

A STUDY TO DETERMINE THE INFLUENCE OF THE
FOUNDATIONS OF PHYSICAL EDUCATION
COURSE UPON CONCEPT OF PHYSICAL SELF
AND ATTITUDES TOWARD PHYSICAL ACTIVITY
AMONG COLLEGE WOMEN

Thesis for the Degree of M. A.
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By

LaVaughn Rae Gerland

AN ABSTRACT

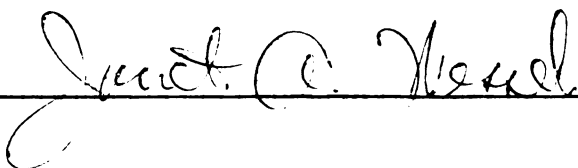
Submitted to the College of Education of Michigan
State University in partial fulfillment
of the requirements for
the degree of

MASTER OF ARTS

Department of Health, Physical Education and Recreation

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Approved



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ABSTRACT

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Statement of the Problem

This was a preliminary study concerned with students' evaluations of the Foundations of Physical Education Course required of all freshman women at Michigan State University.

The purpose of this study was threefold:

1. To determine the students' present concept of physical self, existing attitudes toward physical activity, and selected environmental and physical recreational background factors.
2. To determine if favorable or unfavorable evaluation of the course is related to concept of self, attitudes toward physical activity, and selected environmental and physical recreational background.
3. To determine if changes occur in concept of physical self, attitudes toward physical education and physical recreation as measured in this study.

Procedure

The questionnaire technique was used in this study to secure information from two hundred students randomly selected from the 1818 who were enrolled in the Foundations of Physical Education Course. Five areas were chosen from which pertinent data would be

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obtained: (1) Attitudes, (2) Physical recreation activities, (3) Physical self-concept, (4) Environmental background, and (5) Student evaluation of the Foundations of Physical Education Course.

Conclusions

1. A greater percentage of students rated their general skill level, concept of physical self, and specific skill level in sports, swimming, and dance above average than below average.
2. A greater percentage of students rated their general attitude toward physical education as an activity class and attitude toward participation in physical recreation favorable or above.
3. No significant relationship was found between favorable and unfavorable acceptance of the Foundations Course and five selected background factors; i. e., Michigan residence and non-residence, size of high school, required physical education program in the high school, actual number of years of participation in physical education in high school, and type of locality of home town.
4. A significant relationship was found between favorable and unfavorable acceptance of the Foundations Course and the

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students' evaluations of the various phases; i. e., amount of physical activity in the course, influence in planning future courses in physical education, experience of physical change due to activity and knowledge gained in the Foundations Course, and application of material to daily living.

5. No significant relationship was found between favorable and unfavorable acceptance of the Foundations Course and physical recreation factors; i. e., importance of physical recreation as part of students' total recreational program, skill in recreational activities, leisure time spent in recreational activities, enjoyment of regular participation in recreational activities.
6. No significant relationship was found between favorable and unfavorable acceptance of the Foundations Course and aspects related to the physical self; i. e., physical condition, figure, posture, and skill level.
7. No significant change was found in attitude toward physical education as measured by one general attitude statement and the Wear Attitude Inventory.
8. No significant change was found in attitude toward participating in physical recreational activities.
9. A significant change was found in concept of physical self; i. e., physical condition, figure, and posture.

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LaVaughn R. Gerland

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CHAPTER I

INTRODUCTION

"Every man is in certain respects like all men, like some other men, and like no other men."¹ The Foundations of Physical Education Course is based on this philosophy of Kluckhohn for it deals with the physical self and movement needs of all young women, the individual differences and needs of college girls, and the specific needs of each girl.

Education is purposive. Education is a process of change in the behavior of man: knowledges, abilities, insights, and values.² The fact that education implies change and also the fact that physical education is an integral part of the total curriculum suggests that physical educators should be interested in influencing change in the behavior of man.

Statement of the Problem

This was a preliminary study concerned primarily with student evaluation of the Foundations of Physical Education Course

¹ Clyde Kluckhohn, and Henry A. Murray (ed.), Personality in Nature, Society, and Culture (New York: Alfred A. Knopf, 1951), p. 53.

² Charles C. Cowell and Hilda M. Schwehn, Modern Principles and Methods in High School Physical Education (Boston: Allyn and Bacon, Inc., 1958), pp. 3-4.

required of all entering freshman women at Michigan State University.

The purpose of this study was threefold:

1. To determine the students' present concept of physical self, existing attitudes toward physical activity, and selected environmental and physical recreational background factors.
2. To determine if favorable or unfavorable evaluation of the course is related to concept of physical self, attitudes toward physical activity, and selected environmental and physical recreational background.
3. To determine if changes occur in concept of physical self, attitudes toward physical education and physical recreation as measured in this study.

Need for the Study

The establishment of personnel and guidance services on university and college campuses has presented a challenge to all educators to help students gain understanding of self, relationships with others, and forces outside of self, and environment.

From an early age ideas and attitudes about oneself are woven into a pattern of life. Too often the development of these attitudes and ideas about self has just been left to chance. Probably one of the reasons for expending a minimum effort to assist students to greater self-understanding is that self-understanding is a process through life. Change is taking place continually.

The nature of the self an individual acquires may depend largely on the kinds of personalities he is associated with and the culture after which his daily activities are patterned.³

The physical self-concept and attitudes have been viewed primarily through observation and personal opinion and little data have been collected on these areas as related to a course based on understanding of the physical self.

Through this preliminary study evidence may be found: (1) to confirm or repudiate the opinion that the concept of physical self can be changed in a one term course, (2) whether or not the attitudes of women students toward physical education can be changed through a one term course, and (3) whether or not relationships exist between concept of physical self and attitudes toward physical education. It is hoped that these results may be helpful in selecting and arranging the materials for the Foundations of Physical Education Course and other instructional courses in the physical education program.

Definition of Terms

Concept of physical self. For the purpose of this study the concept of physical self is the perception the student has of her own physical and movement characteristics and the values she attaches to these perceptions such as: (1) strength, (2) endurance, (3) weight, (4) fat deposits, (5) body alignment, (6) muscle tonus.

³Kluckhohn and Murray, op. cit., p. 547.

Foundations of Physical Education. The introductory physical education course required of all freshman women at Michigan State University. The material is based on knowing oneself physically through the knowledge, understanding, and application of the "why" and "how" of physical activity.

Attitude. Throughout this study attitude refers to the students' responses toward aspects of the physical education program and closely allied areas of physical activity as measured by: (1) Wear Attitude Inventory developed for evaluating attitudes toward physical education as an activity class.⁴ The scales include items dealing with all desirable categories of physical education. The inventory consists of forty items and the students indicate their response on a five point scale. Although originally designed for use in appraising attitudes of men toward physical education, it has been found to be a successful inventory for measuring attitudes of university women students toward physical education.⁵ (2) Two items each based on a five point scale to measure: (a) overall attitude toward physical education and (b) overall attitude toward participating in physical recreation activities.

⁴Carlos L. Wear, "The Evaluation of Attitudes toward Physical Education as an Activity Course," The Research Quarterly, 22 (March, 1951), pp. 114-26.

⁵Margaret Bell, C. Etta Walters and staff, "Attitudes of Women at the University of Michigan toward Physical Education," The Research Quarterly, 24 (December, 1953), pp. 379-91.

Background factors. In this study background factors refer to: Michigan residence and non-residence, size of high school, the required physical education program in the high school, number of years the student participated in the physical education program, and the type of locality of home town.

Student evaluation of the Foundations of Physical Education Course. A questionnaire was used consisting of five items each based on a five point scale. One item was concerned with overall evaluation of the Foundations Course while four items indicated students' responses to specific parts of the course; amount of activity in the course, influence of course on planning future physical education activities, physical change based on knowledge and activity in the course, and application of material from the course into students' daily living.

Limitations of the Study

1. Limitations related to the sample. In order that this study might be conducted in as direct and orderly manner as possible, it was necessary to limit the scope of the investigation. This study was confined to two hundred freshman women students at Michigan State University selected randomly from a total of 1818 enrolled in the Foundations Course during the fall term of 1959. Six girls selected to serve as subjects did not complete the term at Michigan State University and two girls had medical problems and were transferred

to the adapted physical education program. Consequently, completed returns were obtained on one hundred ninety-two students.

2. Limitations related to the instruments used. The limitations inherent in the questionnaire technique of investigation were recognized as limiting factors; namely, the degree of validity and reliability which accompanies the use of this technique. Also, the questions and technique used to determine concept of physical self were limitations.

The study was limited to investigation of the relationship between variables; causation was not implied. It was the purpose of this study to determine only the existing attitudes toward physical activity and concept of physical self of the students and not to discover how or why these concepts and attitudes arose.

CHAPTER II

REVIEW OF THE LITERATURE

Theoretical Background

One of the major changes in the American system of education is the widening revolutionary concern for the whole pupil in his life situation.¹ Educators have questioned the earlier organism orientation which viewed human behavior as being static and biologically determined. In an attempt to study human behavior the recent focus of attention has shifted to a more individualized one where the personality is viewed in a biosocial context. The self is the center of this new theory.

Although we may accept the conviction that the self is important there has not been a great amount of research in this area.

McCloy states:

A number of studies conducted by the YMCA in interests and attitudes show a wide range of individual differences in each of these items, yet most programs that endeavor to allow for individual differences do so without accurate knowledge of what the facts may be.²

¹Herman J. Peters and Gail F. Farwell, Guidance: A Developmental Approach (Chicago: Rand McNally and Company, 1959), p. 2.

²C. H. McCloy, "Projects for Future Study by the Society for Directors of Physical Education in Colleges," The Research Quarterly, 2 (March, 1931), p. 187.

The Self-Concept and the Importance
of Self-Understanding

Snygg and Combs view the "self-concept" as "those parts of the phenomenal field which the individual has differentiated as definite and fairly stable characteristics of himself."³

Others believe the most important single attribute is the view an individual has of himself and this self-viewing process is often seen as the key to understanding many behavioral events displayed by any single person. Jung⁴ feels the "self is the mid-point of personality around which all of the other systems are constellated. It motivates man's behavior." Adler⁵ has recognized the importance of the self as a cause of behavior.

Rogers' use of the "concept of self" is "the individual's perception of his own characteristics, his relation to others, and the values he attaches to these perceptions."⁶ Raimy⁷ relates the

³Donald Snygg and Arthur W. Combs, Individual Behavior (New York: Harper and Brothers, 1949), p. 112.

⁴C. G. Jung, Two Essays on Analytical Psychology (Vol. VII of Collected Works, Bollington Series, 20 Vols., New York: Yale University Press), p. 219.

⁵Calvin Hall and Gardner Lindzey, Theories of Personality (New York: John Wiley and Sons, Inc.), p. 117.

⁶Carl R. Rogers, "The Client Sees Himself," University of Chicago Magazine, 45 (January, 1953), p. 10.

⁷Victor C. Raimy, "The Self-Concept as a Factor in Counseling and Personality Organization" (unpublished Ph. D. thesis, Ohio State University, 1943), p. 156.

self-concept is a learned perceptual system which functions as an object. He states that the self-concept not only influences behavior, but is itself restructured.

Murphy⁸ feels the thing known as the self, the observed me, develops like an object of experience. The newborn have no clear awareness of self; but gradually through the observation of body surfaces, cathexis upon these physical entities, and comparison of them with other persons an "empirical self" is woven.

Eric Fromm⁹ views "the self" as a system of ideas, attitudes, appraisals, and commitments pertaining to one's person. The person experiences these as belonging to him and all of them together constitute the person's awareness of his existence and who and what he is. He relates that these attitudes are influenced by learning.

The importance of self-understanding has been cited by others. Kluckhohn¹⁰ feels that while there are many facets to a human personality, the most important is an individual's conception of himself for it is around the conception of self that the many other facets of a personality are formed and that what a person thinks of himself determines his behavior to an extent not commonly recognized.

⁸Gardner Murphy, Human Potentialities (New York: Basic Books, Inc., 1958), p. 292.

⁹Eric Fromm, Man for Himself (New York: Rinehart and Company, Inc., 1947), pp. 67-82.

¹⁰Kluckhohn and Murray, op. cit., p. 547.

Hopkins¹¹ has given important implications dealing with the importance of self-understanding. He relates that man has constantly improved his efficiency in those areas that have produced his material comforts. "He has not developed his emotional-social stability, his creative intelligence, that basic process of learning necessary to make his 'gadgets' as well as his other activities work to his own good." Man makes the quality of his life out of the materials of his world-himself and his external environment. He must improve himself in the way in which the conditions of the world are affecting his growth. He must discover himself.

The importance of learning a realistic concept of self is given by Lindgren.¹² He believes the greater the gap between the idealized self and the real, the greater the possibility of anxiety. The gap is likely to be wider during adolescence and early adulthood than at any other time. The typical adolescent has not had an opportunity to try out life roles and to settle on the one he will play as an adult. "As we become to understand ourselves better, we become aware of our capabilities and limitations and thus can modify our self until it provides us with the goals which can actually be achieved in planning the activities of life."

¹¹ L. Thomas Hopkins, The Emerging Self (New York: Harper and Brothers, 1954), pp. 1-2.

¹² Henry C. Lindgren, Psychology of Personal and Social Adjustment (New York: American Book Company, 1953), pp. 131-32.

Jersild¹³ has challenged educators to assist youth in self-understanding. From an early age a child acquires attitudes about himself and others. The promotion of self-understanding should be planned from nursery school onward.

It is a curious thing that the subject of self-understanding has been so neglected when we consider how eager we are to teach other things. Children learn to bound the states of the Union and they memorize the names and dates of bygone wars; learn about the stars. . . . But the subject of human behavior has been ignored. Much of what we do in education is an evasion rather than a way of facing problems that occur in the lives of children and adolescents.¹⁴

In a study of children's interests Jersild¹⁵ found many older children expressed a desire to learn more about themselves. He proposes, ". . . that we encourage this desire and try to fulfill it by developing a program to promote wholesome understanding of self and others as a basic feature of the general education of all children."¹⁶

Kubie places education on the "firing line" of preventive psychiatry. "The next problem which educators must solve is how to

¹³ Arthur T. Jersild, "Self-Understanding in Childhood and Adolescence," American Psychologist, 6 (April, 1951), p. 122.

¹⁴ Arthur T. Jersild, op. cit., p. 122.

¹⁵ Arthur T. Jersild and Ruth Lasch, Children's Interests (New York: Bureau of Publications, Teachers College, Columbia University, 1949).

¹⁶ Jersild, op. cit., p. 123.

lessen the dichotomy between conscious and unconscious levels in human personality. The goal of education should be to prevent, correct and limit this dichotomy in human development."¹⁷

Rogers¹⁸ believes the person does not react to external stimuli, but rather he reacts to his experience of the stimulating of motivating conditions. A knowledge of the stimulus does not suffice for predicting behavior since one must know how the person is perceiving the stimulus. He also states, "The best vantage point for understanding behavior is from the internal frame of reference of the individual himself."¹⁹

Changes in the Self-Concept

Moustakas²⁰ states that it is within the nature of a human to realize his potential as fully as possible. Two basic strivings, the need to maintain and the need to enhance the self, motivate the individual. Defense will be made against all attempts to change one's self perception, but favorable responses will result from situations which

¹⁷Lawrence S. Kubie, "The Psychiatrist Considers Curriculum Development," Teachers College Record, 50 (January, 1949), p. 246.

¹⁸Carl R. Rogers, Client-Centered Therapy (Boston: Houghton Mifflin Company, 1950), p. 484.

¹⁹Ibid., p. 494.

²⁰Clark E. Moustakas, The Teacher and the Child (New York: McGraw-Hill Book Company, Inc., 1956), p. 6.

allow one to enhance the self by exploring interests and developing skills which enable him to have personally satisfying experiences.

Raimy states, "One of the most important characteristics of the self-concept seems to be its exceedingly sensitive yielding to restructuring if the conditions are sufficient."²¹

Reed²² feels that paramount to improvement and application is an understanding and a gaining of the objective attitude. This implies that a person makes all possible attempts to learn about himself. In the process of self-discovery, the individual comes to the intelligent direction of this self and thus the control of those forces which are within the range of human affairs. "He must adjust the elements of the environment to fit his needs, and he must also adjust the self to suit those elements in the environment which at present he cannot alter."²³

Physical Self-Concept

Peters and Farwell²⁴ have classified our developmental

²¹Raimy, op. cit., p. 175.

²²Catherine E. Reed, "The Common Principles in Guidance" in New York State Association of Deans and Other Guidance Personnal, The Continuity of Guidance, A Symposium (Scranton, Pa., International Textbook Co., 1939), p. 7.

²³Ibid., p. 23.

²⁴Peters and Farwell, op. cit., p. 47.

pattern in life into four broad classifications, one of which is the physical assessment. They related the importance of this evaluation. "Many people do not stop to consider the influence the physical self has on one's emotional attitudes, outlook on life in general, or interactions with other people. One's general outlook in daily living is influenced by the physical self."

Zachry²⁵ has stated that with the striking physiological changes one's concept of one's ego correspondingly changes. Zachry aptly puts it, "The body is symbolic of the self."²⁶ The adolescent cannot help but preoccupy herself with comparisons in relation to the prevailing norms of body proportions and growth.

Margaret Mead²⁷ has given diverse and contrasting norms related to masculinity and femininity in different cultures.

Rogers²⁸ emphasizing client-centered guidance, denotes great importance to the self. Much of the content of his interviews is centered around the self. Typical statements he has dealt with are: "I don't worry about my appearance anymore." "I hate my appearance;

²⁵C. B. Zachry, Emotions and Conduct in Adolescence (New York: Appleton Century, 1940), p. 227.

²⁶Ibid.

²⁷Margaret Mead, The Study of Culture at a Distance (Chicago: University of Chicago Press, 1953).

²⁸David C. McClelland citing C. Rogers in Personality (New York: William Sloane Associates, 1951), p. 530.

I've always tried to compensate for it."

Snygg and Combs emphasize the effect of body condition on the self. The particular figure in vogue or facial beauty is important. They state, "Every 'field' includes more or less of the body conditions as an integral part of the total field."²⁹ This particular emphasis stresses the importance of the physical self in all situations.

Identity is connected with the appraisal made by oneself as well as others.³⁰ Therefore, society does play an integral role in our self-evaluation. Values not only occur as a result of direct experience, but they are also taken from others and perceived as if the person had experienced them directly.³¹

The effect of mild physical anomalies on attitudes is the focus of attention of Harsh and Schrickel, for they state, "The effect of constitution upon self-attitudes is largely a matter of cultural standards. Mild physical anomalies produce unfavorable self-attitudes if the individual feels that they unfit him for valued activities."³² They also relate that handicaps; such as, obesity and awkwardness may be

²⁹Donald Snygg and Arthur Combs, op. cit., p. 99.

³⁰A. L. Strauss, Mirrors and Masks--The Search for Identity (Glencoe: The Free Press, 1959), p. 9.

³¹Calvin Hall and Gardner Lindzey, Theories of Personality (New York: John Wiley and Sons, Inc., 1957), p. 483.

³²Charles Harsh and H. G. Schrickel, Personality Development and Assessment (New York: The Ronald Press Co., 1959), p. 164.

upsetting at a time when a child is sensitive to social acceptance.³³

Education must work in harmony with evolution. There are numerous resources dealing with human needs at various stages of life. There are certain common problems in living. The word "problem" does not necessarily imply a difficulty. The Greek root from which the word is derived means "something thrown forward."³⁴ Common problems in life refer to the variety of adjustments which the majority of individuals face at various stages in living.

Several check lists have been developed to explore the problems of youth and children. The Science Research Associates lists have been applied to a large portion of the population.

The SRA Junior Inventory³⁵ was administered to elementary children in several parts of the country. The items on the inventory have been grouped under the headings: My Health, Getting Along with Other People, About Me and My School, About Me and My Home.

Items checked by a least fifteen per cent of the students that are pertinent to the physical self-concept include:

³³ Ibid.

³⁴ Margaret E. Bennett, Guidance in Groups (New York: McGraw-Hill Book Company, Inc., 1955), p. 46.

³⁵ Herman H. Remmers and Benjamin Shimberg: Examiner Manual for the SRA Junior Inventory, Form A (Chicago: Science Research Associates, 1951).

My Health

I get out of breath when I run or play.
I get tired of sitting.
I am hungry a lot.
Sometimes I feel dizzy.

Getting Along with Other People

I'd like to learn how to dance.
I can't run as fast as the other kids.
I need more friends.

About Me and My School

I'd like to join a club in school.

About Myself

I'm not nice-looking.
I wish I was good in games.

Health conditions worry the younger children more than the older ones. The authors of the inventory feel that children do not understand the normal workings of their body.³⁶

Gessel and Ilg show elementary age girls are concerned about their appearance.³⁷

The SRA Youth Inventory³⁸ is concerned with problems of high school youth. The inventory offered students a breakdown of problems in eight categories: My School, Looking Ahead, About

³⁶Remmers and Benjamin Shimberg, op. cit., p. 2.

³⁷Arnold Gesell and Frances L. Ilg, The Child from Five to Ten (New York: Harper and Brothers, 1946).

³⁸Herman H. Reemers and Robert H. Bauernfeind: Examiner Manual for the SRA Youth Inventory, Form A., 2d ed. (Chicago: Science Research Associates, 1953).

Myself, Getting Along with Others, My Home and Family, Boy Meets Girl, Health, and Things in General. Again, as in the previous study most of the material has direct or indirect implications for physical educators.

My School

Tension and uneasiness when reciting or speaking in public.
Doubt about the values of the things they were studying.

Looking Ahead

Need for assessment of their own ability.
Help in the appraisal of their real interests.
Fitness for college.

About Myself

Need to be "on the go."
Nervousness.
Lack of social ease.
Need to discuss personal problems with someone.

Getting Along with Others

Need to be liked and accepted by peers.
Make new friends.

Boy Meets Girl

Problems relating to marriage.

Health

Gaining or losing weight.
Wholesome diet habits.
Good posture.
Improvement of figure.
Skin problems.

Little and Chapman³⁹ reported a free response study of 4,957 high school students between thirteen and nineteen. Problems

³⁹Wilson Little and A. L. Chapman, Developmental Guidance in Secondary School (New York: McGraw-Hill Book Company, Inc., 1953).

related to health were mentioned 1,246 times. Girls registered concern in the areas of being over-weight or under-weight, nervousness, proper diet for good health, sufficient sleep, and teeth, eye, ear, nose, and throat trouble.

Check lists of the problems of college students show widely different findings. This may be due to variations in sampling.

Katz and Allport⁴⁰ used 3,500 freshmen in Syracuse and asked them to check problems of which they desired assistance. Of the eighteen major problems checked six are closely allied to physical education: participation in athletics, general health, nervousness, sex hygiene, campus activities, and problems of personality.

Another survey by Wren and Bell⁴¹ of 5,000 freshmen and transfer students in thirteen colleges or universities asked them to check the most urgent problem in their first quarter of college life. The largest problem was difficulty in budgeting time which showed a response of 58 per cent.

Stone⁴² used the Mooney Problem Check List College Form with five hundred seventy-eight students, freshman through senior years,

⁴⁰Danial Katz and Floyd H. Allport, Student's Attitudes (New York: The Craftsman Press, Inc., 1931).

⁴¹C. G. Wrenn and Reginald Bell, Student Personnel Problems: A Study of New Students and Personal Services (New York: Rinehart and Company, Inc., 1942).

⁴²Gordon L. Stone, "Student Problems in a Teachers' College," Journal of Educational Psychology, 39 (November, 1948), pp. 404-16.

at the River Falls State Teachers College in Wisconsin. Eleven categories of problems are given. Health and physical development rank seventh in both rank order of underlined problems and serious problems. Social and recreational activities rank second in order of underlined problems and sixth in rank order of serious problems.

Other studies^{43, 44, 45} indicate the student's desire to keep in good health and physical condition in addition to the desire to be skillful in sports, to get along with and understand other people, to make friends and feel that they belong to a group, and to learn to control themselves and be good sports.

Jersild and colleagues gathered compositions from several hundred children from fourth grade through high school on "What I like about myself," and "What I don't like about myself." Many children think in part of specific physical characteristics including stature, facial features, and posture.⁴⁶

⁴³C. C. Cowell, "Student Purposes in High School Physical Education," Educational Research Bulletin, April 5, 1939.

⁴⁴C. C. Cowell, A. S. Daniels, H. E. Kenney, "Purposes in Physical Education as Evaluated by Participants, Physical Education Supervisors and Educational Administrators," Research Quarterly, 22 (October, 1951), pp. 286-96.

⁴⁵Ross L. Mooney, "Surveying High School Students' Problems by Means of a Problem Check List," Educational Research Bulletin, 31 (March, 1942), pp. 57-69.

⁴⁶Jersild, op. cit., p. 123.

The group approach, similar to the class situation, is used as an aid to self discovery and self-acceptance. The extent of over-weight persons in our country is alarming. The aspect of using a group approach to weight control has been studied in Boston.⁴⁷

The aspect of weight controls appears to be one of America's greatest problems of preventive medicine. The importance of weight control to the total health of the community is becoming increasingly clear to the general public.

In Boston the group approach to weight control seemed to show benefits such as: (1) Participation in group discussion assists in an understanding and acceptance of some of the general physiological and psychological causes of over eating; (2) Individuals can gain better understanding of some of their own emotional problems which might be related to over-eating; (3) Fears associated with over-eating can be diminished through group discussion; (4) Members feel encouraged by the exchange of information related to mutual difficulties and individual accomplishments in weight reduction.⁴⁸

Concept of Attitudes

The closeness with which self and attitudes are associated

⁴⁷ Marjorie Grant, "The Group Approach for Weight Control," Group Psychotherapy, 4 (December, 1951), pp. 156-65.

⁴⁸ Marjorie Grant, op. cit., pp. 156-65.

is exemplified by Mead⁴⁹ who theorizes that in the process of self development and social experience, the individual becomes an object to himself by taking the attitudes of others toward himself within an organized social relationship. This view of the self as an object permits the classification of the self as an attitude.

Allport states, "An attitude is a mental and neural state of readiness exerting a directive influence upon the individual's response to all objects and situations with which it is related."⁵⁰

Krech and Crutchfield view attitudes as ". . . an enduring organization of motivational, emotional, perceptual, and cognitive processes with respect to some aspect of the individual's world."⁵¹

Fuson⁵² defines an attitude as ". . . the probability of occurrence of a defined behavior in a defined situation."

Bonner⁵³ believes an attitude is an implicit response to act toward or away from an individual or social value. He relates that attitudes are learned. An opinion is a verbal expression of one's attitude.

⁴⁹George H. Mead, Mind, Self and Society (Chicago: University of Chicago Press, 1934), pp. 163-63.

⁵⁰Gordon W. Allport, Personality: A Psychological Interpretation (New York: Henry Holt and Company, Inc., 1937), p. 18.

⁵¹D. Krech and R. S. Crutchfield, Theory and Problems of Social Psychology (New York: McGraw-Hill Book Company, Inc., 1948), p. 152.

⁵²W. M. Fuson, "Attitudes: A Note on the Concept and Its Research Context," American Sociological Review, Dec., 1942, p. 7.

⁵³Hubert Bonner, Social Psychology (New York: American Book Co., 1953), p. 176.

Campbell feels, "An individual's attitude is an enduring syndrome of response consistency with regard to a set of social objects."⁵⁴

Cowell believes that "one's attitudes determine what one sees, whether one sees clearly or not, and whether one sees things in the right perspective or not."⁵⁵

The general theme of attitudes according to most authorities is the consistency among responses to a specified set of stimuli or social objects.

Changes in Attitude

Cooper and Michiels⁵⁶ in a study of attitudes as functions of objective knowledge found that ego (self) involved subjects are less likely to be realistic in appraising their knowledge than those not so involved. Strongly held opinions are little affected by facts.

The value of information in attempting to influence attitudes has been viewed by Garrison.⁵⁷ He found that college training did not affect attitudes on domestic and world political issues.

⁵⁴D. T. Campbell, "The Indirect Assessment of Social Attitudes, Psychological Bulletin, 47 (January, 1950), p. 31.

⁵⁵Charles C. Cowell, "Attitude Scales," in Research Methods in Health, Physical Education and Recreation, ed. Gladys Scott (Washington D. C.: AAHPER, 1959), p. 115.

⁵⁶Joseph B. Cooper and Lawrence J. Michiels, "A Study of Attitudes as Functions of Objective Knowledge," Journal of Social Psychology, 36 (August, 1952), pp. 59-71.

⁵⁷Karl G. Garrison, "A Comparative Study of the Attitudes of College Students toward Certain Domestic and World Problems," Journal of Social Psychology, 34 (February, 1951), pp. 47-54.

Gleason⁵⁸ in a study of attitudes and information on the Taft-Hartley Law showed that attitudes did not change as a result of information.

Sells⁵⁹ measured interests and attitudes and found the amount of information seemed related to the degree of interest of self-involvement, but unrelated to the direction of attitude, pro or con, toward an object.

Egner and Obelsky⁶⁰ conducted a study of the effect of stereotyped attitudes on learning. They state that students arriving in college are hardly the "tabula rasa" attitudinally speaking. Attitudes have been forming continually through experiences in the family, church, neighborhood, and school. Some students have fixed opinions and others are more flexible. The true stereotype is entirely convinced of his views and does not hesitate to state them. The authors concluded that changing fixed beliefs is a function of learning and although the stereotype may be a difficult situation they are still amenable to techniques of effective teaching.

⁵⁸John G. Gleason, "Attitudes vs. Information on the Taft-Hartley Law," Personnel Psychology, 2 (Autumn, 1949), pp. 293-99.

⁵⁹Saul B. Sells, "Measuring Interests and Attitudes," Review of Educational Research, 26 (June, 1956), pp. 278-81.

⁶⁰Robert E. Egner and Alvan J. Obelsky, "Effects of Stereotyped Attitudes on Learning," Journal of Educational Psychology, 48 (April, 1957), pp. 207-12.

Lagey⁶¹ studied attitude changes resulting from taking introductory courses in sociology and anthropology. No relation was found between course content and attitudes toward evolution, toward the Negro, and toward criminals.

In another study Winthrop⁶² viewed the consistency of attitudes as a function of body type. He reported the consistency of a subject's attitude was related to somatotype to a significant degree. Low value integrity was found for individuals with a high endomorphic component and relatively high value for individuals with a high ectomorphic component. For mesomorphs the value was midway suggesting that this component is a balance between two possible extremes of attitude existing.

Attitude Studies in Physical Education

Self-attitude studies have been reported by Isenberger⁶³ in the area of physical education. In 1959 she reported a self-attitude survey made on two hundred seventy-seven women physical education major students and one hundred sixty-seven women physical education

⁶¹ Joseph Chiozza Lagey, "Does Teaching Change Students' Attitudes?" Journal of Educational Research, 50 (December, 1956), pp. 307-311.

⁶² Henry Winthrop, "The Consistency of Attitude Patterns as a Function of Body Type," Journal of Personnel Research, 25 (March, 1957), pp. 372-82.

⁶³ Wilma Isenberger, "Self-Attitudes of Women Physical Education Major Students and of Women Physical Education Teachers," The Research Quarterly, 30 (March, 1959), pp. 44-53.

teachers, who represented different institutions of higher learning. The purpose of the study was to determine the relationship between self-attitudes of women physical education major students and those of women teachers of physical education. The individuals responded to the Twenty Statement Test of Self Attitudes, TST, which is based on "Who Am I?" Isenberger concluded there is a significant difference between the self-attitudes of women physical education major students within a school and between schools.

In another study the same author reported a study of self-attitudes of women physical education majors as related to measures of interest and success.⁶⁴ Two hundred seventy-seven women physical education majors and one hundred-fifteen women physical education teachers participated in the study. The "Who Am I? test was used as a measure of self-attitudes. Interest was measured by the Strong Vocational Interest Blank. Success was measured by the Minnesota Teacher Attitude Inventory, the Scott General Motor Ability Test, a teacher trait evaluation sheet, semester grades in physical education theory and skill courses, and total university semester grades.

Isenberger concluded that:

1. Self-attitudes are not significantly related to interest.
2. The relationship between self-attitudes and success is not significant.

⁶⁴Wilma Isenberger, "Self-Attitudes of Women Physical Education Major Students as Related to Measures of Interest and Success," The Research Quarterly, 30 (May, 1959), pp. 167-78.

3. Physical education theory grades tend to be positively related to self-attitudes.
4. Grades in physical education skills and self-attitudes of one group are significant.
5. There is a small, but positive relation, between motor ability and self-attitudes.⁶⁵

Attitudes surveys have been made in physical education for a number of years for in 1940 Baker⁶⁶ studied 1,150 girls and women between the ages of fifteen and twenty-five using the questionnaire technique, based upon the Thurstone method. She studied factors which influenced the participation of girls.

Some of the conclusions she reached were:

1. Environmental influence was discernable in participatory habits.
2. Deviations in bodily weight had no apparent influence on participation in physical education.
3. Girls and women have specific habits of activity. These habits are modified as the girls mature. They tend to become less strenuous and more mechanized with the emphasis on the role of the spectator.

⁶⁵Ibid., pp. 176-77.

⁶⁶Mary C. Baker, "Factors Which May Influence the Participation of Girls and Women 15-25 Years of Age," The Research Quarterly, 11 (May, 1940), pp. 126-31.

4. Factors which seem to influence this are social and physical in origin.
5. Attitudes concerning participation do not regulate participation so much as they reflect the influence of other causes which do.⁶⁷

In 1953 Bell and Walters⁶⁸ made an attitude toward physical activity survey at the University of Michigan on a total of eight hundred fifty-seven women, who were surveyed by means of the questionnaire technique. The purpose of this study was to evaluate the women's program in light of student attitudes. The questionnaire was divided into three parts: (1) Check list concerning information pertinent to the backgrounds of students, (2) Questions based on the objectives of physical education, (3) Wear Attitude Scale, designed to measure attitudes toward physical education as an activity course.

Some of the conclusions based on the study were as follows:

1. Freshmen who have had physical education in high school have a higher mean attitude toward physical education as an activity course than Freshmen who have had no physical education in high school, and higher than Seniors who have had physical education in high school.

⁶⁷ Mary C. Baker, op. cit., pp. 130-31.

⁶⁸ Margaret Bell, C. Etta Walters, and staff, "Attitudes of Women at the University of Michigan toward Physical Education," The Research Quarterly, 24 (December, 1953), pp. 379-91.

2. There seems to be a positive and significant relationship between the following:
 - a. Attitude and the importance of sports and dance as part of their recreation program.
 - b. Attitude and the extent to which they enjoy their physical education classes.⁶⁹

Moore⁷⁰ reported a similar study in some respects to that conducted by Bell and Walters. Using an interview technique, she surveyed one hundred seventy-nine women at the University of California at Los Angeles. She pointed out that college women feel physical activity has a definite place in their recreational time.

Carr⁷¹ made another study involving the relationship between success and selected attitudes in high school physical education. Using a questionnaire technique, Carr covered three main areas; social, personal, and activity. She found that factors affecting success in physical education were; motor abilities, attitudes and intelligence. She reasoned that since motor ability and intelligence are more or less inherent qualities teachers should be more aware of students' attitudes. She suggests that if undesirable attitudes are obstacles to learning, they should be removed.

⁶⁹Margaret Bell, C. Etta Walters and staff, op. cit., p. 385.

⁷⁰Beverly Young Moore, "The Attitudes of College Women toward Physical Activity as a Means of Recreation," The Research Quarterly, 12 (December, 1941), pp. 720-25.

⁷¹Martha G. Carr, "Relation between Success in Physical Education and Selected Attitudes Expressed by High School Freshmen Girls," The Research Quarterly, 16 (October, 1945), pp. 176-91.

Kappes⁷² constructed an attitude inventory and by means of the inventory found a significant relationship between estimated skill in specific activities and general attitude toward physical education. She also found a relationship between estimated skill in specific activities and estimated skill in physical education activities in general.

Zimmerman⁷³ viewed the interests and experience of college women in physical education. She reported that the students had participated previously in team sports whereas their interests were in activities such as tennis, swimming, bowling and golf.

In another study of interests and needs Broer and Holland⁷⁴ reported the principal objectives which 1,155 freshman and sophomore women at the University of Washington claimed for their physical education experiences are "to develop skills in various sports," "to learn activities that can be continued outside of school," "to have fun," and "to keep in good health and physical condition." The chief reason advanced by the students for not liking a physical education class was lack of success. These authors stated that spectator interest in football

⁷²Eveline E. Kappes, "Inventory To Determine Attitudes of College Women toward Physical Education and Student Services of the Physical Education Department," The Research Quarterly, 25 (December, 1954), pp. 429-38.

⁷³Helen M. Zimmerman, "Physical Education Experiences and Interests of College Women," The Research Quarterly, 25 (March, 1954), pp. 109-18.

⁷⁴Marion B. Broer and Dolly Holland, "Physical Education Interests and Needs of University of Washington Women in Service Classes," The Research Quarterly 25 (December, 1954), pp. 387-92.

and basketball was sufficient to warrant consideration of adding lectures on these sports as an addition to the physical education program.

Motivation and Concept of Self and Attitudes

"No problems are more fascinating than those of human motivation, and none are more in need of wise solution," states Hilgard.⁷⁵ He also believes the awareness of the self organizes many of our attitudes.

Duvall⁷⁶ believes persons act in accordance with self interests, which does not necessarily mean self welfare. If the health program is contrary to self interests there will be just facts and not behavior. Fundamentally, the development of self interests is usually derived from basic needs.

Peak⁷⁷ feels attitudes and motivation are very closely related and highly interdependent.

Hilgard⁷⁸ believes the organization of motives and attitudes

⁷⁵Ernest R. Hilgard, "Human Motives and the Concept of Self," American Psychologist, 4 (September, 1949), p. 374.

⁷⁶Sylvanus M. Duvall, "New Light on Human Nature and What It Means for Women's Physical Education--Facts and Fiction on Human Behavior," Keynote Address Midwest Association for Physical Education of College Women, George Williams College Camp, Williams Bay, Wisconsin, May 13, 1960.

⁷⁷Helen Peak, "Attitude and Motivation," Psychological Abstracts, 30 (February, 1956), p. 494.

⁷⁸Hilgard, op. cit., p. 378.

that are central to the self remain as a person gets older. Reactions to present situations will be coherent with reactions to past situations.

James⁷⁹ states that neither threats nor pleadings can move a man unless they touch the self. Diplomats and monarchs who wish to influence find out their victims' strongest principle of self-regard and make that the fulcrum of all appeals.

The importance of providing opportunities for diversified interests in the physical education program is supported by Patrick⁸⁰ who found that children who are encouraged to develop a hobby in childhood will in all probability retain an interest in hobbies as an adult. This is further confirmed by Nestricks⁸¹ who found that by and large men now engaging in leisure time constructive activities engaged in these activities during their youth.

Summary

There are many theories on the development of personality and factors such as attitudes and concept of self, yet there was agreement among authorities that the self has a significant role in one's

⁷⁹William James, "Man's Hierarchy of Selves," Reflexes to Intelligence, Beck and Molish (eds.) (Glencoe: Free Press), 1959. p. 42.

⁸⁰C. Patrick, "Relationship of Childhood and Adult Leisure Activities," Journal of Social Psychology, 21 (February, 1945), pp. 65-79.

⁸¹W. V. Nestricks, Constructional Activities of Adult Males (New York Teachers College, Columbia University, 1939).

behavior. The problem of determining one's self concept and one's attitude toward a given phenomena has gained great attention in recent years due to the significant implications these two areas have in how persons react to their environment. The emphasis placed on attitudes and self concept has resulted in a need for studies in these areas.

The relationship between attitudes and concept of self has been found to be important to human nature. The literature has shown that attitudes and the concept of self are processes which are formulated throughout life. Therefore, the value of research in these areas is important, for, in order to alter one's thinking it appears that more than the surface must be studied. Practical ways need to be found to remove contradictions in these areas and to build new values to supplement the present ideas concerning one's physical self and attitudes toward physical activity in one's culture.

CHAPTER III

DESIGN AND METHODOLOGY OF THE STUDY

The Method of Investigation-- Questionnaire Technique

Problems of self-concept and attitudes involve large numbers of people. Therefore, many methods used in other areas of scientific research would be impractical. The questionnaire method has been the most practical way to reach a large number of persons with a minimum of time and finances.

Awareness of these facts made it desirable for this study to be conducted by means of the questionnaire technique. Five areas were chosen from which pertinent data would be obtained: (1) Attitudes, (2) Physical recreation activities, (3) Physical self-concept, (4) Environmental background, and (5) Student evaluation of the Foundations of Physical Education Course.¹

Wear,² using the Likert technique, developed an instrument for evaluation attitudes toward physical education as an activity course. The scales include items dealing with all desirable categories of physical education such as physical, social, and emotional benefits. The questionnaire consists of forty items, twenty-one stated positively

¹ See Appendix A for complete questionnaires.

² Wear, loc. cit.

and nineteen negatively. The student indicates her degree of agreement or disagreement with a certain item by checking beneath the word which best expresses her feeling about the item. The answers are worked in the following manner: "strongly for," "for, but not strongly," "neutral," "against, but not strongly," and "strongly against."

The student is asked to consider physical education only from the standpoint of its place as an activity course taught during a regular class period. The directions state that this is not a test, but is simply a survey to determine how people feel about physical education. The inventory also relates that there is no concern for connecting any person with any paper.

Wear's Attitude Inventory was originally designed to appraise attitudes of men toward physical education, but it has been found to be a successful device for measuring attitudes of university women toward physical education.³

Questionnaires for the remaining four areas were designed for this particular study. All of these questionnaires used a five point scale similar to the Likert-type scale to appraise the individual's response.⁴ Adjectives were used to communicate qualities about self.⁵

³Bell, Walters, and staff, loc. cit.

⁴Bert F. Green, "Attitude Measurements," in Handbook of Social Psychology, ed. Gardner Lindzey (Cambridge: Addison-Wesley Publishing Co., Inc., 1954), p. 351.

⁵Theodore Sarbin, "Role Theory," in Handbook of Social Psychology, Vol. I, ed. Gardner Lindzey (Cambridge: Addison-Wesley Publishing Co., Inc., 1954), p. 244.

The Physical Recreation Questionnaire consisted of items dealing with the importance of physical recreational activity, degree of skill in physical recreational activity, time spent in these activities in season, and spectator appraisal of dance and sport events. The subject checked her answers on a five point scale of the following headings: "very much, " "quite a bit, " "some, " "a little, " and "not at all. "

The Physical Self-Concept Questionnaire was concerned with items relating to an evaluation of the physical self. Two general overall attitudes questions were asked dealing with physical education and physical recreational activities. The subject indicated her degree of agreement or disagreement for these two items on a five point scale with the following headings: "strongly for, " "for, but not strongly, " "neutral, " "against, but not strongly, " and "strongly against." The physical self-concept was based on a five point scale. Each subject checked one of the following headings for each of four questions: "very good, " "good, " "average, " "low, " and "very low. "

The physical education background of each subject was determined through a questionnaire dealing with state residence, size of high school, years of physical education required in high school, and locality of home. Reasons for participating or not participating in physical recreational activities were obtained for the subjects and her parents by means of a check list which the subject completed.

The Evaluation of the Foundations of Physical Education Course was obtained through a questionnaire of five items. One item was concerned with general overall reaction to the course while four items concerned with specific aspects of the course; such as, amount of physical activity in the course, guidance in planning future physical education courses, physical change due to the activity or knowledge in the course, and application of the materials presented to daily living.

Selection of Subjects

Two hundred freshman women enrolled in the Foundations of Physical Education Course fall term, 1959, were randomly selected from the 1,818 students taking the course fall term.

The class lists were obtained after the fall registration. Every one hundredth name was omitted and then every ninth name was selected as part of the total sample. In this way there were subjects from every section of the Foundations Course. All staff members involved in teaching even one section of the Foundations Course had some students who served as subjects.

Administration of the Questionnaires

Each subject was given the Wear Attitude Inventory, Physical Recreation Questionnaire, and Physical Self-Concept Questionnaire during the first week of the Foundations Course fall term, 1959.

A re-test of the Physical Recreation Questionnaire and the Physical Self-Concept Questionnaire was given during the second week to fifty of the two hundred students. The coefficient of reliability was .96 and .92 respectively. The self ratings have been treated at face value as valid reflections of true behavior.⁶

The reliability and validity of the Wear Attitude Inventory as established for women has been used.⁷ The reliability for women students was .99.

During the final week of the Foundations Course the Wear Attitude Inventory, Physical Recreation Questionnaire, Physical Self Concept Questionnaire, and Environmental Background Questionnaire were administered as a re-test.

The Evaluation Questionnaire was given during the fourth week of the following term, winter term, 1960, to the students.

In all questionnaires the name was omitted, but a small penciled number was placed in the right corner of each questionnaire.

Statistical Methods Employed

The major portion of this study was concerned with the relationship between certain factors. Since all of the answers in the questionnaires gave only categorical information the Chi Square (χ^2)

⁶Ibid., p. 398.

⁷Bell and Walters, op. cit., pp. 379-91.

statistical technique was employed. The statistical formula used to determine Chi Square is shown below:⁸

$$\chi^2 = \sum \left(\frac{n_{ij} - e_{ij}}{e_{ij}} \right)^2$$

The complete Chi Square (χ^2) Tables may be found in Appendix B for the reader's inspection.⁹

The test of significance of difference between means was used to analyze the change in self-concept, change in attitudes toward physical education as an activity course, and general attitude toward participation in physical recreation activities from the onset of the Foundations Course to the closure of the course. The statistical formula used to compute the difference between means is shown below:¹⁰

$$Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Percentages were used to determine the students' physical self-concept, skill level in sports and dance, and general attitude toward

⁸ John C. Freund and Frank J. Williams, Modern Business Statistics (Englewood Cliffs: Prentice Hall Inc., 1958), p. 248.

⁹ See Appendix B.

¹⁰ Freund and Williams, op. cit., p. 239.

physical education and participation in physical recreation. Reasons for participating or not participating in physical recreational activities by the students and her parents were compiled by means of percentages.

CHAPTER IV

ANALYSIS OF DATA

The purposes of this study were:

1. To determine the students' present concept of physical self, existing attitudes toward physical activity, and selected environmental and physical recreational background factors.
2. To determine if favorable or unfavorable evaluation of the course is related to concept of physical self, attitudes toward physical activity, and selected environmental and physical recreational background.
3. To determine if changes occur in concept of physical self, attitudes toward physical education and physical recreation as measured in this study.

Concepts of Students at Onset of Foundations Course

Physical self. The physical self is presented in three ways:

(1) Physical condition, (2) Figure, and (3) Posture. On the basis of students' responses to items C, D, and E of the physical self-concept questionnaire some concept of the students' physical self at the beginning of the Foundations Course was determined. These findings are presented in Figure 1, page 42. Most of the students consider themselves "very

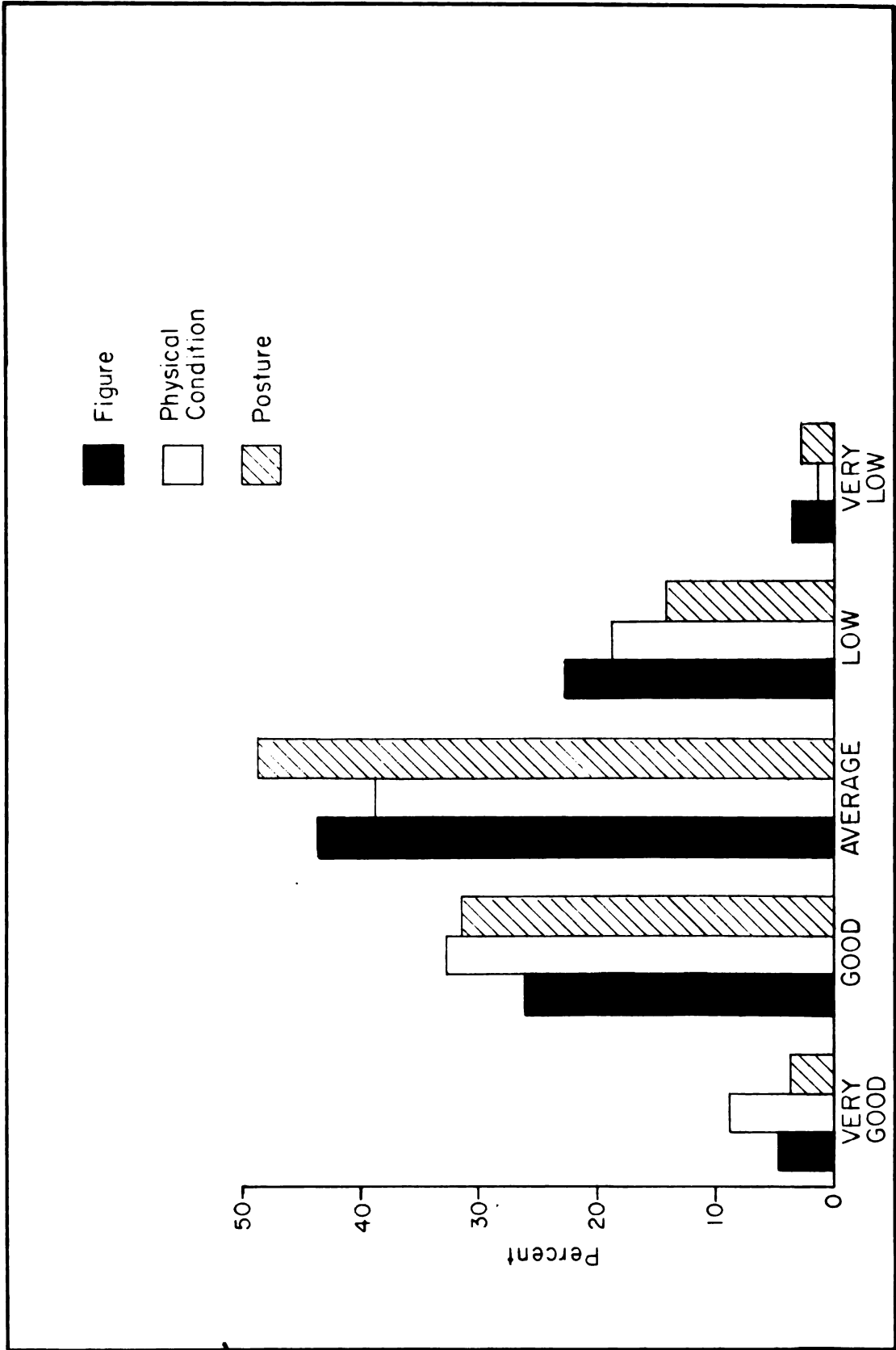


Figure 1
Concept of physical self as subjectively rated at onset
by students of the foundations course

good" and "good" than "low" and "very low." Figure has the greatest (25 per cent) of "low" and very low" while posture has the smallest (15 per cent) of "low" and "very low." This seems plausible as the current trend toward watching one's weight has promoted a strong emphasis on this particular area of the physical self. "The person is the best source of information about himself."¹ "A person can think about himself just as he thinks about other things."²

Skill level. On the basis of the students' responses to item F of the physical self-concept questionnaire some idea of the general skill in physical education was determined. Item 4 and 5 of the physical recreation questionnaire has given some idea of the students' skill level in swimming and dancing. These findings are presented in Figure 2 on page 44. More students were above average than below average in all areas. However, 21 per cent rated their general skill below average, 17 per cent rated their skill in dancing below average, and 27 per cent rated their skill in swimming below average.

Attitudes toward physical education and participation in physical recreation. On the bases of the students' responses to items A and B of the physical self-concept questionnaire the general

¹ Carl C. Rogers, Client-Centered Therapy (Boston: Houghton Mifflin Company, 1951), p. 479.

² Ibid., p. 494.

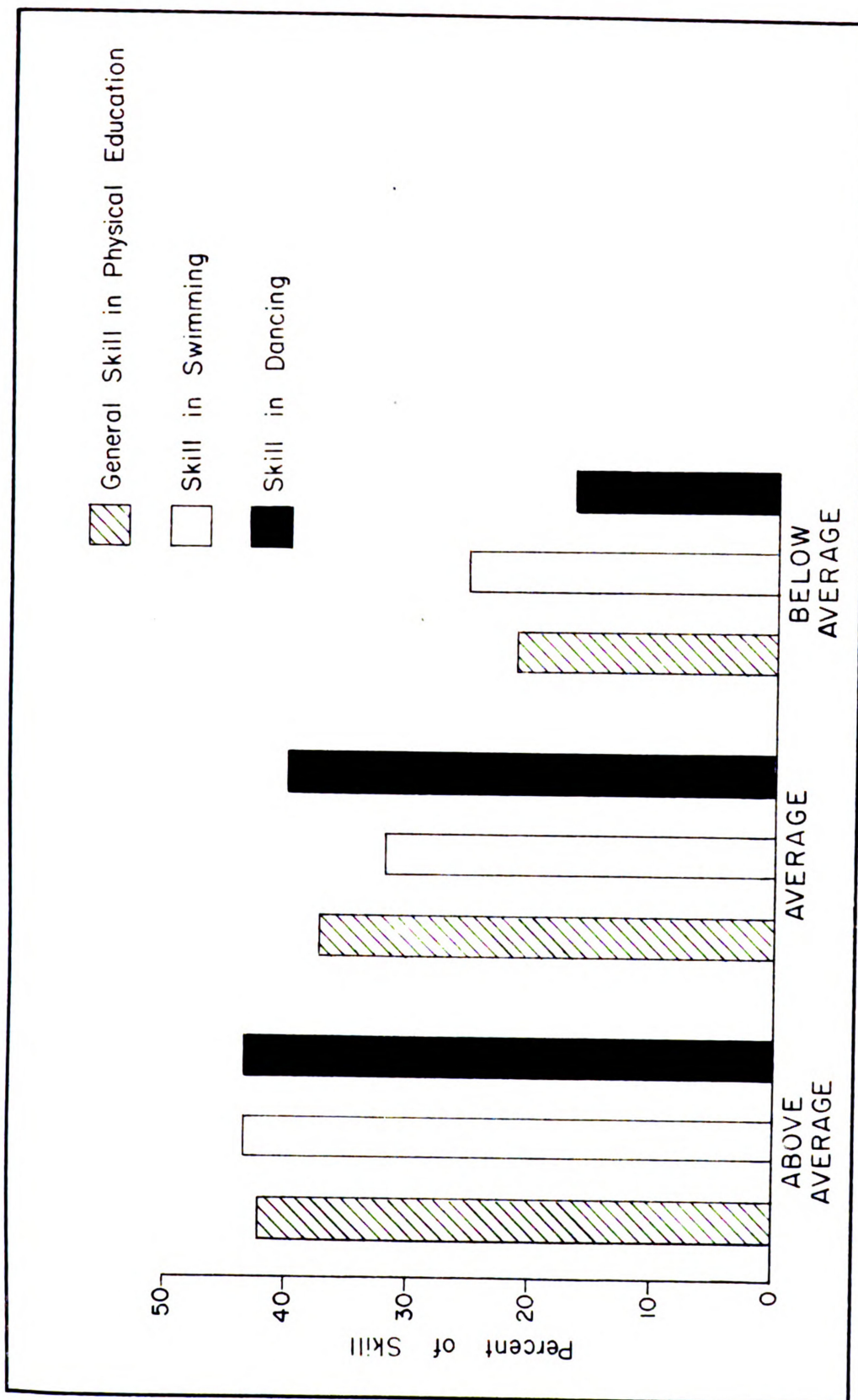


Figure 2
Concept of skill levels as subjectively rated by students
at onset of the foundations course

attitude toward physical education classes, as measured by a single statement, and the attitude toward participation in physical recreation, as measured by a single statement was determined. The findings are presented in Figure 3 on page 46. Proportionally, the number "strongly for" physical education was found to be about the same number as "strongly for" physical recreation (57 per cent and 55 per cent respectively). Similar findings were found for those "for," "neutral," "against," and "strongly against."

Analysis of Students' Evaluations

Selected background factors. Tables 1 through 5, pages 47-51, show the relationship of selected background factors to overall evaluation of the Foundations Course based on rating groups; i. e., very favorable, indifferent, unfavorable, and very unfavorable. Due to the small number in the "unfavorable" and "very unfavorable" groups these two components have been combined for statistical purposes. The probability level of five per cent ($P = .05$), was selected at the start of the study as the level necessary for statistical significance.

Data in Tables 1 through 5 indicate that there was no significant relationship between overall evaluation of the Foundations Course and the following background factors:

1. Michigan residence and non-residence.
2. Size of high school.

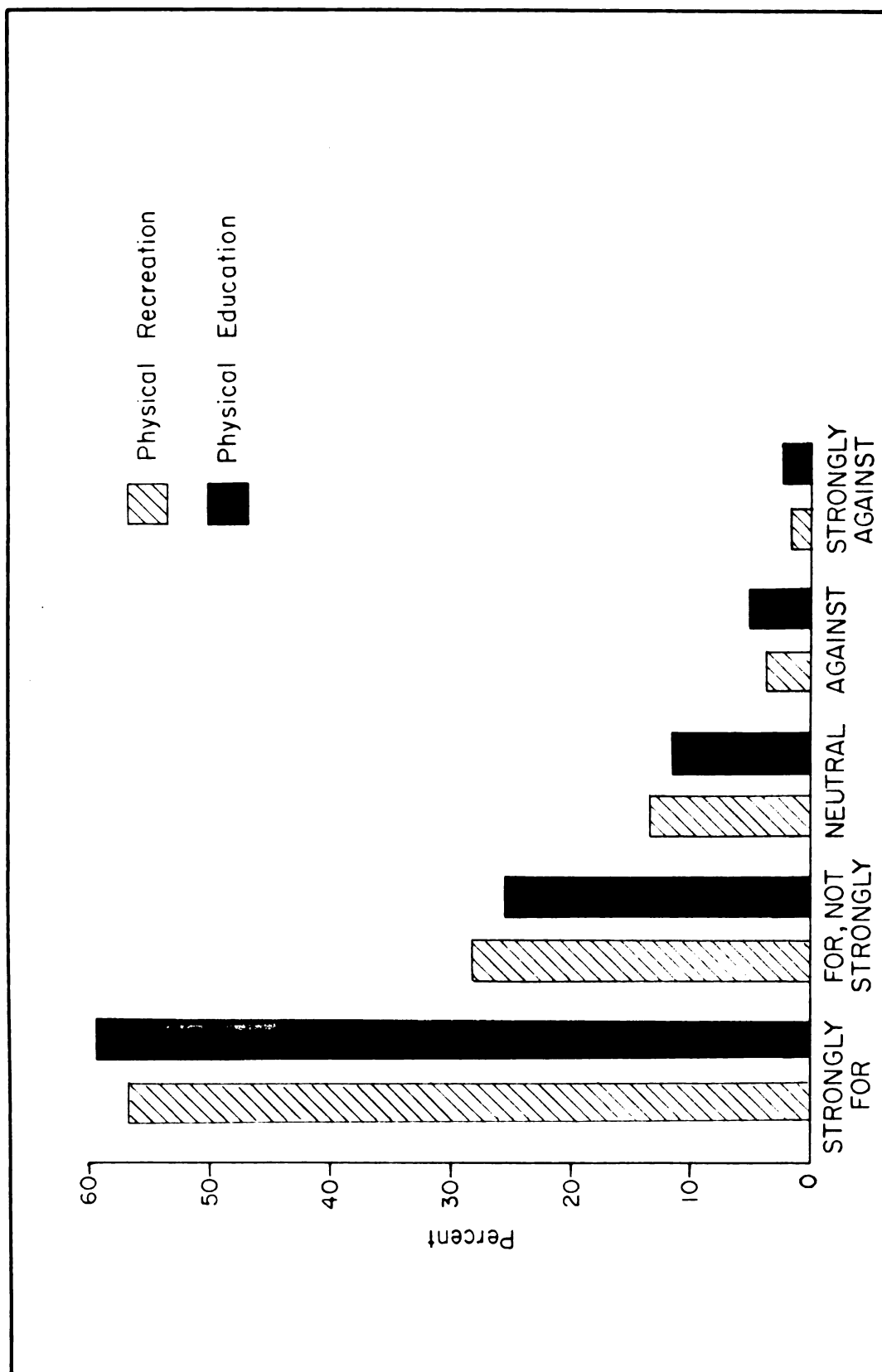


Figure 3
 Attitude toward physical education and physical recreation
 at the onset of the foundations course

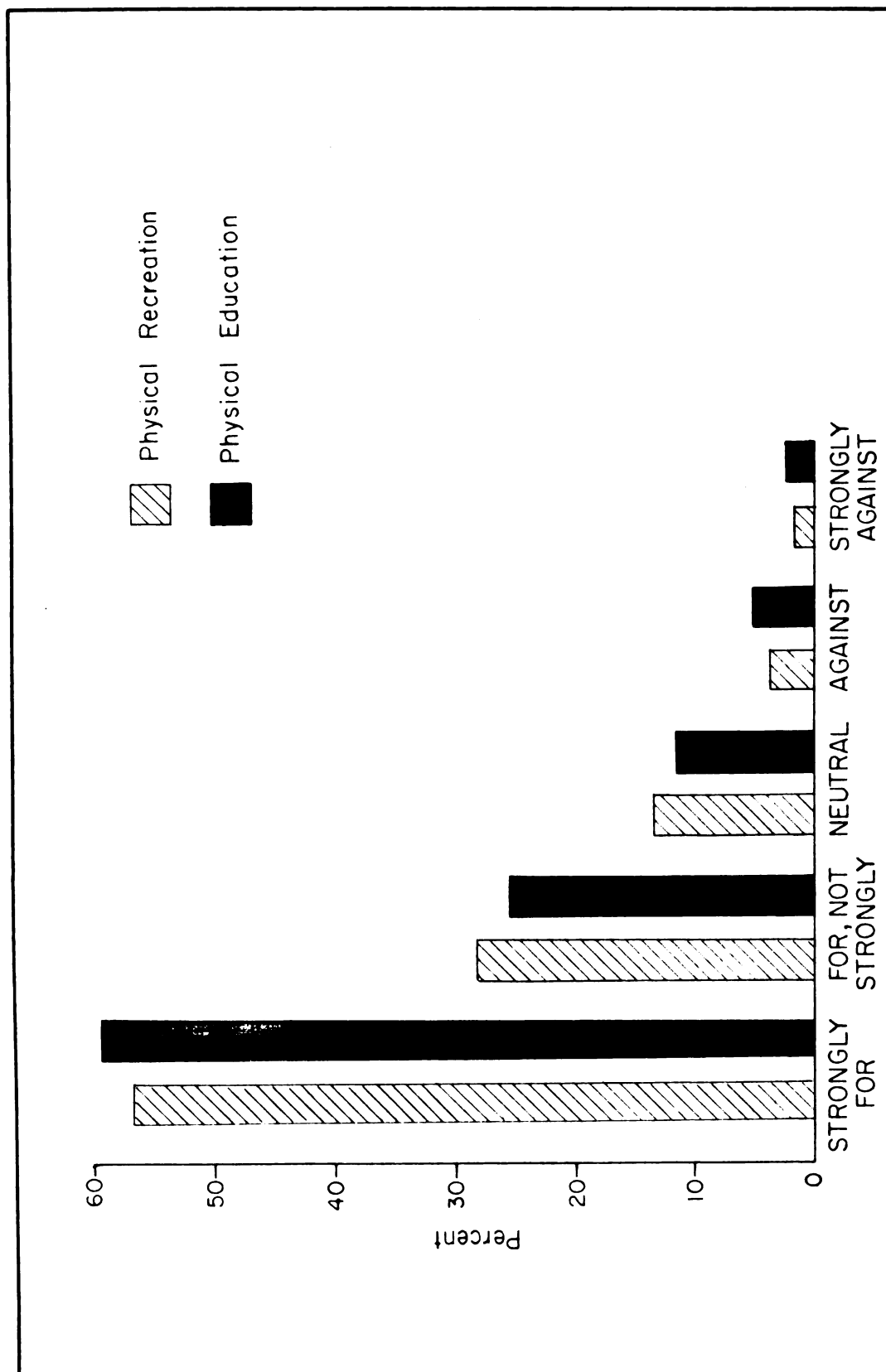


Figure 3
 Attitude toward physical education and physical recreation
 at the onset of the foundations course

TABLE 1. --Relationship of Michigan residence to evaluation of the Foundations Course

Residency	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Michigan residents	36	89	12	16	153	.46
Non-resident of Michigan	5	26	4	4	39	1.80
TOTAL	41	115	16	20	192	

χ^2	1.66	.37	.21	.00		2.24 2.26

D. F. = 3^o $\chi^2 = 2.24 - 2.26$ P = .50 - .70

TABLE 2. --Relationship of size of high school to evaluation of the Foundations Course

Size of high school	Very favor- able	Favor- able.	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
1500 and over	12	33	6	8	59	.98
900-1500	8	22	5	4	39	1.03
375-900	7	34	3	4	48	2.43
175-375	13	15	1	1	30	9.62
175 and less	1	11	1	3	16	3.06
TOTAL	41	115	16	20	192	
χ^2	9.56	1.87	2.42	3.27		17.12

D. F. = 12^o $\chi^2 = 17.12$ P = .10 - .20

TABLE 3. --Relationship of required physical education in high school to the Foundations Course

Years required	Very favor- able	Favor- able	Indif- derent	Unfavorable and very unfavorable	Total	χ^2_i
	n	n	n	n		
4	5	31	3	8	47	4.99
3	6	18	3	4	31	.32
2	21	36	7	6	70	3.75
1	5	16	1	0	22	3.29
0	4	14	2	2	22	.20
TOTAL	41	115	16	20	192	
χ^2_j	5.15	1.79	.90	4.70		12.54 12.55

D. F. = 12 $\chi^2 = 12.54 - 12.55$ P = .30 - .50

TABLE 4. --Relationship of excused and non-excused from high school physical education program to evaluation of the Foundations Course

Excuse and non-excused	Very favorable	Favorable	Indifferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Excused	33	100	16	16	165	.60
Non-excused	8	15	0	4	27	3.70
TOTAL	41	115	16	20	192	
χ^2	1.00	.09	2.61	.58		4.28 4.30

D. F. = 3^o $\chi^2 = 4.28 - 4.30$ P = .20 - .30

TABLE 5. --Relationship of type of locality of home to evaluation of the Foundations Course

Type of locality of home	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Large city 500, 000 or more	8	31	5	6	50	.99
Medium city 50, 000-500, 000	12	33	7	6	58	1.07
Small city 2, 500-50, 000	8	22	4	7	41	2.17
Open country-- farming	9	18	0	0	27	7.08
Open country-- non-farming	4	11	0	1	16	1.90
TOTAL	41	115	16	20	192	
χ^2	2.66	.80	4.82	4.94		13.21 13.22

D. F. = 12^o $\chi^2 = 13.21 - 13.22$ P = .30 - .50

3. The required physical education program in the high school.
4. Actual numbers of years the student participated in the physical education program in high school.
5. Type of locality of home town.

On the bases of data obtained on background factors in this study it was surprising indeed to find that background factors, from which so much was expected, revealed no significant relationships.

Specific aspects of the Foundations Course. Tables 6 through 9, pages 53-56, show the relationship of the subjects' overall evaluations of the Foundations Course to evaluations of specific aspects of the course. Data indicate there was a significant relationship ($P = .001$), between overall evaluation and evaluation of each part of the course. The "very favorable" group responded consistently in the affirmative while the "unfavorable" group responded continually in the negative. The total number in the acceptance group was greater than the rejection group which indicated that there was a greater weighting of acceptance of the course rather than rejection. Faculty members teaching the course had previously questioned whether or not there was sufficient activity in the course. The results of this study did not seem to uphold this belief.

TABLE 6. --Relationship of students' opinions as to amount of activity in the course to evaluation of the Foundations Course

Amount of physical activity	Very favor-able	Favor-able	Indif-ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very favorable	10	14	0	1	25	7.20
Favorable	23	77	8	6	114	4.33
Indifferent	4	12	5	8	29	13.40
Unfavorable and very unfavorable	4	12	3	5	24	3.63
TOTAL	41	115	16	20	192	
χ^2	5.16	3.23	5.58	14.60		28.56 28.57

D. F. = 9^o $\chi^2 = 28.56 - 28.57$ P = .001

TABLE 7. --Relationship of students' opinions as to influence of course on planning future physical activities to evaluation of the Foundations Course

Influence on planning future p.e. courses	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very favorable	15	26	0	0	41	12.22
Favorable	18	47	3	5	73	3.07
Indifferent	8	32	10	9	59	8.57
Unfavorable and very unfavorable	0	10	3	6	19	13.66
TOTAL	41	115	16	20	192	

χ^2	10.56	.81	11.50	14.65		37.52

D. F. = 9^o $\chi^2 = 37.52$ P = .001

TABLE 8. --Relationship of students' opinions as to physical change based on knowledge and activity to evaluation of the Foundations Course

Physical change	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very favorable	12	17	0	0	29	10.89
Favorable	22	61	6	2	91	7.34
Indifferent	7	31	5	9	52	3.99
Unfavorable and very unfavorable	0	6	5	9	20	36.88
TOTAL	41	115	16	20	192	

χ^2	11.57	3.76	9.52	34.25		59.10

D. F. = 9° $\chi^2 = 59.10$ P = .001

TABLE 9. --Relationship of students' opinions as to application of material as related to daily living to evaluation of the Foundations Course

Application to daily living	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very favorable	10	13	0	0	23	9.62
Favorable	27	69	7	4	107	6.12
Indifferent	4	23	6	4	37	4.72
Unfavorable and very unfavorable	0	10	3	12	25	41.29
TOTAL	41	115	16	20	192	
χ^2	13.29	2.10	5.49	40.88		61.75 61.76

D. F. = 9^o $\chi^2 = 61.75 - 61.76$ P = .001

Data in Tables 6 through 9 indicate there was a significant relationship between overall evaluation of the Foundations Course and the following factors:

1. Amount of physical activity in the course.
2. Influence in planning future courses in physical education.
3. Experience of physical change due to activity and knowledge gained in the Foundations Course.
4. Application of material to daily living.

Physical recreation factors. Tables 10 through 13, pages 59-61, show the relationship of certain aspects of physical recreation to overall evaluation of the Foundations Course. The data in Tables 10 through 13 indicate that there was no significant relationship between overall evaluation of the Foundations Course and the following factors:

1. Importance of physical recreation as part of the students' total recreation program.
2. Skill in recreational activities such as bowling, golf, archery, and tennis.
3. Leisure time spent in recreational activities of a physical nature.
4. Enjoyment of regular participation in seasonal physical recreational sport activities.

TABLE 10. --Relationship of importance of physical education as subjectively rated by students to evaluation of the Foundations Course

Importance of physical recreation	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very important	23	56	7	7	93	1.31
Quite a bit	10	39	7	5	61	1.88
Some	6	18	2	7	33	4.20
A little and not at all	2	2	0	1	5	2.00
TOTAL	41	115	16	20	192	
χ^2	2.16	.65	1.41	5.16		9.38 9.39

D. F. = 9°

$\chi^2 = 9.38 - 9.39$

P = .30 - .50

TABLE 11. --Relationship of recreational skill as subjectively rated by students to evaluation of the Foundations Course

Recreational skill level	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very much	6	17	4	5	32	1.84
Quite a bit	15	33	3	7	58	1.48
Some	12	43	9	6	70	2.55
A little and not at all	8	22	0	2	32	3.81
TOTAL	41	115	16	20	192	

χ^2	1.43	.77	5.74	1.74		9.68

D. F. = 9^o $\chi^2 = 9.68$ P = .30 - .50

TABLE 12. --Relationship of time spent in physical education as subjectively rated by students to evaluation of the Foundations Course

Time spent in physical recreation	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very much	7	15	3	5	30	1.77
Quite a bit	14	37	7	5	63	.97
Some	13	38	6	6	63	.18
A little and not at all	7	25	0	4	36	3.62
TOTAL	41	115	16	20	192	

χ^2	.15	1.05	3.79	1.56		6.55 6.56

D. F. = 9^o $\chi^2 = 6.55 - 6.56$ P = .50 - .70

TABLE 13. --Relationship of enjoyment of seasonal physical recreation as subjectively rated by students to evaluation of the Foundations Course

Enjoyment of seasonal physical recreation	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very much	15	29	6	5	55	1.90
Quite a bit	13	41	7	6	67	.60
Some	11	35	3	7	56	.96
A little and not at all	2	10	0	2	14	2.00
TOTAL	41	115	16	20	192	
χ^2	1.42	.86	2.55	.65		5.46 5.48

D. F. = 9⁰

$\chi^2 = 5.46 - 5.48$

P = .70 - .80

Extent of physical exertion in daily work. Table 14, page 63, shows the relationship of extent of strenuous exertion in the students' daily living to overall evaluation of the Foundations Course. The data indicate that there was no significant relationship between students who are very active and those who are relatively passive and their evaluation of the course. Similar findings appeared in the relationship of amount of physical activity in the course to overall evaluation of the course, Table 6, page 53. The results of these data indicate more fully that amount of activity in students' living as found in this study has not influenced their reaction to the Foundations Course.

Attitudes toward physical education and participation in physical recreational activities. The importance of the relationship of attitudes toward physical education as an activity course and overall evaluation of the Foundations Course is shown in Tables 15 and 16, pages 64 and 65. Table 15 shows the relationship of overall evaluation of the Foundations Course to just one overall statement regarding attitude toward physical education classes based on "for," "neutral," and "against." These are combined ratings of five original headings of: "strongly for," "for not strongly," "neutral," "against but not strongly," and "strongly against." A high level of significance ($P = .001$), was found.

Similar results are presented in Table 16 between the Wear Attitude Inventory, which has been based on a five point scale, and evaluation of the Foundations Course. Again, level of significance is .001.

TABLE 14. --Relationship of extent of strenuous physical exertion in daily living as subjectively rated by students to evaluation of the Foundations Course

Strenuous exertion in daily work	Very favorable	Favorable	Indifferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very much and quite a bit	12	27	3	3	45	1.35
Some	19	46	8	5	78	1.88
A little and not at all	10	42	5	12	69	4.85
TOTAL	41	115	16	20	192	

χ^2	2.44	.02	.59	5.03		8.08

D. F. = 6^o $\chi^2 = 8.08$ P = .20 - .30

TABLE 15. --Relationship of general attitude toward physical education as subjectively rated by students to evaluation of the Foundations Course

General attitude toward physical education	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
For	31	67	6	6	110	6.11
Neutral	7	40	7	5	59	4.19
Against	3	8	3	9	23	21.98
TOTAL	41	115	16	20	192	

χ^2	5.63	3.05	2.58	21.01		32.27 32.28

D. F. = 8^o $\chi^2 = 32.27 - 32.28$ P = .001

TABLE 16. --Relationship of Wear Attitude Inventory to evaluation of the Foundations Course

5 point scale for Wear Attitudes	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
5	24	32	3	2	61	13.64
4	8	31	2	3	44	2.33
3	4	36	4	5	49	5.50
2	4	14	2	4	24	1.15
1	1	2	5	6	14	32.92
TOTAL	41	115	16	20	192	

χ^2	15.01	7.76	14.20	18.57		55.54

D. F. = 12°

 $\chi^2 = 55.54$

P = .001

Interestingly, if we adjust the difference in the degree of freedom of the two tables the Chi Square of each is very similar. It appears, from this study, that if we desire general attitude toward physical education it can be obtained by responding to a simple statement based on the knowledge desired, in this case, general attitude toward physical education as an activity class.

The data in Table 17, page 67, show the relationship of attitude toward participating in physical recreational activities to evaluation of the Foundations Course. No significant relationship was found between attitude toward participating in physical recreational activities and evaluation of the course. Data in the table indicate that in general those who reject the course (unfavorable) responded consistently in the extreme categories to the statement on participating in physical recreational activities.

The comparison of the level of significance of Tables 15 and 16, pages 64-65 to Table 17, page 67 supports most authorities who agree that the general theme of attitudes is the consistency among responses to a specified set of stimuli or social objects.^{3, 4, 5}

³Krech and Crutchfield, loc. cit.

⁴Fuson, loc. cit.

⁵Campbell, loc. cit.

TABLE 17. --Relationship of general attitude toward participating in physical recreation as subjectively rated by students to evaluation of the Foundations Course

Participation in physical recreation	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Strongly for	33	68	10	12	123	2.22
For, not strongly	7	40	5	4	56	3.89
Neutral and against	1	7	1	4	13	6.39
TOTAL	41	115	16	20	192	
χ^2	4.91	1.75	.03	5.79		12.48 12.50

D. F. = 6° $\chi^2 = 12.48 - 12.50$ P = .05 - .10

Concept of physical self. Four major areas of the physical self: (1) general physical condition, (2) figure, (3) posture, and (4) general skill in physical education activities are shown in Tables 18 through 21, pages 69-72. Data in Tables 18 through 21 show that there was no significant relationship between evaluation of the Foundations Course and the following factors:

1. Physical condition ----- strength, stamina.
2. Figure ----- muscle tone, weight, fat deposits.
3. Posture ----- body alignment.
4. General skill level in physical education activities.

The consideration that students with a certain level of physical condition and appearance were more receptive to the Foundations Course does not seem verified in this study.

Mean Difference in Attitude toward Physical
Education, Physical Recreation, and
Concept of Physical Self

The influence of the Foundations Course on three areas: (1) attitude toward physical education as an activity course, (2) attitude toward participating in physical recreational activities, and (3) concept of physical self was analyzed by evaluating the significance of the difference between the means of these areas at the onset of the Foundations Course and the conclusion of the course. It was not the purpose of this study to investigate the effect of the Foundations Course on the extent

TABLE 18. --Relationship of general physical condition as subjectively rated by students to evaluation of the Foundations Course

Physical condition	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very good	2	9	4	3	18	6.02
Good	26	50	5	12	93	4.01
Average	10	44	6	4	64	2.97
Low and very low	3	12	1	1	17	.89
TOTAL	41	115	16	20	192	

χ^2	3.87	2.04	5.34	2.62		13.87
						13.89

D. F. = 9°

$\chi^2 = 13.87 - 13.89$

P = .10 - .20

TABLE 19. --Relationship of figure as subjectively rated by students to evaluation of the Foundations Course

Figure	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very good	5	9	0	2	16	2.16
Good	16	44	5	7	72	.24
Average	16	52	11	9	88	2.26
Low and very low	4	10	0	2	16	1.51
TOTAL	41	115	16	20	192	
χ^2	1.27	.08	4.66	.16		6.17

D. F. = 9⁰ $\chi^2 = 6.17$

P = .70 - .80

TABLE 20. --Relationship of posture as subjectively rated by students to evaluation of the Foundations Course

Posture	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2_i
	n	n	n	n		
Very good	6	14	1	3	24	.75
Good	20	41	6	9	76	1.49
Average	15	45	9	8	77	1.19
Low and very low	0	15	0	0	15	10.04
TOTAL	41	115	16	20	192	

χ^2_j	4.35	4.50	2.80	1.81		13.47

D. F. = 9 ^o	$\chi^2 = 13.47 \quad P = .10 - .20$					

TABLE 21. --Relationship of overall skill in physical education as subjectively rated by students to evaluation of the Foundations Course

Skill	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very good	9	8	2	4	23	6.90
Good	16	38	4	10	68	2.02
Average	11	51	9	4	75	5.46
Low and very low	5	18	1	2	26	1.24
TOTAL	41	115	16	20	192	
χ^2	5.17	3.80	2.33	4.32		15.62

D. F. = 9^o $\chi^2 = 15.62$ P = .05 - .10

of change that occurred. It was the purpose, however, to investigate if changes occur.

The mean attitude as measured by Wear's Attitude Inventory at the onset of the course was 163.65 while at the conclusion of the course the mean was 163.76. The difference is extremely minute for the Z is just 0.053. This indicated that there was greater than 95 per cent probability that there was no difference between the attitudes of the students toward physical education as an activity course from the beginning of the course to the end of the Foundations Course. Such findings uphold the work of Sell,⁶ Garrison,⁷ Gleason,⁸ Egner and Obelsky,⁹ Cooper and Michiels,¹⁰ and Lagey¹¹ that attitudes are enduring and difficult to change.

The attitude toward participating in physical recreation was compiled by taking the sum of two questions, item 1 of the physical recreation questionnaire and item B of the physical self-concept questionnaire. Both questions were based on a five point scale. The mean attitude at the beginning of the course was 8.768 while at the end of the course it was 9.010. Z is 1.749 which was not significant at the .05 level.

⁶Sells, loc. cit.

⁷Garrison, loc. cit.

⁸Gleason, loc. cit.

⁹Egner and Obelsky, loc. cit.

¹⁰Cooper and Michiels, loc. cit.

¹¹Lagey, loc. cit.

The fact that attitude toward participating in physical recreational activities does show a decided change, although not significant at the level originally set for this study, seems to indicate that consistency of responses has not been as decidedly set toward physical recreational activities as toward physical education.

The area of concept of physical self showed a significant change. The sum of: (1) physical condition, (2) figure, and (3) posture was obtained. Each aspect of the physical self was based on a five point scale. The mean at the onset of the course was 9.90 and at the conclusion of the course was 10.764. Z is 4.013 which is highly significant ($P = .001$).

The slope of change combining all three aspects was toward a more favorable rating of the physical self. The direction of change for each area; i. e. , physical condition, figure, and posture showed a greater degree of favorable change in physical condition and posture than figure.

Opportunities for self-evaluation have been studied by others with positive effects.^{12, 13} This study seemed to indicate that the course content of the Foundations Course did help students re-structure their concept of the physical self. Such findings are related

¹²Frank L. Costin, "The Effect of an Introductory Psychology Course on Self Insight," Journal of Educational Psychology, 50 (January, 1959), pp. 83-87.

¹³Henry Duel, "Effects of Periodical Self Evaluation on Student Achievement," Journal of Educational Psychology, 49 (August, 1958), 197-99.

to the work done by Raimy that the self can be readily changed if conditions are sufficient.¹⁴

Other Findings

Analysis of factors related to skill. On the basis of students' responses to item F of the physical self-concept questionnaire the relationship of skill level in physical education activities to amount of physical activity in the Foundations Course is presented in Table 22, page 76. There was no significant relationship found in this study.

Table 23, page 77, shows the relationship of overall skill level in physical education activities as subjectively rated on a five point scale: "very good," "good," "average," "low," and "very low" to skill level in specific recreational activities as rated on a five point scale, item 2 physical recreation questionnaire. The relationship of general skill level in physical education activities to skill level in recreation activities such as golf, archery, bowling, and tennis is highly significant ($P = .001$). This would seem to indicate that interest in acquiring skills for students' recreation was related to skill level in general physical education.

In another study at Michigan State University Van Duzer¹⁵ used the same students to determine skill level. She had them rate themselves on a check list of activities. From this she summed all

¹⁴Raimy, op. cit., p. 175.

TABLE 22. --Relationship of skill level to amount of activity as
subjectively rated by students

Skill level	Very favor- able	Favor- able	Indif- ferent	Unfavorable and very unfavorable	Total	χ^2
	n	n	n	n		
Very good	1	12	2	6	21	5.21
Good	7	40	8	12	67	1.68
Average	12	50	16	4	82	6.02
Low and very low	3	14	2	3	22	.55
TOTAL	23	116	28	25	192	
χ^2	1.57	.08	2.51	9.31		13.46 13.47

D. F. = 9⁰

$\chi^2 = 13.46 - 13.47$

P = .10 - .20

TABLE 23. --Relationship of general skill level in physical education to skill level in recreational activities as subjectively rated by students

Skill level in recreational activities	Very good	Good	Average	Low and very low	Total	χ^2
	n	n	n	n		
Very good	8	7	4	1	20	32.27
Good	7	30	23	8	68	13.37
Average	0	13	49	20	82	15.60
Low and very low	0	1	6	15	22	26.63
TOTAL	15	51	82	44	192	

χ^2	35.18	15.98	10.48	26.23		87.87

D. F. = 9^o $\chi^2 = 87.87$ P = .001

ratings and determined the average level on a five point scale. In this study the students rated themselves in general physical education activities through a single statement on a five point scale. Table 24, page 79, shows that there was a highly significant ($P = .001$), relationship of skill level as measured by Van Duzer and skill level as measured in this study. This tends to verify the belief of certain authorities that a true picture of an individual can be obtained through the individual's frame of mind.¹⁶

Reasons for participating in physical recreation. Figure 4, page 80, shows the students' reasons for participating in physical recreational activities. 28.5 per cent stated that they participated because they "enjoy sports." 19 per cent stated that they took part for a "better figure," and 15 per cent for "better health." 14.5 per cent replied they engaged in physical recreation activities because "friends did." It is interesting to note that the responses appear to show a reflection of course material in that "figure" and "health" were rated second and third. Motivation is a baffling area yet authorities such as Duvall¹⁷ believe the self-interest is a basis for motivation.

¹⁵Jan C. Van Duzer, "A Study To Determine the Influence of Background Factors upon Physical Performance and Evaluation Measured Used in the Foundations of Physical Education Course" (unpublished Master's thesis, Michigan State University, 1960).

¹⁶Rogers, Client Centered Therapy, loc. cit.

¹⁷Duvall, loc. cit.

TABLE 24. --Relationship of check list self-rating of sport activities to one item self-rating of skill level

5 point skill rating	Very good	Good	Average	Low and very low	Total	χ^2_i
	n	n	n	n		
5	8	18	11	1	38	14.88
4	2	13	19	2	36	5.39
3	2	12	17	7	38	.85
2	3	12	16	5	36	.64
1	2	7	12	20	41	25.26
TOTAL	17	62	75	35	192	

χ^2_j	7.99	5.69	4.23	29.13		49.02

D. F. = 12^o $\chi^2 = 47.04$

P = .001

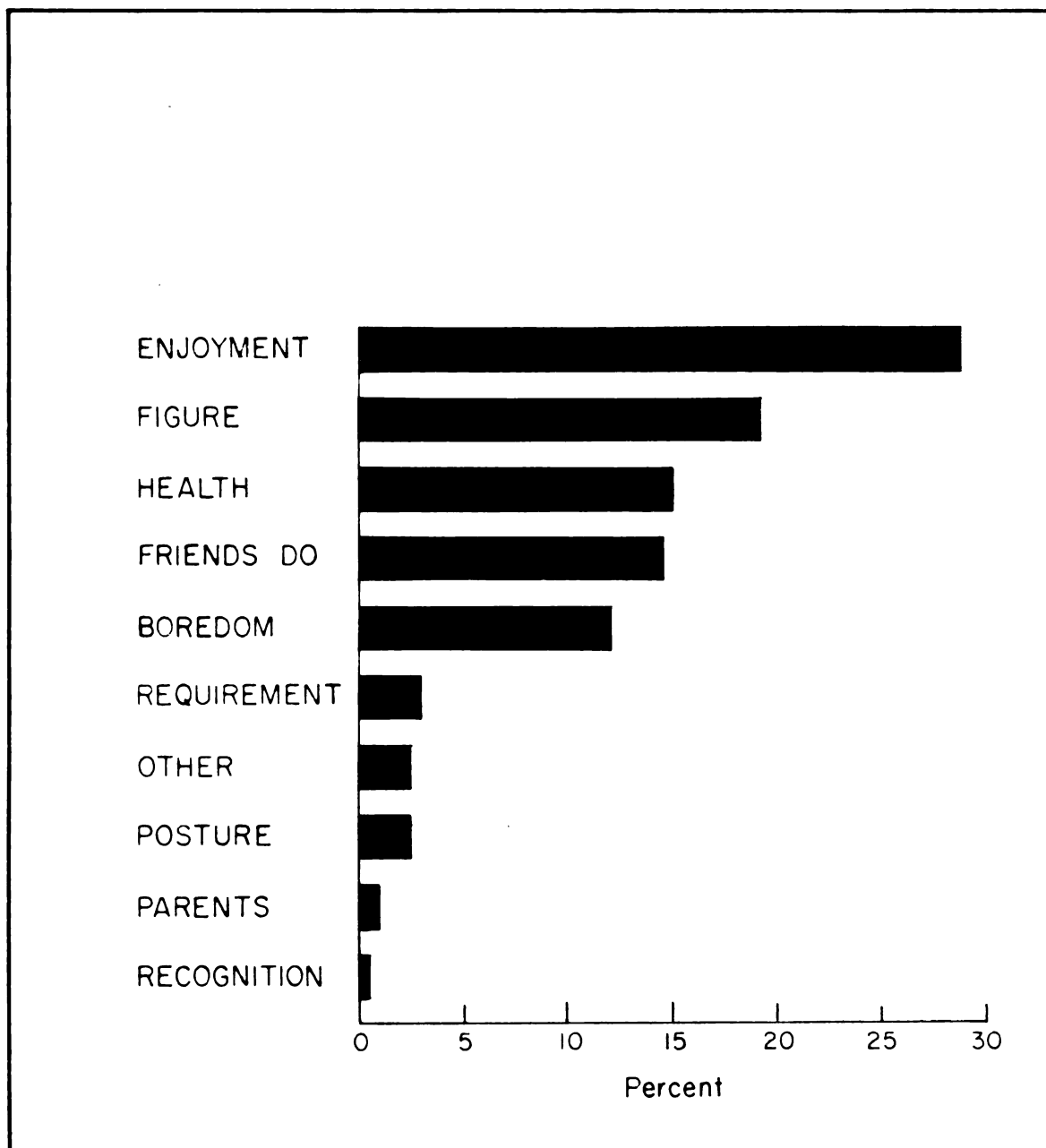


Figure 4

* Frequency distribution of reasons for participation in physical recreation activities

* Each student checked three reasons for participation in physical recreation activities

The parents' reasons for participating in physical recreational activities as stated by the students are presented in Figure 5, page 82. Seventy-three per cent of the fathers and 63 per cent of the mothers engaged in physical activity for recreation.

The reasons for participating by both parents as stated by the students showed no difference between mother and father. Forty per cent of the fathers and 35 per cent of the mothers participated for "relaxation." 38.2 per cent of the fathers and 27.2 per cent of the mothers participated for "enjoyment."

It is interesting to note that the reasons for not participating are almost the reverse, "lack of time" and "lack of interest," which would seem to infer a lack of enjoyment on their part in this form of recreation as relaxation.

Another area of interests is depicted in Figure 6, page 83. The spectator role is certainly prevalent in our country today and this is clearly indicated in Figure 6. Only 3 per cent indicate just "a little" or "not at all" interest in watching sport events while the per cent of those who dislike watching dance events was 17 per cent. This upholds the work of Broer and Holland¹⁸ who state that spectator interest in football and basketball was sufficient to warrant consideration of adding lectures on these sports to the physical education program. It would seem that greater spectator interest in dance would be derived from understanding the concepts of dance in the United States.

¹⁸Broer and Holland, loc. cit.

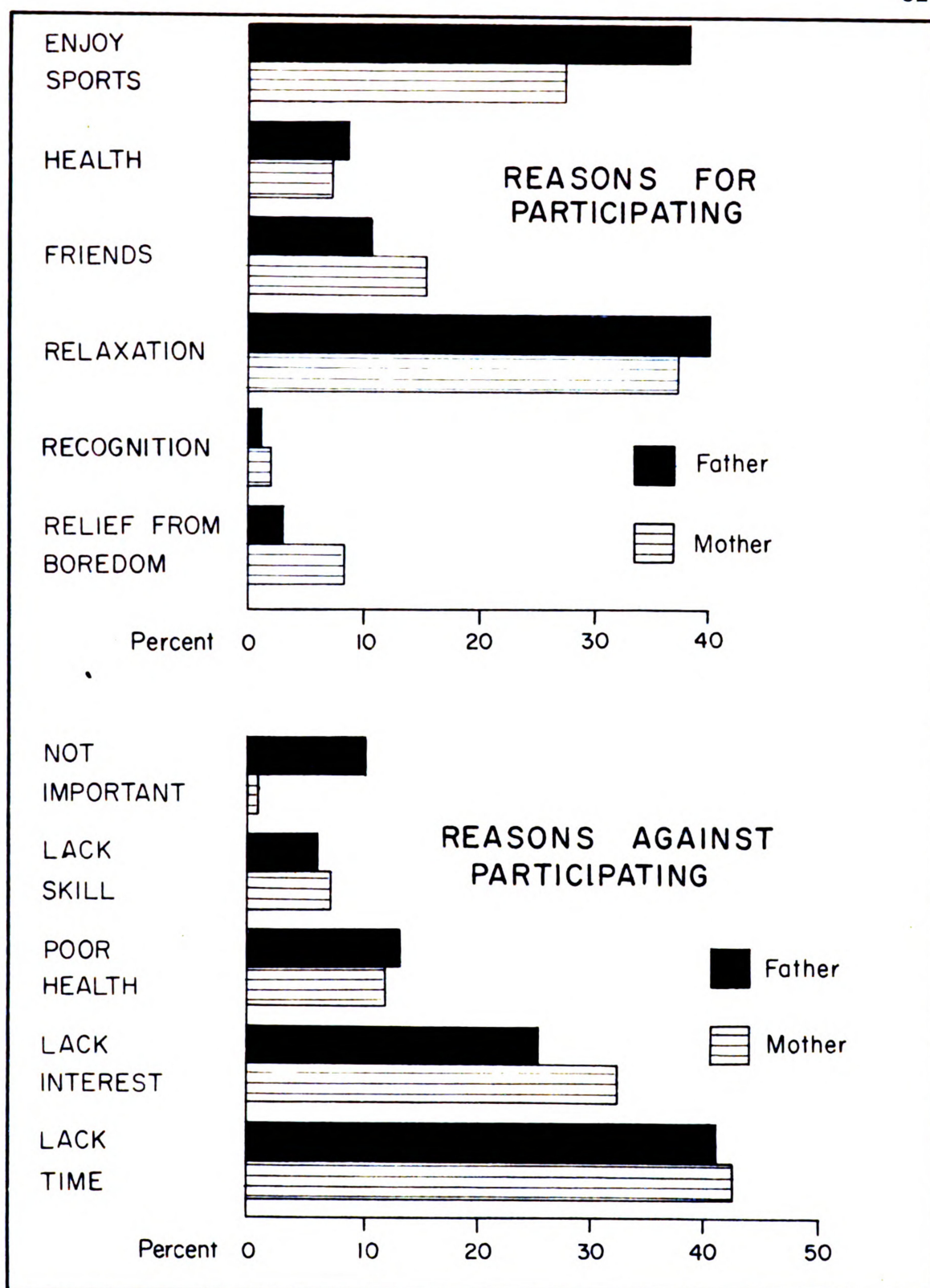


Figure 5

*Frequency distribution of reasons for or against parents participating in physical recreation activities

*Each student checked two reasons for her parents participation in physical recreation activities

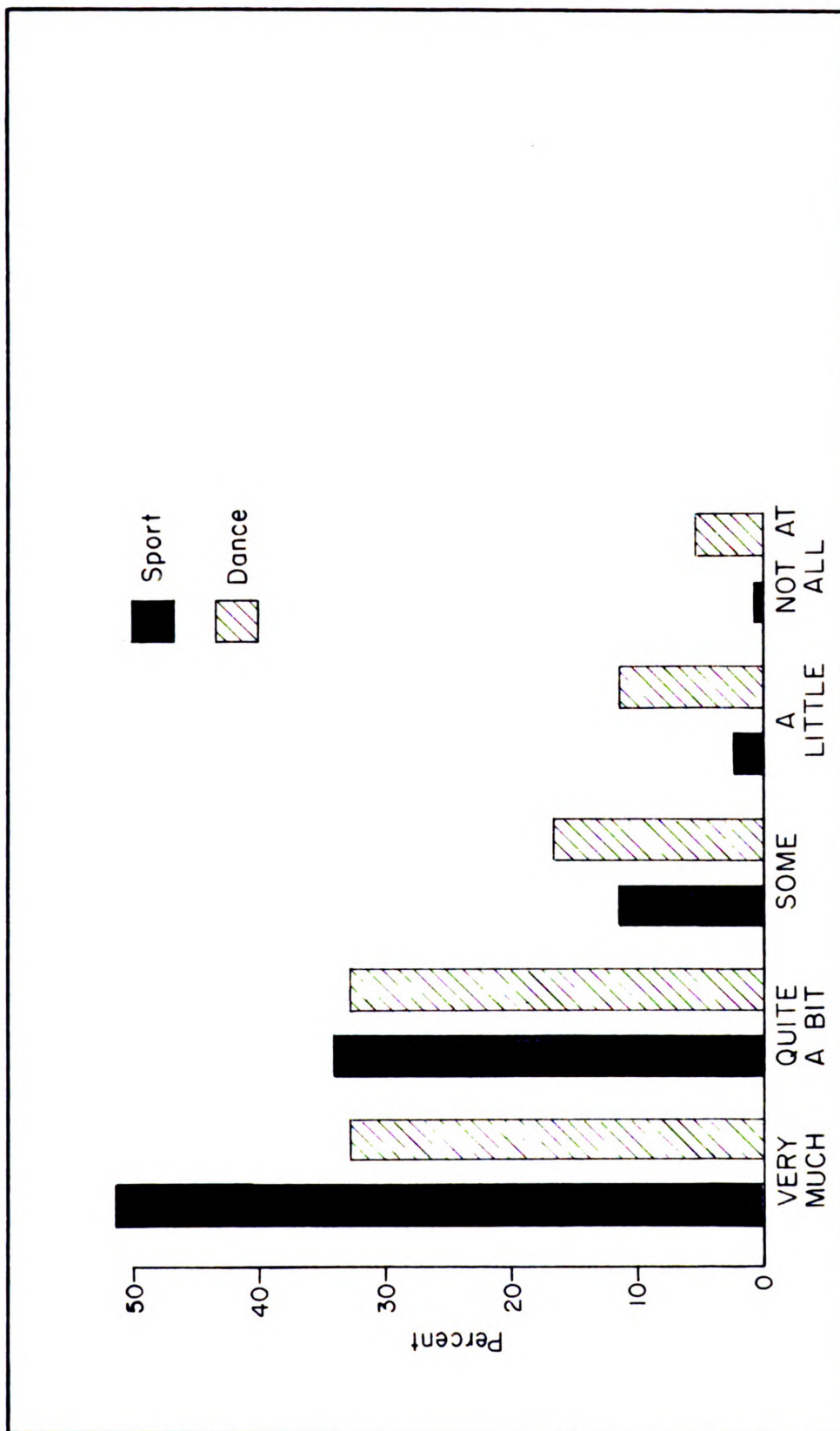


Figure 6
The extent of enjoyment of spectator events
as subjectively rated by students

Figure 7, page 85, shows the students' subjective ratings of the extent of strenuous exertion in daily living. Eleven per cent of the students indicated that their daily living required "very much" strenuous exertion. Thirty-three per cent indicated "quite a bit" and 43 per cent stated, "some." This seems to indicate that college students are aware of the fact that even modern daily college living does not require a great amount of strenuous physical exertion for the typical college student.

Relationship of skill to attitude inventory. The relationship of the skill level as obtained by Van Duzer,¹⁹ i. e., high, medium, and low to the Wear Attitude Inventory is shown in Table 25, page 86. The level of significance is not sufficient for this study ($P = .07$). It would seem to indicate, however, that there is a tendency for students with higher degrees of skill to have a favorable attitude toward physical education as an activity course.

Relationship of weight to figure rating. The relationship of weight to figure rating is shown in Table 26, page 87. The students' weight ratings were determined on a three point self-rating scale; i. e., zero to five pounds over or under-high, six to nine pounds over or under-medium, and ten pounds or more over or under-low. The students' concept of figure was determined on a five point self-rating scale; i. e., very good, good, average, low, and very low).

¹⁹Van Duzer, loc. cit.

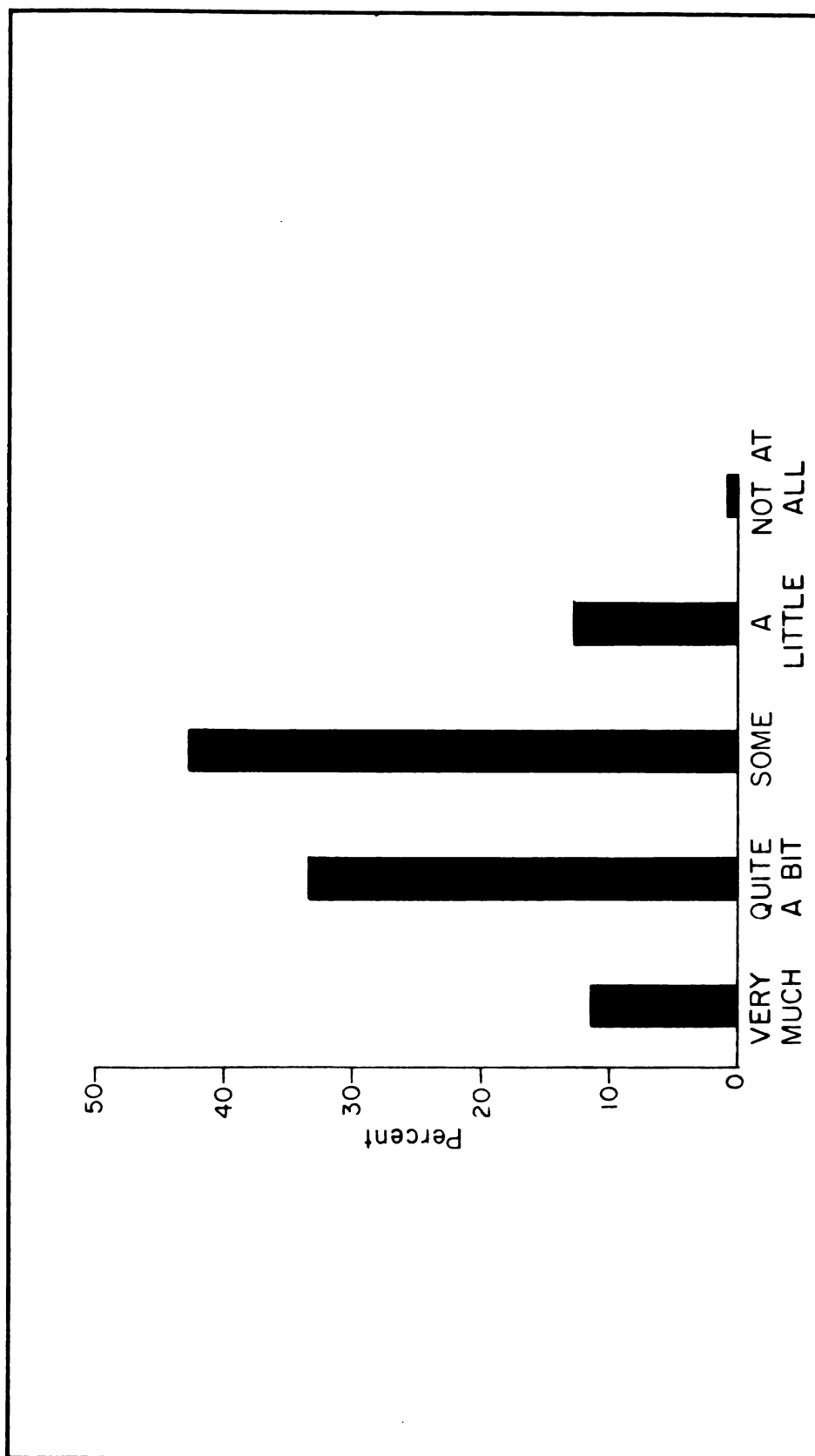


Figure 7
Extent of strenuous physical activity in daily living
as subjectively rated by students

TABLE 25. --Relationship of Wear Attitude Inventory to three point skill rating

Skill rating	5	4	3	2	1	Total	χ^2
	n	n	n	n	n		
High	22	16	17	5	1	61	4.97
Medium	24	11	15	9	11	70	6.64
Low	15	13	15	9	3	55	1.89
TOTAL	61	40	47	23	15	186	

χ^2	.75	1.84	.65	1.59	8.66		13.49 13.50

D. F. = 8°

 $\chi^2 = 13.49 - 13.50$

P = .05 - .10

TABLE 26. --Relationship of weight to figure rating as subjectively rated by students

Pounds over or under	Very good and good	Average	Low and very low	Total	χ^2
	n	n	n		
0-5	75	29	2	106	20.06
6-9	16	20	5	41	2.00
10 and over	5	29	11	45	30.79
TOTAL	96	78	18	192	

χ^2	23.73	11.54	17.58		52.85

D. F. = 4^o $\chi^2 = 52.85$

P = .001

Data in Table 26 show that the relationship between weight and figure rating was highly significant ($P = .001$). These results would seem to indicate that body weight, plus or minus, has a very significant role in the students' concept of figure. It would have been interesting to compare amount of overweight and underweight to figure rating.

Relationship of weight-rating to attitude toward physical education. Data in Table 27, page 89, indicate that there was no significant relationship between weight-rating and the Wear Attitude Inventory. No significant relationship was found between figure as rated at the end of the Foundations Course and evaluation of the course, Table 19, page 70.

TABLE 27. --Relationship of weight rating as objectively determined to
Wear Attitude Inventory

Very good and good	5	4	3	2 and 1	Total	χ^2
	n	n	n	n		
Very good and good	42	25	22	17	106	2.91
Average	12	7	11	11	41	1.70
Low and very low	10	10	15	10	45	3.05
TOTAL	64	42	48	38	192	

χ^2	3.12	.57	2.07	1.91		7.66 7.65

D. F. = 6^o $\chi^2 = 7.66 - 7.67$ P = .20 - .30

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This was a preliminary study concerned primarily with student evaluation of the Foundations of Physical Education Course required of all entering freshman women at Michigan State University.

The purpose of this study was threefold:

1. To determine the students' present concept of physical self, existing attitudes toward physical activity, and selected environmental and physical recreational background factors.
2. To determine if favorable or unfavorable evaluation of the course is related to concept of physical self, attitudes toward physical activity, and selected environmental and physical recreational background.
3. To determine if changes occur in concept of physical self and attitudes toward physical education and physical recreation as measured in this study.

Conclusions

1. A greater percentage of students rated their general skill level, concept of physical self, and specific skill level in

sports, swimming, and dance above average than below average.

2. A greater percentage of students rated their general attitude toward physical education as an activity class and attitude toward participation in physical recreation favorable or above.
3. No significant relationship was found between favorable and unfavorable acceptance of the Foundations Course and five selected background factors; i. e., Michigan residence and non-residence, size of high school, required physical education program in the high school, actual number of years of participation in physical education in high school, and type of locality of home town.
4. A significant relationship was found between favorable and unfavorable acceptance of the Foundations Course and the students' evaluations of the various phases; i. e., amount of physical activity in the course, influence in planning future course in physical education, experience of physical change due to activity and knowledge gained in the Foundations Course, and application of material to daily living.
5. No significant relationship was found between favorable and unfavorable acceptance of the Foundations Course and

physical recreation factors; i. e., importance of physical recreation as part of students' total recreation program, skill in recreational activities, leisure time spent in recreational activities.

6. No significant relationship was found between favorable and unfavorable acceptance of the Foundations Course and aspects related to the physical self; i. e., physical condition, figure, posture, and skill level.
7. No significant change was found in attitude toward physical education as measured by one general attitude statement and the Wear Attitude Inventory.
8. No significant change was found in attitude toward participating in physical recreational activities.
9. A significant change was found in concept of physical self; i. e., physical condition, figure, and posture.
10. The main reasons for participating in physical recreation as given by the students in this study were: "enjoy sports," "better figure," "better health," and "friends participate."
11. The main reasons for parents participating in physical recreation as stated by the students in this study were: "relaxation" and "enjoy sports."
12. The main reasons for parents not participating in physical recreation as stated by the students in this study were: "lack of time" and "lack of interest."

Recommendations for Further Study

On the bases of the results of the study, the following recommendations seem justifiable:

1. As the study indicated, research is needed to determine the causes of negative and positive attitudes toward physical education.
2. A follow-up study should be made of this study to determine the consistency or change in students' responses during university years and for a period of years (5 and 10), after graduation.
3. A random sample of the students enrolled in physical education should be selected and from this sample two groups, control and experimental, should be equated and used to investigate the influence of Foundations of Physical Education.
4. A longitudinal study should be made of the growing child's physical perception of himself and his relation to physical education. This should be done in various localities.
5. A valid and reliable adjective check list should be designed to measure students' actual physical self and idealized physical self. Results may be helpful in determining the well-adjusted and the poorly-adjusted students and in aiding guidance services in physical education in recommending physical activities.

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Physical Education Attitude Inventory

Directions - Please read carefully: Below you will find some statements about physical education. We would like to know how you feel about each statement. You are asked to consider physical education only from the standpoint of its place as an activity course taught during a regular class period. No reference is intended in any statement to interscholastic or intramural activities. People differ widely in the way they feel about each statement. There are no right or wrong answers.

You have been provided with a separate answer sheet for recording your reaction to each statement. (a) Read each statement carefully, (b) go to the answer sheet, and (c) opposite the number of the statement place an "x" in the square which is under the word (or words) which best expresses your feeling about the statement. After reading a statement you will know at once, in most cases, whether you agree or disagree with the statement. If you agree, then decide whether to place an "x" under "agree" or "strongly agree." If you disagree, then decide whether to place the "x" under "disagree" or "strongly disagree." In case you are undecided (or neutral) concerning your feeling about the statement, then place an "x" under "undecided". Try to avoid placing an "x" under "undecided" in very many instances.

Wherever possible, let your own personal experience determine your answer. Work rapidly, do not spend much time on any statement. This is not a test, but is simply a survey to determine how people feel about physical education. Your answers will in no way affect your grade in any course. In fact, we are not interested in connecting any person with any paper - so please answer each statement as you actually feel about it. Be sure to answer every statement.

Statements

Part I

- x 1. If for any reason a few subjects have to be dropped from the school program, physical education should be one of the subjects dropped.
2. Associations in physical education activities give people a better understanding of each other.
3. Physical education activities provide no opportunities for learning to control the emotions.
4. Engaging in vigorous physical activity gets one interested in practicing good health habits.
5. Physical education is one of the more important subjects in helping to establish and maintain desirable social standards.
6. The time spent in getting ready for and engaging in a physical-education class could be more profitably spent in other ways.
7. Vigorous physical activity works off harmful emotional tensions.
- x 8. A person's body usually has all the strength it needs without participation in physical education activities.
- x 9. I would take physical education only if it were required.
10. Participation in physical education activities tends to make one a more socially desirable person.

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11. Participation in physical education makes no contribution to the development of poise.
- ×12. Physical education in schools does not receive the emphasis that it should.
13. Because physical skills loom large in importance in youth it is essential that a person be helped to acquire and improve such skills.
14. Physical education classes are poor in opportunities for worthwhile social experiences.
- ×15. Calisthenics taken regularly are good for one's general health.
16. A person would be better off emotionally if he did not participate in physical education.
- ×17. Skill in active games or sports is not necessary for leading the fullest kind of life.
18. It is possible to make physical education a valuable subject by proper selection of activities.
- ×19. Physical education does more harm physically than it does good.
- ×20. Developing a physical skill brings mental relaxation and relief.
21. Associating with others in some physical education activity is fun.
- ×22. Physical education classes provide nothing which will be of value outside of the class.
23. Physical education classes provide situations for the formation of attitudes which will make one a better citizen.
24. There should not be over two one-hour periods per week devoted to physical education in schools.
25. Physical education situations are among the poorest for making friends.
26. Belonging to a group, for which opportunity is provided in team activities, is a desirable experience for a person.
27. There is not enough value coming from physical education to justify the time consumed.
- ×28. Physical education is an important subject in helping a person gain and maintain all-round good health.
29. Physical education skills make worthwhile contributions to the enrichment of living.
- ×30. No definite beneficial results come from participation in physical education activities.
31. People get all the physical exercise they need in just taking care of their daily work.

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- × 32. Engaging in group physical education activities is desirable for proper personality development.
- × 33. All who are physically able will profit from an hour of physical education each day.
- 34. Physical education activities tend to upset a person emotionally.
- × 35. Physical education makes a valuable contribution toward building up an adequate reserve of strength and endurance for everyday living.
- 36. For its contributions to mental and emotional well-being physical education should be included in the program of every school.
- 37. Physical education tears down sociability by encouraging people to attempt to surpass each other in many of the activities.
- 38. I would advise anyone who is physically able to take physical education.
- × 39. Participation in physical education activities makes for a more wholesome out-look on life.
- × 40. As far as improving physical health is concerned a physical education class is a waste of time.

7.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
8.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
9.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
10.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
11.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
12.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>

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9. The ninth part of the report

describes the results of the survey in detail.

10. The tenth part of the report

describes the results of the survey in detail.

Physical Education Attitude Inventory

Answer Sheet

Part I.

1.	<u>strongly agree</u>	agree	neutral or undecided	disagree	<u>strongly disagree</u>
2.	<u>strongly agree</u>	agree	neutral or undecided	disagree	<u>strongly disagree</u>
3.	<u>Strongly agree</u>	agree	neutral or undecided	disagree	<u>strongly disagree</u>
4.	<u>strongly agree</u>	agree	neutral or undecided	disagree	<u>strongly disagree</u>
5.	<u>strongly agree</u>	agree	neutral or undecided	disagree	<u>strongly disagree</u>
6.	<u>strongly agree</u>	agree	neutral or undecided	disagree	<u>strongly disagree</u>
7.	<u>strngly agree</u>	agree	neutral or undecided	disagree	<u>strongly disagree</u>
8.	<u>strongly agree</u>	agree	neutral or undecided	disagree	<u>strngly disagree</u>
9.	<u>strongly agree</u>	agree	neutral or undecided	disagree	<u>strongly disagree</u>
10.	<u>strongly agree</u>	agree	neutral or undecided	disagree	<u>strongly disagree</u>
11.	<u>strongly agree</u>	agree	neutral or undecided	disagree	<u>strongly disagree</u>
12.	<u>strongly agree</u>	agree	neutral or undecided	disagree	<u>strongly disagree</u>

Part I - continued

13.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
14.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
15.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
16.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
17.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
18.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
19.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
20.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
21.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
22.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
23.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
24.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
25.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
26.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>

27.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
28.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
29.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
30.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
31.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
32.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
33.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
34.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
35.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
36.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
37.	<u>strongly agree</u>	<u>agree n</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
38.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
39.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>
40.	<u>strongly agree</u>	<u>agree</u>	<u>neutral or undecided</u>	<u>disagree</u>	<u>strongly disagree</u>

Physical Education Attitude Inventory
Part II

Directions: Please read carefully. Below you will find additional statements concerning physical recreation--(use of leisure time) You have been provided with a separate answer sheet for recording your reaction to each question. (a) Read each question carefully, (b) Go to the answer sheet, and (c) Opposite the number of the question place an "X" in the square which is UNDER the word or words which best expresses your feeling about the question. If you think it is very important then place an "X" under "very important." If you think not at all place an "X" under "not at all." **BE CERTAIN TO ANSWER ALL THE QUESTIONS.**

QUESTIONS

1. How important do you consider physical recreational activity--(use of your leisure time) as part of your personal recreation program?
- X 2. To what extent do you have skills to participate in bowling, golf, archery, tennis, or other similar sport activities for recreation?
3. How much of your leisure time do you devote to swimming, bowling, golf, tennis and other similar activities when these activities are in season?
4. To what extent do you have skill in swimming?
5. To what extent do you have skill in dance?
6. To what extent do you like to participate regularly in season in sport activities as recreation?
- X 7. To what extent do you like to watch (spectator) sport events?
8. To what extent do you like to watch (spectator) dance events--contemporary, ballet, folk?
9. How much of your time in your daily work requires strenuous physical exertion?

PART II

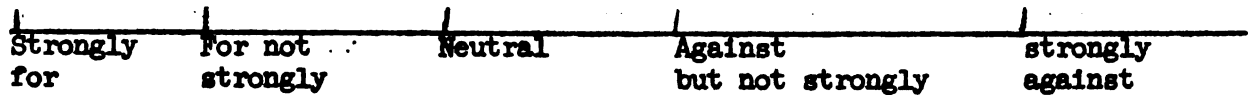
ANSWER SHEET

1. very important quite a bit some a little not at all
2. very much quite a bit some a little not at all
3. very much quite a bit some a little not at all
4. very much quite a bit some a little not at all
5. very much quite a bit some a little not at all
6. very much quite a bit some a little not at all
7. very much quite a bit some a little not at all
8. very much quite a bit some a little not at all
9. very much quite a bit some a little not at all

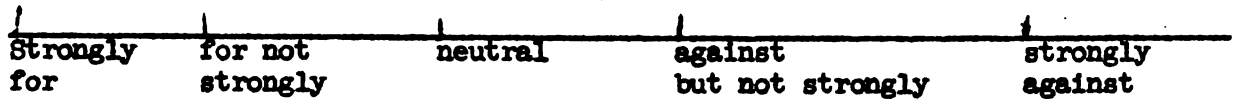
PART III

STATEMENT AND ANSWER SHEET

- A. Rate your general attitude toward physical education. Place an "x" above the segment which best indicates your attitude toward physical education classes. If you are not sure which of two adjacent segments you desire to mark place your "x" exactly on the vertical line between the two segments.



- B. Rate your general attitude toward participating in physical recreational activities.



- C. Rate your general physical condition. (strength-stamina) Place an "x" above the segment which best indicates your present physical condition. If you are not sure place your mark between the two segments.



- D. Rate your present figure condition (muscle tone-weight-fat deposits)



- E. Rate your present posture (body alignment)



- F. Rate your general skill level in physical education activities.



YOUR OPINION

Foundations of Physical Education

Fall Term 1959-60

Place an X above the term which best indicates your reaction.

1. Rate your general overall reaction to the Foundations course you had last term.

Very Favorable	Favorable	Indifferent	Unfavorable	Very Unfavorable
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2. Evaluate the amount of physical activity in the course.

Very Favorable	Favorable	Indifferent	Unfavorable	Very Unfavorable
-------------------	-----------	-------------	-------------	---------------------

3. To what extent has the course influenced you in planning future courses in Physical Education?

Very Favorable	Favorable	Indifferent	Unfavorable	Very Unfavorable
-------------------	-----------	-------------	-------------	---------------------

4. Have you experienced physical change in any way due to the activity and knowledge gained in this course?

Very Favorable	Favorable	Indifferent	Unfavorable	Very Unfavorable
-------------------	-----------	-------------	-------------	---------------------

5. Have you applied what you have learned in this course to your daily living - extent of activity, diet and rest?

Very Favorable	Favorable	Indifferent	Unfavorable	Very Unfavorable
-------------------	-----------	-------------	-------------	---------------------

SURVEY

NAME _____ STUDENT NUMBER _____

The following questionnaire is to help our department have a better understanding of the physical education background of the college co-ed.

1. What is the date of your birth? YEAR _____ MONTH _____
2. What is your probable future occupation or career?
3. Are you a resident of Michigan? Yes _____ No _____
4. If not, what state or country do you consider your residence? _____
5. From what size high school did you graduate? Circle your answer.
 1. Class AA (1500 and over)
 2. Class A (900-1500)
 3. Class B (375-900)
 4. Class C (175-375)
 5. Class D (175 or less)
6. How many years of physical education were required grades 9-12?
 1. No requirement
 2. 1 year
 3. 2 years
 4. 3 years
 5. 4 years
7. If required how many years did you take?
 1. No requirement
 2. 1 year
 3. 2 years
 4. 3 years
 5. 4 years
8. If you were excused from physical education for a term or more what was the reason?
 1. Medical
 2. Band
 3. Schedule too full
 4. Other
9. Fill in the chart below. Check for each period during your life the locality of your home.

LOCALITY OF YOUR HOME	PRE-SCHOOL	ELEM. 1-6	JR. HIGH 7 & 8	SR. HIGH 9-12
OPEN COUNTRY-non-farm				
OPEN COUNTRY-farming				
SMALL CITY-2,500-50,000				
MEDIUM CITY-50,000-500,000				
LARGE CITY-500,000 or more				

1. What did your father enjoy doing most frequently last year during his leisure time? List three activities for the fall and winter months and three for the spring and summer months. The list below may serve as a guide or you may include others.

FALL AND WINTER MONTHS

1.

2.

3.

SPRING AND SUMMER MONTHS

1.

2.

3.

2. What did your mother enjoy doing most frequently last year during her leisure time? Three activities for the fall and winter months and three for the spring and summer months.

FALL AND WINTER MONTHS

1.

2.

3.

SPRING AND SUMMER MONTHS

1.

2.

3.

3. What did your total family group participate in for recreation during the last year?

FALL AND WINTER MONTHS

1.

2.

3.

SPRING AND SUMMER MONTHS

1.

2.

3.

TEAM SPORTS

Baseball
Basketball
Soccer
Volleyball
Hockey

DANCE ACTIVITIES

Folk
Square
Social

OUTDOOR ACTIVITIES

Boating
Camping
Fishing
Hiking
Hunting
Picnicking
Walking

CREATIVE ACTIVITIES

Music
Acting, dramatics
Crafts and art
Writing

INFORMAL SOCIAL ACT.

Watching T-V
Going to movies
Visiting friends
Playing cards & games
Reading books
Riding in a car
Spectator-sport events
Listening-radio
Reading newspaper
Reading magazines
Attending church,
school or civic meetings
Writing letters

INDIVIDUAL & DUAL SPORTS

Archery
Apparatus
Badminton
Bowling
Bicycling
Boxing
Croquet
Diving
Exercising & body
conditioning
Fencing
Golf
Horseback riding
Ping Pong
Skate
Swimming
Tennis

HOBBIES

Cooking
Raising animals
Sewing
Photography
Collecting things
Building things
Gardening

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the third is the fact that the

the first of these is the fact that the

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the second is the fact that the
the third is the fact that the

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the third is the fact that the

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the third is the fact that the

the first of these is the fact that the
the second is the fact that the
the third is the fact that the

4. If your parents do participate in physical recreational activities (team sports, individual and dual sports, outdoor activities, or dance activities) why do they participate? Fill in the letters that indicate the two reasons given.

a. Enjoy sports	1. _____
b. Better health	2. _____
c. Friends participate	
d. Means of relaxation	
e. To get recognition in the community	1. _____
f. To secure relief from boredom	2. _____
g. Other--(name) _____	

5. If your parents do not participate in physical activity for recreation why don't they?

a. Participation is not necessary for health.	1. _____
b. Lack skill	2. _____
c. Poor health	
d. Lack of interest	1. _____
e. Insufficient time	2. _____
f. Other--(name) _____	

6. Do you yourself participate in physical activities for your personal recreation? YES _____ NO _____

7. List in order the three activities you pursue most frequently.

1. _____
2. _____
3. _____

8. Why do you participate in physical activities? Fill in three reasons.

a. Better figure	MYSELF
b. Enjoy vigorous physical activities	1. _____
c. Better health	2. _____
d. School requirement	3. _____
e. Pressure from parents	
f. Secure relief from boredom	
g. My friends do	
h. Recognition from friends	
i. Better posture	
j. Other--(name) _____	

9. If you do not participate in physical activities why don't you? Give three reasons.

a. Participation is not necessary for health.	1. _____
b. Lack skill	2. _____
c. Lack of time	3. _____
d. Poor health	
e. Lack of interest	
f. Friends don't participate	
g. Other--(name) _____	

APPENDIX B

DISTRIBUTION OF CHI SQUARE

(Degrees Used in This Study)

Degrees of freedom	Probability			
	. 05	. 02	. 01	. 001
3	7. 815	9. 837	11. 345	16. 266
4	9. 488	11. 668	13. 277	18. 467
6	12. 592	15. 033	16. 812	22. 457
9	16. 919	19. 679	21. 666	27. 877
12	21. 026	24. 054	26. 217	32. 909

Ronald A. Fisher and Frank Yates, Statistical Tables for Biological Agricultural and Medical Research, Hafner Publishing Co., Inc., 1957, p. 45.

ROOM USE ONLY

~~SEP 11 60~~

NOV 18 1962

MAY 4 1964

MAY 10 1964

~~SEP 10 65~~

~~APR 28 1966~~

~~JUL 31 1968~~

MAY 18 1967

~~JUN 12 1967~~

~~JUN 20 1967~~

~~JUN 20 1967~~

~~AUG 4 1967~~

2005