

ai

ATTITUDES OF ELEMENTARY SCHOOL TEACHERS HELD TOWARD
PHYSICAL ACTIVITY AS MANIFEST IN SPORTS AND GAMES

BY

NEIL CHESTER

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENT FOR THE DEGREE OF
MASTER OF PHYSICAL EDUCATION

in the School

of

Physical Education and Recreation

We accept this thesis as conforming to
the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

August, 1973

In presenting this thesis in partial fulfilment of the requirements for an advanced degree at the University of British Columbia, I agree that the Library shall make it freely available for reference and study.

I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by the Head of my Department or by his representatives. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Department of Physical Education

The University of British Columbia
Vancouver 8, Canada

Date Sept 28 / 73

ABSTRACT

A substantial amount of evidence exists which strongly suggests that elementary school teachers play a significant role in the socialization process through the inculcation of value and attitude systems in their students. Further, it is the teacher's own personal set of attitudes and beliefs that are either knowingly or unknowingly communicated. In this regard, the researcher undertook the systematic study of attitudes held by Vancouver elementary school teachers toward physical activity as manifest in sports and games, in an effort to gain some understanding of the role played by the elementary school system in influencing values held by children for physical activity.

A sample of 135 non-specialist, elementary school, classroom teachers was drawn from the Vancouver Public School system. Each subject was requested to complete and return to the researcher, a copy of "Kenyon's Attitude Inventory." The data gleaned from the completed inventories was statistically analyzed through univariate analysis of variance techniques to determine what, if any, differences existed in teacher attitudes held toward physical activity, as a function of their sex, age and grade levels taught. With the exceptions of an age x level interaction effect for the ascetic subdomain for female teachers and a statistically significant, more positive attitude held by older as opposed to younger female teachers toward the vertigo subdomain, the attitudes held by Vancouver elementary school teachers toward physical activity failed to differentiate according to the sex, age, and grade levels taught criteria.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER

I	STATEMENT OF THE PROBLEM	1
	Introduction	1
	Statement of the Problem	3
	Subproblem	3
	Definitions	3
	Delimitations of the Study	4
	Limitations	4
	Significance of the Study	4
II	REVIEW OF THE LITERATURE	6
	The Development of Scales for the Measurement of Attitudes Held Toward Specific Components of the Physical Activity Domain	19
III	THE PROCEDURE	24
	Research Design	24
	Selection of the Sample	24
	Distribution and Collection of the Inventories	25
	The Attitude Inventory	26
	Data Treatment	28
IV	RESULTS AND DISCUSSION	30
	Results	30
	Attitude Differences for Female Teachers as a Function of Their Age.	30
	Attitude Differences for Female Teachers as a Function of Grade Levels Taught	32
	Age X Level Interaction	32
	Attitude Differences for Male Teachers as a Function of Their Age	35
	Attitude Differences Between Male and Female Elementary School Teachers Expressed Toward Each Physical Activity Subdomain	36
	Attitudes Held Toward Physical Activity by Vancouver Elementary School Teachers	37
	Discussion	38
V	SUMMARY AND CONCLUSIONS	43
	Summary	43
	Conclusions	44

Page

REFERENCES

46

APPENDICES

A. Letter of Authorization From Vancouver School Board	53
B. Letter To the Teachers From Vancouver School Board	55
C. Physical Activity Inventory	57
D. Raw Scores	67

LIST OF TABLES

Table		Page
I	Attitude Differences For Female Subjects For Each Subdomain As A Function of Their Age	28
II	Attitude Differences For Female Subjects For Each Subdomain As A Function of Grade Levels Taught	30
III	Univariate Analysis of Variance of Age X Level Interaction For Female Teachers For Each Subdomain	30
IV	Attitude Differences For Male Subjects For Each Subdomain As a Function of Their Age	32
V	Attitude Differences Between Male and Female Subjects Expressed Toward Each Physical Activity Subdomain	33
VI	Attitude Differences of Vancouver Elementary School Teachers Expressed Toward Each Physical Activity Subdomain	34

LIST OF FIGURES

	Page
Figure I: Age X Level Interaction For Female Subjects	34

CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

Physical activity as manifest in sports and games may be viewed as a cultural phenomenon occupying its own specific niche in the cultural hierarchy. Since the existence of a hierarchy implies evaluation, and evaluation connotes values, a consensus regarding the value of physical activity as a cultural element exists for this society, as it does for all societies.

Compared to the Soviet Union, the Scandinavian countries, and indeed, a host of European nations, the significance of physical activity in the Canadian society is somewhat lacking. If we assume - and many in this country do - that increased levels of participation in sports, games, and sundry physical activities by both adults and youth, is a desirable objective, then it is reasonable to conclude that the attainment of this objective is inextricably linked to achieving an increased significance of physical activity, for each societal member.

A recent and effective attempt to understand the cultural significance of physical activity in our society, was made by Gerald S. Kenyon in a study conducted in 1968. Kenyon reasoned that if the importance of physical activity was to be understood, it would be necessary to consider the values held for it. Such values were believed to be revealed, at least in part,

through the amount of involvement in, and the attitudes expressed toward, various forms of physical activity. In this regard, a multidimensional scale was devised for the express purpose of measuring attitudes held for physical activity.

The manifest concern of this research is to gain some understanding of the role played by the elementary school system, in influencing the values held by children for physical activity. It is known that the process of socialization is largely responsible for the inculcation of values and attitudes (Krathwohl, 1964). The elementary school, albeit only one of many powerful socializing agencies, significantly influences the development of these value systems in children (Dreeben, 1967). The teacher, through his daily vis-a-vis relationship with his pupils, assumes a significant position in the lives of most of the students whom he teaches (Yee, 1968). In this respect, the teacher's behavior is held to be influential in affecting the attitudes, opinions and value systems of his students (Brophy, 1970). Since a substantial portion of the knowledge transmitted by classroom teachers is noncognitive and often unintentional (Silberman, 1969), it is reasonable to conclude that the attitudes held by teachers toward particular elements of culture significantly affects the information transmitted and hence the kind of affective learning taking place within their respective classrooms (Stephens, 1968).

The researcher undertook then, a systematic study of the attitudes

held by elementary school teachers toward physical activity, as a viable approach to understanding the values for physical activity fostered by the elementary school system.

Statement of the Problem

The purpose of this investigation is to ascertain the attitudes held by Vancouver elementary school teachers toward physical activity as manifest in sports and games, and as revealed by the Kenyon Attitude Inventory.

Subproblem

To determine whether or not attitudes held by Vancouver elementary school teachers vary as a function of their sex, age or grade levels taught.

Definitions

Attitude: A latent or nonobservable, complex, but relatively stable behavioral disposition reflecting both direction and intensity of feeling toward a particular object, whether it is concrete or abstract.

Vancouver elementary school teachers: Those teachers who are full-time, classroom teachers, teaching grade levels one to seven, in the city

of Vancouver's public school system.

Delimitations of the Study

The study is limited to examining only those attitudes of Vancouver elementary school teachers who meet the requirements of the above definition. Part-time teachers, administrators, non-teaching resource persons, and peripatetic remedial specialists having no specifically defined classroom function, have been excluded from this study.

Limitations

1. Because of existing school board policy, the names of the teachers selected in the sample were not made available to the researcher. In this regard, the distribution of both research inventories and follow-ups to the inventory, were conducted through the principals of the schools selected for the study (refer to 'The Distribution and Collection of the Inventories').

2. Since the ratios of male-to-female teachers in the Vancouver elementary school system was unavailable, it was assumed that the ratio found in the sample was representative of the entire population.

Significance of the Study

1. Since there has been no previous attempt at using the Kenyon scale

to measure the attitudes of elementary school teachers toward sport and physical activity, this study will establish norm tables upon which the findings of future studies may be compared.

2. It is hoped that the findings of the study will yield some indication concerning the extent, direction and perceived functionality or value of sport and physical activity, as seen by the elementary school teacher. This knowledge has the following important implications:

(a) Since the school system is the formal socialization agency of society which exists for the express purpose of socializing children into society, it is imperative that some attempt be made to determine whether or not the information communicated by the elementary school teacher in the classroom, is consistent with the expectations of the curriculum.

(b) It is possible that the knowledge gained from this and future studies of the same nature could have implications for both teacher training and in-service training programs.

CHAPTER II

REVIEW OF THE LITERATURE

Background of the Study

The research conducted by the author and reported in this paper concerning the attitudes held by elementary school teachers toward physical activity, was prompted by the recognition of two highly salient and extremely ubiquitous themes which permeate the literature examining the sociological aspects of the formal education system. These themes or premises hold that:

Elementary school teachers exert a significant influence on the values and attitude development of their students.

and

The personal matrix of the teacher's opinions, beliefs, value systems, and attitudes, dictates what information is communicated, either knowingly or unknowingly, to their students.

That elementary school teachers exert a significant influence on the values and attitudes developed by their students, has often been alluded to in the literature. This is not to imply that all teachers are necessarily powerful agents of socialization. It is indeed obvious that every teacher does not have the same impact on his students, and while many teachers function as highly effective agents of society, others do not. What is emphasized however, is that in most instances, the influence exerted by the

teacher is quite recognizable, and in some cases, it is profound.

In this regard, Talcott Parsons (1959), expanding his functionalist approach to sociology to incorporate the school system, advances the theory that the school classroom may be treated as an agency of socialization in which individual personalities are trained to be motivationally and technically adequate in the performance of adult roles. Although Parsons recognizes the existence of other powerful socialization agencies such as the family and the peer group, he believes that during the period of time extending from entry into the first grade until entry into the labour force or marriage, the school classroom is the focal socializing agency.

Elkin (1960) maintains that the import of teachers as agents of socialization is not so much attributable to the content of the curriculum they teach, but is contingent upon the models or "significant others" they become. Despite the current popularity of projecting a pejorative image of teachers, Elkin holds that students are expected to defer to their teachers and often in fact, form strong emotional attachments to them. Though the range of a teacher's influence is seen to vary from trivial to extremely significant, this influence in all cases, exists. The student then, may merely adopt a favorite idiosyncrasy of his teacher, or he may regard the teacher as one worthy of admiration and emulation.

Dreeben (1968) credits the school system with inculcating certain necessary values and attitudes which he contends, no other socializing

agency is capable of doing as effectively. He holds that the school system, acting through the medium of the classroom teacher, countermands many family influences which hinder the socialization process in regard to citizenship and work-world norms. The teacher accomplishes this task largely through the development of appropriate universalism, specificity, achievement and independence attitudes in his students.

Jules Henry (1963) concurs with the thesis that teachers in the elementary school system play an important role in the socialization process. In discussing the elementary school classroom - the environment in which the teacher functions - Henry makes the following comment:

While it is true that attitudes and feelings are bent toward social goals even from earliest infancy, many institutions combine to organize these attitudes and feelings so that ultimately a social steady state will be maintained. The elementary school classroom in our culture is one of the most powerful instruments in this effort, for it does not merely sustain attitudes that have been created in the home, but reinforces some, de-emphasizes others, and makes its own contribution. In this way it prepares the conditions for and contributes toward the ultimate organization of peer-and parent-structure, supportive of the culture. (Henry; 1963, p. 254).

Jackson (1968) holds that certain processes inherent in the teaching situation, function to significantly increase the efficacy of the teacher as a socializing agent. "Evaluation" is held to be one of the most important of these processes.

Logically, evaluation in the classroom might be expected to be limited chiefly to the student's attainment of educational objectives. And, clearly these limits seem to hold insofar as most official evaluations go - the ones that are communicated to parents and entered on school records. But there are at least two other referents of evaluation quite common in elementary classrooms. One has to do with the student's adjustment to educational expectations; the other with his possession of specific character traits. Indeed the smiles and frowns of teachers and classmates often provide more information of these seemingly peripheral aspects of the student's behavior than they do about his academic progress. Moreover, even when the student's mastery of certain knowledge or skills is allegedly the object of evaluation, other aspects of his behavior are commonly being judged at the same time. (Jackson; 1968, p. 22)

The chief source of evaluation in the classroom is obviously the teacher. He is called upon continuously to make judgements of students work and behavior and to communicate that judgement to the students in question and to others. No one who has observed an elementary classroom for any length of time can have failed to be impressed by the vast number of times the teacher performs this function. Typically, in most classrooms students come to know when things are right or wrong, good or bad, pretty or ugly, largely as a result of what the teacher tells them. (Jackson; 1968, p. 20)

The second premise, that the teacher's own personal matrix of opinions, beliefs, value systems and attitudes dictates what information is communicated, either knowingly or unknowingly, to their students, also generates a unanimity of affirmative opinion in the literature.

In this regard, Broom (1963) argues that the communication by a teacher of his own personal values and attitudes, often occurs in an unconscious and completely unpremeditated manner. He maintains that teacher's attitudes

are so much a part of their personal make-up, they often fail to differentiate between personal value systems and universal beliefs. These attitudes then, are communicated to the child both through the overt expression of feelings such as statements of approval and disapproval, and through more subtle but equally effective postural clues. Further, Broom holds that these implicit values and un verbalized attitudes can be the most important elements of socialization when manifest in behavior toward the child.

In the same vein, Clausen (1968) points to the lack of general agreement concerning the goal orientation of many of society's socializing agents, as the prime factor leading to the projection by teachers, of their own personal needs which have evolved from their reactions to their own socialization experiences.

Henry (1963) recognized the unconscious needs of the teacher and the projection of their personal problems into the classroom situation, as a powerful influence affecting the creativity and supportive possibilities of their students.

Stephens (1967) holds that the teacher is the most crucial factor in the educational process since the effective curriculum is determined by his actual interests. In this light, minute-by-minute classroom activities are not subject to effective control by others, but stem instead, from tendencies deeply ingrained within the teacher.

Stephens succinctly discusses the process in which he believes teachers unconsciously communicate their values and attitudes:

In another category we find extremely powerful but unpremeditated tendencies to communicate; in spontaneous, unthinking fashion we find ourselves telling others of our interests or experiences. Quite spontaneously we react to the way others behave in matters that interest us. Our reaction may consist of spontaneous applause or an ill-concealed shudder; we may be compelled to correct someone or to supply the solution or the word for which someone else is groping. The tendencies responsible for behavior that has little immediate survival value are widespread and powerful. So are the primitive tendencies to communicate. The tendencies in both categories often function without the aid of elaborate rational decisions. Indeed, they often function when rational decisions say, "No". (Stephens; 1967, p. 8)

These automatic or nondeliberative reinforcements are by no means confined to the chance adult who lacks the intention to teach. They probably play an enormous role in the everyday work of the "intentional" teacher. For every time that any teacher marks a question right or wrong or administers an overt expression of approval or disapproval, there are scores of occasions when his face shows a look of surprise, bafflement, incredulity, patient waiting, or relieved acceptance. These subtle grimaces, these shadows and lights, these nuances in tone of voice, are in play day in and day out as the teacher faces the class. They are very effective reinforcements. They come and go with very little deliberate rationale on the part of teachers. And yet, it is quite possible that they contribute enormously to educational growth. (Stephens; 1967, p. 64)

It has been noted with some degree of interest, that in those instances where teachers purposely attempt to influence the affective learning of their students, it is usually intended that the values inculcated will remain long after the school experience has culminated.

As was the case with unconscious communications, the form and direction

of the affective learning attempted, will be inextricably related to the values and attitudes held by the teacher.

In this regard Jackson (1968) states:

The problem turns, it would seem, on the distinction between the teacher's primary concern and his ultimate concern, on the thoughts and practises dominating his immediate actions with students, as contrast with his hopes and expectations concerning the long term achievement of individuals within his class. Teachers, particularly in the lower grades, seem to be more activity oriented than learning oriented. That is they commonly decide on a set of activities which they believe will have a desirable outcome and then focus their energies on achieving and maintaining student involvement in those activities. Learning is important, to be sure, but when the teacher is actually interacting with his students it is actually at the periphery of his attention, rather than at the focus of his vision. (Jackson; 1968, p. 162)

We see then, a rather salient concensus emerging from the literature regarding the nature and mechanism of attitude and value transmission in the classroom. An examination of the empirical evidence in this regard, would appear to support this concensus.

A study of the effects of teacher expectations on pupils was conducted from 1964 through 1966 by Rosenthal and Jacobson (1968). The results of this study formed the basis for the book "Pygmalion In The Classroom," published in 1968.

In May of 1964, the researchers administered Flanagan's "Tests Of General Ability" to all students in kindergarten and grades one to six in

a selected elementary school. It was suggested to the teachers that this test would enable the researchers to determine which students were most likely to show an academic spurt in the coming year. In the fall of 1964, 20% of the students were randomly chosen as "spurters", and each teacher received a list of names identifying those spurters who would be in his class. The general abilities tests were re-administered in January, 1965, May, 1965, and May, 1966. It was found that the students revealed to the teachers as being supposed academic spurters, experienced significant gains on the general abilities test and in I.Q. The researchers concluded:

That teachers' favorable expectations can be responsible for gains in their pupil's I.Q.'s and, for the lower grades, that these gains can be quite dramatic.

The findings of the Rosenthal study have come under a great deal of attack in the literature. Although most critics agree that the basic premise of the study could be sound (i.e., that teacher expectations function as self-fulfilling prophecies), methodological deficiencies and unacceptable data analysis, preclude any possibility of the data providing tangible support for the researcher's hypothesis. (Snow; 1969, Thorndike; 1968)

A study of elementary school teachers conducted by Brophy (1970) assumed the existence of an expectancy effect, and focussed on determining how differential teacher expectations were communicated to children in such a way that would tend to cause children to produce reciprocal behavior. For the purposes of his study, Brophy hypothesized the existence of the following

conceptual model:

(a) The teacher forms differential expectations for student performance; (b) He then begins to treat children differently in accordance with his differential expectations; (c) The children respond differentially to the teacher because they are being treated differently by him; (d) In responding to the teacher, each child tends to exhibit behavior which compliments and reinforces the teacher's particular expectations for him; (e) As a result, the general academic performance of some children will be enhanced while that of others will be depressed, with changes being in the direction of teacher expectations; (f) These effects will show up in the achievement tests given at the end of the year, providing support for the "self-fulfilling prophecy" notion.
(p. 365-366)

The research was conducted in four first-grade classrooms in which neither teaching aids, intern teachers, nor any other type of instructional assistants were utilized. The four teachers involved were asked to rank their students in order of their academic achievement. The ranking instructions were deliberately kept vague in order to elicit subjective judgements from the teachers. These rankings were then used as a measure of the teacher's expectancy for each pupil's academic achievement. Students at the two extremes of the teacher's rankings were selected as subjects. It was reasoned that because the subjects were chosen in this manner, differential treatment of the pupils by the teacher would be maximized. Since the school employed an achievement tracking system in grouping their students, it was assumed that objective support for the validity of the teacher's expectations would be minimized. An observation technique using a coding system for recording dyadic interactions between the subjects and the teacher was employed.

Brophy succeeded in isolating certain verbal interactions varying in quality, and quantity, and which differentiated according to high or low teacher expectations. He concludes:

When the latter differences are statistically controlled through the use of percentage measures, it is seen that the teachers systematically discriminate in favor of the highs over the lows (i.e., high and low expectancies) in demanding and reinforcing quality performance. Teachers do, in fact, communicate differential performance expectations to different children through their classroom behavior, and the nature of this differential treatment is such as to encourage the children to begin to respond in ways which would confirm teacher expectancies. In short, the data confirm the hypothesis that teacher's expectations function as self-fulfilling prophecies, and they indicate some of the intervening behavioral mechanisms involved in the process. (p. 373)

Regarding the nature of the communication of differential teacher expectations, Brophy further concludes:

Teachers are frequently unaware of the subtle differences in their behavior in such situations, yet it is in such situations that teachers systematically communicate differential expectations to different students. (p. 374)

In a similar study, Silberman (1969) attempted to determine if the teacher's attitudes toward his students were revealed in his classroom behavior. In assessing their attitudes, teacher interviews were conducted by the researcher. A systematic observation technique using a coded system for recording pupil-teacher interactions was employed in the classroom, to ascertain differential treatment of students by teachers, as a function of the attitudes held by the teachers. Interviews with the students were then conducted in order to find out whether or not they were aware of their

teacher's differential behavior toward them. The researcher uncovered three major findings:

1. Teachers' attitudes are generally revealed in their actions in spite of many forces operating to contain their expression.
2. Different attitudes are translated into action in different ways, such that teachers given some of their attitudes clearer expression than they give others.
3. Students who receive them are aware of most behavioral expressions of their teacher's attitudes. In addition, many such behaviors aimed at individual students are visible to other students in the class, as well.

Silberman sums up his findings:

Thus, it is likely that the daily classroom experience of recipient students is significantly altered by teachers' actions which express their attitudes. These actions not only serve to communicate to students the regard in which they are held by a significant adult, but they also guide the perceptions of, and behavior toward, these students by their peers. (p. 407)

An overview of the literature presented in this section, strongly suggests that the classroom behavior of the teacher is significantly influenced by his personal needs, idiosyncracies, attitudes and value systems. Further, it would appear that attitudes and values of the teacher are communicated to the student whether or not it is the intent of the

teacher to do so. Having been transmitted, these values and attitudes often profoundly affect the student's behavior, and the affective learning he internalizes.

The Development of Scales for the Measurement of Attitudes Held Toward Specific Components of the Physical Activity Domain.

A scale for measuring the attitudes of college students toward physical fitness and exercise was devised and reported in the literature by Richardson (1960). One of two classical techniques for attitude measurement, the Thurstone method of equal-appearing intervals (Thurstone and Chave; 1929), was used by Richardson in developing his scale. Test items for the equal-appearing intervals scale were selected on the basis of judgements made by a panel of experts.

A collection of 72 attitude-opinion statements concerning physical fitness and exercise were compiled intuitively, from literature sources, and from oral statements. These statements were submitted to a panel of twenty judges who rated each statement on a five point scale. The statements were then grouped according to their assigned ratings and the median and Q, the distance between the 25th and 75th percentiles, were calculated for each frequency distribution generated. These statistics provided the basis upon which the Richardson attitude scale was constructed.

The median represents the scale value of the item as reflected by its position accorded in the five-point rating system. The interquartile range (Q), is considered to be a measure of ambiguity in the attitude statement. A low Q represents a high agreement among judges about the position of the statement on the attitude continuum, while a high Q indicates a low agreement. Two test forms consisting of 19 items each were derived by choosing those items which were evenly scaled (with median values 0.2 points apart) and which had small Q values.

The validity of the attitude scale as an instrument of measure was established using the "logical-judgement concensus" approach. Repetition and parallel forms were used in establishing a satisfactory measure of reliability of the scale.

Adams (1963) developed and reported two scales for measuring attitudes held toward physical education by teachers' college students using a technique similar to that employed by Richardson, and described above.

Two sets of 20 items each were devised which could be combined with either a Likert or Thurstone-Chave rating scale, to gauge attitudes held by teachers' college students toward physical education. In selecting the test items, 150 statements concerning physical education were accumulated from a variety of sources. Of these, 40 of the most appropriate were selected by a panel of 50 judges, composed of first and second year university

psychology and education students. The judges assessed each attitude statement according to an eleven point scale (extending from "most favorable" to "most unfavorable") which represented a continuum of statements reflecting attitudes held toward physical education.

This assessment resulted in the formation of eleven groups of attitude statements spaced by "equally-appearing intervals".

Two criteria were used in selecting suitable scale items from the original 150 statements:

1. The degree of agreement between the judges on the placing of individual items.
2. The necessity for a balanced selection of items reflecting all shades of attitude along the continuum.

To provide an assessment of the scale's reliability and validity, the inventories were administered to 245 teachers' college students. The validity of the scales as an instrument of measure was established by comparison to other tests, and its reliability was demonstrated through the application of a split-halves technique.

One of the most extensively used inventories for measuring attitudes held toward physical education, was developed by Carlos Wear (1951).

Unlike the Richardson inventory previously reviewed in this study, Wear selected the Likert format (Likert; 1932) as opposed to Thurston's format, as a basis for the construction of his scale. Unlike the Thurston technique, the Likert method does not require an evaluation of test items by a panel of judges, nor does it assign a definite scale value to the statements. The responses to each statement are arbitrarily rated and an individual's score on a Likert inventory constitutes the sum of the scores made on the various statements.

The selection of items for the inventory was accomplished by formulating a series of statements reflecting commonly perceived outcomes of physical education. It was reasoned that statements related to these outcomes were probably more relevant than any others in evaluating attitudes toward physical education. Eight categories of outcomes or perceived functionality were identified by Wear. These deal with physical education within the context of:

(a) Physical well-being (b) muscular strength and co-ordination
(c) total physical and muscular endurance (d) acquisition of neuro-muscular skills (e) resources for recreation, for use of leisure time now and in later life (f) mental health, emotional control and poise. (g) social relationships (h) safety aspects, providing for better control of body and better use of safety measures. (p. 116)

Statements which might represent verbal expressions of feelings concerning the value of these outcomes and the extent to which physical education was believed to bring about their attainment, was solicited from graduate and undergraduate students in physical education classes, as well as from the literature. These procedures produced 289 such statements.

One hundred and twenty-two of the total 289 statements were selected for the inventory on the basis of the following criteria:

- (a) The attitude statement must be debatable - not a statement of fact.
- (b) All statements must belong to the same attitude variable.
- (3) A statement must not be susceptible to more than one interpretation.
- (d) Avoid "double-barreled" statements.
- (e) Statements should be short.
- (f) Each statement should be complete in denoting a definite attitude toward a specific issue.
- (g) Each statement should contain only one complete thought.
- (d) Avoid grouping two or more complete sentences as one attitude statement.
- (i) Statements should be clear-cut and direct.
- (j) Use with care and moderation such words as "only", "mere", "just" (in the sense of only), "merely", etc.
- (k) Avoid colorless expressions or statements lacking effect.
- (l) Whenever possible, write in the form of a simple instead of compound or complex sentence.
- (m) Use a complex rather than a compound sentence.
- (n) It is usually better to use active voice rather than passive.
- (o) In general use the term of the issue as the subject of the sentence.
- (p) Avoid high sounding words, uncommon words or expressions, technical terms not ordinarily understood, etc. (p. 116)

The 122 items thus selected were administered to 75 college students and the responses generated were submitted to item analysis procedures. Following these procedures, a revised list of 120 items was generated and these items, in conjunction with the Likert rating system, were called the "Physical Education Attitude Inventory."

The Physical Education Attitude Inventory was then administered to a sample of 472 individuals. The data generated in 272 inventories randomly removed from the initial sample, was submitted to further item analysis and a short-form inventory consisting of 40 items was derived.

Validity of both forms of the attitude inventory was established by comparing their results to those of a specially designed attitude questionnaire. Reliability of the inventories was demonstrated through split-halves reliability procedures.

Although the attitude inventories reviewed in this section have been carefully compiled and demonstrate acceptable reliability and validity levels, each focuses on the measurement of only one dimension of the physical activity domain. For the purposes of this study then, this unidimensional factor precludes the use of any one of the afore mentioned attitude scales as the instrument of measure, since it is not inconceivable that an elementary school teacher could devalue physical fitness and exercise, and still hold strong positive attitudes toward physical activity when perceived in another functional context; or, that he devalue physical education on the basis of personal experience with poor or inadequate programs, while

still maintaining high positive attitudes toward sports, games, and other and sundry manifestations of the physical activity domain.

To overcome this problem, a multidimensional attitude scale devised by Gerald S. Kenyon (1968) for purposes of determining attitudes held toward physical activity as manifest in sports and games, was adopted for use in this study.

At present, this attitude inventory has been used in two major studies - once by Kenyon (1968) in a massive cross-cultural study testing attitudes held toward physical activity by secondary school students in four different countries, and once by Alderman (1968) in a study of international caliber Canadian athletes. In addition it has been employed several times in various doctoral dissertations.

For a description of the "Kenyon Inventory", we refer the reader to the section entitled "The Attitude Inventory", located in Chapter III, and to Appendix C of this study.

CHAPTER III

THE PROCEDURE

Research Design

Survey Method. An attitude inventory was distributed to classroom teachers in seven selected schools in the Vancouver elementary school system. The data collected was analyzed to obtain information regarding the nature of attitudes held for sports and physical activity by elementary school teachers, within the context of sex, age and grade levels taught.

Selection of the Sample

A cluster sampling technique was employed in drawing subjects for this study. Seven of the total population of seventy schools comprising the Vancouver elementary school system, were non-randomly selected. Since it is possible that the attitudes held by elementary school teachers toward physical activity could vary as a function of the location of the school (Yee, 1968), a balanced distribution in which all areas of the city were represented, was deemed a desirable characteristic of the sample. In this regard, the schools selected for study in this research were drawn on the basis of their location in the city.

All teachers meeting the criteria stipulated in the "Definitions" and "Delimitations of the Study" sections of this paper, and who taught in one of the selected elementary schools, were chosen as subjects for the study.

Each sample school contained at least one non-teaching administrator, and in some instances remedial specialists having no specific classroom assignment were found to be listed among the school's teaching personnel. In conjunction with the school board's research department, reference to files kept by the school board concerning the function of each teacher revealed information which eliminated from the sample those individuals not meeting the criteria established to qualify them as subjects for the study.

Out of a total population of 1,346 elementary school teachers in the Vancouver school system, 135 teachers or approximately 10% of the total population, were drawn in the sample.

Distribution and Collection of the Inventories

The exact number of subjects to be drawn from each of the seven sample schools was determined from the personnel file of the Vancouver school board (refer to the preceeding section "Selection of the Sample"), and a corresponding number of inventories were sent to each principal of the selected schools. Along with the inventories, each principal received a letter of "authorization" from the school board's research department containing information regarding which of his staff members were eligible as subjects for this study (refer to Appendix A). The principals were then charged with the responsibility of personally distributing the attitude inventories to each eligible member of his teaching staff. In addition to the letter of authorization sent to each principal by the Vancouver public school board's research department, a second cover letter urging the teacher's cooperation in the study, accompanied the inventories distributed to each

subject (refer to Appendix B).

A stamped envelope addressed to the researcher was attached to each inventory. Return of the data then, was accomplished via the mails.

Since the names of the schools in which the inventories were distributed was affixed to each inventory prior to their being sent out, the return rate for each school was readily calculable. Schools exhibiting unsatisfactory initial return rates were contacted by the researcher, and their principals were urged to solicit the return of the completed inventories by their teaching staff.

The Attitude Inventory

An inventory developed by Gerald S. Kenyon for measuring attitudes toward physical activity as manifest in sports and games, was administered to the sample in this study. The inventory, evolved from a conceptual model developed by Kenyon over a period of years (Kenyon, 1964a, 1964b, 1965a, 1965b), has as its base, a logical analysis of the perceived functionality of physical activity in contemporary society.¹ Six perceived functions or subdomains of physical activity as identified by Kenyon, and each is used to form a separate scale of the attitude inventory. The six subdomains

¹ A seventh subdomain, "physical activity as manifest in games of chance," was later added by Kenyon to the inventory but was not included in this study in deference to school board policy.

are as follows:

1. Physical activity as a social experience.
2. Physical activity for health and fitness.
3. Physical activity as the pursuit of vertigo.
4. Physical activity as an aesthetic experience.
5. Physical activity as catharsis.
6. Physical activity as an ascetic experience.

In completing the inventory, each respondent is required to rate the six conceptual subdomains with respect to his attitude toward them. The rating is accomplished through a series of eight descriptive semantic differential scales, each based on seven alternate Likert-type, summated ratings format. The most positive rating possible for a subdomain of physical activity for any given descriptive semantic differential then, is seven, while the most negative rating scores one.

The Kenyon inventory was selected for use in this study for two primary reasons; firstly, other available instruments (Wear, 1955; Adams, 1963 and Richardson, 1960) fail to account for what the researcher believes to be the likely multidimensional nature of the physical activity domain, secondly, the Kenyon inventory has demonstrated an acceptable degree of stability and reliability. Items held to be representative of the perceived functional dimensions of physical activity have been evaluated by item and factor analysis procedures, and have generated Hoyt reliabilities ranging from .72 to .89 for the six scales. The stability of the instrument was

demonstrated by comparative measures of variability, reliability, and central tendency between two similar populations.

For the purposes of this study, a general information sheet was added to the Kenyon inventory which provided the researcher with data regarding the age, sex, and grade levels taught for each respondent.

For a more comprehensive view of the attitude inventory, refer to Appendix C.

Data Treatment

Total scores for each subject in each of the six attitude subdomains were determined from their responses to the total 48 items. From this data, descriptive statistics consisting of the mean, rank, and standard deviation of the entire group were calculated for each attitude subdomain.

Univariate analysis of variance procedures were employed to analyze the significance of the differences existing between the following:

1. The mean scores for each subdomain for the total sample.
2. The mean scores for each subdomain as a function of the sex of the subjects.

3. The mean scores for each subdomain for female teachers as a function of their age and the grade levels taught.

4. The mean scores for each subdomain for male teachers as a function of their age. (Since the sample failed to yield any instance of a male subject teaching in the lower grade levels, a comparison of mean scores for male teachers as a function of grade levels taught was not possible.)

For the purposes of this study, two categories of teaching levels - higher and lower teaching levels - and two age groups of teachers - younger and older teachers - were arbitrarily established by the researcher. These terms are operationally defined as follows:

Older teacher: 40 years of age and older.

Younger teacher: 39 years of age and younger.

Higher teaching levels: those teaching grades 4 - 7.

Lower teaching levels: those teaching grades 1 - 3.

CHAPTER IV

RESULTS AND DISCUSSION

Results

One hundred and three of the sample 135 Vancouver elementary school teachers elected to complete and return the Kenyon Attitude Inventory. This represents a return ration of 76.3% for the total sample selected. Analysis of the data gleaned from the returned inventories generated the results discussed in this chapter.

Attitude Differences for Female Teachers as a Function of Their Age.

Of the total of 103 inventories completed and returned to the researcher, 76 represented the responses of female elementary school teachers, while the remaining inventories were completed by male teachers. Of the female group, 52 inventories fell into the "younger teacher" category (i.e. teachers 39 years of age and under), while 24 inventories fell into the "older teacher" group (teachers 40 years of age and older).

The mean inventory score for each of the six attitude subdomains was calculated for both the "younger" and "older" teacher groups, and each subdomain was ranked in both groups on the basis of these mean scores. In accordance with the summated ratings procedure used in the Kenyon Inventory on the semantic differential scale, a high score represents a more positive attitude toward the subdomain than does a low score.

As indicated in Table I, the mean scores range from a high of 49.21 for the aesthetic subdomain in the "older teacher" group, to a low mean score of 32.35 for the ascetic subdomain in the "younger teacher" group. In both groups, the rank order of each subdomain is identical, with the aesthetic subdomain recording the highest mean score, and with cathartic, social, fitness, vertigo and ascetic subdomains following respectively in descending order.

For each subdomain, the mean scores are higher in the "older teacher" group. Despite this consistency, univariate analysis of variance techniques indicate that this difference is significant only for the vertigo subdomain ($p < .01$, Table I).

TABLE I

Attitude Differences For Female Subjects For Each
Subdomain As A Function of Their Age

Subdomain	Younger Teachers (n=52)		Older Teachers (n=24)		F Ratio	p
	<u>Mean</u>	<u>Rank</u>	<u>Mean</u>	<u>Rank</u>		
Social	46.38	3	47.04	3	0.2468	0.6209
Fitness	43.65	4	44.75	4	0.4357	0.5114
Vertigo	34.27	5	40.17	5	7.1430	0.0094
Aesthetic	47.75	1	49.21	1	1.0020	0.3202
Cathartic	47.29	2	47.71	2	0.0665	0.7973
Ascetic	32.35	6	35.42	6	2.2990	0.1339

Attitude Differences for Female Teachers as a Function of Grade Levels

Taught. Half (38) of the female subjects in this study fell into the "upper level" category (i.e. teachers of grades 4 to 7), while the remaining 38 fell into the "lower level" category (i.e. teachers of grades 1 to 3).

As indicated in Table II, the mean scores for each subdomain in both "level" categories range from a high of 48.24 for the aesthetic subdomain in the "lower level" group, to a low mean score of 32.21 for the ascetic subdomain, also in the "lower level" group. The rank order of each subdomain is the same in both "upper" and "lower" level categories and is identical to that exhibited in the two previously discussed "age" categories (refer to Table I). A comparison of the mean scores for each subdomain in the two "level" categories shows a higher mean score for social, fitness, vertigo and aesthetic subdomains in the "lower level" category than in the "upper level" category. Cathartic and ascetic subdomains however, exhibit higher mean scores in the "upper level" category. As the p values in Table II indicate, none of these observed differences are statistically significant.

Age X Level Interaction. Univariate Analysis of Variance procedures yields a p value of 0.0001 for the ascetic subdomain, indicating a significant age x level interaction (see Figure 1). As indicated by the p values listed in Table III, an age x level interaction effect for the remaining five subdomains, is not statistically apparent.

Table II

Attitude Differences For Female Subjects For Each
Subdomain as a Function of Grade Levels Taught

Subdomain	Lower Level Teacher (n=38)		Upper Level Teachers (n=38)		F Ratio	p
	<u>Mean</u>	<u>Rank</u>	<u>Mean</u>	<u>Rank</u>		
Social	46.61	3	46.58	3	0.0189	0.8911
Fitness	44.18	4	43.82	4	0.1588	0.6915
Vertigo	36.34	5	35.92	5	0.6924	0.4082
Aesthetic	48.24	1	48.18	1	0.0743	0.7860
Cathartic	46.97	2	47.87	2	0.2990	0.5862
Ascetic	32.21	6	34.42	6	0.7276	0.3966

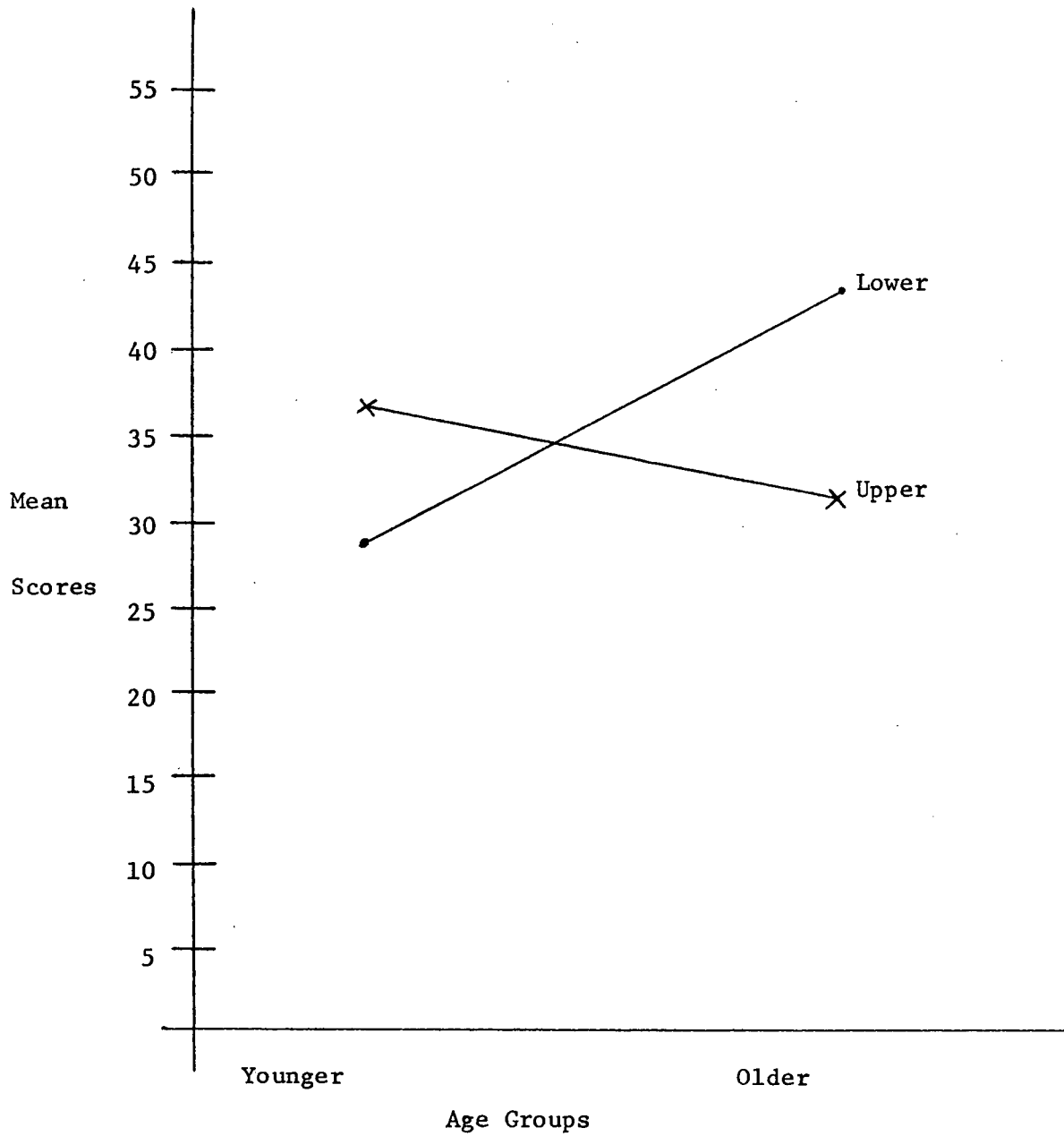
Table III

Univariate Analysis of Variance of Age X Level Interaction For
Female Teachers For Each Subdomain

Subdomain	F Ratio	p
Social	0.0147	0.9039
Fitness	1.2590	0.2656
Vertigo	1.9698	0.1648
Aesthetic	0.4516	0.5038
Cathartic	0.3112	0.5787
Ascetic	20.7615	0.0001

34
FIGURE I

Age X Level Interaction For Female Subjects for Female Subjects For
The Ascetic Subdomain



Attitude Differences For Male Teachers as a Function of Their Age. Of the 27 male respondents to the attitude inventory administered in this study, 18 male elementary school teachers fell into the "younger teachers" category (i.e. those teachers 39 years of age and younger) while 9 fell into the "older teachers" classification (i.e. those teachers 40 years of age and older).

As indicated in Table IV, the scores for each subdomain in each of the two groups range from a high score of 48.22 for the aesthetic subdomain in the "older teachers" group, to a low score of 37.17 for the vertigo subdomain in the "younger teachers" group. With the exception of the ascetic subdomain, the scores for each subdomain were higher in the "older teachers" group than they were in the "younger teachers" group.

Univariate Analysis of Variance techniques indicate that the differences existing between the scores for each subdomain in each of the two groups are not statistically significant (refer to Table IV).

The rank order of the subdomains in both the "younger" and "older" teachers groups ranked the aesthetic and cathartic subdomains as 1 and 4 respectively, while the rankings of the remaining 4 subdomains varied

between the two groups (refer to Table IV).

TABLE IV

Attitude Differences For Male Subjects For Each Subdomain
As a Function of Their Age

Subdomain	Younger Teachers (n=18)		Older Teachers (n=9)		F Ratio	p
	<u>Mean</u>	<u>Rank</u>	<u>Mean</u>	<u>Rank</u>		
Social	45.67	2	46.11	3	0.0322	0.8590
Fitness	45.22	3	46.89	2	0.3543	0.5571
Vertigo	37.17	6	37.67	5	0.0213	0.8851
Aesthetic	46.72	1	48.22	1	0.2777	0.6029
Cathartic	44.11	4	44.67	4	0.0183	0.8935
Ascetic	37.28	5	35.11	6	0.6163	0.4399

Attitude Differences Between Male and Female Elementary School Teachers Expressed Toward Each Physical Activity Subdomain. Table V reveals the mean scores for each physical activity subdomain for both male (n=27) and female (n=76) sample groups. These scores range from a high of 48.21 for the aesthetic subdomain in the female group, to a low score of 33.32, also in the female group. In both sex groups, the aesthetic subdomain ranks first, the vertigo subdomain fifth, and the ascetic subdomain sixth, while the

rankings of the remaining three subdomains vary between groups. Univariate Analysis of Variance procedures fail to attach statistical significance to the differences existing between the mean scores for each subdomain in each of the two groups (refer to Table V).

Table V

Attitude Differences Between Male and Female Subjects Expressed Toward
Each Physical Activity Subdomain

Subdomain	Males (n=27)		Females (n=76)		F Ratio	p
	<u>Mean</u>	<u>Rank</u>	<u>Mean</u>	<u>Rank</u>		
Social	45.81	2	46.59	3	0.4057	0.5256
Fitness	45.78	3	44.00	4	1.4017	0.2392
Vertigo	37.33	5	36.13	5	0.3501	0.5554
Aesthetic	47.22	1	48.21	1	0.5184	0.4732
Cathartic	44.30	4	47.42	2	3.4491	0.0662
Ascetic	36.56	6	33.32	6	2.7711	0.0991

Attitudes Held Toward Physical Activity by Vancouver Elementary School Teachers. In order to determine a representative set of scores for each attitude subdomain for Vancouver elementary school teachers as a group, the mean score for each subdomain was calculated from the responses of all subjects selected in the sample (n=103). These scores ranged from a high of 47.95 for the aesthetic subdomain, to a low of 34.17 for the ascetic

subdomain. The mean scores and rankings for the six subdomains are listed in Table VI.

Table VI

Attitude Differences of Vancouver Elementary School Teachers
Expressed Toward Each Physical Activity Subdomain

Subdomain	Mean	Rank	Standard Deviation
Social	46.39	3	5.4470
Fitness	44.47	4	6.7022
Vertigo	36.45	5	9.0657
Aesthetic	47.95	1	6.1269
Cathartic	46.60	2	7.5099
Ascetic	34.17	6	5.4470

Discussion

Attitude Differences as a Function of Age

Differences in attitudes held toward physical activity by male and female elementary school teachers as a function of their age were anticipated by the researcher. Since physical education programs and the organization, administration, and coaching of various and sundry extra-curricular sports,

games, and physical activities are commonly thought to fall within the domain of the younger teacher, and are therefore often left to the recognizance of this group, the researcher anticipated that a difference in attitudes held toward physical activity would exist between younger and older teachers, with younger teachers expressing a more positive attitude in this regard. With one exception, the research conducted herein did not support this expectation. No significant trend toward a more positive or negative attitude expressed toward the inventory subdomains for either the younger or older groups of male and female teachers was uncovered.

The reasons for the more positive attitude found to be expressed by older as opposed to younger female teachers toward the vertigo subdomain, remains largely incomprehensible. That the age of a female teacher is a factor in determining her attitude toward this single physical activity subdomain, demands further research if a satisfactory explanation for this phenomenon is to be advanced.

The most interesting finding resulting from the comparison of attitudes toward physical activity held by younger and older teachers is not the differences that exist between the two age groups, but the lack of differences. The identical rankings for each subdomain in the two age groups for female teachers, and the fractional differences in mean scores contributing to the slight variation in rankings for the male age groups, attests to the homogeneity among groups of the collective attitudes held by elementary school teachers toward physical activity, when grouped according to the age criterion.

Attitude Differences as a Function of Grade Levels Taught

No significant differences were found between the attitudes held by "upper" and "lower" level teachers toward the six physical activity subdomains. Like the "age" groups discussed above, the two "level" groups are remarkably homogeneous when the collective attitudes of one group are compared with those of the other. On the basis of the findings in this study then, it would appear that the attitudes held by elementary school teachers toward physical activity, do not differentiate as a function of the grade levels taught.

Age X Level Interaction

The research conducted to date in both this study and in related studies does not permit the researcher to speculate with any degree of authority on the significant difference in attitude toward the ascetic domain which exists for female elementary school teachers when their ages and grade levels taught are considered simultaneously. Further study in this regard is warranted.

Attitude Differences as a Function of Sex

Since the traditional view in our society holds that males are generally more positively oriented toward physical activity as manifest in sports and games than are females, the researcher anticipated a significantly more positive response to the subdomains on the Kenyon Inventory for males than for females. This supposition was not born out by the results of the study.

Although some variation was found to exist in the ranking of the subdomains by the two sexes, the mean scores on each subdomain for both sexes failed to differentiate. On this basis then, it would appear that the comparison of male and female grouped elementary school teachers reveals a prevailing attitude toward physical activity as manifest in sports and games which is relatively homogeneous.

Homogeneity of Attitudes

An examination of the overall results of this study indicate that while some attitudes held by Vancouver elementary school teachers are relatively homogeneous, others are not. Despite the lack of statistically significant differences existing between the six attitude subdomains when the total compliment of subjects drawn in the sample are considered as a group, the relatively large standard deviations found in the vertigo, fitness and cathartic subdomains are indicative of substantial individual variations in attitudes held toward these three attitudinal sets (refer to Table VI). By virtue of the more moderate standard deviations found for the social, aesthetic and ascetic subdomains, attitudes held by elementary school teachers toward these perceived functions of physical activity are relatively homogeneous. Extending these findings then, the researcher suggests that the child entering the elementary school system is confronted with divergent attitudes held toward physical activity when viewed within some functional contexts, while in others, the attitudes projected are rather homogeneous. Since the homogeneity of information transmitted by socializing agents has long been recognized as a critical factor in the socializing process, it is quite possible that the elementary school system is more instrumental in

modifying attitudes held toward physical activity when viewed in the social, aesthetic and ascetic subdomains then when considered within the functional contexts of fitness, catharsis and vertigo.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

Physical activity as manifest in sports and games, when viewed in a cultural context, occupies its own specific niche in the cultural hierarchy of a given society, as do all other cultural elements. Each cultural element achieves its respective hierarchial position through the consensus which exists in that society. New societal members are introduced to this consensus by a variety of social agents and agencies whose combined actions constitute the process of socialization.

A substantial amount of research has been conducted, the results of which strongly suggest that teachers - and more specifically, elementary school teachers - often function as extremely effective agents in the socialization process. Further empirical evidence indicates that the information communicated by teachers often occurs unintentionally, and that this information conforms to the teacher's own personal values and attitudes, biases and beliefs.

In the light of these findings then, it is logically concluded that the role played by the school system in determining the value ascribed to physical activity as a cultural element, is reflected at least in part, by the personal values and attitudes held by its teachers.

Operating within this framework then, the essence of this study was to gain some insight into the actual values and attitudes held by elementary

school teachers toward physical activity as manifest in sports and games. Toward this end, the Kenyon Attitude Inventory was administered to a sample group of elementary school teachers in the Vancouver Public School system. On the basis of the data gleaned from the completed inventories, a norm table of attitudes held by elementary school teachers toward physical activity was established for the purpose of comparison with other groups, and for use in future research.

The possibility of existing differences in attitudes held toward physical activity among elementary school teachers as a function of their age, sex and grade levels taught, was also investigated. The study determined that these three factors did not generate statistically significant attitudinal differences in teachers, and that the attitudes held by teachers as a group toward physical activity varied toward the fitness, cathartic and vertigo subdomains, but were fairly consistent toward the social, aesthetic and ascetic subdomains. Since consistency among agents of socialization in the affective information they communicate is believed to be one of the prime factors in determining the efficacy of the socialization process, both the consistencies and inconsistencies in the projected attitudes noted above are deemed to be significant findings in this study.

Conclusions

In addition to establishing norm tables for elementary school teachers

on the Kenyon Attitude Inventory, this study cites two major findings:

1. The attitudes of elementary school teachers toward physical activity as manifest in sports and games do not vary as a function of their age, sex or grade level taught.
2. The collective attitude of elementary school teachers toward physical activity as manifest in sports and games is subject to substantial individual variations when considered within the functional contexts of fitness, catharsis and vertigo, but are more homogeneous when viewed in a social, aesthetic or ascetic context.

References

- Adams, R.S. "Two scales for measuring attitude toward physical education," Research Quarterly, 34:91-94, March, 1963.
- Alderman, R.B. "A sociopsychological assessment of attitude toward physical activity in shampion athletes," Research Quarterly, Vol. 41, No. 1, 1968.
- Amidon, E. "Teacher-pupil interaction," Review of Educational Research, 35:130, April, 1965.
- Back, K. "The exertion of influence through social communication," Journal Of Abnormal and Social Psychology, 46:9-23, 1951.
- Bandura, A. Social Learning and Personality Development, New York: Holt, Rinehart and Winston Inc., 1964.
- Bandura, A. "Influence of social reinforcement and the behavior of models in shaping children's moral judgments," Journal of Abnormal and Social Psychology, 67:274-281, No. 3, 1963.
- Bandura, A. "Vicarious reinforcement and imitative learning," Journal of Abnormal and Social Psychology, 67:601-607, No. 6, 1963.
- Bandura, A. "Social learning through imitation," In M.R. Jones (ed.) Nebraska Symposium on Motivation. Lincoln: University of Nebraska Press, 1962, p. 211-269.
- Bandura, A. et al. "Modification of self imposed delay of reward through exposure to live and symbolic models," Journal of Personality and Social Psychology, 2:698-705, 1965.
- Bandura, A, Ross and Ross. "A comparative test of the status envy, social power, and secondary reinforcement theories of identificatory learning," Journal of Abnormal and Social Psychology, 67:527-534, December, 1963.
- Bell, R. Sociology of Education. A Source Book, Homewood, Ill.: Dorsey Press, 1962.
- Boocock, S. "Toward a sociology of learning: A slective review of existing research," Sociology of Education, Vol. 39, No. 1, Winter, 1966.
- Brewer, M. "Attitude change as a function of discrepancy and source of influence," Journal of Social Psychology, 76:13-18, 1968.
- Brim, O. "Socialization through the life cycle," Socialization After Childhood: Two Essays, New York: John Wiley and Sons, Inc., 1966.

- Brim, O. Sociology and the Field of Education, New York: Russell Sage Foundation, 1958.
- Brim, O. Education for Child Rearing, New York: Russell Sage Foundation, 1965.
- Brookover, W.A. Sociology of Education, New York: American Book Company, 1964.
- Broom, L. Sociology, New York: Harper and Row, 1963.
- Brophy, J. "Teachers' communication of differential expectations for childrens' classroom performance: Some behavioral data," Journal of Educational Psychology, 61:365-374, No. 5, 1970.
- Cartwright, D. Studies in Social Power, Ann Arbor: Research Center for Group Dynamics, Institute for Social Research, 1959.
- Clausen, J. Socialization and Society, Boston: Little, Brown and Company, Inc., 1968.
- Cohn, I. "Attitude change and interpersonal attraction," Journal of Social Psychology, 55:207-211, 1961
- Coleman, J.S. The Adolescent Society, New York: Free Press of Glencoe, 1961.
- Dreeben, R. "The contribution of schooling to the learning of norms," Harvard Educational Review, 37:211-237, 1967.
- Early, J. "Attitude learning in children," Journal of Educational Psychology, 59:176-180, No. 3, 1968.
- Edgar, D.E. "Power and autonomy in teacher socialization," Sociology of Education, 42:386-399, No. 4, 1969.
- Elkin, F. The Child and Society. (The Process of Socialization), Random House Inc., New York, 1960.
- Emerson, R. "Deviation and rejection: An experimental replication," American Sociology Review, 19:688-693, 1954.
- Festinger, L. "Informal social communication," Psychological Review, 57:271-282, 1950.
- Flanders, N. "Changes in pupil attitudes during the school year," Journal of Educational Psychology, 59:334-338, No. 5, 1968.
- Gage, N. The Social Psychology of Education, Boston: Ally and Bacon, 1963.

- Gage, N. Handbook of Research on Teaching; A Project of the American Educational Research Association, Chicago: Rand McNally, 1963.
- Gamsky, N. "Team teaching, student achievement, and attitudes," The Journal of Experimental Education, 39:42-45, No. 1, Fall, 1970.
- Gerard, H. "The anchorage of opinions in face-to-face groups," Human Relations, 7:313-324, 1954.
- Glenn, N. "The trend in differences in attitudes and behavior by educational level," Sociology of Education, 39:225, No. 4, 1966.
- Glidewell, J.C. et al. "Socialization and social structure in the classroom," In M.L. Hoffman and L.W. Hoffman (eds.), Review of Child Development Research, New York: Russell Sage Foundation, 2:221-256, 1966.
- Hartup, W.W. "Social behavior of children," Review of Educational Research, 35:122-219, April, 1965.
- Havighurst, R. J. Society and Education, Boston: Allyn and Bacon Inc., 1967.
- Heinkel, O. "Evaluation of simulation as a teaching device," Journal of Experimental Education, 38:32-36, No. 3, Spring, 1970.
- Henry, J. "Attitude organization in elementary school classrooms," in N. Gage The Social Psychology of Education. Boston: Allyn and Bacon, 1963.
- Himmilweit, H. et al. Television and the Child: An Empirical Study of the Effect of Television on the Young, New York: Oxford University Press, 1958.
- Hodgkins, B.J. "Age-grade structure, goals, and compliance in the school: An organizational analysis," Sociology of Education, Vol. 43, No. 1, Winter, 1970.
- Hovland, C. Communication and Persuasion, New Haven: Yale University Press, 1953.
- Hoyt, K. "A study of the effects of teacher knowledge of pupil characteristics on pupil achievement and attitudes towards class work," Journal of Educational Psychology, 46:302-310, 1955.
- Humphreys, E. "Interaction and prestige of secondary school teachers in the province of Ontario," Sociology of Education, 43:404-418, No. 4, 1970.
- Jackson, J. "The effect of person-group relationships on conformity processes," Journal of Abnormal and Social Psychology, 57:17-24, 1958.
- Jackson, J. "Reference group process in a formal organization," Sociometry, 22:307-327, No. 4, 1959.

- Jackson, P. Life in Classrooms, New York: Holt, Rinehart and Winston, 1968.
- Jensen, G. "Socialization," Review of Educational Research, 35:201-207, 1965.
- Kandel, D. "Parental and peer influences on educational plans of adolescents," American Sociological Review, 34:213-222, No. 1, 1969.
- Kelman, H., Hovland, C. "Reinstatement of the communicator in delayed measurement of opinion change," Journal of Abnormal and Social Psychology, 48:327-335, 1953.
- Kemper, T. "Reference groups, socialization and achievement," 33:31-45, No. 1, Sociological Review, 1968.
- Kenyon, G.S. "The contribution of physical activity to social development," Paper presented at Symposium on the role of physical activity in the integrated development of the child, Purdue University, 1964.
- Kenyon, G.S. "Study of differential cultural values held for physical activity, Research project, University of Wisconsin, 1964.
- Kenyon, G.S. "Assessing attitudes toward sport and physical activity," Paper presented at First International Congress of Psychology of Sport, Rome, Italy, 1965.
- Kenyon, G.S. "A multidimensional scaling approach to validation on an a priori model for characterizing values held for physical activity," Paper presented at the National AHPER Convention, Dallas, 1965.
- Kenyon, G.S. "Values held for physical activity by selected secondary school students in Canada, Australia, England, and the United States," U.S. Office of Education Contract S-376, University of Wisconsin, February, 1968.
- Kenyon, G.S. "A conceptual model for characterizing physical activity," Research Quarterly, 39:96-105, March, 1968.
- Kenyon, G.S. "Six scales for assessing attitude toward physical activity," Research Quarterly, 39:566-74, October, 1968.
- Koumin, J. and Gump, P. "The ripple effect in discipline," Elementary School Journal, 39:158-162, 1958.
- Krathwohl, D. and Bloom, B. Taxonomy of Education Objectives. The Classification of Educational Goals. Handbook II: Affective Domain, New York: David McKay Co., Inc., 1964.

- Lawton, M. "Delay of gratification as a function of characteristics of social agents," Journal of Educational Psychology, 57:246-252, No. 5, 1966.
- Lehmann, I. "Changes in attitudes and values associated with college attendance," Journal of Educational Psychology, 5:89-98, No. 2, 1966.
- Lewy, A. "The empirical validation of major properties of affective educational objectives," Journal of Experimental Education, 36:70-77, No. 3, Spring, 1968.
- Lippsitt, R. "Improving the socialization process," in Clausen's Socialization and Society, Boston: Little, Brown and Co., Inc., 1968.
- Maccoby, E. "The choice of variables in the study of socialization," Sociometry, 24:357-371, No. 4, December, 1961.
- Maccoby, E. "The development of moral values and behavior in childhood," in Clausen's Socialization and Society, Boston: Little, Brown and Co., Inc., 1968.
- Merton, R. Social Theory and Social Structure, Glencoe, Illinois Free Press, 1957.
- Mikulas, W. "Interactions of attitudes and associative interference in classroom learning," The Journal of Experimental Education, 39:49-55, No. 2, Winter, 1970.
- Moskowitz, G. "T.V. vs classroom instruction in foreign language: A study of elementary school children's attitudes," Journal of Experimental Education, 33:175-179, No. 2, Winter, 1964.
- Mussen, P. "Masculinity, identification and father-son relationships," Journal of Abnormal and Social Psychology, 59, Nov. 1959, p. 350-356.
- Neidt, C.O. "Longitudinal relationships between cognitive and affective learning outcomes," Journal of Experimental Education, 37:56-60, No. 3, Spring, 1967.
- Parsons, T. "Age, social structure, and socialization in higher education," Sociology of Education, 43, 1, 1, Winter, 1970.
- Parsons, T. "The school class as a social system: some of its functions in American society," Harvard Educational Review, 29:297-318, No. 4, 1959.
- Raven, B. and French, J. "The basis of social power," in Cartwright's Studies in Social Power, Ann Arbor, Research Center for Group Dynamics, Institute for Social Research, University of Michigan, 1959.

- Richardson, C.E. "Thurstone scale for measuring attitudes of college students toward physical fitness and exercise," Research Quarterly, 31:638-43, December, 1960.
- Rosenfeld, H. "The influence of teachers on aspirations of students," Journal of Educational Psychology, 52:1, 1, 1961.
- Rosenthal, R., and Jacobsen, L. Pygmalion in the Classroom: Teacher Expectations and Pupil's Intellectual Development, New York: Holt, Rinehart and Winston, 1968.
- Schramm, W. et al. Television In the Lives of Our Children, Stanford University Press, 1961.
- Sewell, W. "Some recent developments in socialization theory and research," The Annals of the American Academy of Political and Social Science, 349:163-181, Sept., 1963.
- Silberman, M. "Behavioral expression of teacher's attitudes toward elementary school students," Journal of Educational Psychology, 60:402-407, No. 5, 1969.
- Snow, R.E. "Unfinished Pygmalion," Contemporary Psychology, 14:197-199, 1969.
- Snyder, E. "A longitudinal analysis of the relationship between high school student values, social participation, and educational occupational achievement," Sociology of Education, 42:261-270, No. 3, 1969.
- Stephens, J. The Process of Schooling, New York: Holt, Rinehart and Winston, 1967.
- Stevenson, H. "Parents and strangers as reinforcing agents for children's performance," Journal of Abnormal and Social Psychology, 67:183-186. No. 2, 1963.
- Thorndike, R.L. "Review of R. Rosenthal and L. Jacobson, 'Pygmalion In The Classroom'," American Educational Research Journal, 5:708-711, 1968.
- Turk, H. "The expectation of social influence," Journal of Social Psychology, 58:23-39, 1962.
- Utech, D. "Parents and peers as competing influences in the decisions of children of differing ages," Journal of Social Psychology, 78:267-274, 1969.
- Vreeland, R. "Classifying university departments: An approach to the analysis of their effects upon undergraduate's values and attitudes," Sociology of Education, 39:237, No. 3, 1966.

- Wear, C.L. "Construction of equivalent forms of an attitude scale," Research Quarterly, 26:113-19, March, 1955.
- Weiss, R. "Student authoritarianism and teacher authoritarianism as factors in the determination of student performance and attitudes," Journal of Experimental Education, 38:83-87, No. 4, Summer, 1970.
- Wheeler, S. "The structure of formally organized socialization settings," Socialization After Childhood: Two Essays, New York: John Wiley and Sons, Inc., 1966.
- Whittaker, J. "Attitude change and communication - attitude discrepancy," Journal of Social Psychology, 65:141-147, 1965.
- Yee, A. "Source and direction of causal influence in teacher-pupil relationships," Journal of Educational Psychology, 59:275-282, No. 4, 1968.

APPENDIX A

Letter of Authorization From Vancouver School Board

APPENDIX B

Letter To The Teachers From Vancouver School Board

APPENDIX C

Physical Activity Inventory

PHYSICAL ACTIVITY INVENTORY

Age _____ Sex _____

Grade Level(s) Presently Being
Taught _____

NOTE: THIS QUESTIONNAIRE CAN BE COMPLETED
IN FIFTEEN - TWENTY MINUTES.

(Do Not Mark This Page)

INSTRUCTIONS
(using direct response)

SEM. D. SCALES OF ATPA and BI

(Project M)

The purpose of this inventory is to measure the meaning for you of certain concepts of physical activity by judging them against a series of descriptive scales. In taking this test, please make your judgements on the basis of what these things mean to you. On each page of the booklet you will find a different idea or concept to be judged and beneath it a set of scales. You are to rate the concept on each of these scales in order in which they are given.

Here is how you are to use these scales:

If you feel that the concept in the box at the top of the page, for example "REFEREE", is very closely related to one end of the scale, you should place your check-mark as follows:

REFEREE

fair x : 2 : 3 : 4 : 5 : 6 : 7 unfair

or

fair 1 : 2 : 3 : 4 : 5 : 6 : x 7 unfair

If you feel that the concept is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:

fair 1 : x 2 : 3 : 4 : 5 : 6 : 7 unfair

or

fair 1 : 2 : 3 : 4 : 5 : x 6 : 7 unfair

INSTRUCTIONS (Cont'd)

If the concept seems only slightly related to one side as opposed to the other side (but is not neutral), then you should check as follows:

fair $\frac{\quad}{1} : \frac{\quad}{2} : \frac{x}{3} : \frac{\quad}{4} : \frac{\quad}{5} : \frac{\quad}{6} : \frac{\quad}{7}$ unfair

or

fair $\frac{\quad}{1} : \frac{\quad}{2} : \frac{\quad}{3} : \frac{\quad}{4} : \frac{x}{5} : \frac{\quad}{6} : \frac{\quad}{7}$ unfair

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the thing you are judging. If you consider the concept to be neutral on the scale (that is, both sides of the scale seem equally associated with the concept), or if the scale makes no sense, (that is, it is unrelated to the concept) then you should place your check-mark in the middle space:

safe 1:2:3:x:4:5:6:7 dangerous

IMPORTANT: (1) Place your check-mark in the middle of spaces,
not on the boundaries:

THIS NOT THIS
: : x : x :

- (2) Be sure you check every scale for every concept — do not omit any.
- (3) Never put more than one check-mark on a single scale.
- (4) The numbers under each scale are merely to assist in analysis of the data by computers. You do not need to pay any attention to them.

Sometimes you may feel as though you've had the same item before on the test. This will not be the case, so do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the test. Make each item a separate and independent judgement. Work at a fairly high speed through the test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the items, that we want. On the other hand, please do not be careless because we want your true impressions.

Using the Scales Below, Express on the Answer Sheet What the Concept in the Box Means to You

PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE

Sports, games and other forms of physical recreation whose primary purpose is to provide opportunities for social participation; that is, to meet new people and continue personal friendships.

As you proceed, always be thinking about the idea or concept in the box.

1. good 1 : 2 : 3 : 4 : 5 : 6 : 7 bad
2. worthless 1 : 2 : 3 : 4 : 5 : 6 : 7 worthwhile
3. pleasant 1 : 2 : 3 : 4 : 5 : 6 : 7 unpleasant
4. sour 1 : 2 : 3 : 4 : 5 : 6 : 7 sweet
5. nice 1 : 2 : 3 : 4 : 5 : 6 : 7 awful
6. sad 1 : 2 : 3 : 4 : 5 : 6 : 7 happy
7. clean 1 : 2 : 3 : 4 : 5 : 6 : 7 dirty
8. relaxed 1 : 2 : 3 : 4 : 5 : 6 : 7 tense

PHYSICAL ACTIVITY FOR HEALTH AND FITNESS
Participating in physical activity
primarily to improve one's health
and physical fitness.

As you proceed, always be thinking about the idea or concept in the box.

1. good 1 : 2 : 3 : 4 : 5 : 6 : 7 bad
2. worthless 1 : 2 : 3 : 4 : 5 : 6 : 7 worthwhile
3. pleasant 1 : 2 : 3 : 4 : 5 : 6 : 7 unpleasant
4. sour 1 : 2 : 3 : 4 : 5 : 6 : 7 sweet
5. nice 1 : 2 : 3 : 4 : 5 : 6 : 7 awful
6. sad 1 : 2 : 3 : 4 : 5 : 6 : 7 happy
7. clean 1 : 2 : 3 : 4 : 5 : 6 : 7 dirty
8. relaxed 1 : 2 : 3 : 4 : 5 : 6 : 7 tense

PHYSICAL ACTIVITY AS A THRILL BUT INVOLVING SOME RISK

Physical activities providing, at some risk to the participant, thrills and excitement through speed, acceleration, sudden change of direction, and exposure to dangerous situations.

As you proceed, always be thinking about the idea or concept in the box.

1. good 1 : 2 : 3 : 4 : 5 : 6 : 7 bad
2. worthless 1 : 2 : 3 : 4 : 5 : 6 : 7 worthwhile
3. pleasant 1 : 2 : 3 : 4 : 5 : 6 : 7 unpleasant
4. sour 1 : 2 : 3 : 4 : 5 : 6 : 7 sweet
5. nice 1 : 2 : 3 : 4 : 5 : 6 : 7 awful
6. sad 1 : 2 : 3 : 4 : 5 : 6 : 7 happy
7. clean 1 : 2 : 3 : 4 : 5 : 6 : 7 dirty
8. relaxed 1 : 2 : 3 : 4 : 5 : 6 : 7 tense

PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT

Physical activities which are
thought of as possessing beauty
or certain artistic qualities
such as ballet, gymnastics or
figure skating.

As you proceed, always be thinking about the idea or concept in the box.

1. good 1 : 2 : 3 : 4 : 5 : 6 : 7 bad
2. worthless 1 : 2 : 3 : 4 : 5 : 6 : 7 worthwhile
3. pleasant 1 : 2 : 3 : 4 : 5 : 6 : 7 unpleasant
4. sour 1 : 2 : 3 : 4 : 5 : 6 : 7 sweet
5. nice 1 : 2 : 3 : 4 : 5 : 6 : 7 awful
6. sad 1 : 2 : 3 : 4 : 5 : 6 : 7 happy
7. clean 1 : 2 : 3 : 4 : 5 : 6 : 7 dirty
8. relaxed 1 : 2 : 3 : 4 : 5 : 6 : 7 tense

PHYSICAL ACTIVITY FOR THE RELEASE OF TENSION

The participation (or watching others participate) in physical activities to get away from the problems of modern living; to provide a release from "pent up emotions".

As you proceed, always be thinking about the idea or concept in the box.

1. good 1 : 2 : 3 : 4 : 5 : 6 : 7 bad
2. worthless 1 : 2 : 3 : 4 : 5 : 6 : 7 worthwhile
3. pleasant 1 : 2 : 3 : 4 : 5 : 6 : 7 unpleasant
4. sour 1 : 2 : 3 : 4 : 5 : 6 : 7 sweet
5. nice 1 : 2 : 3 : 4 : 5 : 6 : 7 awful
6. sad 1 : 2 : 3 : 4 : 5 : 6 : 7 happy
7. clean 1 : 2 : 3 : 4 : 5 : 6 : 7 dirty
8. relaxed 1 : 2 : 3 : 4 : 5 : 6 : 7 tense

PHYSICAL ACTIVITY AS PROLONGED AND STRENUOUS TRAINING

Physical activities which require long periods of strenuous and often painful training; which involve stiff competition and demands that the individual give up a number of pleasures for a period of time.

As you proceed, always be thinking about the idea or concept in the box.

1. good 1 : 2 : 3 : 4 : 5 : 6 : 7 bad
2. worthless 1 : 2 : 3 : 4 : 5 : 6 : 7 worthwhile
3. pleasant 1 : 2 : 3 : 4 : 5 : 6 : 7 unpleasant
4. sour 1 : 2 : 3 : 4 : 5 : 6 : 7 sweet
5. nice 1 : 2 : 3 : 4 : 5 : 6 : 7 awful
6. sad 1 : 2 : 3 : 4 : 5 : 6 : 7 happy
7. clean 1 : 2 : 3 : 4 : 5 : 6 : 7 dirty
8. relaxed 1 : 2 : 3 : 4 : 5 : 6 : 7 tense

APPENDIX D

Raw Scores

RAW SCORES

Female Young Lower

Subs.	Asc.	Cath.	Aesth.	Vert.	Fit.	Soc.
1	34	45	48	44	46	49
2	29	44	46	25	39	47
3	16	40	47	38	43	46
4	32	56	47	42	50	47
5	22	50	53	37	28	45
6	44	56	56	32	56	56
7	22	42	47	20	41	40
8	42	56	52	53	54	55
9	53	53	53	33	53	54
10	11	56	51	12	32	50
11	20	46	41	44	38	32
12	17	48	56	49	56	56
13	38	34	47	23	38	40
14	24	37	42	32	32	46
15	29	44	40	44	48	44
16	27	54	56	33	46	45
17	30	34	50	11	33	53
18	31	50	39	39	53	46
19	36	53	45	39	43	37
20	36	56	56	42	46	48
21	34	43	50	32	46	46
22	25	42	46	31	42	44
23	26	47	44	34	43	50
24	28	46	49	35	44	47
25	30	46	48	31	44	45
26	29	50	48	30	40	42
27	24	44	44	35	41	47
28	31	48	48	31	43	47
29	27	46	49	38	43	45
30	30	49	47	37	42	46

Female Young Upper

Subs.	Asc.	Cath.	Aesth.	Vert.	Fit.	Soc.
1	31	47	45	36	46	41
2	38	55	53	52	51	55
3	32	43	45	53	48	45
4	40	51	56	18	42	54
5	29	48	43	35	45	49
6	48	56	32	38	48	48
7	48	56	56	19	50	48
8	38	34	46	35	48	44
9	45	56	56	42	46	42
10	39	52	55	36	50	56
11	15	48	45	15	25	41
12	34	43	42	31	43	44
13	36	41	47	30	40	46
14	38	40	32	32	32	32
15	40	43	55	45	49	51
16	27	38	43	35	39	42
17	33	35	37	46	40	43
18	38	54	52	30	44	48
19	40	55	50	29	46	49
20	39	50	53	31	44	47
21	40	51	47	33	47	47
22	37	48	48	35	44	45

Female Older Lower

Subs.	Asc.	Cath.	Aesth.	Vert.	Fit.	Soc.
1	41	51	53	51	47	44
2	56	56	56	56	56	56
3	39	44	47	32	44	48
4	38	35	39	39	41	40
5	37	49	45	40	43	43
6	48	46	44	38	42	39
7	39	45	52	49	51	54
8	49	44	52	50	52	52

Female Older Upper

Subs.	Asc.	Cath.	Aesth.	Vert.	Fit.	Soc.
1	28	47	53	44	36	47
2	40	55	56	46	56	53
3	39	44	50	45	44	45
4	14	56	53	35	33	44
5	36	52	56	53	56	53
6	40	55	52	32	51	52
7	41	54	54	35	49	54
8	16	44	43	23	38	40
9	32	30	32	30	32	36
10	30	53	48	41	48	49
11	14	56	56	40	50	51
12	41	46	48	36	37	45
13	38	42	44	38	40	44
14	33	44	49	36	41	47
15	29	48	50	37	43	46
16	32	49	49	38	44	47

Male Older Upper

Subs.	Asc.	Cath.	Aesth.	Vert.	Fit.	Soc.
1	35	32	38	41	38	50
2	33	51	41	38	46	50
3	33	43	44	34	33	44
4	47	26	56	32	55	50
5	23	56	56	37	56	56
6	32	49	59	41	56	38
7	44	48	47	45	48	49
8	33	51	46	33	43	33
9	36	46	47	38	47	45

Male Young Upper

Subs.	Asc.	Cath.	Aesth.	Vert.	Fit.	Soc.
1	35	32	42	33	42	44
2	46	37	47	21	50	39
3	49	50	47	48	54	51
4	35	56	50	42	42	47
5	37	36	44	27	44	51
6	36	49	51	40	50	44
7	44	56	54	48	55	50
8	34	56	54	48	55	50
9	27	35	56	27	35	33
10	40	53	48	47	45	56
11	36	44	28	32	39	44
12	30	50	47	24	36	52
13	28	46	43	22	47	45
14	43	52	51	46	47	45
15	49	17	43	46	40	41
16	31	45	51	50	48	45
17	35	40	37	38	40	39
18	36	40	46	37	44	46