The relationship of attitude, gender, and grade level on physical activity involvement

Jill Katharine Thomas

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THE RELATIONSHIP OF ATTITUDE, GENDER, AND GRADE LEVEL ON PHYSICAL ACTIVITY INVOLVEMENT

A Project
Presented to the Faculty of California State University, San Bernardino

In Partial Fulfillment of the Requirements for the Degree Master of Arts in Secondary Education

by Jill Katharine Thomas June 1993
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Approved by:

Dr. Jerry Freischlag

Dr. Phyllis Fernlund
ABSTRACT

The main purpose of this study was to determine the degree to which attitudes affect children's participation in physical activity. An instrument was obtained to measure the expressed attitudes of children in third and fifth grade at Bear Valley Elementary School in the Moreno Valley School District, in the 1992-1993 academic year. The Smoll and Simon's British Columbia Children's Attitude Towards Physical Activity inventory was used for data gathering. The inventory was administered to 170 students from varying ethnic backgrounds. Means and standard deviations were calculated for each subdomain. Chi square statistical tests were used in order to compare differences in attitudes between gender, age, physical activity level and participation on sport teams. The results suggest that at the elementary school age, most children have very favorable attitudes toward physical activity and that there is no significant difference in attitude based on gender, age, amount of participation or activity level.
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CHAPTER ONE
INTRODUCTION

Physical activity and exercise are part of the fabric of childhood; children's play is spontaneous as well as planned. One finds activity in children a biological imperative, yet there exists a paradox. Despite widespread physical activity, studies regularly indicate that American youth are not as fit as they should be. For example, the National Children and Youth Fitness Study shows that children are fatter than they were 20 years ago (Corbin, 1986). Other studies show that even elementary children have symptoms of atherosclerosis and other cardiovascular disease risk factors. More studies show that some less fit children spend excessive amounts of time watching television (Loper, 1989). These findings have raised concern among teachers, psychologists, parents and physical education specialists.

The notion that a person should be fit to prevent health problems is too abstract to have great personal meaning to children. They do not believe that they will die from degenerative diseases which affect "old" people. Children have a different way of thinking and a different way of moving than adults. The way they are living their lives now is more important to them than how they will live their lives as adults. However, children can deal with the concrete reality of fun and personal competence. Children can be
taught how to move effectively beginning at a very young age. Like reading, physical activity in schools should begin at the kindergarten level when children are learning the alphabet.

The unhealthy lifestyle of Americans regarding diet, exercise, smoking, obesity and other health behaviors has contributed significantly to spiraling health care costs. Recent studies show that children of elementary school age are not developing a lifestyle which would lead to low risk of chronic disease (Loper, 1989). Americans who perceive themselves to be physically competent find success and continue to be active and fit while those who perceive activity to be less enjoyable or who perceive themselves to be less competent consciously opt out of exercise and may not achieve optimal personal fitness (Corbin, 1986). Increasing numbers of children develop these feelings as they progress through school. The fitness boom which has reached American adults has not had the equivalent impact on middle or elementary school children. Too many seem to have lost the enjoyment and joy of exercise so natural to young children.

For children through the primary grade school level, physical activities bring excitement, creativity, exploration and discovery. At this age children are eager to become involved and to learn. But as these children grow older the once positive attitudes displayed towards being physically active may change or be lost. Older children may no longer view physical activities with
the same eagerness. Why this change occurs and the implications of different attitudes toward physical activity are the principle focus of this study.

One basis for the change witnessed among children has to do with changing views of society. Social and peer pressures aid in developing the attitudes and values of the young. No one wants to differ from the group, so in order to fit in children will adapt to the majority. If playing ball is not looked upon as "cool" for a fifth grader then chances are that that fifth grader, no matter how much interest he or she has in playing, will not participate. Parental influences also play a major role in children's attitude development. Parents encourage the very young to select and persist in activities. An absence of parental support can extinguish involvement.

Increases in youth sport and programs throughout the United States are not reversing the decline in youth fitness. There is still an increase in overweight children. Media promotion of fitness and advertisement for nutrition are aimed at adults rather than children.

Hypothesis

The following hypothesis was tested in this study: There are no differences in attitude and physical activity patterns in terms of gender and grade level of children.
Basic Assumptions

The following assumptions served as a foundation for the conducting this investigation: (1) The Children's Attitude Toward Physical Activity Scale was a valid test of attitude, (2) the children selected as subjects were representative of their populations.

Delimitations

The scope of this investigation was delimited to data obtained from 170 subjects during the spring of 1993 at Bear Valley Elementary School in Moreno Valley, California.

Significance

The relationship between children's attitudes with physical activity has drawn the interest of those outside of the physical education field. Ways to adapt school curricula to instill enjoyment and encourage participation in physical activities are being explored. There is an absence of research on relationships between attitudes toward physical activity, physical activity patterns, and gender.

The purpose of the present study will be to examine attitudes towards physical activity and physical activity patterns of elementary school children. Attitude towards physical activity will also be examined in terms of gender
and grade level. This investigation is significant in its attempt to establish if there is a time when young children's attitudes toward physical activities develop and are most influential. The study will also look at gender as a factor involved in the shaping of children's attitudes. Gender was used in the investigation to examine whether differing gender types had a significant affect on children's attitudes toward physical activities. Clarifying these relationships would aid teachers, coaches, parents, and others involved in planning for children's physical activities.
CHAPTER TWO
REVIEW OF LITERATURE

During the last decade, there has been considerable attention focused on the physical fitness and activity levels of American youth. Physical fitness is essential to the development of children as it impacts upon their physique, skeletal growth, muscle strength, motor performance and self-concept (Lacy, 1991). It is estimated that at least twenty to thirty percent of the population in the United States is comprised of individuals above their desirable body weight, increasing the risk for cardiovascular disease and osteoarthritis. This high incidence of overweight in the population suggests that Americans are, on the whole, extraordinarily inactive (Schlaadt, 1992). The attitude of the population towards physical activity and fitness may well have its roots in childhood behaviors and experiences.

Attitudes influence behavior during childhood. Their values and beliefs change frequently. Attitudes may be thought of as a person's feelings, biases, notions, ideas, fears and convictions about any topic (Aicinena, 1991). Attitudes are generally acquired through positive experiences, negative experiences and modeling. Attitudes play an important role in learning and teaching by forming the basic part of an individual's readiness to learn. These acquired beliefs place a positive or negative value on activities. Children who
have a positive attitude toward physical activity are more likely to select to participate in physical activity than those children who possess a negative attitude. A leading researcher in physical education defines attitude as "...the intensity of positive or negative affect for or against a psychological object," and as "...a consistency among responses to a specified set of stimuli or social object" (Kenyon 1968).

The importance of studying attitudes is to learn how they are formed, how they may be changed and how they relate to actual behavior. Attitudes continue to be the focus of extensive research in social psychology, particularly with respect to the relations between attitudes and their associate behaviors. Attitude behavior research, seriously questioned by social scientists in the 1960's and the early 1970's has shown a marked rise in the last decade as researchers develop better attitude measures (Schultz,1985). The results of research into students' attitudes have potential application by physical educators. One would be an awareness and integration of the factors which make physical activity enjoyable. It is not known whether these relationships are different for boys and girls or between grade levels.

More recently Smoll has emphasized attitude research in the period of early and middle childhood as the time when attitudes are being formed (Schultz, 1985). This is valuable because few studies have been conducted assessing elementary age students' attitudes toward physical activity. A
number of studies appear in the literature examining attitudes of college students toward physical activity. They provide useful information concerning the image of physical activity held by students. Little information has been compiled concerning the value of physical activities.

However latent attitudes may be, their measurement depends upon some overt behavior that is a response brought on by some stimulus. Attempts to create a scale for measuring attitudes began almost forty years ago. Psychophysicists Fechner, Weber and Therstone, began experimenting with techniques in areas where there was no corresponding physical sign of a phenomena. Their work not only led to the development of attitude scales with a form of interval measurement but also set the stage for psychological scaling in general (Kenyon, 1968).

The reliability of attitude scales is usually determined psychometrically using internal consistency measures or equivalent forms. Validity, however, creates a problem. Because attitude cannot be observed directly, face or intrinsic validity is relied upon rather heavily by showing items to be logically representative of the attitude in question.

A number of studies have appeared in the research literature addressing the subject of attitudes toward physical activity. The variety of techniques used have been criticized for three major shortcomings (Schultz, 1980). First, sufficient attention has not been paid to the conceptualization of
"physical activity" in a broad sense. Efforts up to this time have usually been limited to a somewhat restricted area such as "physical education, team competition or sports" (Corbin, 1986). Second, instruments have seldom been based upon a sound application of psychometric procedures. Lastly, data have been acquired from relatively small samples (Schultz, 1981).

Kenyon constructed a model which was comprised of relatively independent universal scales for determining attitudes toward physical activity. The development of this model included a definition of the psychological object toward which attitudes are held (Kenyon, 1968). The model's six dimensions are of physical activity seen as: (1) a social experience, (2) health and fitness, (3) the pursuit of friends, (4) an aesthetic experience, (5) catharsis and (6) an ascetic experience. Kenyon formulated these dimensions into an inventory, Attitude Towards Physical Activity (ATPA). Researchers have used this inventory in a variety of ways, including assessing attitudes within and between athletic groups to compare participants and nonparticipants, and to study factors related to attitude change (Schultz, 1985). In ATPA the major target populations have been young adults.

While there is value in knowing people's attitudes toward physical activity, it is of greater importance to learn how these attitudes are formed, how they may be changed, and how they relate to actual behavior (Schultz,
1985). In this regard, the period of early and middle childhood is particularly salient as this is the time when many foundational attitudes are being formed. In recognition of the necessity for studying attitudes of children, Smoll and Simon (1973) adapted Kenyon's inventory for use with elementary school students. This adaptation, the CATPA (Children's Attitude Towards Physical Activity), closely followed Kenyon's scales in format and content, with necessary changes in wording to make the instrument appropriate for the reading competencies of elementary school children. The subdomains of the CATPA are quantified through use of a seven point semantic differential scale for each of eight bipolar adjacent questions, yielding scores ranging from eight to fifty-six for each of the six subdomains. The CATPA inventory has shown high internal consistency ranging from $r = .80$ to $r = .89$ and test retest reliabilities of approximately $r = .60$ (Simon and Smoll, 1973). The CATPA inventory has undergone periodic revisions that further improved its psychometric properties.

In studying relationships among children's attitudes, involvement and proficiency in physical activities, Schultz, Smoll and Wood (1981) found a significant relationship between the attitude domain and a combination of the involvement and performance domains. Interest in the nature and characteristics of the CATPA later prompted Schultz and Smoll (1980) to test the assumption that children's attitudes toward physical activity are enduring
attributes during childhood. Schultz and Smoll (1977) found moderate relationships between attitudes assessed on the CATPA and children's involvement in physical activities, but no significant attitude-motor performance relationships (Schultz, 1981). Data revealed the absence of any attitude-performance relationships. The children's attitudes toward physical activity were generally positive for both sexes and consistent with previous research. The girls showed more favorable attitudes toward the aesthetic subdomain than the boys. The boys evidenced significantly more positive attitudes toward physical activity when it involved risk and dangerous moves. Neither the among-grade comparisons nor sex-by-grade comparisons attained statistical significance, indicating stability in group attitude scores. Correlational analysis revealed the lack of stability of CATPA within individuals across the grades (Schultz, 1980). The original CATPA results revealed that attitudes toward physical activity and involvement in physical activity are significantly related to each other, but rather weakly. The findings also produced a very low or nonsignificant relationship between attitudes and behavior. Schultz, Smoll (1980) concluded from their findings that there is group stability in attitudes from grades four to grade six and there exists a lack of year-to-year stability in children's attitudes.

Further investigation of children's attitudes is needed for a number of reasons. Teachers, parents and physical educators rate the "development of a
good attitude toward taking part in physical activity" (Schultz, 1985) as one of the most important, and in some cases the most important objective, of a physical education program.
CHAPTER THREE

METHOD

The impact of attitude on personal behavior can be extraordinary. It can create or remove motivation, or the drive to succeed, or the will to win. Attitude can be a force for great change, or allow no change at all. Often, attitudes formed in childhood determine behavior for the remainder of a lifetime.

The author's personal interest in the effect of attitude on behavior was piqued by the late Arthur Ashe's public statement that he credited his ability to handle having AIDS to playing the individual sport of tennis, rather than a team sport. Ashe stated that the attitudes formed in playing an individual sport gave him personal strength and confidence in himself and his abilities because he never had teammates to carry him through tough moments. Arthur Ashe's attitude carried him with honor and dignity through a terminal illness that carried a massive social stigma. His statement caused the author to question to what extent children's attitudes might affect their own behavior, and when and how those attitudes were formed. The author was particularly interested in how children's attitudes affected their participation in and enjoyment of physical activities.

This study was undertaken to examine the influence of children's
attitudes on their physical activity participation, in part because it has been
the personal and professional experience of the author that children of varied
ages display observable differences in attitude toward physical activity. The
differences seem to become more pronounced and frequent as the children
progress in age. Younger elementary children appear to enjoy participating in
a wide range of activities whereas older children more often display
reluctance in their involvement in physical activities.

Instrument

After consultation with California State University at San Bernardino
faculty and review of available and appropriate measurement instruments, it
was decided to use the Smoll and Simon's British Columbia Children's
Attitude Towards Physical Activity inventory for data gathering. The
inventory and permission to administer the inventory were obtained from
Dr. Robert Schultz of the University of British Columbia, Vancouver, British
Columbia (personal correspondence). The inventory used to measure
children's attitudes toward physical activity was adapted from Simon and
Smoll's CATPA inventory with the exception of the "do not understand"
response which was omitted. Item number two was combined with item
number six following Schultz's (1985) revision.
Sample

The sample of subjects selected were two grade levels apart. These children were students at Bear Valley Elementary School where the author is employed as a teacher. The testing sample of 170 students, 80 fifth graders and 90 third graders, was judged to be sufficient to expect inclusion of varied attitudes and activity involvement. The sample included children of Asian, Filipino, Hispanic, Afro-American, and Caucasian backgrounds. Third and fifth grade subjects were chosen because the author felt differences might be measurable between these two grades due to the transition from the primary to the intermediate elementary years.

Procedure

The principal of Bear Valley Elementary School was informed of the desired investigation procedures and given a copy of the CATPA inventory. He then gave his permission and full support for the administration of the inventory. The CATPA was pilot tested on students who were members of a fourth grade class. Problems arising in the piloting were corrected before data collection. The CATPA inventory was then administered to 170 subjects who were students in third and fifth grade classes. The sample was comprised of 73 males and 97 females in grades three and five. Subjects were judged to be representative of the broad ethnic and socio-economic distribution of
California schools. The CATPA was administered during a half-hour classroom session using the standardized instructions. Both third and fifth grade students completed the CATPA inventory with the investigator's verbal guidance to ensure accurate interpretation of and responses to the instrument.

Analysis of Data

The total scores for all subjects in each of the five attitude subdomains were obtained. The items were scored using a five-point Likert-type scale, with five representing the positive adjective and one the negative adjective. Means and standard deviations were calculated for each subdomain. Chi square statistical tests were used in order to compare differences in attitudes between gender, age, physical activity level and participation on sport teams. This non-parametric test was appropriate to the interval scaling of the data. Data were coded for statistical treatment using the SYSTAC computer program at the California State University San Bernardino Computer Center.
CHAPTER FOUR

RESULTS

The purpose of this investigation was to compare attitude toward physical activity in boys and girls of differing ages. Analysis of data shows a significant difference by gender on two of the five subdomains of the CATPA inventory. Examination of mean scores found no social ($X^2 = 0.86$), friends ($X^2 = 0.58$) or aesthetic ($X^2 = 0.37$) attitude differences between boys and girls. However, significant differences were found in terms of health ($X^2 = 18.06 \ P < .001$) and risk ($X^2 = 27.66 \ P < .001$) attitudes (see Table 1). No significant difference was found in girls responses when compared to boys on the social, friends, and aesthetic subdomains. Significant differences were found on the health and risk subdomains. Boys gave risk a more positive rating than did girls. Girls rated the significance of health higher than did boys. The risk subdomain had the greatest difference in mean scores between the two gender groups. This may be due to the social factor of boys being drawn to and more accepting of aggression acts at this age than are girls. Aggression is also sanctioned and encouraged in many sports for male behavior than for female behavior.

Grade level produced the most variability in responses. The question
<table>
<thead>
<tr>
<th>Gender</th>
<th>social</th>
<th>health</th>
<th>risk</th>
<th>friends</th>
<th>aesthetic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys n = 73</td>
<td>4.01</td>
<td>4.48</td>
<td>4.60</td>
<td>4.07</td>
<td>2.07</td>
</tr>
<tr>
<td>Girls n = 97</td>
<td>4.05</td>
<td>4.69</td>
<td>2.99</td>
<td>4.20</td>
<td>3.74</td>
</tr>
</tbody>
</table>

\[a^X^2 = .86; \text{not significant}\]
\[b^X^2 = 18.06; P < .001\]
\[c^X^2 = 27.66; P < .001\]
\[d^X^2 = .58; \text{not significant}\]
\[e^X^2 = .37; \text{not significant}\]
involving health produced more positive responses among third grade than fifth grade subjects. Examination of mean scores found no social ($\chi^2 = 0.01$) or aesthetic ($\chi^2 = 0.10$) attitude differences between grade levels. However, significant differences were found in terms of health ($\chi^2 = 1.94$), risk ($\chi^2 = 15.30, P < .001$) and friends ($\chi^2 = 2.91$) attitudes (see Table 2). This may be due to the effect among boys and girls at the age level of fifth grade of an increase in peer pressure, an awareness of physically prominent students, and an increasing value on competitive success. Health at this age level is not a high priority. Fifth graders rated risk higher than did third grade subjects. Third grade subjects rated being with friends significantly higher than that of the fifth grade responses.

Team sport participation resulted in a significant difference in subjects' responses to the risk and friends factors. Those participating in sports rated the possibility of risk being involved higher than those not on a team. Those not on sports teams rated friends significantly higher than those already on teams. Examination of mean scores found no social ($\chi^2 = 0.32$), health ($\chi^2 = 0.31$) and aesthetic ($\chi^2 = 0.01$) attitude differences between team participants. However, significant differences were found in terms of risk ($\chi^2 = 9.35, P < .01$) and friends ($\chi^2 = 1.34$) attitudes (see Table 3).
Table 2  
Grade Level X Attitude Mean Scores

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>social&lt;sup&gt;a&lt;/sup&gt;</th>
<th>health&lt;sup&gt;b&lt;/sup&gt;</th>
<th>risk&lt;sup&gt;c&lt;/sup&gt;</th>
<th>friends&lt;sup&gt;d&lt;/sup&gt;</th>
<th>aesthetic&lt;sup&gt;e&lt;/sup&gt;</th>
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</thead>
<tbody>
<tr>
<td>3rd grade</td>
<td>4.30</td>
<td>4.72</td>
<td>3.13</td>
<td>4.36</td>
<td>3.22</td>
</tr>
<tr>
<td>n = 90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5th grade</td>
<td>3.74</td>
<td>4.46</td>
<td>4.30</td>
<td>3.90</td>
<td>2.80</td>
</tr>
<tr>
<td>n = 80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>χ² = .01; not significant  
<sup>b</sup>χ² = 1.94; not significant  
<sup>c</sup>χ² = 15.30; P < .001  
<sup>d</sup>χ² = 2.91; not significant  
<sup>e</sup>χ² = .10; not significant
<table>
<thead>
<tr>
<th></th>
<th>social(^a)</th>
<th>health(^b)</th>
<th>risk(^c)</th>
<th>friends(^d)</th>
<th>aesthetic(^e)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Participants</strong></td>
<td>4.08</td>
<td>4.61</td>
<td>4.21</td>
<td>3.90</td>
<td>2.74</td>
</tr>
<tr>
<td>n = 62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nonparticipants</strong></td>
<td>4.01</td>
<td>4.59</td>
<td>3.38</td>
<td>4.28</td>
<td>3.19</td>
</tr>
<tr>
<td>n = 108</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)\(X^2 = .32;\) not significant

\(^b\)\(X^2 = .31;\) not significant

\(^c\)\(X^2 = 9.35; P < .01\)

\(^d\)\(X^2 = 1.34;\) not significant

\(^e\)\(X^2 = .01;\) not significant
Varied amounts of activity levels among subjects resulted in a nonsignificant difference in subjects' responses to the five factors on the inventory. The subject's activity levels were divided into three categories, the first being 0 to three hours a week was considered low. The second was four to seven hours a week was average and the third being eight or more hours a week was considered high. Examination of mean scores found no social ($X^2 = 1.87$), health ($X^2 = 23.41$), risk ($X^2 = .51$), friends ($X^2 = 1.22$), or aesthetic ($X^2 = .44$) differences between activity levels (see Table 4).
### Table 4

**Activity level X Attitude**

**Mean Scores**

<table>
<thead>
<tr>
<th>Activity Level</th>
<th>social&lt;sup&gt;a&lt;/sup&gt;</th>
<th>health&lt;sup&gt;b&lt;/sup&gt;</th>
<th>risk&lt;sup&gt;c&lt;/sup&gt;</th>
<th>friends&lt;sup&gt;d&lt;/sup&gt;</th>
<th>aesthetic&lt;sup&gt;e&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>High activity</td>
<td>3.96</td>
<td>4.41</td>
<td>3.77</td>
<td>4.23</td>
<td>3.10</td>
</tr>
<tr>
<td>n = 51</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium activity</td>
<td>4.27</td>
<td>4.73</td>
<td>3.48</td>
<td>4.11</td>
<td>3.15</td>
</tr>
<tr>
<td>n = 62</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low activity</td>
<td>3.84</td>
<td>4.63</td>
<td>3.83</td>
<td>4.07</td>
<td>2.83</td>
</tr>
<tr>
<td>n = 57</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>X<sup>2</sup> = 1.87; not significant
<sup>b</sup>X<sup>2</sup> = 23.41; not significant
<sup>c</sup>X<sup>2</sup> = .51; not significant
<sup>d</sup>X<sup>2</sup> = 1.22; not significant
<sup>e</sup>X<sup>2</sup> = .44; not significant
Summary

The purpose of this study was to examine children's attitude towards physical activity. The intent was to determine if differences in attitude had an affect on the degree of participation in physical activity by the student. A review of related literature revealed previous interest in attitudes of older students toward physical activity but few studies were found dealing with the attitudes of elementary school age children toward physical activity with age, gender and physical activity level as factors.

The CATPA was administered to 170 third and fifth grade students at Bear Valley Elementary School during Spring 1993. The responses were tabulated and comparisons made with chi square statistical tests. The results suggest that at the elementary school age, most children have very favorable attitudes toward physical activity and that there are differences in attitude based on gender, age and activity level.

The results rejected the author's null hypothesis of no significant effects of gender, grade level and attitude on physical activity of children.

The results associated with grade level indicated that there was a single significant difference in attitude. This difference occurred in the area of the
involvement of danger in physical activities. The other subdomains involving the need to socialize, improving health, being with friends, and the aesthetic value showed no significant differences.

A significant difference in gender occurred in the subdomains of improving health and getting your body in better condition, and physical activities that could be dangerous. This may be due to some boys being more involved in sports, more interested in sports figures and having more enjoyment of the risk involvement.

Results indicated a significant difference in attitude between those that participated in organized sports and those that did not in the subdomain involving risk. This difference may be due to the enjoyment and challenge involved with taking part in physical activities that could be dangerous because you move very fast and must change direction quickly.

Conclusions

In general the attitudes of elementary school age children are favorable toward physical activity as measured by the CATPA. Significant differences did occur in the subdomains of the instrument in terms of gender, grade level and physical activity participation. No single difference can be attributed to children's attitudes and their choosing or not choosing to participate in physical activities.
The results from this study allow acceptance of an alternative hypothesis that there was a significant difference in attitudes among students with differing levels of physical activity participation. The study divided the students into three categories according to the amount of hours they participated in outside physical activity and there was no significant difference in any of the five categories on the inventory. The socio-economic level of the students may also play a part. The subjects who showed a highly positive attitude towards physical activity but had low activity levels may be unable to participate because of unexamined social or economic factors.

Recommendations

It is recommended that subsequent research using the CATPA administer the test to smaller groups of children at a time. This would assist both the investigator and respondents in interpreting the instrument. In measuring children's physical activity levels it is recommended that subjects be personally interviewed to obtain an accurate level of the physical activity they achieved during one week. Data obtained from subjects of more divergent ages may produce different results than having subjects two years apart. At the present age levels there might not be sufficient time and experience to effect differences in attitudes. Ages of children in second and fifth grade or third and seventh grades might produce attitudinal differences
that effect a different set of activity patterns. The accuracy of the children's responses might also be questioned. The children might respond in terms of how they wish to be or how the investigator might desire not as they really are. There may be other conceptualizations of attitude not measured by the CATPA. Perhaps further study should examine other dimensions of attitude-activity relationships. These potential problems and different approaches to attitude-physical activity relationships could be addressed in further research.
Appendix A

Related Correspondence
Dear Mr. Sims,

I am currently working on my Master's project at the California State University of San Bernardino. My project is a study to discover if a relationship exists between children's attitudes towards physical education and their present physical activity patterns. I will be looking at whether children's attitudes change during the period from 3rd grade to the 5th grade. My main focus will be on gender, age and present physical activity level. Dr. Freischlag and Dr. Fernlund from the University are familiar with and give their endorsement of this project. With your permission, I would like to use students from Bear Valley School as my subjects. They will be 180 randomly selected third and fifth graders (90 3rd graders, male and female and 90 5th graders male and female). No names or personal information will be used, this is strictly an anonymous test. The information I gain from this study I hope to share with colleges to aid in their physical education curriculum planning. Thank you for your support in this endeavor.

Sincerely,

Jill Thomas

I support this project. ____________________________

Principal's Signature
February 10th, 1993

Ms. Jill Thomas
22990 Vaught Street
Moreno Valley, California
92553 USA

Dear Ms. Thomas:

Enclosed are the materials you requested. I have also sent you some additional reprints of our research papers on attitudes. I hope they will be of interest.

The instructions for administering the inventory are included in the 1985 Research Quarterly article.

I would appreciate receiving the results of your study. Best wishes for success in your research.

Sincerely,

Robert W. Schutz, Ph.D.
Professor and Director

RWS/Id
Appendix B

British Columbia Physical Education Assessment
British Columbia
PHYSICAL EDUCATION
ASSESSMENT
GRADE/YEAR 3
ATTITUDE ASSESSMENT INSTRUCTIONS

This questionnaire is designed to find out how you feel about taking part in physical activity. Physical activities are games, sports and dance such as tag, bike riding, hiking, soccer, swimming, gymnastics and square dancing. These physical activities may or may not be done as part of your physical education program.

This is not a test. There are no right or wrong answers. Read each statement and mark a ✓ through the face which best represents how you feel about it. If you do not understand the statement, put a ✓ above I DO NOT UNDERSTAND.
1. How do you feel about taking part in physical activities which give you a chance to meet new people?

[Smiley faces ranging from sad to happy]

I do not understand

2. How do you feel about taking part in physical activities in order to make you healthier?

[Smiley faces ranging from sad to happy]

Item #2 needs to be combined with item #6 (as per Roes 1985, article, p.261)

I do not understand
3. How do you feel about taking part in exciting physical activities that could be dangerous because you move very fast and must change direction quickly?

I do not understand

4. How do you feel about taking part in physical activities so that you can be with your friends?

I do not understand
5. How do you feel about taking part in physical activities which have beautiful and graceful movements?

I do not understand

6. How do you feel about taking part in physical activities which get your body in better condition?

I do not understand
Appendix C

Revised Physical Education Assessment and Related Materials
EXERCISE LOG

EACH DAY KEEP TRACK OF HOW MUCH TIME YOU SPEND ACTIVELY EXERCISING. THIS WOULD BE ACTIVITIES SUCH AS RIDING YOUR BIKE, SKATEBOARDING, RUNNING, PLAYING BALL, ROLLER SKATING, TRAMPOLINE, OR SOCCER OR SWIM PRACTICE. IT DOES NOT INCLUDE EXERCISING YOUR JOYSTICK FINGERS IN FRONT OF NINTENDO! KEEP IN MIND THAT IF YOU GET HOME FROM SCHOOL AT ABOUT 2:30 AND GO TO BED AT ABOUT 8:30, SPEND AN HOUR OR SO ON HOMEWORK, EAT DINNER, TAKE A BATH, WATCH A LITTLE TV, YOU CANNOT POSSIBLY HAVE EXERCISED FOR SIX HOURS! BE REASONABLE! HAVE YOUR PARENT INITIAL THE LOG EACH DAY AND BRING IT BACK TO SCHOOL NEXT MONDAY. THIS WILL COUNT AS A REGULAR HOMEWORK ASSIGNMENT.

initials

On Monday I exercised for about ___ hours and ___ minutes.

On Tuesday I exercised for about ___ hours and ___ minutes.

On Wednesday I exercised for about ___ hours and ___ minutes.

On Thursday I exercised for about ___ hours and ___ minutes.

On Friday I exercised for about ___ hours and ___ minutes.

On Saturday I exercised for about ___ hours and ___ minutes.

On Sunday I exercised for about ___ hours and ___ minutes.
British Columbia

PHYSICAL EDUCATION ASSESSMENT
Boy ____  Girl ____

How many hours after school during the week and on the weekends do you play actively outdoors or practice a sport?

Mon. ___ Tues. ___ Wed. ___ Thurs. ___ Fri. ___ Sat. ___ Sun. ___

This school year have you been involved on a sports team?

yes______   no______

Attitude Assessment Instructions

This questionnaire is designed to find out how you feel about taking part in physical activity. Physical activities are games, sports and dance such as tag, bike riding, hiking, soccer, swimming, gymnastics and square dancing. These physical activities may or may not be done as part of your physical education program.

This is not a test. There are no right or wrong answers. Read each statement and mark a "x" through the face which best represents how you feel about it. If you do not understand the statement ask the test person who is reading you the test for help.
1. How do you feel about taking part in physical activities which give you a chance to meet new people?

[Emojis representing feelings from sad to happy]

2. How do you feel about taking part in physical activities to make your health better and get your body in better condition?

[Emojis representing feelings from sad to happy]

3. How do you feel about taking part in exciting physical activities that could be dangerous because you move very fast and must change direction quickly?

[Emojis representing feelings from sad to happy]
4. How do you feel about taking part in physical activities so that you can be with your friends?

5. How do you feel about taking part in physical activities which have beautiful and graceful movements?
REFERENCES


