commitment scale to all other measures, moderately low correlations were found. Again, this may have been explained by the frequently perfect or near-perfect scores on the Children's Commitment to Physical Activity Scale. Correlations between the commitment scale and teacher ratings were also moderately low with the ratings by the classroom teacher correlating slightly higher than those of the physical education teacher.

In addition, correlations were consistently higher for boys and those for girls tended to bring down the correlations for the total group. With the conclusion of this study, the scale has been modified for use with elementary school age children in the form of the Children's Commitment to Physical Activity Scale. The scale should be modified even further.

It has been demonstrated in the literature (Martinek & Zaichowsky, 1977) that attitudes, of which commitment can be considered one, are relatively unstable and are developing in the elementary school years. By the end of the elementary years attitudes become stable. If commitment can be measured at this age it can be of value in helping students to develop positive values and attitudes toward physical activity.

## Chapter 5

### SUMMARY

The purpose of the study was the construction of a scale to measure children's commitment to physical activity. The specific objectives included:

1. The determination of test-retest and split-halves reliability.
2. The determination of individual item contribution to the overall scale.
3. The determination of validity.

The subjects were volunteers enrolled in second, third, fourth, fifth, and sixth grades at Seven Dolors Elementary School in Manhattan, Kansas in the spring semester of 1982.

The subjects responded to a three part questionnaire. Subjects for the project totaled seventy four. Of these seventy four, sixty two were retested for reliability. In addition to student data, teachers were asked to rate the activity level of each student. The questionnaires pertained to student's feelings about physical activity. The data collected for each subject was coded on to a data collection card and the subject's name removed to ensure confidentiality.

Results were analyzed using correlation coefficient and item discrimination indices.

## CONCLUSIONS

The Children's Commitment to Physical Activity Scale as it stands now is not a true measure of commitment. Items give repeated similar responses but tend to elicit socially desirable answers.

The test was determined to be reliable even though the instrument does not seem to measure 'commitment'. Only three items on the scale were found to be good discriminators. Scores on the perceived benefits and self-concept scales seemed to be consistent with scores on the Children's Commitment to Physical Activity Scale.

## RECOMMENDATIONS

It is recommended that the scale be modified even further and that the use of the smile face and frown face be eliminated when making such modifications. Commitment scales should be used with all age groups so that a better understanding of the concept and how it can be measured can be gained. Further research is also suggested using observation by the researcher to determine actual activity involvement.

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## APPENDIX



Name \_\_\_\_\_  
Grade \_\_\_\_\_

### FEELINGS ABOUT PHYSICAL ACTIVITY

Each number below has two sentences about physical activity. Physical activity is when you play games like running games, soccer, kickball and others. Physical activity is also when you go jogging or ride your bike to keep healthy.

For each number put an X in the circle that best tells how you feel. I will read each of the sentences as you follow along. Be sure to read both sentences for each number. Make sure you only mark one of the circles for each number. Answer each sentence as quickly as you can so we can move on to the next one.

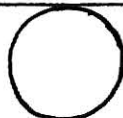
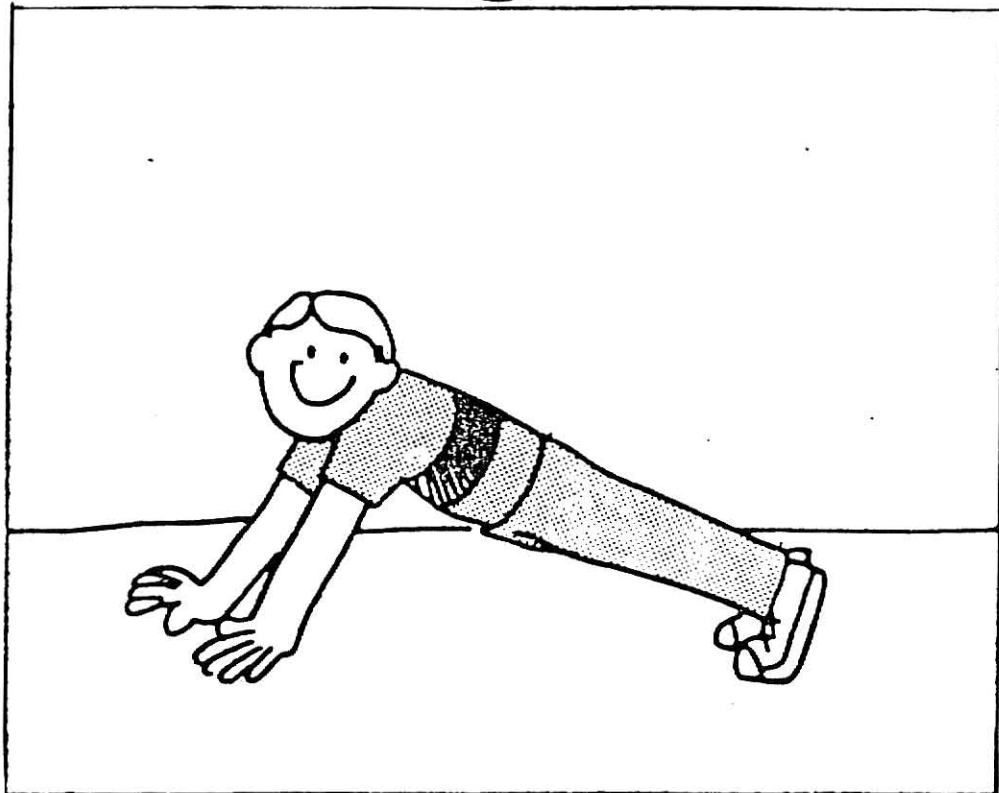
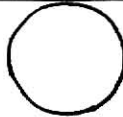
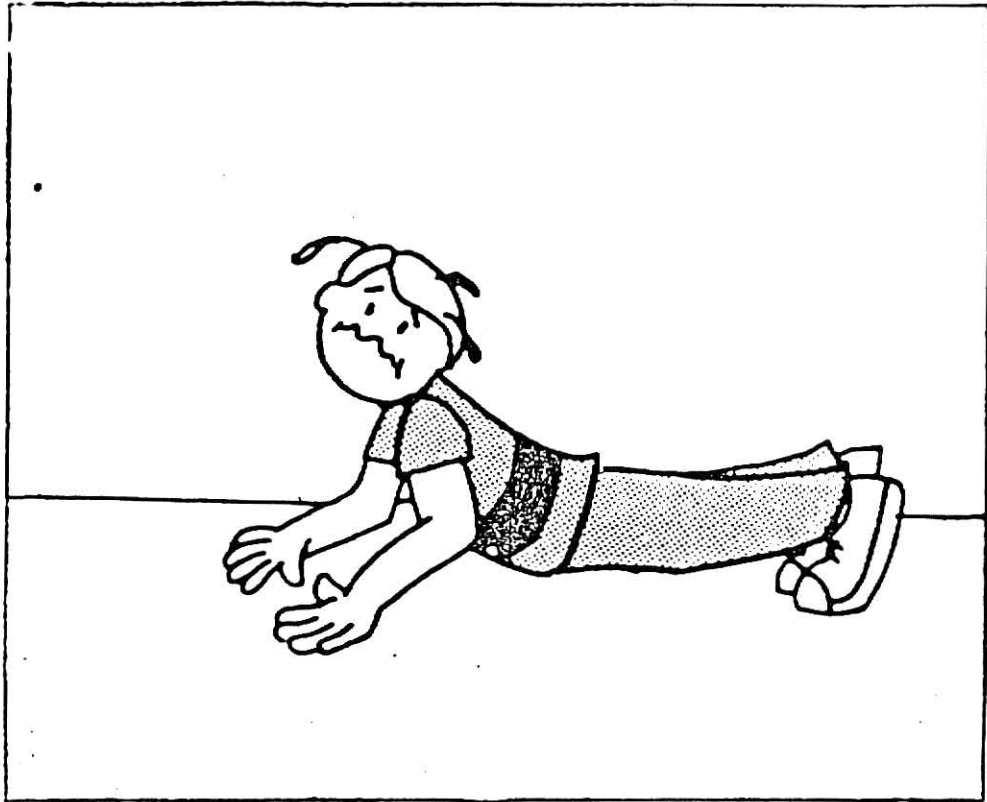
1. 😊 I look forward to physical activity.  
 \_\_\_ 😞 I do not look forward to physical activity. \_\_\_
2. 😊 It is not very hard for me to do physical activities.  
 \_\_\_ 😞 It is too hard for me to do physical activities. \_\_\_
3. 😞 Physical activity is not fun for me.  
 \_\_\_ 😊 Physical activity is fun for me. \_\_\_
4. 😞 I do not like physical activity.  
 \_\_\_ 😊 I like physical activity. \_\_\_
5. 😊 Physical activity is important for me.  
 \_\_\_ 😞 Physical activity is not important for me. \_\_\_
6. 😊 I think physical activity is good for me.  
 \_\_\_ 😞 I do not think physical activity is good for me. \_\_\_
7. 😞 I don't like to do physical activities every day.  
 \_\_\_ 😊 I like to do physical activities every day. \_\_\_
8. 😊 Physical activity is one of the best things in my day.  
 \_\_\_ 😞 Physical activity is one of the worst things in my day. \_\_\_
9. 😊 Physical activity is something I like.  
 \_\_\_ 😞 Physical activity is something I don't like. \_\_\_
10. 😞 I like it when there are days when I don't have to do any physical activities.  
 \_\_\_ 😊 I like it when there are days when I can do physical activities. \_\_\_

Name \_\_\_\_\_  
Grade \_\_\_\_\_

## WHAT DOES PHYSICAL ACTIVITY DO FOR YOU?

Please read along with me as I read each of the statements below. The statements describe some things that might happen to you if you get involved in physical activities. Circle YES if physical activity does do this for you. Circle NO if physical activity does not do this for you.

- |  |     |    |
|--|-----|----|
| 1. If I participate in regular physical activity I feel better.                    | YES | NO |
| 2. If I participate in regular physical activity I think better.                   | YES | NO |
| 3. If I participate in regular physical activity I sleep better.                   | YES | NO |
| 4. If I participate in regular physical activity I am more relaxed.                | YES | NO |
| 5. If I participate in regular physical activity it will let me live longer.       | YES | NO |
| 6. If I participate in regular physical activity I look better.                    | YES | NO |
| 7. If I participate in regular physical activity I am less tired.                  | YES | NO |
| 8. If I participate in regular physical activity I behave better.                  | YES | NO |
| 9. If I participate in regular physical activity I have confidence.                | YES | NO |
| 10. If I participate in regular physical activity I do more in one day.            | YES | NO |
| 11. If I participate in regular physical activity I am easier to get along with.   | YES | NO |
| 12. If I participate in regular physical activity I can think longer.              | YES | NO |
| 13. If I participate in regular physical activity I am less anxious.               | YES | NO |
| 14. If I participate in regular physical activity I feel good about myself.        | YES | NO |
| 15. If I participate in regular physical activity I look forward to each day more. | YES | NO |



Teacher \_\_\_\_\_  
Grade \_\_\_\_\_

Dear Teachers:

I am interested in investigating the activity levels of children. I am asking your cooperation for my study.

Please rate all the children in your class according to the amount of time they spend participating in physical activity. Consider physical activity as any running games such as soccer, tag, or kickball they may participate in at recess. Other things considered as physical activity are jogging or riding a bike to stay healthy.

On the left hand side of the page please list the five (5) most active children in the spaces numbered 1 through 5 with 1 being the most active. List the five (5) next most active in the spaces numbered 6 through 10. On the right hand side of the page list the five (5) least active children with 1 being the least active. Continue to list the least active children in order in spaces 6 through 10.

MOST ACTIVE

- 1.
- 2.
- 3.
- 4.
- 5.

LEAST ACTIVE

- 1.
- 2.
- 3.
- 4.
- 5.

NEXT MOST ACTIVE

- 6.
- 7.
- 8.
- 9.
- 10.

NOT VERY ACTIVE

- 6.
- 7.
- 8.
- 9.
- 10.

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Others - Please list all remaining students in the area below trying to order them from most to least active. Thank you for your cooperation.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

- 11.
- 12.
- 13.
- 14.
- 15.
- 16.
- 17.
- 18.
- 19.
- 20.

## INFORMED CONSENT

Dear Parent:

During the spring semester I would like to conduct research investigating feelings of children toward physical activity. I am asking for your assistance and the assistance of your children. Your children are asked to participate in the study. If you agree, and they agree to participate, they will be asked to respond to items on three different questionnaires. The items relate to their feelings about physical activity. I will also ask your child's teacher to rate the activity level of your child.

Children who participate will be required to spend about thirty minutes on the project. There are no risks involved by participation in this project. I will make sure your child agrees to participate before they become involved in the project. The names of your children will not be used in reporting the results of the study.

Please indicate on the form below whether you will or will not allow your child to take part in the study and return this permission slip to your child's teacher. If you have any questions about the nature of the study please feel free to contact me at 532-6240.

Thank you for your cooperation.

*Debra Wendelberger*

Debra Wendelberger  
Department of Health, Physical Education and Recreation  
Kansas State University

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Permission Slip

- ☐ I will allow my child to participate.
- ☐ I will not allow my child to participate.

\_\_\_\_\_  
Print child's name

\_\_\_\_\_  
Your signature

- ☐ I agree to participate in this study.

\_\_\_\_\_  
Child's signature

THE CHILDREN'S COMMITMENT  
TO PHYSICAL ACTIVITY SCALE

by

DEBRA A. WENDELBERGER

B.S., University of Wisconsin Eau Claire, 1981

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AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Health, Physical Education and Recreation

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

1982

## ABSTRACT

The purpose of this study was to construct a scale to measure children's commitment to physical activity. More specifically the purpose was to: (1) determine the reliability, (2) determine the individual item contribution to the overall scale and (3) determine the validity of the Children's Commitment to Physical Activity Scale.

The subjects were 74 second, third, fourth, fifth, and sixth grade students enrolled in Seven Dolors Elementary School in Manhattan, Kansas in spring of 1982. Subjects were administered a three part questionnaire consisting of: (1) the Children's Commitment to Physical Activity Scale, (2) a Perceived Benefits Scale, and (3) the Self-Concept Scale for Children (Martinek & Zaichowsky, 1977). In addition teachers ratings of students activities were obtained.

The data was analyzed using correlation coefficient, item discrimination index, and analysis of variance procedures. The results showed that the Children's Commitment to Physical Activity Scale, as it is, has good reliability but limited validity. Some of the items used appear to be of value in measuring commitment.