

## INFORMATION TO USERS

This reproduction was made from a copy of a document sent to us for microfilming. While the most advanced technology has been used to photograph and reproduce this document, the quality of the reproduction is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help clarify markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure complete continuity.
2. When an image on the film is obliterated with a round black mark, it is an indication of either blurred copy because of movement during exposure, duplicate copy, or copyrighted materials that should not have been filmed. For blurred pages, a good image of the page can be found in the adjacent frame. If copyrighted materials were deleted, a target note will appear listing the pages in the adjacent frame.
3. When a map, drawing or chart, etc., is part of the material being photographed, a definite method of "sectioning" the material has been followed. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.
4. For illustrations that cannot be satisfactorily reproduced by xerographic means, photographic prints can be purchased at additional cost and inserted into your xerographic copy. These prints are available upon request from the Dissertations Customer Services Department.
5. Some pages in any document may have indistinct print. In all cases the best available copy has been filmed.

**University  
Microfilms  
International**

300 N. Zeeb Road  
Ann Arbor, MI 48106



8315654

Smith, Willie S., Jr.

PREFERENTIAL PATTERNS AND PURPOSES OF GROSS MOTOR  
ACTIVITY SELECTION OF ADULT COLLEGE STUDENTS

*The University of North Carolina at Greensboro*

ED.D. 1983

University  
Microfilms  
International 300 N. Zeeb Road, Ann Arbor, MI 48106

Copyright 1983

by

Smith, Willie S., Jr.

All Rights Reserved

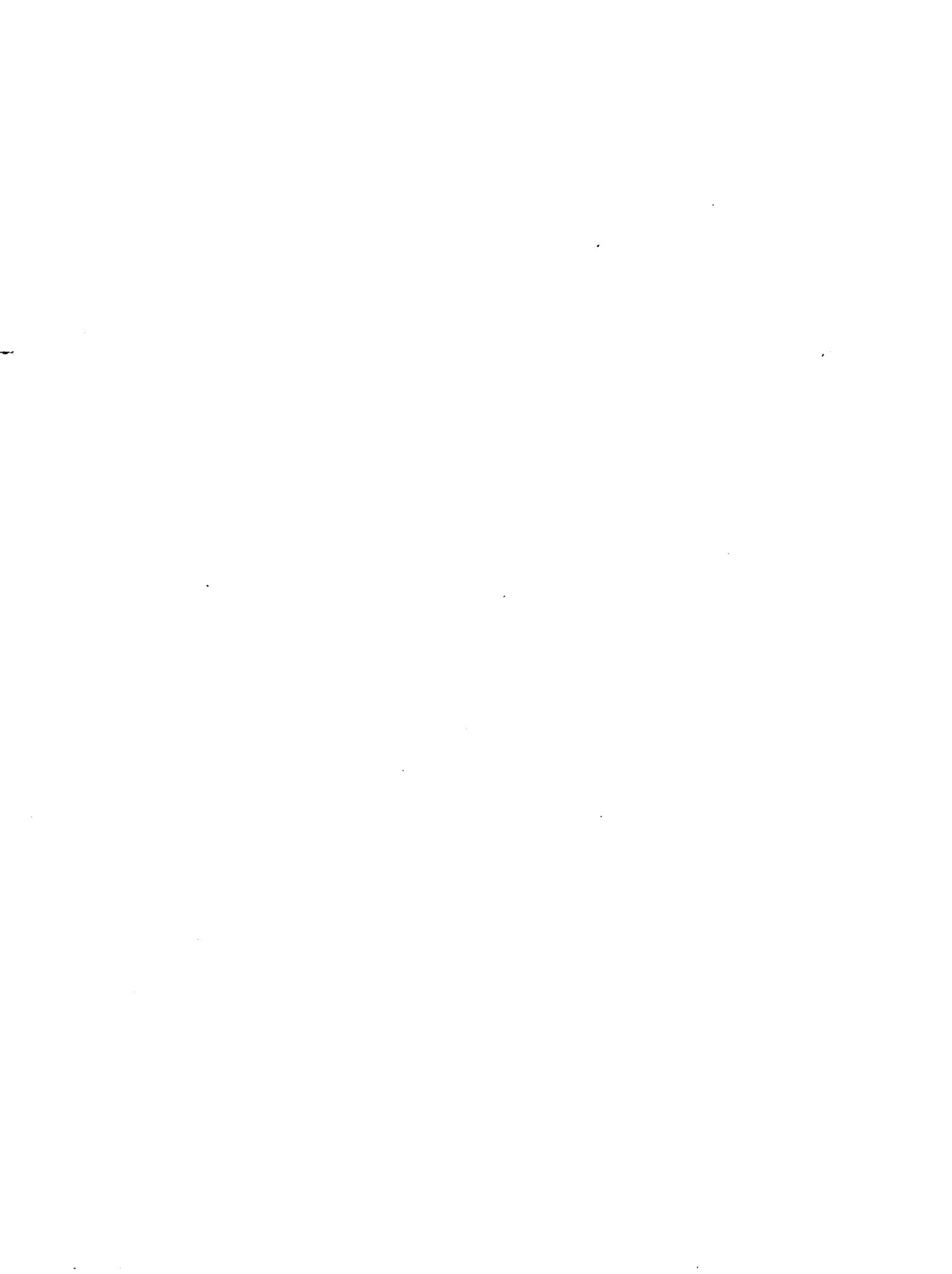


PLEASE NOTE:

In all cases this material has been filmed in the best possible way from the available copy. Problems encountered with this document have been identified here with a check mark .

1. Glossy photographs or pages \_\_\_\_\_
2. Colored illustrations, paper or print \_\_\_\_\_
3. Photographs with dark background \_\_\_\_\_
4. Illustrations are poor copy \_\_\_\_\_
5. Pages with black marks, not original copy \_\_\_\_\_
6. Print shows through as there is text on both sides of page \_\_\_\_\_
7. Indistinct, broken or small print on several pages
8. Print exceeds margin requirements \_\_\_\_\_
9. Tightly bound copy with print lost in spine \_\_\_\_\_
10. Computer printout pages with indistinct print \_\_\_\_\_
11. Page(s) \_\_\_\_\_ lacking when material received, and not available from school or author.
12. Page(s) \_\_\_\_\_ seem to be missing in numbering only as text follows.
13. Two pages numbered \_\_\_\_\_. Text follows.
14. Curling and wrinkled pages \_\_\_\_\_
15. Other \_\_\_\_\_

University  
Microfilms  
International



PREFERENTIAL PATTERNS AND PURPOSES OF GROSS MOTOR ACTIVITY  
SELECTION OF ADULT COLLEGE STUDENTS

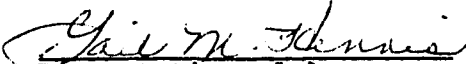
by

Willie S. Smith, Jr.

A Dissertation Submitted to  
the Faculty of the Graduate School at  
The University of North Carolina at Greensboro  
in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education

Greensboro  
1983

Approved by

  
Dissertation Adviser

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro.

Dissertation Adviser *Paul M. Dennis*

Committee Members *Elizabeth C. Vantecol*  
*Hate R. Bransell*  
*Wright P. Clark*

*March 29, 1983*  
Date of Acceptance by Committee

*March 29, 1983*  
Date of Final Oral Examination



SMITH JR., WILLIE SHERROD. Preferential Patterns and Purposes of Gross Motor Activity Selection of Adult College Students. (1983) Directed by: Dr. Gail M. Hennis. Pp. 163.

The purpose of this study was to investigate the variables of preferred movement behavior and purposes underlying the physical activity participation of adult college students. The study specifically sought demographic characteristics of adult students; their physical activity preferences; the purposes underlying the physical activity involvement of those students; and the extent to which persons with similar demographic characteristics possessed similar preferences and purposes for their physical activity selections.

The subjects were 147 adult college students (37 men and 110 women) 25 years of age or older. All subjects were randomly chosen from the adult undergraduate student enrollment at three selected institutions in The University of North Carolina System.

A four-part inventory was developed to gather the necessary data. Data were collected on subjects' demographic characteristics, general feeling towards physical activity participation, and certain configurations of physical activity preferences, and purposes.

Both descriptive and inferential statistics were used to present the data. Means and frequencies were obtained for all information prior to computing specific analyses. The data analysis employed a  $2 \times 3 \times 3 \times 5$  (sex x age x institution x ethnic background) ANOVA, and the Pearson product-moment correlation coefficient. The .05 level of significance was chosen.

Based on the data provided by this investigation, and within the limits of the study, major findings are summarized as follows:

1. The majority of respondents across institutions were in general agreement that regular involvement in physical activity could help to make them feel better, and that such involvement should be a top priority concern.

2. The preference area data revealed that the majority of respondents ranked fitness activity highest, followed by personal development activity, and lifetime sports activity with respect to their three most preferred areas of physical activity involvement.

3. The purpose area data revealed that the order of ranking of the top five purposes for physical activity participation by the majority of respondents was to improve circulo-respiratory efficiency, to improve overall physical appearance, to release frustrations and tensions, to participate in physical activity with others on a cooperative basis, and to learn better body control.

4. The data indicated that the concept of fitness represented the fundamental value inherent in the physical activity choices of a majority of respondents.

## ACKNOWLEDGMENTS

The collective influence of several people has helped to shape the modeling, and influence the completion of this research study:

To Dr. Gail M. Hennis, my adviser, sincere thanks and grateful appreciation is expressed for her wise counsel and guidance, the long hours of editing, the valuable statistical assistance, and the continuous encouragement and support provided throughout the course of this research endeavor. I feel very fortunate indeed to have experienced working under the tutelage of such a wonderful person;

To members of his advisory committee, Dr. Kate R. Barrett, Dr. Dwight F. Clark, and Dr. Elizabeth C. Umstead, the writer is indebted for the enlightenment, encouragement, and support they provided throughout his graduate experience. The writer is especially appreciative for having had the opportunity to study and come under their professional influence;

To Dr. Sandie Johnson, and Dr. Sarah P. Robinson the writer wishes to express his sincere appreciation for their continuous encouragement and support;

To Dr. Celeste Ulrich for her encouragement and help in the early years of graduate study, and during the early phases of conceptualizing for this research study, and for her continuing interest and concern, the writer would like to extend his deepest gratitude;

To the Directors of Institutional Research who assisted with the study; the jurors who participated in the instrument validation process;

the 147 adult students who participated in the study; and to Dr. Linda Pratt who provided computer programming assistance, the writer expresses his sincere thanks, and appreciation.

A final acknowledgement is accorded to my wife Nina who devoted many hours to typing this manuscript from the first of several drafts to the final copy; to my daughter Nanette who provided valuable assistance in preparing the questionnaires for mailing; and to my daughter Natalie for her support. Words cannot express my sincere gratitude for their many sacrifices, patience, tolerance, encouragement, support and love. Their influences have first inspired, and then sustained me through the years that it took to complete my graduate study experiences, and this research endeavor.

TABLE OF CONTENTS

	Page
APPROVAL PAGE . . . . .	ii
ACKNOWLEDGMENTS . . . . .	iii
LIST OF TABLES . . . . .	vii
LIST OF FIGURES . . . . .	x
 CHAPTER	
I. INTRODUCTION . . . . .	1
Statement of the Problem . . . . .	13
Assumptions Underlying the Study . . . . .	14
Rationale and Significance of the Study. . . . .	15
Scope and Limitations of the Study . . . . .	18
Definition of Terms. . . . .	19
II. REVIEW OF RELATED LITERATURE . . . . .	21
Program Need . . . . .	21
Participation Preferences. . . . .	25
Participation Purposes . . . . .	35
Summary. . . . .	42
III. METHODS AND PROCEDURES . . . . .	43
Institutions . . . . .	43
Sample Population. . . . .	44
Instrumentation . . . . .	48
Data Collection Procedures . . . . .	56
Data Analysis . . . . .	57
IV. ANALYSIS OF FINDINGS . . . . .	61
Demographic Characteristics . . . . .	62
General Feeling . . . . .	67
Physical Activity Preference . . . . .	78
Physical Activity Purpose . . . . .	90
Preference-Purpose Similarity . . . . .	115
Physical Activity Programs . . . . .	121

CHAPTER	Page
Discussion and Implications of Findings . . . . .	123
Discussion . . . . .	123
Implications . . . . .	135
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . . . . .	140
Summary . . . . .	140
Conclusions . . . . .	145
Recommendations for Future Research . . . . .	147
BIBLIOGRAPHY . . . . .	149
APPENDIX A. INVENTORY OF COLLEGE ADULTS' PHYSICAL ACTIVITY PREFERENCES AND PURPOSES . . . . .	154
APPENDIX B. CORRESPONDENCE . . . . .	160

## LIST OF TABLES

Table	Page
1. Institution Classification and Characteristics . . . . .	45
2. Number and Percentage of Inventories Mailed, Returned, and Distributed According to Institutional Classification and Enrollment . . . . .	58
3. Number and Percentage Distribution of Sample Respondents On Each of 11 Demographic Variables . . . . .	63
4. Number and Percentage Distribution of Sample Respondents On Six Demographic Variables by Institution . . . . .	65
5. Number and Percentage Distribution of Sample Respondents Participation In Physical Education By Sex and Institution . . . . .	66
6. Analysis of Variance: General Feeling About Physical Activity Participation . . . . .	68
7. Analysis of Variance: General Feeling About The Kind of University Physical Education Classes Offered . . . . .	69
8. Analysis of Variance: Regular Participation In Physical Education Activity Makes Me Feel Better . . . .	72
9. Analysis of Variance: General Feeling About Regular Exercise and Physical Activity As a Top Priority Concern . . . . .	76
10. Analysis of Variance: General Feeling About Confidence In Present Physical Skill Ability . . . . .	79
11. Analysis of Variance: General Feeling About Volunteer Participation In Physical Education Activity Classes . .	79
12. Number, Percentage Distribution, and Ranking of Highly Preferred and Least Preferred Preferences by Sample Respondents On Each of Five Physical Activity Preferences by Sex, Age, Institution, and Ethnic Background . . . . .	81

Table	Page
13. Rank Order Presentation of Number and Percentage Distribution of Sample Respondents Indicating Physical Education Activities of Highest Interest and Physical Education Activities Class Instruction Desired . . . . .	82
14. Analysis of Variance: Physical Activity Preferences . .	84
15. Analysis of Variance: Preference for Fitness Area Activity . . . . .	85
16. Analysis of Variance: Preference for Personal Development Area Activity . . . . .	86
17. Analysis of Variance: Preference for Lifetime Sports Area of Activity . . . . .	86
18. Analysis of Variance: Preference for Fundamental Skill Development Activity Area . . . . .	87
19. Analysis of Variance: Preference for Dance Activity Area . . . . .	88
20. Number, Percentage Distribution, and Ranking of Purposes by Sample Respondents On Each of Ten Physical Activity Purposes by Sex, Age, Institution, and Ethnic Background . . . . .	91
21. Analysis of Variance: Physical Activity Purposes . . . .	94
22. Analysis of Variance: To Improve Overall Physical Appearance . . . . .	96
23. Analysis of Variance: To Develop A Greater Understanding and Appreciation of the Way Other People Move and Perform Skillful Acts . . . . .	100
24. Analysis of Variance: To Participate With Others On a Cooperative Basis . . . . .	101
25. Analysis of Variance: To Improve Circulation, Breathing, Muscle Coordination, Strength, and General Body Control . . . . .	102
26. Analysis of Variance: To Improve Proficiency In Handling Objects . . . . .	103



Table	Page
27. Analysis of Variance: To Improve The Ability To Better Express Inner Feelings To Others . . . . .	104
28. Analysis of Variance: To Learn Better Body Control . . . . .	108
29. Analysis of Variance: To Release My Frustrations And Tensions . . . . .	110
30. Analysis of Variance: To Satisfy My General Education or Elective Requirements . . . . .	112
31. Analysis of Variance: To Participate With Others On A Competitive Basis . . . . .	113
32. Correlation Coefficients Between Physical Activity Preferences and Purposes for Male and Female Respondents . . . . .	116
33. Correlation Coefficients Between Physical Activity Preferences and Purposes for Respondents of Both Age Groups . . . . .	118
34. Correlation Coefficients Between Physical Activity Preferences and Purposes for Respondents At Each Institution . . . . .	120
35. Correlation Coefficients Between Physical Activity Preferences and Purposes for Black and White Respondents . . . . .	122
36. Rank Order Presentation of Respondents ' Physical Activity Preference Indications According To Sex, Age, Institution, and Race . . . . .	124

## LIST OF FIGURES

Figure	Page
1. General Feeling About the Kind of Physical Education Activity Classes Offered According to Sex and Institution . . . . .	70
2. General Feeling About Regular Participation in Physical Education Activity According to Sex and Race . . . . .	73
3. General Feeling About Regular Participation in Physical Education Activity According to Age and Race . . . . .	75
4. General Feeling About Regular Participation in Physical Activity According to Institution and Race . . . . .	75
5. General Feeling About Regular Exercise and Physical Activity as a Top Priority Concern According to Sex and Institution . . . . .	77
6. General Feeling About Regular Exercise and Physical Activity as a Top Priority Concern According to Sex and Race . . . . .	77
7. Preference for Dance Activity According to Sex and Age . . . . .	89
8. Physical Activity Participation Purposes According to Sex and Institution . . . . .	95
9. Participation in Physical Activity for the Purpose of Improving Overall Physical Appearance According to Sex and Race . . . . .	98
10. Participation in Physical Activity for the Purpose of Improving Skills of Self-Expression According to Sex and Age . . . . .	105
11. Participation in Physical Activity for the Purpose of Improving Skills of Self-Expression According to Sex and Institution . . . . .	105

Figure	Page
12. Participation in Physical Activity for the Purpose of Improving Skills of Self-Expression According to Sex and Race . . . . .	106
13. Participation in Physical Activity for the Purpose of Learning Better Body Control According to Sex and Institution . . . . .	109
14. Participation in Physical Activity for the Purpose of Releasing Frustrations and Tension According to Age and Race . . . . .	111
15. Participation in Physical Activity for the Purpose of Competing With Others According to Sex and Age . . . . .	114

CHAPTER I  
INTRODUCTION

Until recently, few adults were either encouraged or expected to participate in programs of physical activity nor were they inclined to remain active to maintain motor efficiency and health fitness (Cruse & Rosato, 1979; Hoffberger, 1980; Robertson, 1976). Adult reluctance to engage in programs of regularly scheduled physical activity, according to Hattlestead (1979), may be associated with a lack of interest, a lack of previous positive experience, and a disdain for formal regimen commonly associated with exercise programs.

Several writers including Espenshade and Eckert (1980), Lawther (1977), and Piscopo (1979) point to motor learning problems of vision, hearing, coordination, and reaction time as well as the factors of competition, skill level, and energy level as concerns requiring attention and resolve in order to assure unrestrained adult participation in physical activity. Adults generally recognize the high risks involved in exercise and their perceptions have caused an overcautious approach to participating in vigorous physical activity (Hoffberger, 1980; Lawther, 1977). Piscopo (1979) suggested that the anguish and anxiety expressed by adults towards vigorous physical activity is justifiable, and warrants serious consideration as one does become increasingly vulnerable to injury, strain, and sprain with advancing age. Finally, Espenschade and Eckert (1980) emphasized that adult

attitudes and behaviors developed earlier contribute significantly to an individual's physical and mental health throughout life.

Adults in good health are faced with the prospect of late retirement and increased longevity (Piscopo, 1979). To maintain motoric integrity for as long as possible, the need for physical exercise and the potential role it plays in delaying debilitating conditions attendant to inactivity as one becomes older (Shepard, 1978) and maintaining respect, self-esteem, and social acceptance (Birren, 1964; Crase & Rosato, 1978) is unequivocal. Concurrently, while adult motor performance may be perceived as largely a matter of individual control and initiative (Espenschade & Eckert, 1980), the trend towards inactivity by adults has seemed to wane and indeed reverse itself. There are frequent reports of large and growing numbers of adults of all ages who are beginning to view exercise and physical activity as positive, enriching experiences. Indeed, adults with different perceptions of exercise and physical activity seem to be emerging.

Birren and Clayton (1975) stressed that today's adults will require that several social structural adjustments be made in order to accommodate their growing numbers and satisfy their demands, especially in schools. These authors point out that as a result of the decline in birth rates, coupled with the increment in available spare time, large numbers of adults are likely to return to college for more education.

Today, we can indeed recognize the high visibility of adults interacting as students on college and university campuses. These students represent a vast untapped resource whose physical education needs

have in the past gone largely unrecognized (Jewett, 1977; Martens, 1977; UNC-G, Ad Hoc Committee on Non-traditional Study, 1973).

Jewett (1977) called attention to the rapidly growing adult college population whose needs are yet to be comfortably addressed. She stated:

The fastest growing group of consumers for the fruits of our endeavors is the adults who are enrolled in self-directed independent learning . . . we are giving very little of our professional thought and energy to the development of this area. Students working for non-degree credit are expected to increase by 50 percent in the next ten years. It is generally recognized that the demand for continuing education for mature learners (past 30) and senior learners (past 60) will, in the near future more than offset the decline in student enrollments (p. 11).

Although most college students can be considered adults of varying ages and experiences, large numbers are presently entering college much later than was formerly customary. Owing to their lack of previous experience and training coupled with a current life style of limited involvement in physical activity that will develop, maintain, or extend desirable motor behaviors, many adult students are likely to come to campus with a vastly underdeveloped motoric integrity (Espenschade & Eckert, 1980; Lawther, 1977; Leslie, 1975; Martens, 1977). The increased enrollment of adult students should alert departments of physical education of the need to commit their resources to providing physical education activity learning experiences that have potential for enrichment in the lives of these students (Cruse & Rosato, 1979; Ibrahim, 1969). Large numbers of adult students who are in reasonably sound health and physical condition are likely to seek preferred avenues of physical activity and motor skill learning as the means of maintaining health and vigor for as long as possible (Kuntzleman, 1978).

The physical education curriculum should provide physical activity learning experiences that transcend the life phases of the individual. The curriculum experiences should be characterized by activities that represent a transition of physical activity interests and behavior that link the individual's past to the future while utilizing the present as the central interconnecting experience.

Dobbs and Steponovich (1972) pointed out that programs of physical education are seldom oriented toward the interest and needs of adult students. These authors indicated the need for the development of continuing lifelong "holistically" oriented programs of physical education for adult students. They also emphasized that the central focus of such programs should be the students and their capacity for voluntary physical activity participation.

Supportively, Robertson (1976) identified the years 5-20 as the age range physical educators generally consider when focusing on physical activity experiences for participants. He felt that the perceptions of physical educators toward physical activity experiences for learners usually precluded persons exclusive of this age range. By focusing on the traditional school age population alone, physical educators have tended to overlook the educational needs of a large and growing segment of the population. Persons in the adult phase of the life span continuum need physical education as well as younger age groups (Hoffberger, 1980; Robertson, 1976).

The significance of physical activity as an essential quality of life has been emphasized by researchers and scholars who have signaled motor integrity as a predictor of longevity (Weg, 1975). Supportively,

a quote from Logsdon (1977) seems to most appropriately synthesize the meaning and significance of motoric integrity in the adult phase of the human life span. Logsdon stated:

Humans, irrespective of age, constantly need further movement education or re-education. They need it to cope both with the physical changes of maturation and aging and with the fluctuating interest of personal desires related to motor activity. (p. 12)

Motor behavior is the final pathway through which individuals express well-being and adequacy of motor functioning. Subfunctional motor patterns are likely to emerge into severe problems of concern for adults but can be prevented, delayed, or corrected through physical activity (Rosentswieg, 1980; Verwoerd, 1974). Indeed, a lifetime of deliberate and well-disciplined physical activity has the potential to considerably decrease the rate of the inevitable aging process and increase longevity (Morehouse & Miller, 1976; Shephard, 1978), while at the same time contribute to the improved quality of life of individual participants. This too is precisely the viewpoint that Jewett and Mullan (1977) have supported by stating that movement can enhance "continuing self-actualization" among adults (p. 4).

We can better understand the interrelationship between the concept of self-actualization, and the concept of purposeful physical activity, and the extent to which physical activity participation can contribute to the improved quality of life and continuing self-actualization of adult students by investigating the physical activity preferences and purposes of these students. In the process, the physical activity preference and purpose variables should not be perceived as discrete processes but reciprocal interactions of biological, psychological, and



sociological human processes. Indeed, one's physical activity preferences and purposes may be perceived as sources of inner drives that have been organized, integrated, and then symbolically transformed into a process of physical activity expression at any given moment of exhibition. Specifically, this means, according to Maslow (1970), that internal and external environments are fused into one inseparable body system that determines behavior.

To integrate the external concerns of investigating the adult college student's demographic characteristics with the internal concerns of studying their physical activity preferences and purposes and how these forces are fused and ultimately expressed is central to understanding the physical activity needs of these students. This integrated approach recognizes the individual as a functioning whole organism (Maslow, 1970). And, according to Maslow (1970), will tend to negate fragmentation and thus maintain the integrity of the individual student.

Maintaining individual integrity is significant to the extent and degree that we are in agreement with Maslow (1970) that a strong sense of holism is a prerequisite to the realization of true self-actualization. According to Maslow (1970):

The holistic way of thinking and seeing seems to come quite naturally and automatically to healthier, self-actualizing people, and seems to be extraordinarily difficult for less evolved, less mature, less healthy people (p. xi).

Maslow (1968) emphasized that self-actualization ". . . stresses 'full humanness', the development of the biologically based nature of man . . ." (p. vi). This concept of self-actualization is clearly explained as:

. . . an episode, or a spurt in which the powers of the person come together in a particularly efficient and intensely enjoyable way, and in which he is more integrated and less split, more open for experience, more idiosyncratic, more perfectly expressive or spontaneous, or fully functioning, more creative, more humorous, more ego transcending, more independent of lower needs, etc. He becomes in these episodes more truly himself, more perfectly actualizing his potentials, closer to the core of being more fully human. Such states or episodes can, in theory, come at any time in the life of any person (Maslow, 1968, p. 97).

Maslow (1968) pointed out that self-actualizing persons experience the fully human self-actualizing experiences with more frequency, intensity, and perfection than other persons. Thus, according to Maslow (1968), self-actualization is a dynamic process which is active throughout life and can be experienced in some degree at any point and time in life.

Maslow's theory of self-actualization postulates that human beings have particular needs, organized in levels, which must be satisfied sequentially. The basic and most critical requirements, according to this theory, center around one's physiological needs such as eating, sleeping, etc. One's safety needs occupy the second level of the hierarchy which includes protection from danger and deprivation. The need for belonging, for sharing experiences with others, and loving and feeling loved by others are all identified as social needs and occupy the third level of the hierarchy. Ego needs that include feelings of self-acceptance, self-confidence, achievement, social status, and recognition by others occupy the fourth position of the hierarchy. The need for self-actualization constitutes the highest need level and occupies the fifth position on the needs hierarchy.

Maslow (1968) perceived the concept of self-actualization to be a high level abstraction that is inherently self-justifying and more meaningful than preceding experiences. Maslow explained the process of growth towards self-actualization and the static and dynamic forces influencing this process:

Every human being has both sets of forces within him. One set clings to safety and defensiveness out of fear, tending to regress backward, hanging on to the past, afraid to grow . . . , afraid to take chances, afraid to jeopardize what he already has, afraid of independence, freedom, and separateness. The other set of forces impels him towards wholeness of Self and uniqueness of Self, toward full functioning of all his capacities, toward confidence in the face of the external world at the same time that he can accept his deepest, real, unconscious Self (p. 46).

The process of healthy growth towards self-actualization, according to Maslow (1968), is an ongoing process of free choice situations that involve the static and dynamic forces cited above. Maslow (1968) proposed that individuals must ultimately choose between the static existence and the benefits of safety and security, or a more dynamic, promising, growth-oriented life which leads to fulfillment and self-actualization.

The basic principles undergirding Maslow's theory of growth towards self-actualization tend to make us cognizant of the central concerns of human fulfillment. These principles help us to understand some of the general elements undergirding the human life span and growth towards self-actualization.

This recognition is consistent with a basic belief of this investigation which holds that physical activity, the essential element of movement, is a growth-oriented self-actualizing experience that can

be beneficial to all persons. Accordingly, experiences in physical activity participation will vary in frequency and intensity contingent upon the level of satisfaction realized by participants. Inevitably, it is the factor of meaningfulness which regulates the extent and degree of growth and self-actualization to be realized by participants in physical activity.

It is in this regard that the concept of meaningful physical activity involving the activity preferences and purposes of adult college students can be integrated with the basic principles of self-actualization to form a positive concept of physical activity for those students. Concurrently, this research investigation can be viewed as an attempt to integrate the psychosocial idea of self-actualization and the psychomotor idea of physical activity as a self-actualizing experience into a general area of psychosocial-psychomotor values.

From very early in life most people learn the importance of vigorous uninhibited movement resulting from participation in physical activity. They learn that purposeful physical activity is essential to a full and meaningful life, and are taught terms such as walk, run, jump, and throw. As people grow older, the meaning of these movement-related terms becomes clearer while at the same time their appropriate human application also becomes more significant. Still, for adults, although the meaning of these terms remains significant, their human application is considerably less applied. This is due to a variety of reasons including the natural decline in physiological efficiency (Birren & Clayton, 1975; Morehouse & Miller, 1976; Palmore, 1971),

and the decline in time adults devote to the development of higher levels of motor skills and skill appreciation (Espenschade & Eckert, 1980; Lawther, 1977).

The importance of this viewpoint is strongly underscored by the basic tenets of the Purpose Process Curriculum Framework discussed by Jewett and Mullan (1977). These authors pointed out that "The Purpose Process Curriculum Framework is based on the assumption that the primary concern of physical education is the individual human being moving in interaction with his environment" (p. 2). Consistently, according to Jewett and Mullan (1977), purposeful physical activity is essential to human beings realizing their far reaching life goals that were organized and deduced to three key concepts of personal development, environmental coping, and social interaction.

A further reference to Jewett and Mullan (1977) clarifies the significance of physical activity in the life of all people of all age groups. They stated:

The child needs movement learning which will function meaningfully in his real world; the youth also needs physical education which will aid him in becoming a fully functioning adult; the adult needs movement which will permit continuing self-actualization and more nearly complete individual environmental integration. (p. 4)

Human beings may pursue fulfillment and self-actualization through a variety of integrated movement goals according to Jewett and Mullan (1977). This point of view emphasizes the parallel between self-actualization as a growth process of human fulfillment, and physical activity the essential element of movement, a self-actualizing experience. For example, self-actualization is viewed as an ongoing,

developed, organized process that links the individual with life (Maslow, 1968). Similarly, purposeful physical activity is perceived as the interaction between the individual moving in the environment and the consequent perception being a self-actualizing experience (Jewett & Mullan, 1977).

When viewed together, both concepts focus on the key elements of human growth towards self-actualization throughout life. Both concepts are applicable to all persons of all age classifications. And, both concepts are viewed as dynamic, human interacting processes that represent high level abstractions to be pursued by growth oriented persons impelled towards wholeness. Consequently, a strong linkage exists between the two ideas especially when individual involvement in physical activity is intended for the purpose of carrying through to the ideal of personal fulfillment.

Jewett and Mullan (1977) appear to take the position that a direct link between self-actualization and physical activity participation does exist. They proposed that the extent and degree to which individuals participate in physical activity and ". . . can develop creative movement concepts and process skills for varying, improvising and composing movement, opportunities for self-actualization will certainly be enhanced" (p. 13).

They further pointed out that physical education is an area of human experience providing individuals the opportunity to utilize their movement potential in vigorous physical activity to realize life goals. Human life goals, according to Jewett and Mullan (1977), can be

deduced to three broad categories of emphasis which include self-mastery, environmental mastery, and social interaction.

Human life goals of individual mastery, environmental mastery, and social interaction represent fundamental human purposes impelling individuals towards the highest degree of human movement efficiency possible in order to fulfill their life goals. Purposeful physical activity contributes to improved human movement which in turn enables individuals to better achieve their life goals. Concurrently, students should be afforded a variety of physical activity learning experiences that allow the individual student to indicate and explore individual preferences and skill ability in a variety of meaningful physical activity pursuits (Jewett & Mullan, 1977). Consequently, students will become more aware of the several ways to becoming fulfilled and thus improve the quality of their lives through physical activity participation.

Essentially, it has been demonstrated that the key purpose concepts of physical education identified by Jewett and Mullan (1977) to represent specific areas of human life goals are consistent in principal with the central tenets of the theory of human growth towards self-actualization proposed by Maslow (1968, 1970). For example, principles fundamental to the fulfillment of the key purpose concept of self-mastery appear to be consistent with fundamental principles inherent in the lower order needs of the theory of self-actualization that involve basic physiological needs, and safety and security needs. Concurrently, the key purpose concepts of environmental mastery, and social interaction appear to be undergirded with basic principles that

are consistent with the fundamental principles inherent in the higher order needs of the theory of self-actualization that include belonging and social activity, esteem and status, and self-realization and fulfillment.

When viewed together, the concept of self-actualization as explained by Maslow (1968, 1970), and the concept of purposeful physical activity as explained by Jewett and Mullan (1977) represent what Maslow (1968) referred to as complete, totally desirable, self-validating human experiences that are meaningful and enjoyable as integrators of other human experiences. Indeed, these parallel concepts can be perceived as comfortable theoretical links giving rise to an integrated dynamic flow of authentic psychosocial and psychomotor values and behaviors.

As teachers and curriculum specialists we can better provide physical education learning experiences that have potential for serving as meaningful links to life goals for adult students when we know about the student's motoric preference and purposes for participating in physical activity.

#### Statement of the Problem

The purpose of this study was to investigate the variables of preferred movement behavior and purposes underlying the physical activity participation of adult college students. The study was designed to identify specifically and describe the demographic characteristics of adult college students, to determine the preferred patterns of gross motor activity participation of adult college



students, to investigate the participation purposes underlying the physical activity preferences of these students, to investigate the similarity of physical activity purposes with selected demographic characteristics of these students, and to make appropriate recommendations upon which curriculum decisions could be based for the purpose of developing meaningful physical education learning experiences for such adult college students.

Five framing questions formed the focus of the investigation:

1. What are the significant demographic characteristics of adult college students?
2. What are their physical activity preferences, and how do they differ by demographic characteristics?
3. What are the participation purposes underlying their physical activity preferences?
4. To what extent are physical activity preferences and purposes similar with persons of similar demographic characteristics?
5. What are recommended programs of physical activity for adult college students?

#### Assumptions Underlying the Study

The following assumptions were proposed with regard to the study:

1. The adult students currently enrolled in college and universities represent a unique data source from which first-hand knowledge can be gained concerning physical education course preferences and the participation purposes of these students.

2. The present delivery systems of physical education program services at the institutions to be studied may not be oriented to adult student preferences and purposes of physical education.

3. The adult college students have distinct activity preferences and purposes and, therefore, they will likely choose participation patterns that are characterized by similar preferences and purposes.

4. The instrumentation developed for this study will effectively elicit the information sought of the sample respondents.

#### Rationale and Significance of the Study

The writer chose to work in the area of movement behavior for adult college students because of a strong personal commitment to education and the movement enrichment for this segment of the school population. Additionally, several years of teaching experience in physical education at the college level, coupled with valuable knowledge gained of college students' inclinations towards physical activity participation significantly impacted upon the writer's desire to do investigative research in this area. Some volunteer work in motor activity programs for adult citizens further solidified interest and commitment to this area of study.

Another factor which led to the study is an hypothesis which the writer holds. This hypothesis, consistent with hypotheses advanced by several researchers including Espenschade and Eckert (1980), Lawther (1977), and Verwoerd (1974), is that movement is an important quality of life, and that, if indeed, adult motoric functioning and general well-being are considerably influenced by decrement in motoric capacity,

physical attraction, and mobility, then motoric integrity is a potent determinant to delay or minimize the movement decrement heightened by inactivity and advancing years.

A preliminary literature search convinced the writer that additional research in the area of movement activity as related to adult college students' preferences and purposes of gross motor behavior was justified. From the information gleaned from the literature search no study of this type had been reported.

A study of this nature has the potential to reveal some important aspects of the preference-purpose-demographic characteristic relationship of physical activity of adult college students.

The study of movement behavior, and the provision of appropriate movement and gross motor skill learning experiences for adults has become an important and nearly inescapable responsibility of physical educators today. The preference-purpose approach to studying physical education program services for adult college students seems appropriate as this approach is closely related to recommended curriculum development principles that suggests student input be considered in program planning (Jewett, 1977). This approach would be superior to the prearranged approach which is more difficult to adapt to adult student needs and interests.

In light of the ever-increasing number and proportion of the adult population that may decide to enter or re-enter college, it is important that physical educators consider various ways of effectively meeting the movement related needs of this population. Indeed, the professional responsibility of physical educators to address the human movement needs

of individuals must be extended to the adult age group with the same research and scholarly concern that are extended to other younger age groups (Bagwell, 1979; Jewett, 1977; Logsdon, 1977; and Robertson, 1976).

The results of the study may prove valuable to each institution in the University of North Carolina system by providing information which could be used to improve the voluntary/required physical education curriculum for adult students. Concurrently, we can assume that whether adult students elect to pursue specific activity courses, and succeeding courses in a series, is contingent on student preference and purpose for electing the specific subject area. Thus, in designing courses for adults, measures of activity preference and purpose are needed to suggest the areas that will be most stimulating. This contention appears consistent with the view held by Jewett (1977). She postulated that individuals should identify their felt needs and then be afforded the opportunity to participate in preferential patterns of physical education activity that are pleasurable and meaningful. She went on to emphasize that "personal preferences should become the basis for selection of sports participation" (p. 11).

A final point of significance is the potential for the establishment of a useful guide for physical educators, and others who are concerned with promoting programs of physical activity for adults in general and adult college students in particular. As such programs invite research, useful information can be gained to help parallel or counteract the commonly held negative view towards gross motor activity

participation of adults (Cruse & Rosato, 1978; Dobbs & Steponovich, 1972; Robertson, 1976).

#### Scope and Limitations of the Study

The study was limited to an investigation of the demographic characteristics, preferred physical activity patterns, and purposes underlying the physical activity preferences of adult college students. The study included a sample of students from three of the 16 campuses of the University of North Carolina. The campuses were The University of North Carolina at Greensboro, North Carolina Central University (Durham), and The University of North Carolina at Wilmington.

It was proposed that a representative sample from the adult student population enrolled in each of the three institutions be selected and included in the study. The results and recommendations from the study could prove valuable to the institutions involved in that physical education curriculum experiences for the matriculating adult student could be implemented or modified to satisfy student physical activity preferences and underlying purposes. Therefore, the research study was considered an action research project.

The use of institutions selected for study precluded the research findings of this study being generalized to other institutions inside or outside of the University of North Carolina. Also, the study of the selected institutions precluded generalizations being made concerning all adult students. However, in that a particular stratum of the school population was studied (Kerlinger, 1973; Selltiz, Wrightsman, & Cook, 1976), the findings may emerge to have implications

for broader populations having characteristics similar to those of the sample population for the study (Backstrom & Hurst, 1963; Kerlinger, 1973; Sellitiz, Wrightsman, & Cook, 1976). Indeed, to the extent and degree that the University of North Carolina can be considered regionally typical of universities in the Southeastern United States, then careful generalizations might be drawn for adult students enrolled in institutions of higher education in this region.

#### Definition of Terms

To assure clarity some terms important to a basic understanding and used throughout the study are defined as follows:

1. Adult Student. Refers to an undergraduate student 25 years of age or older, who is entering, re-entering, or continuing his or her college education, and whose current enrollment does not follow the normal expected sequences immediately subsequent to high school graduation (Final Report of the Ad Hoc University Committee on Non-Traditional Study, UNC-G, 1973).
2. Motor Decrement. Refers to the gradual and progressive decrease in the quality and quantity of human motor functioning (Verwoerdt, 1974).
3. Motoric Integrity. Refers to a condition of sound, complete, and unified operation of human motor components that results in a well integrated state of human motor functioning (Birren, 1964; Palmore, 1971).
4. Preference. Refers to overt expressions of physiological and social drives or attitudes (Krueger & Reckless, 1931).

5. Purpose. Refers to meaning to be derived from participation in physical education experiences and is distinguishable as being " . . . a unique way of finding or extending personal meaning through movement activities" (Jewett & Millan, 1977, p. 4).

CHAPTER II  
REVIEW OF RELATED LITERATURE

A review of the literature related to this study indicated that much of the research conducted in physical education where adult participants are concerned has concentrated on obvious variables such as age, sex, height, and weight. Noticeably little research has been conducted to distinguish the underlying physical activity preference-purpose factors, and the resulting affect-effect relationship on participation patterns of adult college students. A few studies dealt implicitly with these variables relative to exercise and physical activity of adults in general.

Relevant research for this study was chiefly focused on the areas of physical activity preference and purpose. In the first segment is included the literature involving the need of adults for physical activity. Presented in a second section is literature dealing with physical activity participation preferences of adult college students. The final section reviews literature concerned with physical activity participation purposes of those students.

Program Need

The commonly held view that participation in programs of regularly scheduled physical activity can indeed contribute to improve quality of life for adults has been widely accepted for some time. Hattlestead (1979) reported on a statewide program of exercise and physical activity



for adults in South Dakota. The program was created as a system for improving the physical fitness levels of senior adults.

Physical and socio-psychological benefits were reported by Hattlestead to have resulted from adult participation in the program. Reportedly, several participants revealed that they made fewer physician and pharmacist visits and that they experienced less frequent pain and discomfort in their muscles and joints. Hattlestead also reported a substantial increase in participant social interaction along with increased self-confidence, self-esteem, and independence. Hattlestead posited that adults should not allow age alone to preclude their realizing the positive role exercise and physical activity can play in their lives. He stated that exercise can lead to a more meaningful, productive, and enjoyable lifestyle during the adult years. According to Hattlestead, physical educators must address the problem of providing appropriate exercise and movement opportunities for all adults, and the need is especially acute for those adults who have not benefited from such educational experiences previously.

Hoffberger (1980) related a similar experience with exercise and physical fitness classes taught to meet the varying needs of adults. Hoffberger reported a participation rate for women far in excess of that for men. Women were reported to demonstrate a greater concern for health, fitness, and appearance than did men. Men on the other hand were reported to have chosen not to be involved as frequent participants in the program because of their disdain for structure and their wish to relax and do nothing. According to Hoffberger, men not only felt the diminished need for exercise as they advanced in age, but they further

felt the risks involved in exercise far exceeded the benefits and therefore they appeared to be overcautious.

Hoffberger, as did Hattlestead (1979), proposed that many improvements can be brought about in the lives of adults through involvement in programs of exercise and physical activity. She emphasized that colleges and universities should expand their programs to include a much needed delivery system for the adult population. According to Hoffberger, the adult segment of the population needs the services physical educators can provide to the same extent and degree that younger age groups need those same services.

Kneer (1981) expressed concern because of the limited extent to which physical education curricula in general actually meet the needs of individual students. While perceiving the Purpose Process Curriculum Framework (Jewett & Mullian, 1977) to be a personalized model of physical education activity experiences firmly embedded in humanistic philosophy, Kneer posited that few other curriculum models are designed to meet the personal goals of learners. Kneer's explanation of the failure of most physical education curricula to provide for increased student input of content choices was due in large part to fundamental tenets of those curricula being firmly embedded in learning theories that are group oriented rather than focused on the individual.

Consistent with the observation by Kneer, an insight into the need for physical education activity as perceived by college students was provided by Soudan and Everett (1981). In their study of college students' physical activity needs, subjects were asked to complete a

questionnaire on the importance of twenty-four objectives of physical education. Results from their study revealed that both male and female undergraduate students perceived the maintenance of sound health and physical fitness to be their top priority needs.

Kelman and Stanley (1974) conducted a questionnaire study designed to assess the needs of returning women students aged 21-57 enrolled at Colorado State University. These researchers reported a majority of women indicated social interaction to be their top priority need. The results of their study indicated that older women returning to college preferred programs with the potential to improve their social skills. They found that most women preferred those activities that afforded the opportunity to participate with other women students of similar age and interests. In so doing the women felt they could better share their mutual problems, the solutions to their problems, and peacefully search for personal fulfillment with an understanding companion.

Twenty years earlier another team of researchers, Broer and Holland (1954), conducted a comprehensive study of the physical education activity needs, interests, and objectives of university freshmen and sophomore women. The investigative procedure required subjects to complete a questionnaire administered during physical education activity classes. Broer and Holland held that curriculum experiences in physical education should be designed to address the felt needs of students if student participation in physical education activities was expected to bring about meaningful and satisfying educational experiences. The reported results from their study indicated that a majority of students perceived the need for physical education to be offered as a two-year

curriculum requirement. Additionally, according to Broer and Holland, most students felt they should not be limited to the number of elective graduation credit courses they could take. The greatest student interests was expressed for activities in the individual and dual sports areas. The investigators indicated that such activities were perceived by the students to be inherently more meaningful, and allowed for the development of personal skills that could be beneficial beyond college.

In summary, studies reviewed revealed continuing strong support of the thesis that physical activity considerably impacts upon the physiological, psychological, and sociological dimensions of human behavior to the extent that meaningful participation can result in a vastly improved quality of life for participants (Hattlestead, 1979; Hoffberger, 1981). Although few physical education curricula today may be designed to meet the personal goals of learners (Kneer, 1981), colleges and universities should expand their curricula to include appropriate physical education learning experiences for adults (Hattlestead, 1979; Hoffberger, 1981). Investigators have found that undergraduate college students identify their top priority physical education activity needs as health and fitness (Soudan & Everett, 1981), social interaction (Kelman & Stanley, 1974), and meaningful sports activities that provide for the development of personal skills that can be beneficial beyond college (Broer & Holland, 1954).

#### Participation Preferences

At issue in understanding the precise nature of adult preferences for physical activity is the limited extent to which investigative efforts

have previously focused on describing and explaining adult physical activity preference patterns. Nonetheless, it can be reasoned that adult expressions of physical activity preference are strongly undergirded by compelling intrinsic or extrinsic forces. Consequently, it is these forces which inevitably influence behavior. Several researchers have provided a perspective in this regard.

An early and important discussion of the preference concept was advanced by Krueger and Reckless (1931). Preferences were perceived by Krueger and Reckless as observable expressions of wants exhibited in one of four human wishes that are founded in fundamental patterns in the nature of human kind. Preference categories identified by these writers were the following:

1. The desire for new experience which is based on a hunting pattern of interest.
2. The desire for security which is based on the pattern of fear and the avoidance of death.
3. The desire for response which is based on the pattern of love.
4. The desire for recognition which is based on the pattern of competition or ego instinct (pp. 171-174).

Krueger and Reckless postulated that any unsatisfied preference could propel one into " . . . fits of rage, jealousy, fear, and anger, or create . . . a palsyng sense of defeat and failure" (p. 394). Preferences are, according to these authors, born in one's social situations, determined by the objects of society and society's value

of the objects, and expressed and regulated by interacting in group life. Krueger and Reckless further observed that individuals have a variety of concrete preferences that can only be satisfied by interacting in society. These writers perceived society to represent the agent of control and manipulation of human preferences in the sense that anti-social preferences are repressed by societal standards and acceptable preferences are afforded a forum for expression. Krueger and Reckless continued on to explain that preferences have either a sociological base and are created by social situations, or they are organically based and created in physiological situations. They stressed that physiologically based preferences are satisfied by directing particular expressions toward objects of organic value. Sociologically based preferences, according to Krueger and Reckless, are created and defined in social experiences by objects possessing social value and are only satisfied by directing expressions towards those objects.

Consistent with the early analysis of preference by Krueger and Reckless is the analysis given by Scheibe (1970). In his discussion of behavioral preferences, Scheibe hypothesized that one's behavior is contingent upon preference and what one considers practical and true of self and society. Scheibe perceived the question of what one prefers to be a value question. Responses to such questions, according to Scheibe, are judgemental and refer to what is wanted, preferred, or should be. Such responses, continued Scheibe, connote the operation of one's preference, purpose, or morals.

Scheibe maintained that one's preference is clearly directed along two courses simultaneously—self, and the object or event valued. Preferences are rational, according to Scheibe, and represent a relationship between a valuing individual and the valued object or event. Scheibe posited further that values are not inherent qualities to be found in man or objects but rather they emerge as a result of man's interactions with his psychosocial environment.

More recently, Ginn (1977) stated that "preference factors are evident in all instances of social interaction. Every way of acting and every social encounter is a statement of one's tastes and aspiration" (p. 20). Ginn considered one's preference to be an expression of taste and to be inclusive of the social and cultural factors which tend to influence overt expression.

Taken together, it appears that authorities have tended to recognize human behavioral preferences to be indicative of objects or events of sociological or physiological value that are symbolically expressed as one interacts with his/her psychosocial environment. It logically follows that adult preferences for physical activity are likewise influenced.

In this frame of reference, an insight into the psychosocial influences impacting on physical activity participation by adults has been provided by Riddle (1980). In her study, 396 men and women joggers and nonexercisers were asked to complete a survey instrument designed to ascertain their attitudes, beliefs, and behavioral intentions towards regular jogging. Riddle reported results which indicated significant and meaningful differences existed between beliefs of joggers and

nonexercisers. Joggers, according to Riddle, tended to view regular jogging in a much more positive fashion than did nonexercisers. Additionally, Riddle found joggers to perceive their physical and mental well-being as top priority concerns. She found nonexercisers to perceive jogging in a negative sense and believed it to be exceedingly demanding of their time and energy.

Hanson and Lenning (1976) have provided research illustrating the differences in goals, attitudes, and perceptions of men and women college students of different age intervals. They reported findings which revealed strong adult student interest for those activities affording opportunities for participation with other individuals of similar age and interests. According to Hanson and Lenning, women tended to emphasize health and physical fitness as their primary concern while men most often emphasized their vocation. That adults may at times be reluctant to engage in programs of regularly scheduled physical activity was explained by Hanson and Lenning as indicative of either the strong commitment of adults to their work, home, and family or due to the fact that institutions may not be providing the type of activities that are attractive and interesting to adults.

An earlier study by Broer and Holland (1954), which concentrated on examining the interests and needs of women college students, yielded results similar to those reported by Hanson and Lenning (1976). Broer and Holland found that a majority of women in their study indicated a distinct preference for those physical education activities in the individual and dual sports areas. For example, Broer and Holland



reported the specific activities receiving the highest student interest were swimming, bowling, tennis, sailing, and skiing. Activities in the team sports area were reported to be least preferred by the students.

In a later study, Arwe and Jacobs (1981) concentrated on college students' evaluation of their physical education activities program. Consistent with the findings of Broer and Holland (1954), these investigators found that a majority of students expressed a strong preference for physical education activities in the individual and dual sports areas in both the traditional and nontraditional categories. Also, according to Arwe and Jacobs, high student interest was indicated for intermediate and advanced skill level courses in those areas.

Goodson (1975) studied the attitudes of adult male community college students toward physical activity. He administered the McPherson-Yuhasz Attitude Inventory to 106 adult males ranging in age from forty to sixty-five years.

The Goodson findings revealed that adult male subjects did not show a favorable attitude towards physical activity. Goodson concluded that there is a need to develop adult physical education programs which includes individually prescribed activities and courses. He stated that the courses should be designed to orient adults to the positive role physical activity can play in their lives.

In a similar study, significantly different results were reported by Hossein Sepasi (1975). Sepasi studied the attitude of Michigan State University undergraduate students toward physical education. Two

hundred forty students were randomly selected for the study. The Kenyon Attitude Toward Physical Activity Inventory, Form D, which isolates six perceived values held toward physical activity was used as the instrument to assess the student's attitudes toward the six domains.

Sepasi reported that all undergraduates participating in the study perceived the value of physical activity similarly as measured by six domains. Females, according to Sepasi, strongly endorsed the value of physical activity as an aesthetic experience. Male subjects ranked vertigo as the most meaningful value to them. No significant interaction was found between grade level and sex of student respondents.

Whaley (1975) examined the relationships between selected personality levels of college sophomore black male students and their selection of recreational activities. He limited his investigation to dominant and submissive personality traits, and to aggressive and passive recreational activity selections by the subjects. The test battery employed by Whaley consisted of the Cattell Sixteen Personality Factor, and the Recreation Activity Selection Inventory. The findings of his study indicated no significant relationship between persons with dominant personality traits and their selection of aggressive recreational activities, as well as no significant relationship between persons with submissive personality traits and their selection of passive recreational activities.

The physical activity participation rate of four selected age groups of Indiana University male alumni was studied by Chrouser (1973). A stratified random sample of 1,200 subjects residing in Indiana was

drawn. Subjects were administered a questionnaire containing 53 physical activities which yielded 12-month participation data in hourly form.

Chrouser reported a significant decrease in participation with age in 29 of the activities listed. Participation in 17 activities showed no change. He concluded that physical activity showed a definite trend toward decreased participation as age increased. Activities of a light intensity level such as golf, bait and fly casting, and social dance evidenced high levels of participation according to Chrouser. Twenty-eight activities were categorized by Chrouser as true lifetime activities due to the overall moderate to high percentage of men who participated in them.

Hilmi Ibrahim hypothesized that activities in which adults participate depend not only on physical education resources available but also individual traits (Ibrahim, 1969). Ibrahim studied male and female college students to determine whether persons who were recreationally inclined and individuals who were not so inclined differed in personality. He further wanted to determine if the personality of individuals inclined toward certain activities differed from the personality of individuals inclined toward other activities whether the activities were of a physical, social, communicative, aesthetic, or learning nature.

Ibrahim employed Zeiger's "How do you rate yourself recreationally" device to classify respondents and to determine their recreational tendencies. The California Psychological Inventory was administered

to obtain value assessments on personality traits. He concluded that although some significant differences among the groups tested in personality traits did occur, the personality of individuals who were recreationally inclined did not differ from individuals who were not recreationally inclined. Also according to Ibrahim, the personality of individuals inclined toward certain activities did not differ from the personality of individuals inclined toward other activities.

Ziegler (1959) recognized the limited effort expended by researchers to specifically determine the extent and degree of peoples' physical activity involvement. He undertook to investigate the individual recreational interest of 68 male physical education majors at the University of Michigan. He devised a questionnaire whereby each respondent could rate himself on the basis of his recreational pursuits in the specific areas of physical interest, social interest, communicative interest, creative and aesthetic interest, and learning interest.

Ziegler concluded that the male physical education major students at the University of Michigan showed a high interest and ability in physical recreation interests, and low interest and ability in aesthetic, creative, and learning recreational pursuits. The majors scored well on social interest and only fairly well in communicative interests. He advised that physical educators must be aware that to restrict choices of participation patterns to the extent that participation is required in specific activities would violate the integrity of the participant. Additionally according to Ziegler, required participation through limited choice would tend to negate a basic concept of physical education. The concept which suggests that

variety rather than a few activities should be afforded for participation, and the activities should be adapted to the needs, capacities, and interests of the students.

In a still earlier study, Havighurst (1957) investigated the interrelations of two ways of analyzing leisure activities—content and significance, and related them to the social variables of age, sex, social class, and personality characteristics. A stratified random sample of male and female subjects were interviewed as part of the Kansas City Study of Adult Life. Havighurst concluded that the results of his study supported the proposition that the significance of leisure activities is more closely related to personality than to the social variables of age, sex, and social class. Also according to Havighurst, leisure activity is an aspect of the personality in that it is a response to personality needs and one of the ways by which people express themselves.

In summary, studies reviewed in this division of the literature revealed that authorities have tended to perceive human behavioral preferences to be indicative of sociological or physiological values that are symbolically expressed as individuals interact with their psychosocial environments (Ginn, 1977; Krueger & Reckless, 1931; and Scheibe, 1970). And while Havighurst (1957) found leisure participation to be more closely related to personality than social variables such as age, sex, and social class, more recent studies by Whaley (1975) and Ibrahim (1969) found that personality did not appear to significantly influence individual physical activity selection. Yet, while men appeared to be more job oriented (Hansen & Lenning, 1976), or less

inclined towards physical activity (Chrouser, 1973; Goodson, 1975), women tended to prefer physical activity which assures the maintenance or development of health and fitness (Hanson & Lenning, 1976). More specifically, physical education activities of highest interest identified by college women fall in the individual and dual sports categories (Arwe & Jacobs, 1981; Broer & Holland, 1954). Adults generally prefer those activities that promote overall health and well-being (Riddle, 1980).

#### Participation Purposes

The purpose concept of physical education has been studied by several scholars and researchers. Consistent with the earlier mentioned view of Krueger and Reckless (1931), Kenyon (1968) identified six purposes that underlie the psychosocial significance of physical activity. He stressed that meaningfulness of physical activity to the participant is predicated upon the psychosocial value of the activity towards which individual preference is expressed. According to Kenyon, individuals are more inclined towards participation in those physical activities that are of high psychosocial value. They are less inclined to participate in physical activities viewed as low psychosocial objects.

More recently, Jewett and Mullan (1977) developed The Purpose Process Curriculum Framework (referred to as PPCF) as a curriculum model which systematically identifies and describes the content of physical education. Jewett and Mullan proposed that "human beings of all ages have the same fundamental purposes for moving" (p. 4). While

based on the premise that the primary purpose of physical education is the individual human being moving and interacting with the environment, these authors posit that the PPCF represents a systematic framework for physical education content selection in terms of meaning and worth to individuals. According to Jewett and Mullan (1977) the PPCF underscores the two essential aspects of teaching/learning--purpose and process. They perceived the purpose aspect to represent an analysis of human movement functioning indicative of the essential quality influencing the goal achievements of humankind. Jewett and Mullan organized the movement goals of man into "three key concepts of individual development, environmental coping, and social interaction" (p. 2). These three key concepts were further analyzed and subdivided into seven major purposes of physical education content. The seven major movement purposes of physical education were identified by Jewett and Mullan to be physiological efficiency, psychic equilibrium, spatial orientation, object manipulation, communication, group interaction, and cultural involvement.

While also concerned with the value of systematic designs for physical education content, LaPlante (1973) evaluated eight curriculum frameworks in physical education including the Purpose-Process Curriculum Framework. She specifically attempted to discern the validity of the purposes of physical education identified in the Purpose-Process Curriculum Framework. A modified Delphi Technique was employed to collect opinions from a group of selected physical educators. LaPlante's sample of judges was selected from five interest groups

representing curriculum theorists, human movement specialists, state directors of physical education, city-county supervisors of physical education, and physical education teachers.

LaPlante employed the following criteria to evaluate each curriculum framework:

1. The important concepts of the body of knowledge are represented.
2. The concepts are relevant to man's total development.
3. The processes of knowledge acquisition receives attention.
4. The framework is dynamic and flexible to reflect societal change and allow for the inclusion of new knowledge (pp. 50-54).

Based on the results of her study, LaPlante reported that the purpose statements defined by the Purpose Process Curriculum Framework represented content validity as determined by the panel of judges. Additionally, according to LaPlante, all frameworks were evaluated as valuable to some degree but the Purpose Process Framework was rated highest in meeting the evaluative criteria.

Several researchers have provided research findings which offer some insight into the manner by which individuals perceived their purposes for physical activity. Pasternak (1981) recently concluded research illustrating the manner in which adults perceive their physical education activity purposes well into the future. Pasternak (1981) administered a Future Purpose Inventory to three adult groups including a randomly chosen adult sample, a randomly chosen sample of futurists, and a selected sample of physical education curriculum



specialists. She employed the Delphi Technique to obtain the opinion of adults about their future movement behaviors represented by twenty predetermined purposes. Pasternak found that adults perceived the top eight purposes of physical activity in the future to be circulo-respiratory efficiency, atrophy prevention, mechanical efficiency, vigor, catharsis, neuro-muscular efficiency, and joy of movement. Adults perceived their least significant purposes of physical activity in the future to be challenge, gravitation, and risk taking. Risk taking, according to Pasternak, was perceived by each group of adults to be the least significant purpose of physical activity in the future.

While examining college students' evaluation of physical education activities program, Arwe and Jacobs (1981) reported that students indicated that their primary purposes for electing to enroll in physical education activity classes were "to learn a new activity and . . . to improve skills in an area of previous experience" (p. 10).

An earlier study by Weick (1975), also with undergraduate college students, yielded further insights into the importance of specific physical education objectives as perceived by college students. From a list of 45 physical education objectives included in a needs inventory, students were asked by Weick to indicate those objectives of greatest importance. According to Weick, a noticeable similarity existed in the way students perceived the importance of physical education. Weick reported that male and female students in all classes and schools surveyed perceived their most important objectives of physical education to be "to have fun and get regular exercise" (p. 387).

Loucks (1979) attempted to determine the rank order of importance of the objectives of physical education among senior physical education majors. He administered a paired-comparison questionnaire to 54 senior physical education majors enrolled at Florida State University. The paired-comparison technique required that each value be compared, in a force situation, with every other value.

Loucks reported that physical education majors ranked neuromuscular skills as the top objective. The majors ranked mental development and self-actualization in positions two and three respectively. Emotional stability was ranked number four. Cultural appreciation, spiritual and moral strength, and democratic values received the lowest rankings by the major students. Loucks contended that physical education majors tended to emphasize the importance attached to those objectives strongly oriented toward individuality and holistic development.

In an effort to provide a base framework for considering the problem of identity and value as these factors relate to physical education programs, Rosentswieg (1969) attempted to obtain a consensus regarding the objectives of physical education. He believed that the development of a common frame of reference, both semantically and conceptually, was vital. In his study, 100 college teachers of physical education completed a paired-comparison opinionnaire in which they ranked the objectives of physical education.

Rosentswieg reported that paired-comparison ranking of objectives by the physical educators indicated organic vigor, neuromuscular skills,

leisure time activities, self-realization, emotional stability, democratic values, mental development, social competence, spiritual and moral strength, and cultural appreciation to be the order of their ranking. Rosentswieg further acknowledged that men and women differed significantly in their beliefs. For example, men were reported to have ranked organic vigor first and neuromuscular skill second while women ranked these two objectives in reverse order. It was posited by this researcher that men ranked organic vigor first, perhaps, because of their strong attention to the ongoing emphasis placed on this area especially during times of national conflict and also the generally acknowledged low level of physical fitness among Americans. The women, according to Rosentswieg, held to the importance of neuromuscular skill owing to their feeling of freedom from regimentation and exercise programs which was gained from the new physical education which emphasizes sport, games, and dance.

Quite consistent with the findings of later researchers, Broer and Holland (1954) reported that their study of physical education interests and needs of women in service classes showed a majority of students indicating their top four objectives of physical education activity experiences to be "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" (p. 389).

And finally, an early study by L. Carroll Adams, also with older students, yielded insights into the extent and degree to which student preference can influence the viability of physical education programs.

Adams (1948) stated that " . . . the program of physical education at Columbia evolved through the natural preferences of students . . . " (p. 43). Adams investigated the recreational interests of Columbia alumni for the purpose of securing information which could be useful in designing the Columbia College program of physical education to the needs of students and graduates.

Adams reported that 82% of the alumni considered physical activity to be of value with respect to their health, 48% were reported to consider activity participation of value to their occupation, and the value of physical activity to recreational pursuit was important to 91% of the alumni respondents. Inasmuch as strong desire to continue participating after college was indicated by the alumni respondents, Adams concluded that games and sports which can be played after college should be emphasized in physical education programs.

In summary, studies reviewed in this division of the literature revealed strong agreement among authorities that the value of purposeful physical activity as a means of contributing to the improved quality of life of adults is no longer a debatable issue. Adults are strongly inclined to participate in those physical activities of high psychosocial value (Kenyon, 1968) that are firmly embedded in the three key human movement goals of humankind (Jewett & Mullan, 1977). Consistently, college students have indicated that their key purposes for participating in physical activity fall within the framework of neuromuscular skill development (Arwe & Jacobs, 1981; Broer & Holland, 1954; Loucks, 1979; Pasternak, 1981; Rosentswieg, 1969), having fun (Broer & Holland, 1954;

Pasternak, 1918; Weick, 1975), circulo-respiratory efficiency (Pasternak, 1981), and health (Adams, 1948; Broer & Holland, 1954).

#### Summary

The studies reviewed in this chapter revealed a continuing interest among researchers in the physical education activity participation patterns of college students. The studies focused on a variety of college age subjects while including a variety of age groups. Several different strategies were employed to investigate the physical activity participation patterns of subjects including paired-comparision, Delphi Technique, needs inventory, attitude inventories and survey.

CHAPTER III  
METHODS AND PROCEDURES

In this part of the study the research is outlined and the procedures that were followed in the collection and analysis of the obtained data are discussed.

The study was designed to describe the preferences, purposes, and the relationship between purposes and demographic characteristics of adult college students enrolled in three selected institutions in The University of North Carolina system. The study was carried out at the three institutions during the 1981-82 school year.

Institutions

The University of North Carolina comprises a statewide multi-campus system of sixteen constituent institutions of higher education that evolved as a result of a series of General Assembly Acts which established The University of North Carolina at Chapel Hill in 1879, and during the ensuing years established and/or merged fifteen other state universities to form a single university system (North Carolina Central University Bulletin, 1979-80). Campuses of The University of North Carolina include The University of North Carolina at Chapel Hill, The University of North Carolina at Greensboro, North Carolina State University at Raleigh, The University of North Carolina at Charlotte, The University of North Carolina at Wilmington, The University of North Carolina at Asheville, Appalachian State University (Boone),

East Carolina University (Greenville), Elizabeth City State University, Fayetteville State University, North Carolina A & T State University (Greensboro), North Carolina Central University (Durham), Pembroke State University, Western Carolina University (Cullowhee), North Carolina School of The Arts (Winston-Salem), and Winston-Salem State University.

The institutions comprising The University of North Carolina system are collectively a representative sample of various institutional sizes and types. Each institution is classified as a Major Research University, a Doctorate-Granting University, a Comprehensive University, or a General Baccalaureate University based on its academic mission (UNC Board of Governors, 1983). All institutions except The School of The Arts offer programs of physical education. The institutions are widely dispersed throughout the state with each institution sponsoring a program of physical education. The classification and characteristics of all institutions are shown in Table 1.

#### Sample Population

A prestudy telephone consultation was made with the Director of Institutional Research or Vice-Chancellor of Student Affairs at each of the fifteen institutions in The University of North Carolina to be involved in the study. Positive results were obtained from this exploratory effort in that a majority of directors and vice-chancellors expressed optimism, willingness, and the capacity to support the research effort by supplying the necessary data.

Table 1  
Institution Classification and Characteristics

Institution	Geographical Location	Total Enrollment	Academic Mission
UNC-CH	Central	21,060	Doctorate
UNC-G	Central/Piedmont	9,925	Doctorate
NCSU-R	Central	19,597	Doctorate
ECU	East	12,500	Master's Degree
UNC-C	West	8,945	Master's Degree
NCA&T	Central/Piedmont	5,407	Master's Degree
NCCU	Central	4,800	Master's Degree
WCU	West	6,000	Master's Degree
ASU	West	9,242	Master's Degree
WSSU	Central/Piedmont	2,143	Baccalaureate
FSU	Southeast	2,281	Baccalaureate
UNC-A	West	1,893	Baccalaureate
PSU	Southwest	1,795	Baccalaureate
UNC-W	Southwest	4,258	Baccalaureate
ECSU	Northeast	1,500	Baccalaureate

\*\*Institution location and academic mission provided by the 1978-1983 University of North Carolina Board of Governor's Long-Range Planning report; Institution enrollment figures provided (Spring-1981) by the Director of Institutional Research of each institution cited.

The cluster sampling method (Kerlinger, 1973; Selltiz, Wrightsman, & Cook, 1976) was employed to select one institution from each of three general institutional classifications, i.e., General Baccalaureate, Comprehensive, and Major Research and Other Doctorate-Granting University. This approach took into account that sampling students from each of the fifteen campuses in The University of North Carolina system included in the study could prove to be both geographically inconvenient and expensive unless the number of respondents drawn was small (Selltiz, Wrightsman, & Cook, 1976). In that this study concentrated on a



widely dispersed population, to preclude the disadvantages of geographical inconvenience and high financial cost, the cluster sampling method appeared to be the most practical procedure to employ.

Three population clusters were arrived at by prearranging the fifteen institutions included in the study into groupings based upon institutional academic mission and student enrollment. The two institutions classified as major research universities and the one classified as doctorate-granting university were grouped to form one cluster of three; the six institutions classified as comprehensive universities were grouped to form a second cluster, and the six institutions classified as general baccalaureate universities were grouped to form the third cluster.

One institution from each of the three clusters was selected from which to randomly draw a respondent sample. Institutional selection was based on the following criteria:

1. The institution could provide the necessary data on the student population studied.
2. The institution, though important in its own setting, could by itself contribute much to the understanding of all institutions in its classification.
3. The institution had a sizeable adult undergraduate student population.
4. The institutions' adult students' demographic characteristics were significantly relevant to the demographic characteristics of students enrolled at other institutions similarly classified.

In order to determine whether an institution considered for study could serve as a data base for its respective cluster, an exploratory telephone consultation was held with its Director of Institutional Research. From this exploratory effort, each institution's total adult student enrollment figure was obtained. As a result, one institution was selected to represent the three institutions forming the cluster of major research and doctorate-granting universities; one institution was selected to represent the six institutions forming the cluster of comprehensive universities; and, one institution was selected to represent the six institutions forming the cluster of general baccalaureate universities. Collectively, the selected institutions were representative of fifteen of the sixteen institutions comprising The University of North Carolina.

The stratified random sampling method (Kerlinger, 1973) was employed. Respondent names were drawn from the stratum of the adult undergraduate college students that were 25 years of age and older and identified among the total student population enrolled at each institution selected for study. More specifically, the total adult undergraduate student enrollment for each of the three institutions selected for study was requested from each institution's Director of Institutional Research. Also, a randomly chosen respondent sample of 90 student names drawn from the total adult student population of each institution selected for study was requested and thus represented the sample size for that institution.

The respondent sample size for the major research and other doctorate-granting universities equalled approximately ten percent of survey Number for the selected institution. The respondent sample size for the comprehensive universities equalled approximately ten percent of survey Number for the institution selected to represent the institutions of that group. And, the respondent sample size for the baccalaureate universities equalled approximately ten percent of survey Number for the institution selected to represent the institutions of that group.

#### Instrumentation

A four-part Inventory of College Adults Physical Activity Preferences and Purposes (see Appendix A) containing an eleven-item demographic section, a five-item general feeling section, a five-item physical activity preference section including a list of 61 specific physical activities, and a ten-item physical activity purpose section, was prepared for subject response,

The inventory was constructed to measure respondent demographic characteristics, actual feeling towards physical education activity participation and certain configurations of physical activity preferences and purposes. The instrument sought to measure respondent inclinations that were stable enough to warrant consideration when developing plans for physical education programs in the future.

The inventory was designed to perform two principal functions. The first was to inform individuals about themselves, their physical activity choices, and reasons for participating in specific physical activities. These factors could perhaps lead to greater individual self-understanding and provide for better decisions about individual physical activity participation patterns. Second, the inventory was designed to provide physical educators, teachers, and curriculum specialists with data that would demonstrate the physical education concerns of adults while at the same time assist in planning meaningful physical education activity curriculum experiences for these students.

The instrument's reliability was based upon the postulation advanced by Kerlinger (1973) that the consistency of measurement instruments and the extent and degree to which they measure what is intended can be satisfied by meeting three important criteria. Kerlinger posited that the omission of nebulous statements, the inclusion of an adequate number of similar statements, and the assurance that clear, understandable instructions are provided would considerably strengthen the stability of measuring instruments as well as assure their consistency in measuring precisely that which is intended.

To assure instrument reliability, the criteria posited by Kerlinger undergirded the development of the Inventory of College Adults Physical Activity Preferences and Purposes. For example, care was taken to assure that each item in the inventory was presented in a clear and unambiguous manner. Each statement was developed in easy-to-read simple terms with only one concept to be considered, thereby alleviating ambiguity

and the likelihood of misunderstanding. Next, several similar statements were included in each section. This was done to preclude, according to Kerlinger (1973), the likelihood of respondent response error and assure that each respondent's total score and true score was quite similar. Finally, instructions for each section was presented in clear terms, easy to read and understand. Thus, the element of statement ambiguity and resulting respondent error was further reduced. These criteria determining instrument reliability were interwoven with criteria determining validity in order to improve the overall quality of the instrument.

Kerlinger (1973) discussed several instrument validation approaches which included criterion-related validity, construct validity, and content validity. Kerlinger stressed that criterion-related validity is based on the ability of instruments to accurately measure that which is intended in regards to some specific controlling criterion. Validity as such is based on predicting results based on specific criteria. He emphasized that construct validity is theory based and essentially determines the extent and degree to which specific traits can be accurately measured. While such traits are difficult to identify as specific measureable behaviors, they do, according to Kerlinger, represent abstractions embedded in theoretical constructs.

"Content validity . . . is basically judgemental" (Kerlinger, 1973, p. 459). According to Kerlinger, content validity is essentially concerned with assuring that measuring instruments appropriately address that which is intended. This involves specifically identifying the universe under study and the specific items to be included in order to

study it. Special care should be taken to assure that all test items measure the concepts under study. The content validation approach was used to validate the measurement instrument employed in this research effort.

Consistent with the views advanced by Kerlinger (1973), and by Sax (1968), the instrument's content validity was established by asking a panel of seven judges to review and evaluate each questionnaire statement to determine whether or not the statements represented the content of the variables investigated. A copy of the letter to judges requesting their participation is included in Appendix B. Three judges were professional physical educators who are graduate teaching faculty members. Four judges were graduate students pursuing terminal degrees in physical education.

This procedure according to Sax (1968) assured content validity and is appropriate so long as the questionnaire items address the intended inventoried responses, and the judges agree that the items appear to measure that which is intended. The panel of judges was informed that the instrument was essentially constructed to measure the physical education activity preferences of adult college students as well as the purposes these students held for participation in physical activity. Judges were asked to specifically determine if each preference area and each physical activity alternative represented the content of physical activity for adults. Judges were also asked to determine if each statement included in the physical activity purpose area represented the content for that area. Finally, the judges were asked to edit each statement for clarity, understanding, and the

alleviation of ambiguity. Necessary revisions followed the jury evaluation. This involved the process of deleting, adding, and clarifying items to the extent that all items were consistent with the opinions of the judges.

The seven jurors indicated that the 11 items in the Biographical Data Section were appropriate and each of the ten items in the Purpose Section represented the content for that area. Seven jurors indicated agreement that items 1, 2, and 3 of the General Feeling Section represented the content for that area; six jurors indicated item 4 represented content for that area; and, five jurors indicated that item 5 represented the content of that area. Seven jurors indicated that items 1, 3, 4, and 5 represented the content for the preference area; five jurors indicated item 2 represented the content for that area; and, two jurors indicated item 6 represented the content for that area. Item 6 of that section was eliminated on the final draft of the instrument due to low juror agreement. Seven jurors indicated that each of the ten items in the Purpose Section represented the content of that area.

The judges evaluation was undertaken in order to prepare an instrument in final form which would accurately assess physical education activity preferences and purposes, and would at the same time be administratively feasible and simple for the respondents to answer correctly in a brief amount of time.

The instrument, The Inventory of College Adults Physical Activity Preferences and Purposes, is essentially a summative self-rating scale. Its development was adopted from the method of scale construction devised

by Rensis Likert, and currently recognized as the Likert Technique. Likert proposed, in line with the method of summated rating, that a large number of statements be taken from the literature and item responses on a psychological continuum of several (usually five) degrees of agreement-disagreement be devised. The assumption was that one could obtain agreement in classifying the statements into two classes, favorable and unfavorable, with approximately the same number of statements in each class. The statements were then given to a group of subjects who were asked to respond to each one in terms of their own agreement or disagreement with the statements. To obtain responses on such a scale, respondents were permitted to use any one of the five categories: "strongly agree," "agree," "undecided," "disagree" or "strongly disagree." The categories of response were weighted in such a way that the response made by individuals with the most favorable attitudes had the highest positive weight. The favorable statements were considered to be in the "strongly agree" category and the unfavorable statements in the "strongly disagree" category.

Consistent with the principles undergirding the development of response categories identified in the scale proposed by Likert (1932) is a scheme simple to mark and score that was developed for adoption and use with the Inventory of College Adults Physical Activity Preferences and Purposes. For example, each item in section A, the Biographical Data Section, was developed for the purpose of collecting demographic data from the students selected to take part in the study. This section of The Inventory of College Adults Preferences and Purposes was designed so that adult students' selected characteristics, academic



involvement, and work involvement could be categorized. In this section, respondents were asked to check (✓) the appropriate response for each of the eleven items included.

In section B, the General Feeling Section, respondents were asked to read the five general feeling statements carefully and then in the appropriate response column to the right of the statement, CIRCLE the number which most nearly indicated how they felt about the statement. The respondent response scale for this area comprised five degrees of agreement/disagreement and included the response categories of strongly agree, agree, undecided, disagree, and strongly disagree.

In section C, the Physical Activity Preference Section, the preference categories were adapted from a model physical education curriculum identified in the curriculum purpose-process framework by Jewett and Mullan (1977). The instrument's preference categories retained the distinguishing characteristics of Jewett and Mullan's model and were modified to include activities extracted from their areas of fitness, personal development, games, and dance. The preference categories were developed to elicit respondent behavior to indicate a confirmation or a denial of preferences for specific physical activities. Respondents were asked to first review each of the five physical activity preference areas. Then, they were asked to CIRCLE the number which most nearly represented their degree of preference for each area. The respondent response scale for this area comprised five degrees of preferred/not preferred and included the response categories of highly preferred, preferred, undecided, slightly preferred, and not preferred.

Also, from a list of sixty-one specific physical activities that were randomly listed, respondents were asked to check (✓) those activities of HIGHEST INTEREST in spaces provided to the right of the activities. The same activities were listed in reverse order on a separate response sheet. From this listing, the respondents were asked to check (✓) those activities in which they DESIRE CLASS INSTRUCTION in spaces provided to the right of the activities.

In developing section D, the Purpose Section, items were constructed to represent each of the seven purpose concepts described in the curriculum purpose-process framework by Jewett and Mullan (1977). Nine of the ten items developed for this area retained the central emphasis of the seven human movement purposes described by Jewett and Mullan while one item was developed independent of a human movement emphasis. For example, one statement was developed from each of the five human movement purposes of psychic equilibrium, spatial orientation, object manipulation, communication, and cultural involvement; two statements were developed from the human movement purpose emphasizing physiological efficiency; two statements were developed from the human movement purpose emphasizing group interaction; and, one statement was developed from an academic interest emphasis. In the attempt to have the respondent feel personally involved as a primary data source, each statement was developed in the first person. Each statement incorporated but a single thought and was kept simple and short to enhance meaningfulness for the respondents. Respondents were asked first to read each of the ten purpose statements. Then, they were asked to CIRCLE the number which most nearly reflected

how each statement satisfied their purpose for participating in physical activity. The respondent response scale for this area comprised five degrees of agreement/disagreement and included the response categories of strongly agree, agree, undecided, slightly agree, and strongly disagree.

#### Data Collection Procedures

Data were collected for the study through the cooperation of the Director of Institutional Research at each of the three institutions selected for study. The data collection process commenced during the spring semester of 1982 and involved three essential phases. The formal study commenced with Phase I which involved the mailing of letters of request (see Appendix B) on February 23, 1982, to the Directors of Institutional Research at each of the three selected universities for the purpose of obtaining the list of randomly chosen names and addresses of the respondent sample representative of each institution. Each Director of Institutional Research was asked:

1. To provide the institution's total adult undergraduate student enrollment figure for students 25 years of age and older.
2. To provide a randomly chosen list of 90 student names and addresses, from the institution's 25 years and older undergraduate population.

This initial step was followed by Phase II which involved the mailing of a cover letter explaining the purpose of the study and the five-page Inventory of College Adults Physical Activity Preferences and Purposes to each respondent of the sample population. Each mailing also included a stamped return-addressed envelope.

Phase III represented the final phase of the data collection process and involved the actual response period for subjects' replies. Approximately four weeks following the mailing of the inventory on April 7, 1982, to each subject included in the study (N = 270), 147 inventories were returned.

A copy of the mailed inventory is included in Appendix A; a copy of the accompanying cover letter is included in Appendix B. Final results on which this study was based are found in Table 2. Ninety subjects were mailed inventories at institution A; 56 inventories (62%) were returned. Ninety subjects were mailed inventories at institution B; one inventory was returned to the sender because the addressee could not be located. Of the eighty-nine inventories actually received by the sample population at institution B, 42 inventories (46.6%) were returned. Ninety subjects were mailed inventories at institution C; 49 inventories (54.4%) were returned. Relative to the total sample, the 147 inventories finally obtained represented 54.4 percent of the 270 inventories originally forwarded, and 54.6 percent of the 269 inventories assumed received by the sample population. Of the 147 inventories returned, all were completed by the respondents and were scorable replies.

#### Data Analysis

The Inventory of College Adults Physical activity Preferences and Purposes was prepared for analysis by first coding the items of the inventory for computer processing. The codes were then transferred to

Table 2

Number and Percent of Inventories Mailed, Returned and Distributed According to Institutional Classification and Enrollment

Institution	Adult Student Enrollment	Inventories Mailed	Number of Scorable Inventories Returned	Percent Returned
Major Research and Doctorate-Granting University	1242	90	56	62
Comprehensive University	847	90	42	46.6
Baccalaureate University	945	90	49	54.4

optical scanning sheets and were punched on data processing cards. All cards were key punched at the data processing center at North Carolina Central University. The data were then analyzed using a Statistical Analysis System (SAS, 1979) software package. Both descriptive and inferential statistics were used to present the data gathered for the investigation. Means and frequencies were obtained for all information prior to computing specific analyses. The analysis employed a 2 X 3 X 3 X 5 (sex x age x institution x ethnic background) Analysis of Variance. The independent (classification) variables were sex, age, institution, and ethnic background. The dependent variables were the mean scores on the general feeling, physical activity preference, and physical activity purpose items.

For the General Feeling Section, an ANOVA was computed on the mean score of each of the five items in that section.

For Research Question 1--What are the significant demographic characteristics of adult college students?--percentages and frequencies were computed for each item in Section A of the data collection instrument.

For Research Question 2--What are their physical activity preferences, and how do they differ by demographic characteristics?--percentages and frequencies were computed for each item in Section C of the instrument by sex, by age, by institution, by ethnic background. Also an ANOVA was computed for each item. The item score represented the dependent variable. For the list of specific activities, percentages and frequencies were computed for top selections.

For Research Question 3--What are the participation purposes underlying their physical activity preferences?--percentages and frequencies were computed for each item in Section D of the instrument by sex, by age, by institution, by ethnic background. Also, an ANOVA was computed for each item. The item score represented the dependent variable.

For Research Question 4--To what extent are physical activity preferences and purposes similar for persons with similar demographic characteristics?--correlations between physical activity preferences and purposes for each demographic group were made.

For Research Question 5--What are recommended programs of physical activity for adult college students?--program recommendations were based on frequencies of student data relative to students' preferences.

For Research Question 1, percentages and frequencies were computed because the questions yielded nominal data. For Research Questions 2, 3, and 4, a parametric statistic was computed because these questions satisfied the criteria undergirding this philosophy while assuring that a normal distribution of the sample populations and the homogeneity of the sample population was assumed. The .05 level of significance was chosen. When  $F$  ratio was found to be significant ( $p < .05$ ), Duncans' Multiple Range Tests were computed to determine where variations occurred and which means were significantly different from each other. Graphs were constructed of two-way interactions found to be statistically significant ( $p < .05$ ) in order to provide a clear understanding of the extent and degree of variation found.

## CHAPTER IV

### ANALYSIS OF FINDINGS

The purpose of this investigation was to identify and describe the demographic characteristics of adult college students in selected institutions of higher education in North Carolina, to investigate the variables of preferred movement behavior and purposes underlying the physical activity participation of those adult college students, and make appropriate recommendations upon which curriculum decisions might be based in order to develop meaningful physical education learning experiences for such adult college students. The Inventory of College Adults Physical Activity Preferences and Purposes was developed, validated, and distributed by mail to a randomly chosen sample population of adult college students enrolled at three selected institutions of the University of North Carolina.

The findings of this investigation were based upon data obtained from the 147 responding adult college students enrolled at the institutions included in the study. Both descriptive and inferential statistics were used to analyze the data gathered. All ANOVA included both single effects and all possible combinations of two-way interactions. In trial experimentation conducted with triple interactions the data were minimal, unbalanced, and nonsignificant and appeared to cause biased estimates on other effects in the model. For these reasons the triple interactions were removed from the model. The .05 was the significance level accepted for this study.



### Demographic Characteristics

In order to answer research question 1 which dealt with demographic characteristics, percentages and frequencies were computed for each item in Section A, the biographical data section of the data collection instrument.

The information presented in Table 3 indicates the characteristics of respondents on each demographic variable. Of the 147 sample replies 56 (38%) were obtained from respondents at Institution A; 42 (28.57%) replies were received from students at Institution B; and, 49 (33.3%) replies were obtained from respondents at Institution C.

A majority of the respondents (110 or 74.8%) were female. Most respondents, 95 (64.6%), were married. Only 7 (4.7%) of the respondents were 45 years of age or older; more than half, 97 (65.98%), were 25-34 years of age; and 43 (29.2%) were 35-44 years of age.

Employment status of the 96 respondents who indicated they worked while attending the university was equally divided between full-time and part-time employment. With respect to residence the largest number, 83 (56.4%), indicated city residences; 27 (18%) lived in a suburban area; and 27 (18%) resided in a rural area. Only 10 (6.8%) indicated town as the site of their present residence.

There were 107 (73%) white respondents, 37 (25%) black respondents, and 1 (.68%) respondent each from the American Indian and Asian Pacific Islander populations. There were no Hispanic surname respondents.

The spouses academic status indicated that 67 (48.9%) were not students. Ten spouses (7%) were full-time students, while seven spouses

Table 3

Number and Percentage Distribution of Sample Respondents  
On Each of 11 Demographic Variables

Variables	Categories	Respondents		
		N	%	
Institution	A	56	38	
	B	42	28.57	
	C	49	33.3	
Sex	Male	37	25	
	Female	110	74.8	
Marital Status	Married	95	64.6	
	Single	52	35	
Age Range	25-34	97	65.98	
	35-44	43	29.2	
	45-over	7	4.7	
Student Status	Full-time	94	63.9	
	Part-time	53	36	
Employment Status	Full-time	48	50	
	Part-time	48	50	
Present Residence	City	83	56.4	
	Town	10	6.8	
	Suburban	27	18	
	Rural	27	18	
Ethnic Background	American Indian	1	0.68	
	Asian Pacific Islander	1	0.68	
	Black	37	25	
	Hispanic Surname	0	0	
	White	107	73	
	Spouse Status	Full-time Student	10	7
Part-time Student		7	5	
None		67	48.9	
Full-time Employment Outside Home		49	35.7	
Part-time Employment Outside Home		2	1.4	
None		2	1.4	
Physical Education Participation		Previously Enrolled	79	54.86
		Not Previously Enrolled	65	45
Physical Education Participation	Currently Enrolled	25	17	
	Not Currently Enrolled	118	82.5	

(5%) were part-time students. Forty-nine (35.7%) of the spouses were employed outside the home full-time while only 2 (1.4%) of the spouses were not employed outside the home.

A majority of respondents (79 or 54.86%) indicated previous enrollment in physical education activity classes. Conversely, only 25 (17%) respondents indicated current enrollment in physical education activity classes.

The data presented in Table 4 indicate the demographic characteristics of respondents at each institution studied with respect to six demographic variables. Analyses of the data indicated that some similarity existed between respondents at each institution in regard to sex, marital status, age range, and student status. The data indicated more than 65% of the respondents at each institutions were female, and more than 66% of the respondents at each institution were married. More than 66% of the respondents at each institution were under 35 years of age, and more than 60% of the respondents at each institution were full-time students.

The variables of employment status, and ethnic background indicated differences existed among institutions. The profile of respondents from Institutions B and C were similar with respect to employment status. More than 61% of the respondents at each of these institutions indicated they were employed full-time. By contrast, only 21% of the respondents at Institution A indicated full-time employment. The respondents from Institutions A and C were predominantly white while almost 66% of those from Institution B were black.

Table 4

Number and Percentage Distribution of Sample Respondents On  
Six Demographic Variables By Institution

Variables	Institution A (N = 54) Respondents		Institution B (N = 41) Respondents		Institution C (N = 49) Respondents		
	N	%	N	%	N	%	
	Sex:						
	Male	9	16.07	14	34.15	12	24.49
	Female	45	83.33	27	65.85	37	75.51
Marital Status:							
	Married	36	66.67	30	71.4	37	75.51
	Single	18	33.33	11	26.8	12	24.49
Age Range:							
	25-34	36	66.67	25	60.98	33	67.35
	35-44	16	29.63	14	34.15	13	26.53
	45-over	2	3.70	2	4.88	3	6.12
Student Status:							
	Full-time	36	66.67	25	60.98	30	61.22
	Part-time	18	33.33	16	39.02	19	38.78
Employment Status:							
	Full-time	12	21.4	27	64.28	30	61.22
	Part-time	30	53.5	10	24.3	18	36.73
Ethnic Background:							
	Black	4	7.4	27	65.85	6	12.24
	White	50	92.59	14	34.15	43	87.76

Table 5

Number and Percentage Distribution of Sample Respondents Participation  
In Physical Education By Sex and Institution\*

Variables	Institution A Respondents		Institution B Respondents		Institution C Respondents	
	N	%	N	%	N	%
Female: Previously Enrolled in P.E.	22	50.0	16	61.54	20	54.05
Not Previously Enrolled in P.E.	22	50.0	10	38.46	17	45.95
Currently Enrolled in P.E.	6	13.64	7	28.0	4	10.81
Not Currently Enrolled in P.E.	38	86.36	18	72.0	33	89.19
Male: Previously Enrolled in P.E.	6	66.67	8	61.54	6	50.0
Not Previously Enrolled in P.E.	3	33.33	5	38.46	6	50.0
Currently Enrolled in P.E.	1	12.5	4	28.57	2	16.67
Not Currently Enrolled in P.E.	7	87.5	10	71.43	10	83.33

\*Not all respondents replied to every question.

The data presented in Table 5 depicts the responses from questions pertaining to past and current physical education participation experiences of respondents at each institution. There was some similarity among females and males across institutions in physical education class enrollment. Only for institution A did there appear to be much difference between the percentage of males and females who had not previously enrolled in physical education. Among both female and male respondents at each institution, the data indicated 50 percent or more had previously enrolled in physical education. Contrastingly, the data indicated a large majority, 71 percent or more, of both female and male respondents at each institution were not currently enrolled in a physical education class.

#### General Feeling

In order to evaluate subjects' responses to the five statements in Section B, the General Feeling section of the data collection instrument, an analysis of variance was computed on the mean score of each item in that section. In Table 6 are presented the results of the ANOVA on the general feeling about physical activity participation. The data in Table 6 revealed that there were no significant differences in respondents' general feelings about physical activity participation according to sex, age, institution, or race, or the interaction of those variables.

In Table 7 are presented the results of the ANOVA on the factor "General feeling about the kind of university physical education classes offered" with sex, age, institution, and race as the independent variables.

Table 6

Analysis of Variance: General Feeling About  
Physical Activity Participation

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	0.12	0.12	0.50	.482
Age	1	0.48	0.48	1.89	.171
Institution	2	0.83	0.41	1.64	.198
Race	1	0.13	0.13	0.54	.463
Sex * Age	1	0.00	0.00	0.00	.968
Sex * Institution	2	1.31	0.65	2.58	.079
Sex * Race	1	0.88	0.88	3.45	.065
Age * Institution	2	0.30	0.15	0.60	.552
Age * Race	1	0.64	0.64	2.54	.113
Institution * Race	2	1.38	0.69	2.71	.070

\*Significant at the .05 level

The data in Table 7 revealed that when the factor "General feeling about the kind of university physical education classes offered" was analyzed according to respondents' age, sex, and ethnic background as well as the institution in which they were enrolled, statistically significant findings from one main effect and one two-way interaction were revealed. A statistically significant variation ( $p < .05$ ) existed between "institution," and "sex by institution" and how respondents generally felt about the kind of physical education classes their institution provided. While the F ratio indicated that significant differences existed between the overall means for institutions, a subsequent Duncan Multiple Range Test for multiple comparisons did not reveal significant differences between paired institutions (Table 7).

A difference was found to exist between males and females at institution C with respect to their feelings about the kind of physical education activity classes provided. As a group females agreed that the physical education classes offered were the kind in which they liked participating; males at institution C did not agree. Males and females at both institution A, and institution B agreed that they were provided with the kind of classes in which they liked participating. Males at institution A expressed the strongest level of agreement. A similar level of agreement was expressed by females across institutions (Figure 1).

In Table 8 are presented the results of the ANOVA on the factor "Regular participation in physical education activity makes me feel better" with age, sex, institution, and ethnic background as independent variables.



Table 7

Analysis of Variance: General Feeling About The Kind of  
University Physical Education Classes Offered

Source of Variations	DF	SS	MS	F	PR > F
Sex	1	0.45	0.45	0.58	.447
Age	1	2.75	2.75	3.49	.064
Institution	2	5.17	2.59	3.28	.040*
Race	1	1.76	1.76	2.24	.137
Sex * Age	1	0.01	0.01	0.03	.874
Sex * Institution	2	4.95	2.48	3.14	.046*
Sex * Race	1	0.71	0.71	0.91	.341
Age * Institution	2	2.18	1.09	1.39	.253
Age * Race	1	1.42	1.42	1.81	.181
Institution * Race	2	1.39	0.69	0.89	.415

\*Significant at the .05 level

Results of The Duncan Multiple Range Test for  
The Main Effect Institution

Institution	Mean	C	B	A
		3.35	3.58	3.59
A	3.59	.24* < .3718**	.01* < .3631**	--
B	3.58	.23* < .3800**	--	
C	3.35	--		

\* = Observed differences between group means  
\*\* = Least significant ranges

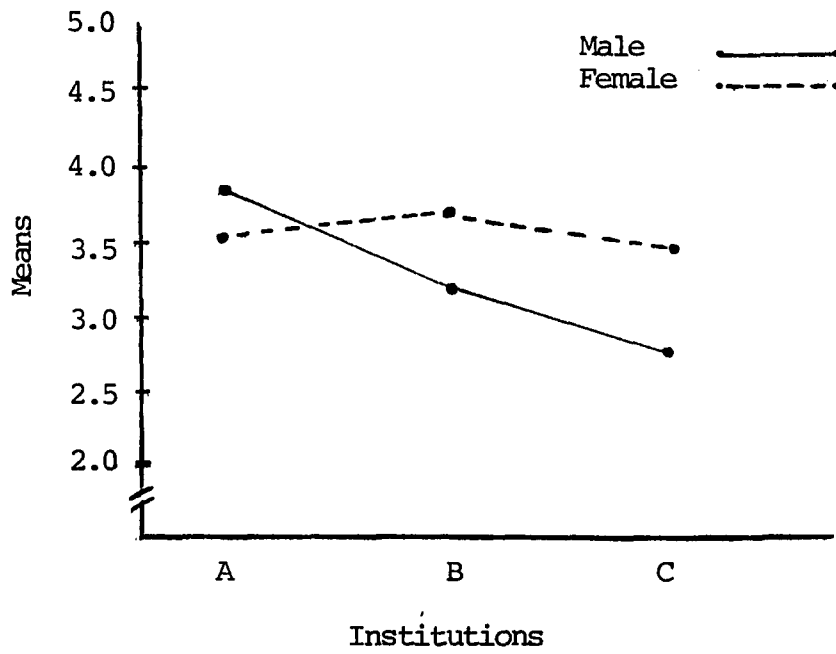


Figure 1. General feeling about the kind of physical education activity classes offered according to sex and institution.

The data in Table 8 yielded statistically significant findings from one main effect, and three two-way interaction of these variables. The analysis indicated that a statistically significant variation ( $p < .05$ ) existed between institution, sex by ethnic background, age by ethnic background, and institution by ethnic background, and respondents' general feelings towards the benefits of regular participation in physical education activity. While the F ratio indicated that a significant difference existed between the overall means for institutions, a subsequent Duncan Multiple Range Test for multiple comparisons indicated that there were no significant differences between means for paired institutions (Table 8).

A difference was shown between black males and black females with respect to their feelings about regular involvement in physical education activity (Figure 2). As a group black males felt significantly stronger about regular participation in physical activity than did black females. An opposite interaction existed between white females and males. While the level of agreement for black males and white females was similar, the same was true for black females and white males.

Blacks in the 25-34 age group expressed a higher level of agreement that "regular participation in physical activity could make me feel better in general" than did blacks 35 and over. By contrast, there was practically no difference between white students between 25 and 34 years and those over 35 years of age with respect to this feeling. The level of agreement was similar for whites of both age groups, and for blacks under 35 (Figure 3).

Table 8

Analysis of Variance: Regular Participation In Physical  
Education Activity Makes Me Feel Better

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	1.22	1.22	2.48	.117
Age	1	0.37	0.37	0.76	.386
Institution	2	4.96	2.48	5.05	.007*
Race	1	0.03	0.03	0.08	.783
Sex * Age	1	0.15	0.15	0.31	.579
Sex * Institution	2	2.55	1.27	2.60	.078
Sex * Race	1	3.25	3.25	6.62	.011*
Age * Institution	2	1.98	0.99	2.02	.137
Age * Race	1	2.38	2.38	4.85	.029*
Institution * Race	2	3.49	1.75	3.55	.031*

\*Significant at the .05 level

Results of The Duncan Multiple Range Test for  
The Main Effect Institution

Institution	Mean	C	B	A
		4.18	4.20	4.39
A	4.39	.21* < .2854**	.19* < .2854**	--
B	4.20	.02* < .2908**	--	
C	4.18	--		

\* = Observed differences between group means

\*\* = Least significant ranges

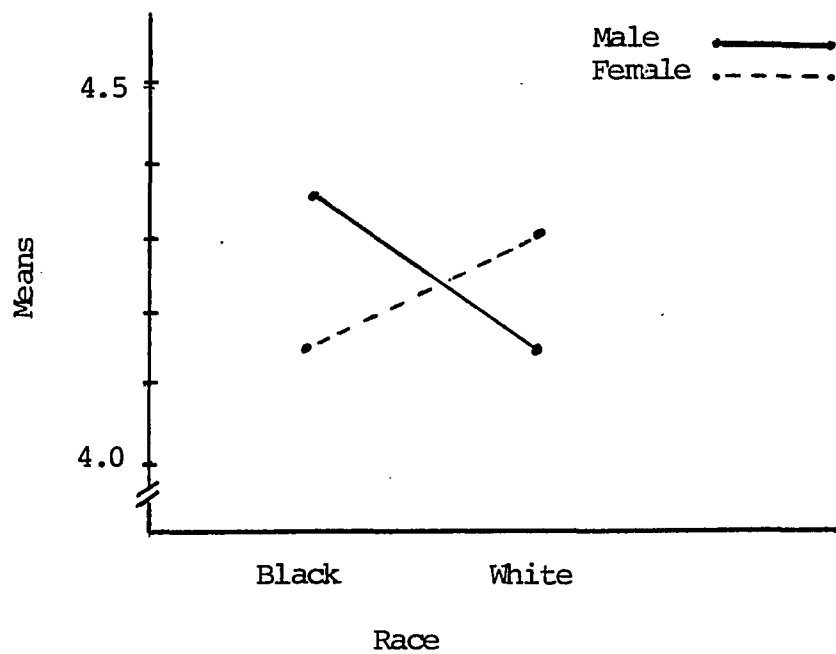


Figure 2. General feeling about regular participation in physical education activity according to sex and race.

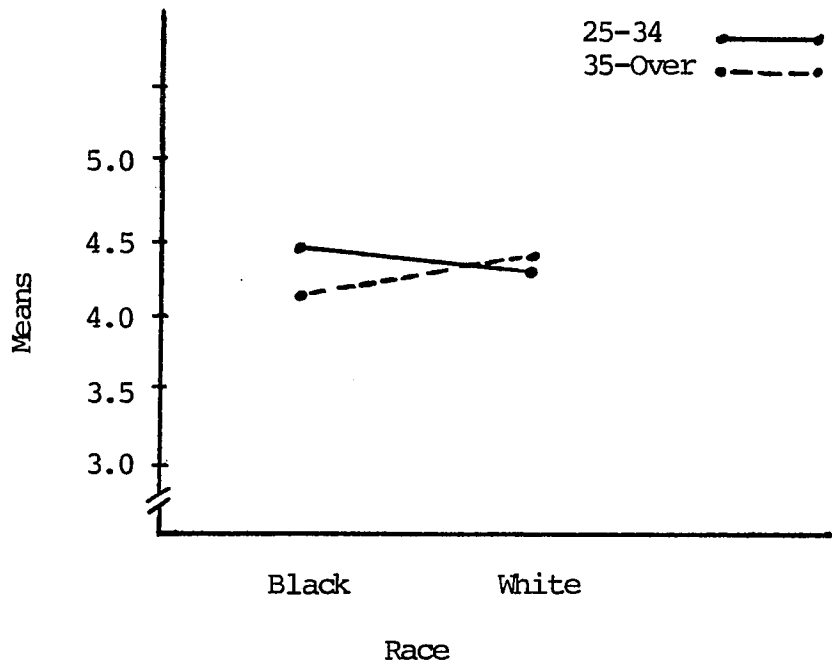


Figure 3. General feeling about regular participation in physical education activity according to age and race.

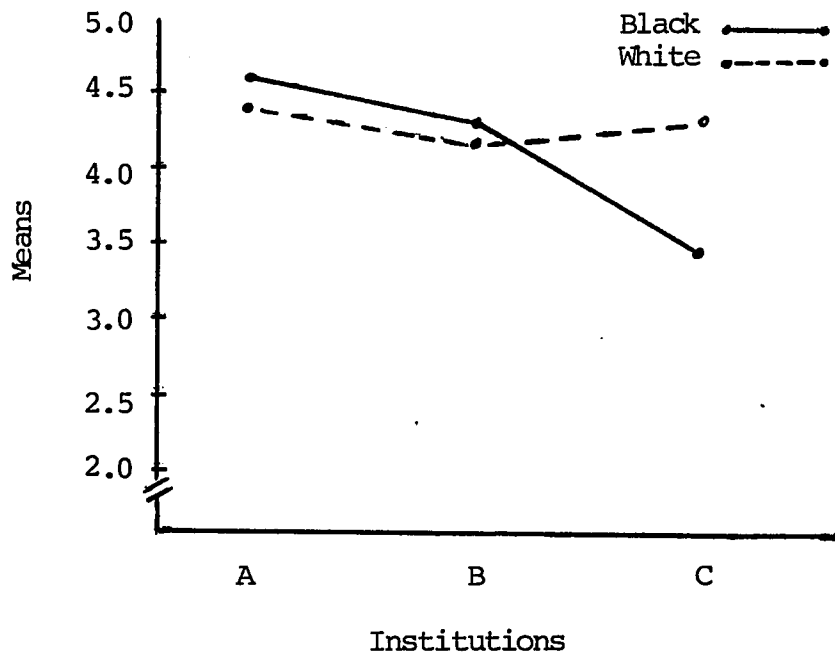


Figure 4. General feeling about regular participation in physical activity according to institution and race.

Whites at institution C were in higher agreement that "regular participation in physical education activity can make me feel better in general" than were blacks at that institution (Figure 4). At institutions A and B, very small differences were found.

When the factor "Regular exercise and physical activity should be a top priority concern" was analyzed with respect to sex, age group, institution, and ethnic background as independent variables, statistically significant findings were found from two two-way interactions of these variables (see Table 9). The analysis indicated that a statistically significant variation ( $p < .05$ ) existed between sex by institution and sex by race.

Table 9

Analysis of Variance: General Feeling About Regular Exercise and Physical Activity As a Top Priority Concern

Source of Variations	DF	SS	MS	F	PR > F
Sex	1	1.14	1.14	1.41	.237
Age	1	0.03	0.03	0.04	.841
Institution	2	1.63	0.81	1.00	.370
Race	1	0.11	0.11	0.14	.707
Sex * Age	1	0.20	0.20	0.25	.617
Sex * Institution	2	7.65	3.83	4.70	.010*
Sex * Race	1	5.38	5.38	6.61	.011*
Age * Institution	2	2.64	1.32	1.62	.201
Age * Race	1	0.60	0.60	0.74	.391
Institution * Race	2	3.89	1.95	2.39	.095

\*Significant at the .05 level

A significant difference appeared to exist between males and females at institution B with respect to ranking physical activity involvement (Figure 5). Females were in significantly higher agreement that "Regular participation in physical education activity should be a top priority concern" than were males at institution B. There was practically no difference between male and female agreement with the factor at either institution A or C.

The priority placement of regular exercise and physical activity according to sex and race is shown in Figure 6. As a group white females expressed a higher level of agreement that "Regular exercise and physical activity should be a top priority concern" than did white males. An opposite interaction was found to exist between black males and black females.

Neither the ANOVA on the factor "Confidence in present skill ability" (Table 10), nor on the factor "Volunteer participation in physical education activity classes" (Table 11), with age, institution, sex, and race as independent variables yielded significant findings ( $p > .05$ ) when those variables were analyzed as main effects and two-way interactions.

#### Physical Activity Preference

In order to answer Research Question 2 which dealt with activity preferences, percentages and frequencies were computed for each item in Section C (the preference section of the data collection instrument) by sex, by age, by institution, and by ethnic background. Also, an ANOVA



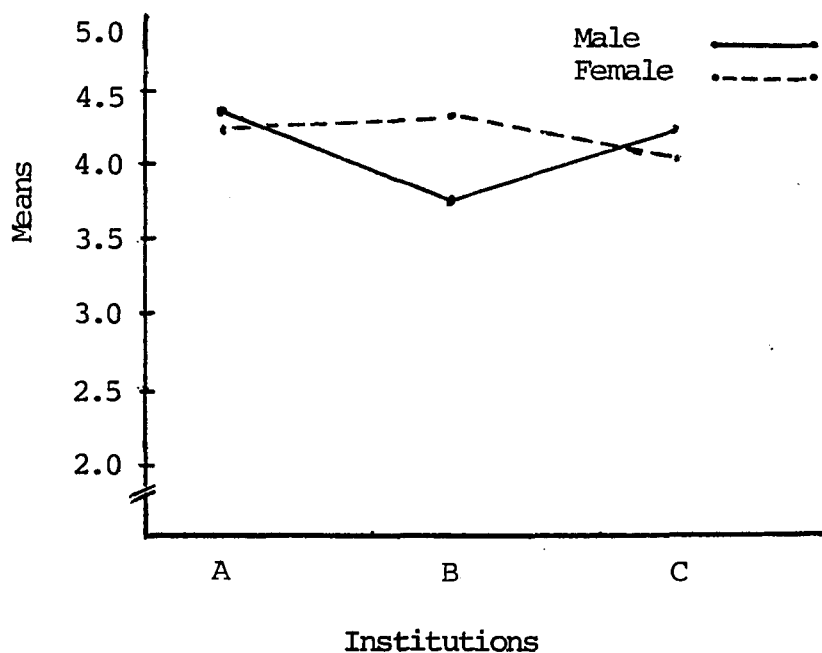


Figure 5. General feeling about regular exercise and physical activity as a top priority concern according to sex and institution.

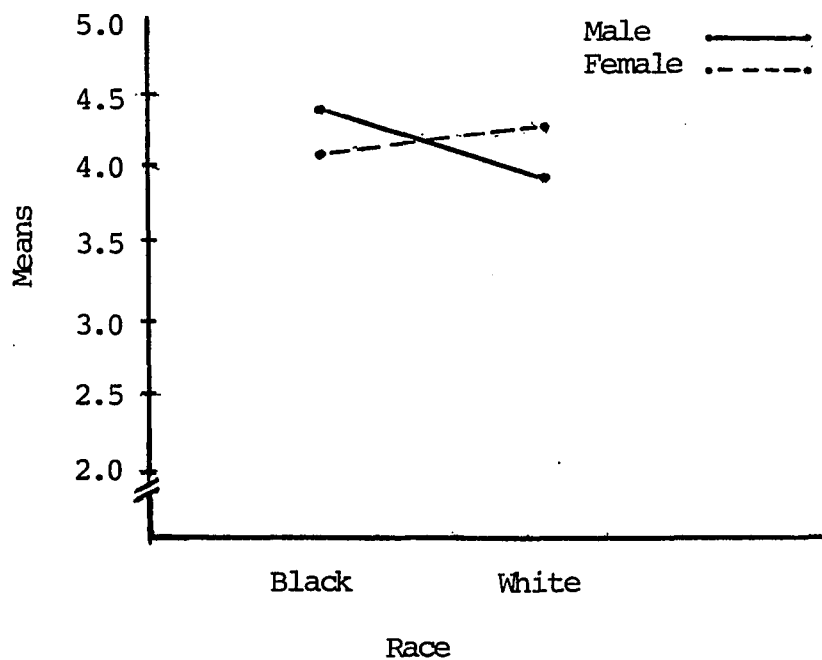


Figure 6. General feeling about regular exercise and physical activity as a top priority concern according to sex and race.

Table 10

Analysis of Variance: General Feeling About Confidence  
In Present Physical Skill Ability

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	2.00	2.00	1.78	.184
Age	1	0.88	0.88	0.79	.377
Institution	2	0.23	0.11	0.11	.899
Race	1	1.40	1.40	1.25	.265
Sex * Age	1	0.37	0.37	0.34	.563
Sex * Institution	2	1.80	0.90	0.80	.450
Sex * Race	1	1.57	1.57	1.41	.237
Age * Institution	2	1.92	0.96	0.86	.427
Age * Race	1	0.00	0.00	0.00	.981
Institution	2	4.17	2.08	1.86	.160

\*Significant at the .05 level

Table 11

Analysis of Variance: General Feeling About Volunteer Participation  
In Physical Education Activity Classes

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	1.42	1.42	1.86	.175
Age	1	0.01	0.01	0.02	.884
Institution	2	1.86	0.93	1.22	.299
Race	1	1.26	1.26	1.65	.201
Sex * Age	1	0.12	0.12	0.16	.690
Sex * Institution	2	0.21	0.10	0.14	.867
Sex * Race	1	2.23	2.23	2.91	.090
Age * Institution	2	0.70	0.35	0.46	.633
Age * Race	1	0.16	0.16	0.22	.641
Institution * Race	2	1.27	0.63	0.83	.437

\*Significant at the .05 level

was computed for each preference area item. For the list of specific activities, percentages and frequencies were computed for top selections. In Table 12 are shown the results of the sample respondents' inclinations towards specific physical education activity preference areas.

Examination of Table 12 revealed that fitness activity was most frequently rated as the most highly preferred physical activity participation area by all groups of students except those in the over-45 age group who rated fitness second, and personal development activity first. The fundamental skill development activity area was most frequently rated as the least preferred area of physical activity participation by female respondents. Male respondents rated fundamental skill development activity fourth. The men rated dance as the least preferred area of physical activity participation.

In Table 13, presented in ranked order, are the results of the respondents' selections of those physical education activities of Highest Interests along with their selections of those activities in which Class Instruction was desired. Examination of Table 13 revealed that respondents selected as their ten top-ranked activities of highest interest walking, tennis, exercise programs, swimming, aerobic dance, jogging, cycling, volleyball, racquetball, and sailing. With the exception of walking, cycling, and volleyball, a majority of respondents indicated a desire for class instruction in the same activities. It is significant to note that the top-ranked activity selections of highest interest as well as those activities in which class instruction was desired were a comfortable mixture of fitness, personal development, and lifetime sports.



Table 13

Rank Order Presentation of Number and Percentage Distribution of Sample Respondents Indicating Physical Education Activities of Highest Interest and Physical Education Activities Class Instruction Desired

Physical Activities	Highest Interest		Physical Activities	Class Instruction Desired	
	N	%		N	%
Walking	80	54.4	Tennis	60	40.8
Tennis	80	54.4	Exercise Programs	50	34
Exercise Programs	78	55	Swimming	47	31.9
Swimming	74	50	Aerobic Dance	45	30.6
Aerobic Dance	59	40	Racquetball	43	29
Jogging	58	39.45	Jogging	37	25
Cycling	58	39.45	Horseback Riding	37	25
Volleyball	51	34.69	Karate	34	23
Racquetball	51	34.69	Bowling	34	23
Sailing	48	32.6	Sailing	33	22
Horseback Riding	44	29.9	Creative Dance	29	19.7
Bowling	43	29	Gymnastics	28	19
Social Dance	43	29	Volleyball	25	17
Outdoor Education	32	27.76	Walking	24	16
Softball	39	26.5	Folk Dance	24	16
Water Skiing	36	24	Roller Skating	24	16
Canoeing	34	23	Social Dance	23	15.6
Hiking	34	23	Square Dance	22	14.9
Basketball	34	23	Ballet Dance	22	14.9
Disco Dance	34	23	Canoeing	22	14.9
Gymnastics	33	22.4	Archery	22	14.9
Archery	29	19.7	Cycling	21	14.2
Karate	29	19.7	Snow Skiing	21	14.2
Creative Dance	28	19	Golf	20	13.6
Golf	27	18	Outdoor Education	20	13.6
Badminton	26	17.68	Water Skiing	19	12.9
Square Dance	26	17.68	Hiking	18	12

Table 13 (Continued)

Physical Activities	Highest Interest		Physical Activities	Class Instruction Desired	
	N	%		N	%
Ice Skating	25	17	Weight Training	18	12
Scuba	23	15.6	Disco Dance	18	12
Folk Dance	23	15.6	Riflery	18	12
Snow Skiing	23	15.6	Scuba	18	12
Rope Skipping	22	14.96	Handball	17	11.56
Weight Training	22	14.96	Ice Skating	15	10
Backpacking	21	14	Fencing	15	10
Roller Skating	21	14	Softball	14	9.5
Ballet	21	14	Basketball	13	8.8
Handball	19	12.9	Badminton	12	8
Baseball	18	12	Diving	12	8
Diving	18	12	Coaching	11	7.4
Climbing	17	11.56	Frisby	11	7.4
Riflery	17	11.56	Backpacking	11	7.4
Track and Field	15	10	Soccer	10	6.8
Cross Country Running	15	10	Baseball	9	6.1
Soccer	14	9.5	Rope Skipping	9	6.1
Frisby	14	9.5	Lacrosse	8	5.4
Fencing	10	6.8	Track and Field	8	5.4
Coaching	10	6.8	Climbing	7	4.7
Paddle Ball	10	6.8	Orienteering	7	4.7
Officiating	8	5	Wrestling	7	4.7
Flag Football	7	4.7	Officiating	6	4
Field Hockey	6	4	Fly Casting	6	4
Speedball	6	4	Flag Football	5	3.4
Squash	5	3.4	Cross Country Running	5	3.4
Wrestling	5	3.4	Squash	4	2.7
Lacrosse	5	3.4	Bait Casting	3	2
Bait Casting	3	2	Speedball	2	1.37
Fly Casting	3	2	Ice Hockey	2	1.37
Ice Hockey	3	2	Field Hockey	2	1.37
Water Polo	2	1.37	Rugby	2	1.37
Orienteering	2	1.37	Water Polo	2	1.37
Rugby	1	.68	Paddle Ball	1	.68

An analysis of variance was computed on the mean score of each item in Section C, the Preference Section, of the data collection instrument. In Table 14 are presented the results of the ANOVA on the physical activity preference items with sex, age, institution, and ethnic background as the independent variables.

Table 14

## Analysis of Variance: Physical Activity Preferences

Source of Variations	DF	SS	MS	F	PR > F
Sex	1	1.05	1.05	2.52	.114
Age	1	0.03	0.03	0.08	.778
Institution	2	0.80	0.40	0.96	.384
Race	1	3.03	3.03	7.26	.008*
Sex * Age	1	0.36	0.36	0.87	.354
Sex * Institution	2	1.72	0.86	2.07	.131
Sex * Race	1	0.03	0.03	0.10	.758
Age * Institution	2	0.19	0.09	0.24	.789
Age * Race	1	0.00	0.00	0.00	.951
Institution * Race	2	1.97	0.98	2.36	.098

\*Significant at the .05 level.

## Results of The Duncan Multiple Range Test for The Main Effect Race

Race	Mean	White 3.25	Black 3.75
Black	3.75	.50*	--
		> .2417**	
White	3.25	--	

\* = Observed differences between group means

\*\* = Least significant ranges

The data in Table 14 indicated that statistically significant variations ( $p < .05$ ) existed between ethnic groups and their preference for specific physical education activity. Results of a subsequent Duncan Multiple Range Test applied to the means for race indicated that blacks as a group showed a significantly greater preference for participating in selected physical education activity areas than did whites (Table 14).

The ANOVA on the factors "Preference for fitness area activity" (Table 15), "Preference for personal development area activity" (Table 16), and "Preference for lifetime sports activity" (Table 17), each with sex, age, institution and race as independent variables did not yield significant findings ( $p > .05$ ) when these variables were analyzed as main effects or two-way interactions.

Table 15

## Analysis of Variance: Preference for Fitness Area Activity

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	0.62	0.62	0.46	.499
Age	1	1.81	1.81	1.34	.248
Institution	2	5.87	2.93	2.17	.117
Race	1	4.17	4.17	3.09	.081
Sex * Age	1	0.14	0.14	0.11	.746
Sex * Institution	2	2.78	1.39	1.03	.360
Sex * Race	1	2.20	2.20	1.63	.204
Age * Institution	2	1.56	0.78	0.58	.562
Age * Race	1	3.08	3.08	2.28	.133
Institution * Race	2	4.03	2.01	1.49	.228

\*Significant at the .05 level.



Table 16

Analysis of Variance: Preference for Personal  
Development Area Activity

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	4.22	4.22	3.54	.062
Age	1	3.71	3.71	3.11	.080
Institution	2	1.58	0.79	0.66	.516
Race	1	1.14	1.14	0.96	.329
Sex * Age	1	0.17	0.17	0.15	.703
Sex * Institution	2	1.29	0.64	0.54	.853
Sex * Race	1	0.51	0.51	0.53	.512
Age Institution	2	0.60	0.30	0.25	.778
Age * Race	1	0.14	0.14	0.12	.726
Institution * Race	2	4.01	2.00	1.68	.190

\*Significant at the .05 level.

Table 17

Analysis of Variance: Preference for Lifetime  
Sports Area of Activity

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	1.03	1.03	0.71	.400
Age	1	2.65	2.65	1.83	.178
Institution	2	2.98	1.49	1.03	.360
Race	1	1.72	1.72	1.19	.278
Sex * Age	1	1.09	1.09	0.75	.387
Sex * Institution	2	0.98	0.49	0.34	.714
Sex * Race	1	2.86	2.86	1.97	.162
Age * Institution	2	0.00	0.00	0.00	.998
Age * Race	1	0.21	0.21	0.15	.701
Institution * Race	2	2.50	1.25	0.86	.424

\*Significant at the .05 level.

In Table 18 are presented the results of the ANOVA on the factor "Preference for fundamental skill development area activity" with age, sex, institution, and race as the independent variables. There was a statistically significant variation ( $p < .05$ ) between respondents' ethnic background and their preference for fundamental skill

Table 18

Analysis of Variance: Preference for Fundamental Skill Development Activity Area

Source of Variations	DF	SS	MS	F	PR > F
Sex	1	0.34	0.34	0.24	.627
Age	1	3.64	3.64	2.48	.117
Institution	2	3.68	1.84	1.25	.288
Race	1	15.60	15.60	10.62	.001*
Sex * Age	1	2.35	2.35	1.60	.207
Sex * Institution	2	5.28	2.64	1.80	.169
Sex * Race	1	0.02	0.02	0.02	.896
Age * Institution	2	0.64	0.32	0.22	.802
Age * Race	1	1.53	1.53	1.05	.308
Institution * Race	2	0.34	0.17	0.12	.889

\*Significant at the .05 level.

Results of the Duncan Multiple Range Test for The Main Effect Race

Race	Mean	White	Black
		2.11	3.05
Black	3.05	.94*	--
		>	
		.4521**	
White	2.11	--	

\* = Observed differences between group means

\*\* = Least significant ranges

development activity. Results of a subsequent Duncan Multiple Range Test applied to the means for race indicated that blacks as a group showed a significantly greater preference for the fundamental skill development activity area than did whites (Table 18).

In Table 19 are presented the results of the ANOVA on the factor "Preference for dance area activity" with age, sex, institution, and ethnic background as the independent variables.

Table 19

## Analysis of Variance: Preference for Dance Activity Area

Source of Variations	DF	SS	MS	F	PR > F
Sex	1	3.47	3.47	1.82	.179
Age	1	4.34	4.34	2.28	.133
Institution	2	6.82	3.41	1.79	.170
Race	1	6.12	6.12	3.22	.075
Sex * Age	1	10.97	10.97	5.76	.017*
Sex * Institution	2	4.79	2.39	1.26	.287
Sex * Race	1	0.05	0.05	0.03	.869
Age * Institution	2	4.54	2.27	1.19	.307
Age * Race	1	0.05	0.05	0.03	.862
Institution * Race	2	7.28	3.64	1.91	.151

\*Significant at the .05 level.

As is indicated in Table 19 a statistically significant variation ( $p < .05$ ) existed between respondents' sex and age and their preference for dance activity. As shown in Figure 7, females in the 25-34 age group showed a greater preference for dance activity than did males of the same age group. The same was true for females in the over-35 age group when compared to males over 35 although the difference was not as great. While females as a group preferred dance activity to some varying degree, males did not.

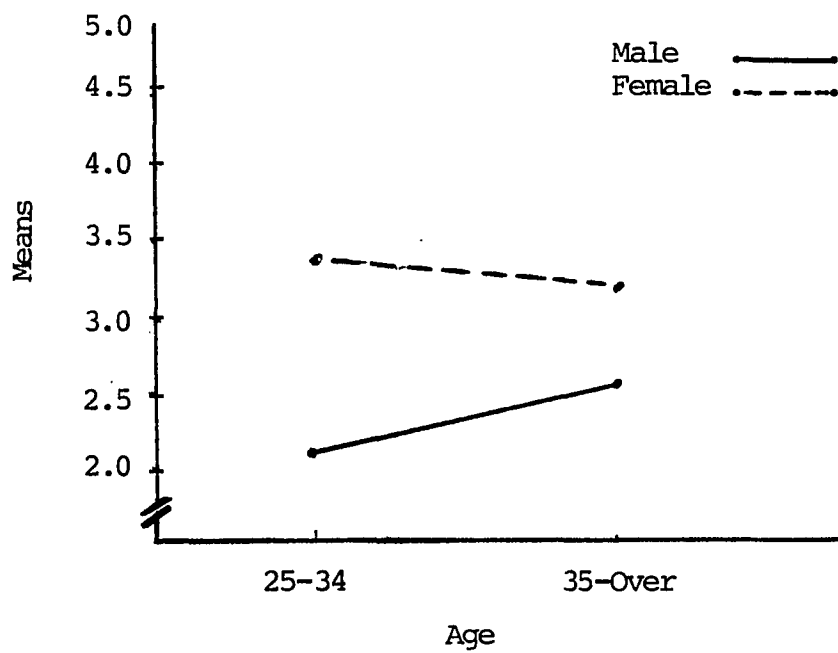


Figure 7. Preference for dance activity according to sex and age.

### Physical Activity Purpose

In order to answer research question 3 which dealt with activity purposes, percentages and frequencies were computed for each item in Section D of the data collection instrument by sex, by age, by institution, and by ethnic background. Also, an ANOVA was computed for each purpose area item. In Table 20 are shown the results of respondents' inclinations towards specific physical education activity purpose areas. The N for the "agreement" response category was obtained by combining respondents' total favorable responses in the categories of "strongly agree" and "agree." Respondents' responses in the categories of "strongly disagree" and "disagree" were combined to form the response category "disagree."

Examination of Table 20 revealed that a majority of respondents under 35 years of age most frequently agreed that improving their circulation, breathing, muscle coordination, strength, and general body control was the most meaningful purpose undergirding their physical activity involvement. The same was true for the 45 and over age group. Both age groups also ranked improving their overall physical appearance second. The 35-44 age group reversed the order of ranking for those two purposes and indicated that improving their overall physical appearance was their primary purpose for participating in physical activity, and improving their circulation, breathing, muscle coordination, strength, and general body control was their second. A majority of respondents were inclined to disagree that their primary purpose for participating in physical activity was to develop skills for self-expression.





Table 20 (Continued)

Physical Activity Purpose	Sex						Age									Institutions									Race														
	Male N=35			Female N=108			25-34 N=93			35-44 N=43			45-Over N=7			A N=53			B N=41			C N=49			Black N=37			White N=106											
	N	%	R	N	%	R	N	%	R	N	%	R	N	%	R	N	%	R	N	%	R	N	%	R	N	%	R	N	%	R									
9. Purely academic. To satisfy my general education requirement or elective requirement.																																							
Agree:	9	25.71	9	50	46.30	8	39	41.33	9	17	39.53	8	3	42.86	6	19	35.85	9	25	60.98	6	15	30.61	9	23	62.16	8	36	33.96	9									
Disagree:	19	54.29		42	38.89		37	39.71		21	48.78		3	42.86		26	49.06		11	29.27		24	48.98		10	27.03		51	21.70										
10. To participate with others on a competitive basis.																																							
Agree:	22	62.85	5	48	44.44	9	51	54.84	6	18	41.86	7	1	14.29	10	28	52.83	5	25	60.98	7	17	34.69	8	24	64.85	7	46	43.60	6									
Disagree:	9	25.72		40	37.04		24	25.80		21	48.83		4	57.15		17	32.08		12	29.27		20	40.82		9	24.33		40	37.73										

\*R denotes rank of purpose.



In Table 21 are presented the results of the ANOVA on physical activity purpose items with sex, age, institution, and race as independent variables.

Table 21

## Analysis of Variance: Physical Activity Purposes

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	0.08	0.08	0.24	.625
Age	1	0.61	0.61	1.64	.202
Institution	2	1.38	0.69	1.85	.161
Race	1	2.79	2.79	7.45	.007*
Sex * Age	1	0.97	0.97	2.61	.108
Sex * Institution	2	3.43	1.71	4.58	.011*
Sex * Race	1	1.29	1.29	3.44	.065
Age * Institution	2	0.06	0.03	0.09	.911
Age * Race	1	0.57	0.57	1.53	.217
Institution * Race	2	0.32	0.16	0.44	.645

\*Significant at the .05 level.

## Results of The Duncan Multiple Range Test for The Main Effect Race

Race	Mean	White 3.45	Black 3.84
Black	3.84	.34*	--
		>	
		.2290**	
White	3.45	--	

\* = Observed differences between group means

\*\* = Least significant ranges

The analysis indicated statistically significant findings from one main effect and one two-way interaction. The analysis indicated that statistically significant variations ( $p < .05$ ) existed between

respondents' race, and sex and institution, and their purpose for participating in physical activity. Results of the subsequent Duncan Multiple Range Test applied to the means for sex, age, institution, and race indicated that blacks as a group showed a significantly greater inclination to perceive physical activity involvement meaningful than did whites (Table 21). As shown in Figure 8, there was an apparent difference between females and males at institution B with respect to purposes underlying their physical activity involvement. Females showed a greater inclination to find participation in physical activity meaningful than did males.

An ANOVA was computed on the mean score of each purpose factor. In Table 22 are presented the results of the ANOVA on the factor "To improve overall physical appearance" with age, sex, institution, and ethnic background as independent variables.

Table 22

## Analysis of Variance: To Improve Overall Physical Appearance

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	1.82	1.82	2.67	.105
Age	1	0.01	0.01	0.02	.876
Institution	2	5.04	2.52	3.69	.027*
Race	1	3.05	3.05	4.47	.036*
Sex * Age	1	0.52	0.52	0.76	.384
Sex * Institution	2	3.25	1.63	2.38	.096
Sex * Race	1	6.47	6.47	9.47	.002*
Age * Institution	2	0.15	0.08	0.11	.893
Age * Race	1	1.17	1.17	1.72	.192
Institution * Race	2	2.05	1.03	1.50	.226

\*Significant at the .05 level.

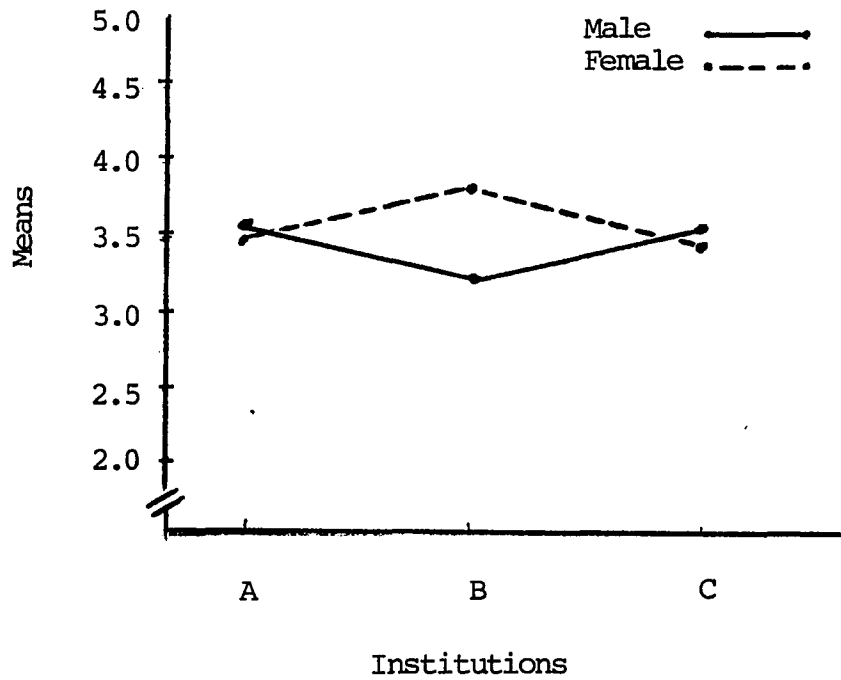


Figure 8. Physical activity participation purposes according to sex and institution.

Table 22 (Continued)

Results of The Duncan Multiple Range Test for The Main Effects Institution, and Race

Institution	Mean	C 4.57	B 4.17	A 4.40
A	4.40	.17* < .3385**	.23* < 1.5118**	--
B	4.17	.40* > .3429**	--	
C	4.57	--		
Race	Mean	White 4.38	Black 4.43	
Black	4.43	.05* < .3091**	--	
White	4.38	--		

\* = Observed differences between group means

\*\* = Least significant ranges

The data in Table 22 yielded statistically significant findings from two main effects and one two-way interaction of these variables. The analysis indicated that statistically significant variations ( $p < .05$ ) existed between respondents' institution, race, and sex and race with respect to their participation in physical activity for the purpose of improving their overall physical appearance. Results of a subsequent Duncan Multiple Range Test (Table 22) applied to the means for institutions indicated that respondents at institution C were significantly more inclined to participate in physical activity for the purpose of improving their overall physical appearance than were

respondents at institution B. The follow-up analysis showed no significant differences between respondents at institution C when compared with respondents at institution A. Nor was there a significant difference between respondents at institution A when compared with respondents at institution B. As a group, blacks showed a significantly greater inclination to perceive physical activity involvement to be worthwhile as a means of improving overall appearance than did whites.

As shown in Figure 9, black males were more inclined to participate in physical activity for the purpose of improving their overall physical appearance than were black females. An opposite inclination was shown to exist between white males and white females. White females were more inclined to participate in physical activity for the purpose of improving overall physical appearance than were white males.

In Table 23 are presented the results of the ANOVA on the factor "To develop a greater understanding and appreciation of the way other people move and perform skillful acts" as a purpose for participating in physical activity with age, sex, institution, and ethnic background as independent variables. As is shown in Table 23, statistically significant differences ( $p < .05$ ) existed between the ethnic background of respondents and their involvement in physical activity for the purpose of developing a greater appreciation of the way other people move and perform skillful acts. A follow-up Duncan Multiple Range Test applied to the means for black and white respondents indicated that blacks as a group were significantly more inclined to participate in physical activity for that purpose than were whites (Table 23).

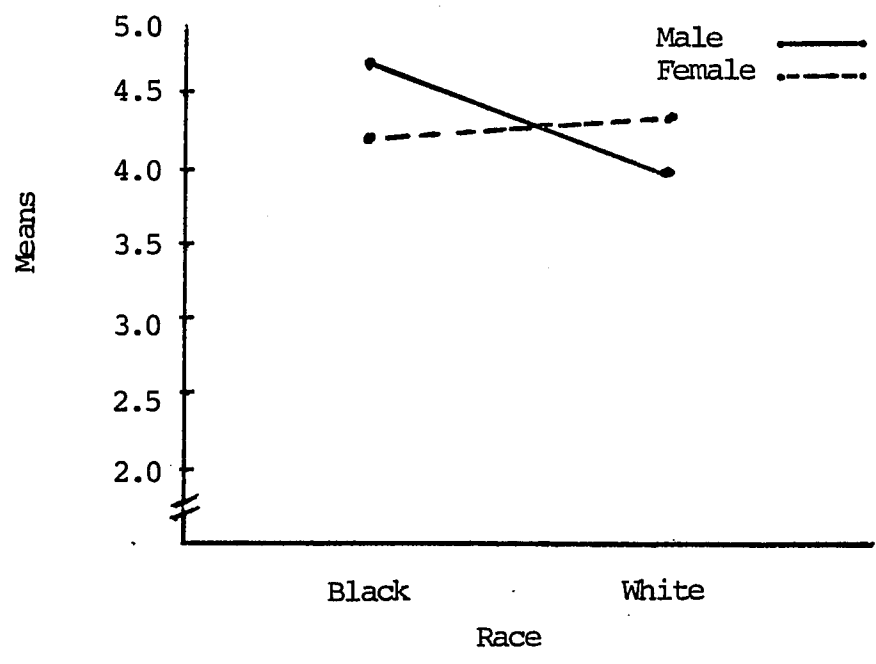


Figure 9. Participation in physical activity for the purpose of improving overall physical appearance according to sex and race.

Table 23

Analysis of Variance: To Develop A Greater Understanding  
and Appreciation of The Way Other People Move and  
Perform Skillful Acts

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	0.33	0.33	0.27	.602
Age	1	3.74	3.74	3.01	.085
Institution	2	5.95	2.38	2.40	.095
Race	1	4.95	4.95	3.99	.048*
Sex * Age	1	2.04	2.04	1.64	.202
Sex * Institution	2	2.82	1.41	1.14	.323
Sex * Race	1	0.08	0.08	0.07	.789
Age * Institution	2	0.21	0.11	0.09	.917
Age * Race	1	3.00	3.00	2.42	.122
Institution * Race	2	0.45	0.23	0.18	.833

Significant at the .05 level.

Results of The Duncan Multiple Range Test for  
The Main Effect Race

Race	Mean	White	Black
		3.05	3.51
Black	3.51	.46*	--
		> .4169**	
White	3.05	--	

\* = Observed differences between group means

\*\* = Least significant ranges

In Table 24 are presented the results of the ANOVA on the factor "To participate with others on a cooperative basis" with age, sex, institution, and ethnic background as independent variables. The analysis indicated that statistically significant variations ( $p < .05$ ) existed between respondents according to institutions and their

Table 24

Analysis of Variance: To Participate With Others  
On A Cooperative Basis

Source of Variations	DF	SS	MS	F	PR > F
Sex	1	1.62	1.62	1.58	.211
Age	1	0.91	0.91	0.89	.347
Institution	2	6.68	3.34	3.25	.042*
Race	1	9.96	9.96	9.69	.002*
Sex * Age	1	0.50	0.50	0.49	.484
Sex * Institution	2	5.64	2.82	2.74	.068
Sex * Race	1	2.72	2.72	2.65	.106
Age * Institution	2	0.88	0.44	0.43	.650
Age * Race	1	0.23	0.23	0.23	.631
Institution * Race	2	1.87	0.94	0.91	.404

Significant at the .05 level.

Results of The Duncan Multiple Range Test for The Main  
Effects Institution, and Race

Institution	Mean	C	B	A
		3.55	3.78	3.68
A	3.68	.13* < .4184**	.10* < .4169**	--
B	3.78	.23* < .4205**	--	
C	3.55	--		
Race	Mean	White	Black	
		3.52	4.08	
Black	4.08	.56* > .3792**	--	
White	3.52	--		

\* = Observed differences between group means

\*\* = Least significant ranges



ethnic background and their desire to participate in physical activity that provided for cooperative involvement. While the F ratio indicated that significant differences existed between the overall means for institutions, a subsequent Duncan Multiple Range Test indicated that there were no significant differences between means for paired institutions. The follow-up analysis indicated that blacks as a group perceived cooperative physical activity involvement to be significantly more meaningful than did whites (Table 24).

The ANOVA on the factor "To improve circulation, breathing, muscle coordination, strength and general body control" with age, sex, institution, and ethnic background as independent variables did not yield significant findings ( $p > .05$ ) when these variables were analyzed as main effects and two-way interactions (Table 25).

Table 25

Analysis of Variance: To Improve Circulation, Breathing, Muscle Coordination, Strength, and General Body Control

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	0.00	0.00	0.00	.970
Age	1	0.92	0.92	2.45	.119
Institution	2	0.88	0.44	1.17	.313
Race	1	0.00	0.00	0.00	.959
Sex * Age	1	0.01	0.01	0.03	.865
Sex * Institution	2	2.12	1.06	2.80	.064
Sex * Race	1	0.80	0.80	2.13	.147
Age * Institution	2	0.12	0.06	0.16	.848
Age * Race	1	0.53	0.53	1.40	.239
Institution * Race	2	0.11	0.05	0.16	.085

\*Significant at the .05 level.

In Table 26 are presented the results of the ANOVA on the factor "To improve proficiency in handling objects" with age, sex, institution, and race as independent variables.

Table 26

Analysis of Variance: To Improve Proficiency In Handling Objects

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	1.19	1.19	0.82	.367
Age	1	0.32	0.32	0.22	.638
Institution	2	0.74	0.37	0.26	.774
Race	1	6.25	6.25	4.28	.040*
Sex * Age	1	0.14	0.14	0.10	.751
Sex * Institution	2	0.65	0.32	0.22	.800
Sex * Race	1	0.15	0.15	0.11	.743
Age * Institution	2	2.65	1.33	0.91	.405
Age * Race	1	2.61	2.61	1.79	.183
Institution	2	1.05	0.52	0.36	.697

\*Significant at the .05 level.

Results of The Duncan Multiple Range Test for  
The Main Effect Race

Race	Mean	White	Black
		3.03	3.59
Black	3.59	.56*	--
		> .4518**	
White	3.03	--	

\* = Observed differences between group means

\*\* = Least significant ranges

The data in Table 26 indicated that statistically significant variations ( $p < .05$ ) existed between respondents grouped according to ethnic background and their desire to participate in physical activity for the purpose of improving manipulative skills. The subsequent Duncan

Multiple Range Test applied to the means for both black and white respondents indicated that blacks as a group were significantly more inclined to participate in physical activity for that purpose than were whites (Table 26).

In Table 27 are presented the results of the ANOVA on the factor "To improve the ability to better express inner feelings to others" with age, sex, institution, and ethnic background as independent variables.

Table 27

Analysis of Variance: To Improve The Ability To Better Express Inner Feelings To Others

Source of Variations	DF	SS	MS	F	PR > F
Sex	1	0.54	0.54	0.47	.494
Age	1	0.16	0.16	0.14	.711
Institution	2	2.20	1.10	0.95	.391
Race	1	3.51	3.51	3.01	.085
Sex * Age	1	9.58	9.58	8.22	.004*
Sex * Institution	2	14.15	7.08	6.07	.003*
Sex * Race	1	11.53	11.53	9.89	.002*
Age * Institution	2	0.11	0.06	0.05	.953
Age * Race	1	2.64	2.64	2.27	.134
Institution * Race	2	1.39	0.69	0.60	.551

\*Significant at the .05 level.

As is shown in Table 27, the data yielded statistically significant findings from three two-way interactions of these variables. The analysis indicated that statistically significant variations ( $p < .05$ ) existed between respondents' sex and age, sex and institution, and sex and ethnic background with respect to participating in physical activity for the purpose of improving skills for self-expression. As is shown in Figure 10, male respondents under 35 were less inclined



Figure 10. Participation in physical activity for the purpose of improving skills of self-expression according to sex and age.

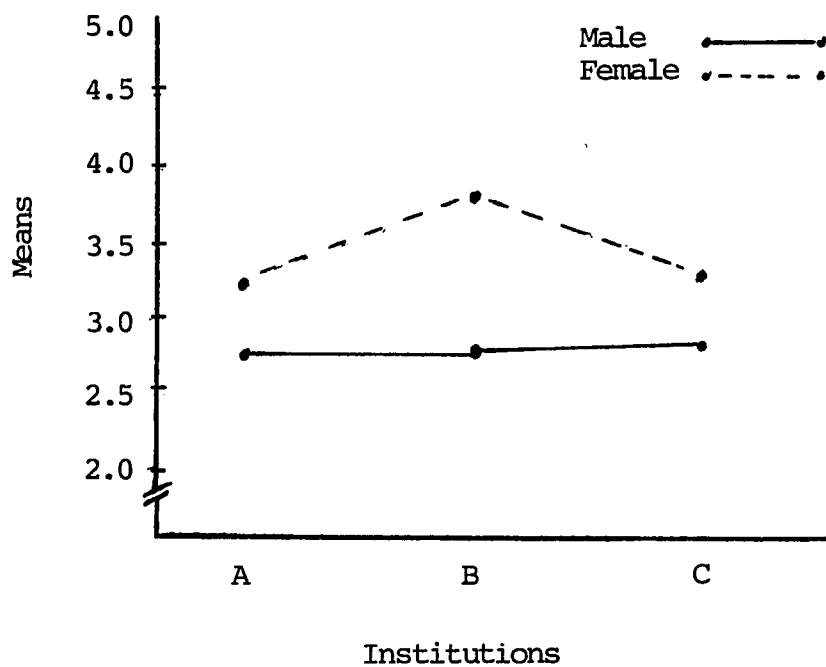


Figure 11. Participation in physical activity for the purpose of improving skills of self-expression according to sex and institution.

to participate in physical activity for the purpose of improving their skills for self-expression than were females of the same age group. The females in that age group were the only respondents to agree to that purpose. Males and females over 35 were shown to be undecided about involvement in physical activity for the purpose of improving skills for self-expression. An apparent difference was shown between males and females at institution B with respect to their involvement in physical activity for that purpose (Figure 11). Female respondents at institution B held stronger perceptions of the worth of physical activity engaged in for the purpose of improving skills for self-expression than did males. The same was true for females at institutions A and C when compared with males at those institutions although the differences between them were not as great. The level of disagreement by males at each institution was very similar. In Figure 12, differences are evident between white females and white males with respect to their involvement in physical activity for the purpose of improving skills of self-expression. White females were inclined to participate in physical activity for the purpose of improving skills of self-expression, whereas white males were not. The inclination of both black females and black males to agreement with that purpose was similar to that of white females.

In Table 28 are presented the results of the ANOVA on the factor "To learn better body control when moving from place" with age, sex, institution, and ethnic background as independent variables. The analysis indicated that statistically significant variation ( $p < .05$ ) existed between the interaction of sex and institution with respect

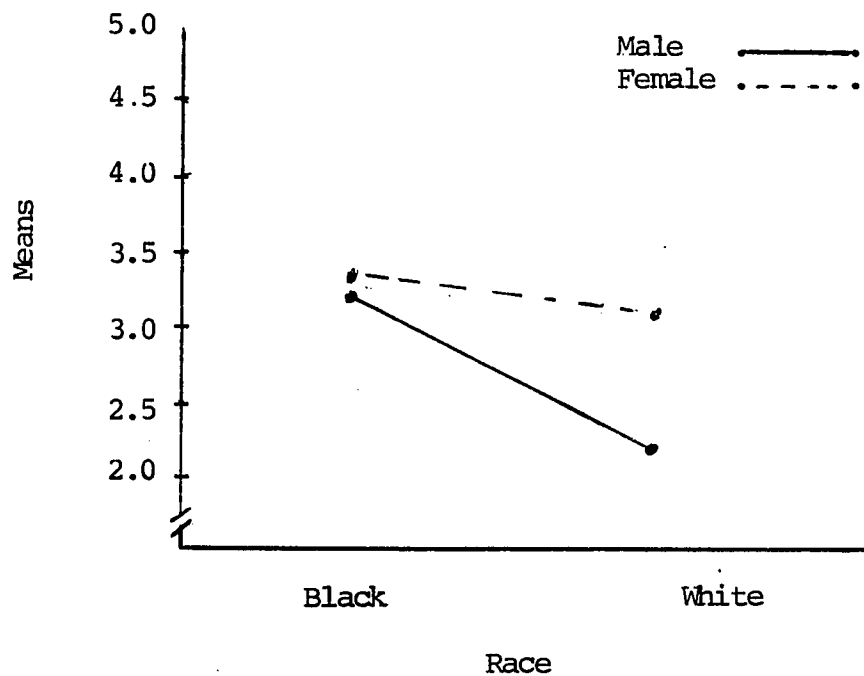


Figure 12. Participation in physical activity for the purpose of improving skills of self-expression according to sex and race.

Table 28

Analysis of Variance: To Learn Better Body Control

Source of Variations	DF	SS	MS	F	PR>F
Sex	1	0.04	0.04	0.03	.853
Age	1	2.65	2.65	1.88	.173
Institution	2	2.63	1.32	0.93	.397
Race	1	5.20	5.20	3.68	.057
Sex * Age	1	0.97	0.97	0.69	.408
Sex * Institution	2	13.19	6.59	4.67	.011*
Sex * Race	1	2.00	2.00	1.42	.235
Age * Institution	2	1.41	0.71	0.50	.607
Age * Race	1	3.23	3.23	2.29	.132
Institution * Race	2	1.56	0.78	0.55	.576

\*Significant at the .05 level.

to involvement in physical activity for the purpose of learning better body control. Females at institution B were apparently more inclined to participate in physical activity for that purpose than were males. An opposite but less significant interaction existed between females and males at institution C. At institution A females and males were in similar agreement (Figure 13).

In Table 29 are presented the results of the ANOVA on the purpose factor "To release my frustrations and tensions" with age, sex, institution, and ethnic background as independent variables. Significant findings from one main effect and one two-way interaction of these variables were evident. The analysis indicated that statistically significant variations ( $p < .05$ ) existed between respondents' age, and age and ethnic background with respect to their involvement in physical activity for the purpose of releasing their frustrations and tensions. Although the F ratio indicated a significant difference



Figure 13. Participation in physical activity for the purpose of learning better body control according to sex and institution.



Table 29

## Analysis of Variance: To Release My Frustrations And Tensions

Source of Variations	DF	SS	MS	F	PR> F
Sex	1	0.39	0.39	0.39	.531
Age	1	4.15	4.15	4.13	.044*
Institution	2	2.20	1.10	1.10	.337
Race	1	0.00	0.00	0.01	.934
Sex * Age	1	0.32	0.32	0.33	.567
Sex * Institution	2	0.95	0.48	0.48	.621
Sex * Race	1	0.31	0.31	0.31	.579
Age * Institution	2	1.21	0.61	0.61	.547
Age * Race	1	5.69	5.69	5.67	.018*
Institution * Race	2	2.74	1.37	1.37	.258

\*Significant at .05 level.

Results of The Duncan Multiple Range Test for  
The Main Effect Age

Age	Mean	35-Over 3.84	25-34 4.18
25-34	4.18	.34*	--
		< .3446**	
35-Over	3.84	--	

\* = Observed differences between group means

\*\* = Least significant ranges

between overall means for age groups, a subsequent Duncan Multiple Range Test for multiple comparisons did not indicate significant differences between age group means (Table 29). As is shown in Figure 14, white respondents over 35 were more inclined to participate in physical activity for the purpose of releasing frustrations and tensions than were black respondents within the same age group.

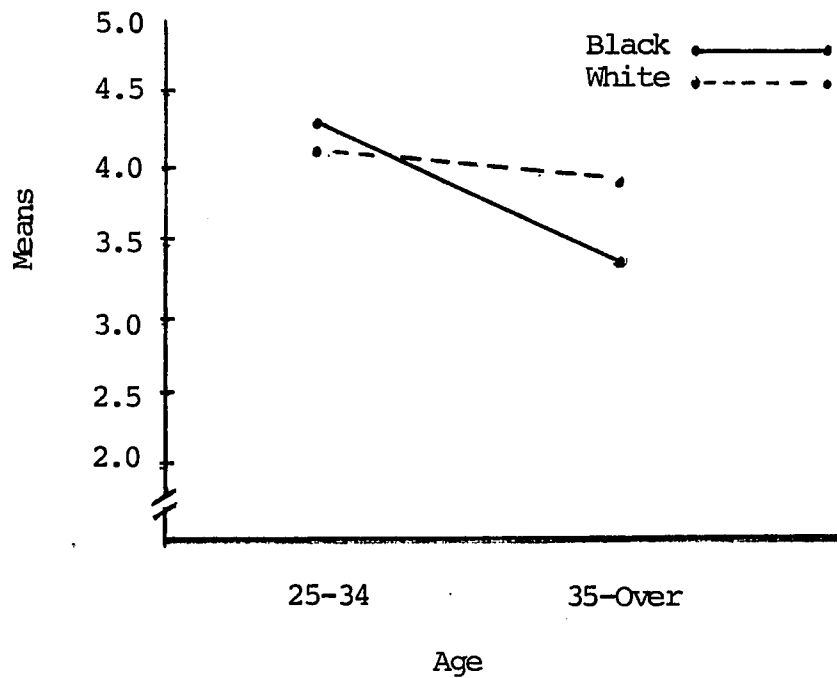


Figure 14. Participation in physical activity for the purpose of releasing frustrations and tension according to age and race.

The ANOVA on the purpose factor "To satisfy my general education or elective requirements" with age, sex, institution, and ethnic background as independent variables did not yield significant findings when these variables were analyzed as main effects and two-way interactions (Table 30).

Table 30

Analysis of Variance: To Satisfy My General Education  
or Elective Requirements

Source of Variations	DF	SS	MS	F	PR > F
Sex	1	3.65	3.65	2.17	.142
Age	1	0.01	0.01	0.01	.935
Institution	2	3.44	1.72	1.03	.361
Race	1	1.91	1.91	1.14	.287
Sex * Age	1	0.17	0.17	0.10	.750
Sex * Institution	2	1.67	0.83	0.50	.609
Sex * Race	1	0.06	0.06	0.04	.839
Age * Institution	2	2.86	1.43	0.85	.428
Age * Race	1	1.07	1.07	0.64	.425
Institution * Race	2	1.01	0.50	0.30	.741

\*Significant at the .05 level.

In Table 31 are presented the results of the ANOVA on the purpose factor "To participate with others on a competitive basis" with age, sex, institution, and ethnic background as independent variables. The analysis indicated statistically significant findings from one main effect and one two-way interaction of these variables. The analysis indicated that statistically significant variations ( $p < .05$ ) existed between respondents' sex, and sex and age, with respect to their participation in physical activity for competitive purposes. A subsequent Duncan Multiple Range Test applied to the means for men and

women indicated no significant difference (Table 31). Males 35 and over were significantly more inclined to participate in physical activity for the purpose of competitive involvement than were females of that age group. By contrast, little or no difference existed between males and females in the under-35 age group (Figure 15).

Table 31  
Analysis of Variance: To Participate With Others  
On A Competitive Basis

Source of Variations	DF	SS	MS	F	PR > F
Sex	1	6.17	6.17	4.50	.035*
Age	1	0.00	0.00	0.01	.939
Institution	2	1.76	0.88	0.64	.527
Race	1	2.71	2.71	1.98	.161
Sex * Age	1	5.99	5.99	4.37	.038*
Sex * Institution	2	3.58	1.79	1.31	.273
Sex * Race	1	0.00	0.00	0.00	.960
Age * Institution	2	2.03	1.01	0.74	.478
Age * Race	1	0.15	0.15	0.11	.739
Institution * Race	2	1.76	0.88	0.64	.527

\*Significant at the .05 level.

Results of The Duncan Multiple Range Test For  
The Main Effect Sex

Sex	Mean	Female	Male
		3.00	3.43
Male	3.43	.43*	--
		<	
		.4471**	
Female	3.00	--	

\* = Observed differences between group means

\*\* = Least significant ranges



Figure 15. Participation in physical activity for the purpose of competing with others according to sex and age.

### Preference-Purpose Similarity

In order to answer research question 4 which dealt with physical activity preference-purpose similarity, Pearson product-moment correlation coefficients were computed to determine relationships between physical activity preferences and purposes for each demographic group.

Correlation coefficients were reported based on a relationship scheme provided by Huck, Cormier, and Bounds (1974). Coefficients .70 and above were reported high. Coefficients .30 to .69 were reported moderate. Coefficients below .30 were reported low. Negative coefficients were similarly reported. Because the correlation coefficients summarizing the results were extensive, only those preference-purpose relationships in the moderate category that were found to be statistically significant are discussed. None of the correlation coefficients obtained were in the high category.

In Table 32 are presented the Pearson correlation coefficients between physical activity preferences and purposes for male and female respondents. Moderate relationships were shown to exist for both male and female respondents between their preference for fitness activity for the purpose of improving their overall physical appearance. The relationship was stronger for men than for women. The correlation coefficient of .46 and .31 for men and women, respectively, indicated that those respondents who most preferred fitness activity also tended to moderately agree that their primary purpose for involvement in physical activity was to improve their physiological efficiency or that fitness activity was best suited for that purpose.

Table 32  
Correlation Coefficients Between Physical Activity Preferences  
and Purposes for Male and Female Respondents

Purposes	Preferences					
	Fitness	Personal Development	Lifetime Sports	Fundamental Skill Development	Dance	
To improve overall physical appearance.	Male:	.46*	.31	-.12	.23	.27
	Female:	.31*	.06	.03	.02	-.03
To develop a greater understanding of the way other people perform skillful acts.	Male:	.13	.25	.14	.03	.40*
	Female:	.40	.12	.04	.32*	.43*
To participate with others on a cooperative basis.	Male:	.19	.20	.42*	.15	.49*
	Female:	.27*	.08	.20*	.38*	.27*
To improve my circulation, strength and breathing.	Male:	.44*	.39*	-.17	.17	.10
	Female:	.15	.14	.03	.01	.02
To improve my proficiency in handling objects.	Male:	.12	.03	.37*	.23	.27
	Female:	.38*	.12	.12	.44*	.20*
To improve my ability to better express myself.	Male:	.32	.29	-.10	.47*	.66*
	Female:	.35*	.02	.08	.30*	.27*
To learn better body control when moving from place to place quickly.	Male:	.25	.41*	-.07	.34*	.41*
	Female:	.38*	.04	.10	.35*	.28*
To release frustrations and tensions.	Male:	.34*	.65*	.04	.16	.20
	Female:	.19*	-.00	.08	.10	.17
To satisfy my general education requirements.	Male:	-.14	-.33*	.13	.15	.02
	Female:	.18	.09	.13	.26*	.20*
To participate with others on a competitive basis.	Male:	-.13	-.07	.10	.17	.37*
	Female:	.26*	-.01	.17	.21*	.15

\*Significant at the .05 level.

Note: Male (N=35); Female (N=108)

The highest correlations shown for men were between their preference for personal development activity and the purpose of releasing frustrations and tensions ( $r = .65$ ), and their preference for dance activity and the purpose of improving skills of self-expression ( $r = .66$ ). While the correlation coefficient of  $.44$  obtained between the preference for fundamental skill development activity and the purpose of improving manipulative skills was the highest correlation found for women, several fitness-purpose relationships were significant.

The Pearson correlation coefficients between physical activity preferences and purposes for age groups are presented in Table 33. A significant relationship was shown to exist for respondents in both the 25-34, and the 35-44 age groups between their preference for fitness activity and the purpose of improving their physiological efficiency. The correlations coefficients of  $.34$ , and  $.39$  obtained for the under-35 and over-35 age groups, respectively, indicated a moderate tendency for respondents of each age group who selected fitness as their most preferred area of physical activity participation to also agree that their primary purpose for participating in physical activity was to improve their physiological efficiency.

Significant relationships were found between the preference for fitness activity by respondents of both age groups and several physical activity purpose indications. Only low positive relationships or non-systematic ones were shown between preference for personal development activity and the purposes for participating in physical activity. The same was true with respect to lifetime sports with the exceptions of the moderate relationships obtained both for the purpose of satisfying



Table 33

Correlation Coefficients Between Physical Activity Preferences  
and Purposes for Respondents of Both Age Groups

Purposes	Preferences				
	Fitness	Personal Development	Lifetime Sports	Fundamental Skill Development	Dance
To improve overall physical appearance.					
25-34:	.34*	.10	.00	.17	.01
35-44:	.39*	.12	-.16	.07	.22
To develop a greater understanding of the way other people perform skillful acts.					
25-34:	.35*	.27*	.05	.31	.37*
35-44:	.22	-.28	-.03	.15	.54*
To participate with others on a cooperative basis.					
25-34:	.22*	.15	.17	.29*	.25*
35-44:	.30*	-.05	.28	.44*	.51*
To improve my circulation, strength and breathing.					
25-34:	.27*	.28*	-.03	.13	.07
35-44:	.30*	.12	-.12	-.05	.09
To improve my proficiency in handling objects.					
25-34:	.37*	.10	.00	.41*	.23*
35-44:	.24	.04	.41*	.39*	.32*
To improve my ability to better express myself.					
25-34:	.42*	.11	-.02	.32*	.42*
35-44:	.26	.03	.06	.40*	.42*
To learn better body control when moving from place to place quickly.					
25-34:	.30*	.11	.06	.35*	.29*
35-44:	.41*	.08	-.10	.39*	.39*
To release frustrations and tensions.					
25-34:	.28*	.21*	.09	.26*	.22*
35-44:	.16	.16	-.02	-.10	.29
To satisfy my general education requirements.					
25-34:	.18	.04	-.01	.38*	.18
35-44:	-.02	-.03	.43*	-.03	.18
To participate with others on a competitive basis.					
25-34:	.18	.01	.15	.20*	.16
35-44:	.02	-.25	.06	.23	.19

\*Significant at the .05 level.

Note: Age 25-34 (N=93); Age 35-44 (N=43)

academic requirements and the purpose of improving manipulative skills by respondents 35 and over. This suggests that a majority of respondents of both age groups who most preferred personal development activity, or lifetime sports activity, preferred those activities independent of specific purpose selections.

Table 34 presents the resulting Pearson correlation coefficients between physical activity preferences and purposes for respondents at each institution. The correlation coefficients obtained between fitness and physiological efficiency for respondents at both institution A ( $r = .50$ ), and institution B ( $r = .54$ ) were approximately the same. For respondents at institution C the strongest correlation obtained for fitness activity was between the purpose to improve the ability for self-expression. This suggests that there was a moderate tendency for respondents at institutions A and B to perceive fitness activity as an effective modality for improving their overall physical appearance or that fitness-oriented activity was better suited for that purpose. For respondents at institution C, this also suggested that those who most preferred fitness activity did so for the purpose of improving their skills for self-expression or that fitness activity was best suited for that purpose.

A correlation coefficient of  $-.34$  was obtained for respondents at institution C between their preference for lifetime sports involvement and for the purpose of improving their overall physical appearance. This moderate negative correlation suggests that, as those respondents' preference for lifetime sports increased, their involvement in physical activity for the purpose of improving overall physical appearance decreased.

Table 34

Correlation Coefficients Between Physical Activity Preferences  
and Purposes for Respondents At Each Institution

Purposes	Preferences				
	Fitness	Personal Development	Lifetime Sports	Fundamental Skill Development	Dance
To improve overall physical appearance.					
Institution: A	.50*	.11	.15	.01	-.06
B	.54*	.12	.06	.14	.10
C	.19	.20	-.34*	.18	.13
To develop a greater understanding of the way other people perform skillful acts					
Institution: A	.37*	.28*	-.09	.21	.33
B	.24	.07	.31*	.19	.53
C	.38*	.03	.01	.37*	.32*
To participate with others on a cooperative basis.					
Institution: A	.02	.23	.13	.33*	.31*
B	.41*	.11	.35*	.25	.37*
C	.31*	.02	.29*	.37*	.25
To improve my circulation, strength and breathing.					
Institution: A	.18	.32*	.05	-.05	-.11
B	.41	.25	-.09	.11	.18
C	.26	.15	-.05	.15	.09
To improve my proficiency in handling objects.					
Institution: A	.28*	.30*	-.10	.40*	.31*
B	.33*	.27	.46*	.40*	.47*
C	.33*	-.23	.17	.36*	-.01
To improve my ability to better express myself.					
Institution: A	.37*	.22	.02	.35*	.42*
B	.25	.08	.26	.16	.44*
C	.43*	.06	-.16	.49*	.36*
To learn better body control when moving from place to place quickly.					
Institution: A	.38*	.31*	.06	.30*	.27*
B	.29*	.28	.33*	.30*	.58*
C	.35*	-.17	-.18	.40*	.09
To release frustrations and tensions.					
Institution: A	.32*	.15	.09	.27*	.06
B	.28	.21	.09	-.13	.38*
C	.21	.29*	-.01	.29*	.21
To satisfy my general education requirements.					
Institution: A	.10	.28*	.06	.28*	.16
B	-.03	-.19	.28	.25	.37*
C	.12	-.07	.09	.06	.11
To participate with others on a competitive basis.					
Institution: A	.09	.20	.12	.23	.06
B	.20	-.12	.06	.06	.58*
C	.02	-.18	.23	.27	-.02

\*Significant at the .05 level.

Note: Institution A (N=53); B (N=41); C (N=49).

In Table 35 are presented the Pearson correlation coefficients between physical activity preferences and purposes for black and white respondents. As is shown in Table 35, a direct relation was found to exist between the preference for fitness activity and most all physical activity purpose selections for white respondents. The exceptions were "to satisfy my general education requirement" and "to participate with others on a competitive basis." The relationship was moderate in most instances. By contrast the moderate relationship obtained between the preference for fitness activity and the purpose "to release frustrations and tensions" was the only direct relationship found between that preference and the purpose selections for black respondents.

Neither the preference for personal development activity nor for lifetime sports activity was found to have a direct relationship between any purpose selection for black respondents. Similarly, for white respondents only a few low positive relationships were obtained. The highest correlation ( $r = .27$ ) existed between the preference for personal development activity, and the purpose to improve overall physical appearance.

#### Physical Activity Programs

In order to answer research question 5 which dealt with recommended programs of physical activity, an analysis of findings relative to respondents' preferences for specific physical education activity was made. Recommended programs of physical activity for adult college students were based on frequencies of respondents' data relative to their preferences for specific physical education activity.

Table 35  
Correlation Coefficients Between Physical Activity Preferences  
and Purposes for Black and White Respondents

Purposes	Preferences				
	Fitness	Personal Development	Lifetime Sports	Fundamental Skill Development	Dance
To improve overall physical appearance.					
Black:	.19	-.07	.07	-.02	-.12
White:	.45*	.27*	-.05	.13	.14
To develop a greater understanding of the way other people perform skillful acts.					
Black:	-.20	-.05	.20	-.05	.43*
White:	.41*	.25*	-.00	.31*	.36*
To participate with others on a cooperative basis.					
Black:	.16	.19	.20	.10	.18
White:	.21*	.09	.25*	.31*	.29*
To improve my circulation, strength and breathing.					
Black:	.20	.04	.06	-.12	.03
White:	.33*	.35	-.06	.18	.11
To improve my proficiency in handling objects.					
Black:	.15	.02	.12	.16	.22
White:	.32*	.16	.17	.41*	.21*
To improve my ability to better express myself.					
Black:	.06	-.08	.20	.03	.24
White:	.40*	.22*	-.04	.42*	.44*
To learn better body control when moving from place to place quickly.					
Black:	.25	.11	.11	.02	.31
White:	.33*	.19	.00	.39*	.26*
To release frustrations and tensions.					
Black:	.32*	.23	.25	-.23	.35*
White:	.26*	.19*	.01	.28*	.18
To satisfy my general education requirements.					
Black:	-.08	.06	.00	.24	.41
White:	.09	-.01	.13	.13	.08
To participate with others on a competitive basis.					
Black:	-.18	-.03	.04	-.15	.47*
White:	.13	-.06	.15	.24*	-.02

\*Significant at the .05 level.

Note: Black (N=37); White (N=106)

Respondents' preference area data indicated that physical education learning experiences should be designed to provide for a variety of alternatives aimed to satisfy a participant's physical fitness concerns, lifetime sports interests, and personal development interests. The results upon which this recommendation was based are presented in rank order according to sex, age, institution, and race in Table 36.

Examination of Table 36 revealed that the top three physical activity preference area selections for all respondents included the physical activity areas of fitness, lifetime sports, and personal development. Respondents' physical activity preference area indications were consistent with their specific indications for physical education activities of highest interest as well as those physical education activities in which class instruction was most desired. Each of those areas included a mixture of fitness, lifetime sports, and personal development activities.

### Discussion and Implications of Findings

#### Discussion

The central issue addressed in this study was the nature and role of physical education activity selections of adult students enrolled in selected institutions in the University of North Carolina. The initial concern of this investigation addressed the question of the demographic characteristics of the subjects included in this study. The question focused on respondents' age, sex, ethnic background, marital

Table 36

Rank Order Presentation of Respondents Physical Activity Preference  
Indications According To Sex, Age, Institution, and Race

Preference Indications By Sex		
<u>Male</u>		<u>Female</u>
Fitness		Fitness
Lifetime Sports		Personal Development
Personal Development		Lifetime Sports
Fundamental Skills		Dance
Dance		Fundamental Skills

Preference Indications By Age		
<u>25-34</u>	<u>35-44</u>	<u>45-Over</u>
Fitness	Fitness	Personal Development
Lifetime Sports	Lifetime Sports	Fitness
Personal Development	Personal Development	Lifetime Sports
Dance	Dance	Dance
Fundamental Skills	Fundamental Skills	Fundamental Skills

Preference Indications By Institution		
<u>A</u>	<u>B</u>	<u>C</u>
Fitness	Fitness	Fitness
Lifetime Sports	Personal Development	Personal Development
Personal Development	Lifetime Sports	Lifetime Sports
Dance	Dance	Dance
Fundamental Skills	Fundamentals Skills	Fundamental Skills

Preference Indications By Ethnic Background	
<u>Black</u>	<u>White</u>
Fitness	Fitness
Lifetime Sports	Personal Development
Personal Development	Lifetime Sports
Dance	Dance
Fundamental Skills	Fundamental Skills

Physical Education Activities of Highest Interest and Class Instruction Desired	
<u>Physical Activities of Highest Interest</u>	<u>Physical Activities Class Instruction Desired</u>
Walking	Tennis
Tennis	Exercise Programs
Exercise Programs	Swimming
Swimming	Aerobic Dance
Aerobic Dance	Racquetball
Jogging	Jogging
Cycling	Horseback Riding
Volleyball	Karate
Racquetball	Bowling
Sailing	Sailing

status, employment status, place of residence, and previous as well as current involvement in physical education activity. The overall profile of respondents revealed that the majority were white, with blacks comprising the second largest ethnic representation. Approximately one percent of the respondents were from the American Indian, and the Asian Pacific Islander populations. The largest group consisted of married white females under 35 years of age who were full-time students. They were primarily city residents and likely to be employed either full-time or part-time. Most had enrolled previously in a physical education activity class but were not currently enrolled.

The profile of respondents at each institution was obtained with respect to the variables of sex, age, ethnic background, marital status, student status, and employment status. The majority of adult student respondents at institution A were married white females between 25 and 34 years of age. They were full-time students and employed part-time. At both institution B, and institution C the majority of respondents were also married females between 25 and 34 years of age. At institution B however, the majority of respondents were black while the majority of respondents at institution C were white. In each of these latter instances the respondents tended to be full-time students, who were employed full-time. Thus, when comparing the demographic profiles of respondents at each institution, the only differences to emerge were with respect to employment status, and ethnic background. The majority of respondents at institution A were white females who were full-time students, and employed part-time. Contrastingly, the majority of respondents at institution B were black females who were both full-time



students and employed full-time. Similarly, the white females who were the majority respondents at institution C were also both full-time students, and employed full-time.

Another concern of this study addressed the question of adult students' physical activity preferences. This question was formulated to identify the specific physical activity preferences of adult undergraduate students enrolled at the three institutions involved in the study, and to determine whether their preference selections were significantly different according to sex, age, institution, and ethnic background. Past research has demonstrated that when college students are presented with choices from which to indicate their preference for physical activity, subjects generally indicate a preference for fitness-related activity, or lifetime sports activity. Results from this study showed that male and female respondents within each age group, and enrolled at each institution studied, indicate fitness activity, personal development activity, and lifetime sports activity to be their three most preferred areas of physical activity involvement. The majority of respondents at each institution further indicated that the activities of highest interest were a comfortable mixture of fitness activity (ranked first by a majority of respondents), personal development activity, and lifetime sports activity. Such activities as walking, tennis, exercise programs, swimming, aerobic dance, jogging, cycling, volleyball, racquetball, and sailing were most frequently chosen as the activities of highest interests. Quite consistently, with the exception of walking, cycling, and volleyball this same pattern of fitness,

personal development, and lifetime sports activity was also evidenced in respondents' list of those activities in which class instruction was most desired. These results were consistent with the findings of Soudan and Everette (1981), Pasternak (1981), Riddle (1980), and Hanson and Lenning (1976) who reported male and female college students, and adults who regularly participate in physical activity perceive the maintenance of health and fitness to be their top priority concern; and Arwe and Jacobs (1981), and Broer and Holland (1954) who reported results which showed college students expressing a strong preference for physical activity in the individual and dual sports areas. These findings are also compatible with the current national trend towards fitness awareness and involvement among adults of all ages. The increasing commitment by large numbers of adults to improve their health and fitness is evidenced by the growing ranks who elect to participate in fitness and aerobic-focused physical activity programs on a regular basis. Perhaps adult students' inclination to favor involvement in fitness, personal development, or lifetime sports activity is reflective also of their desire to participate in physical activity that provides for independent self-directed involvement.

The question of physical activity participation purposes underlying respondents' physical activity preference selections was another concern of this investigation. This question was framed to identify the purposes for involvement in physical activity that were most meaningful to the respondents, and to determine whether their responses were significantly different according to age, sex, institution and race. Findings showed respondents' primary purposes for involvement in physical

activity to be firmly anchored in four key purposes undergirding human movement (Jewett & Mullan, 1977). The order of ranking of the top five purposes for physical activity participation by the majority of respondents was as follows:

1. Physiological Efficiency: To develop or improve circulation, breathing, muscle control, strength, and general body control.
2. Physiological Efficiency: To improve overall physical appearance.
3. Psychic Equilibrium: To release frustrations and tensions while getting to know myself and the extent of my physical skill capacity.
4. Group Interaction: To participate in physical activities with others on a cooperative basis.
5. Spatial Orientation: To learn better body control when moving from place to place quickly.

The data were compatible with the findings of Pasternak (1981) who reported that adults indicated circulo-respiratory efficiency, virgo, catharsis, neuro-muscular efficiency, and joy of movement as the top purposes of physical activity of the future; of Loucks (1979) who reported that physical education majors ranked neuromuscular skills as their top objective; of Rosentsweig (1969) who reported that professional physical educators indicated the top two objectives of physical education to be organic vigor and neuromuscular skill development; and of Broer and Holland (1954) who found that women students indicated the maintenance of good health and physical condition as a primary objective of physical education.

ANOVA procedures were used to determine whether statistically significant differences existed between or within groups according to institution, sex, age, and race, and the two-way interaction of these variables with respect to respondents' general feelings about physical activity involvement; their specific physical activity preference indications; and their purposes for involving in physical activity. The Duncan Multiple Range Test was utilized to locate any significant main effect differences ( $p < .05$ ). The results of the analysis failed to indicate any significant main effect variations (age, sex, institution, race) for any general feeling item analyzed. The majority of respondents of both sexes, both age groups, and both ethnic groups at each institution investigated felt that the physical education activity classes provided by their particular university were of the kind in which they favored participating. They were also in general agreement that regular involvement in physical activity could help to make them feel better, and that such involvement should be a top priority concern. While they were generally self-confident in their present levels of physical skill ability, they also felt that more volunteer involvement in physical education activity would be encouraged if the classes were more oriented to adult physical activity preferences.

Consistently, no significant main effect variations emerged ( $p > .05$ ) for respondents with respect to their three most preferred areas of physical activity involvement (fitness, personal development, lifetime sports), and for dance. It therefore appears that these areas of physical activity involvement were selected by respondents independent of influences related to their age, sex, institution, or ethnic background.

On the other hand significant race-related differences were obtained for fundamental skill activity. In this instance, blacks as a group indicated a greater preference for involvement in that activity area than did whites.

No significant main effect variations i.e., age, sex, institution, and race ( $p > .05$ ) were found to emerge for the top-ranked purpose of improving circulation, breathing, muscle control, strength, and general body control; the third-ranked purpose of releasing frustrations and tensions; and the fourth-ranked purpose of learning better body control when moving from place to place quickly. These results appear to suggest that a majority of the respondents were in unequivocal agreement that their involvement in physical activity was for the purpose of improving their physiological efficiency. In addition, they appeared generally inclined to perceive involvement in physical activity to be a very worthwhile means of both relieving their frustrations and tensions, and developing better body control.

Although the pattern of respondent agreement was unchanged, significant race-related variations were obtained for both the second-ranked purpose of improving overall physical appearance, and the fifth-ranked purpose of participating with others on a cooperative basis. Blacks as a group appeared more inclined to find involvement in physical activity for the purpose of improving overall physical appearance more meaningful than did whites. The same was true with respect to the fifth-ranked purpose when ethnic groups were compared.

While no significant main effect differences were found for respondents' top purposes for involvement in physical activity, this was

not true with respect to purposes which were ranked lower. For example, significant differences related to race were found with respect to the purpose of participating in physical activity in order to develop an appreciation for the way other people move and perform skillful acts, the sixth-ranked purpose by blacks, and the eighth-ranked purpose by whites. Blacks as a group appeared to feel significantly stronger about participating in physical activity for that purpose than did whites. The same was true when ethnic groups were compared with respect to the purpose of improving manipulative skills, ranked ninth by blacks, and seventh by whites. Again, black students appeared to find that involvement in physical activity for that purpose was more meaningful than did white students.

Lower ranked purposes were also the sources of unsurprising age-related differences, and sex-related differences. Respondents under 35 seemed significantly more inclined to participate in physical activity for the purpose of releasing frustrations and tensions than did respondents who were 35 years of age and over. Significant sex-related differences were indicated with respect to respondents' involvement in physical activity for the purpose of competing with others. Males were more inclined to participate in physical activity for that purpose than were females.

The post-hoc comparisons indicated that respondents' general feelings, top preferences, and purposes, with respect to physical activity participation, reflected greater main effect (sex, age, institution, and ethnic group) similarities than differences. Indeed this pattern of similarity was noticeably consistent within groups, and between groups as well.

With respect to key preference indications, and key purpose indications, each with sex, age, institution, and race as independent variables, the ANOVA did not yield significant findings ( $p > .05$ ) when those variables were analyzed as two-way interactions. This same pattern was not evidenced for all other analyses, however. For example, significant findings ( $p < .05$ ) were obtained from the interaction analysis relative to three general feeling statements: one lower ranked preference, and five purposes, four of which were also lower ranked.

A majority of the significant interaction variations found to emerge were gender, or gender-age related. Variations related to ethnic background were considerably less frequently obtained. With respect to respondents' general feelings about involvement in physical education activity, the interaction analysis revealed that the women at institution C tended to agree that the physical education activity classes provided by that university were generally of the kind in which they liked participating. Contrastingly, the men at that institution appeared not to hold a similar point of view. Indeed, the men indicated that the physical education activity classes provided by the university were not the kind in which they liked participating. Also at that institution, whites appeared more inclined to agree that regular involvement in physical activity would make one feel better about things in general than did blacks. On the other hand black males as a group appeared more inclined to agree that regular participation in physical activity would make one feel better about things in general

than did black females. The same pattern was evidenced for blacks under 35 years of age when compared with those blacks over 35 years of age. Similarly, the data seemed to suggest that white women felt significantly stronger about making regular involvement in physical education activity a top priority concern than did white men. This pattern was evidenced also for the females at institution B when compared with the males at that institution.

With respect to respondents' preference for involvement in specific areas of physical activity, the interaction data analysis revealed that women under 35 years of age indicated a greater preference for dance activity than did the men in that age group. The men under 35 along with those who were 35 and over showed little or no preference for dance.

The analysis of interaction data showed the majority of females at institution B to perceive physical activity involvement in general to be significantly more meaningful than did the males at that institution. More specifically, women at that institution appeared to perceive their involvement in physical activity for purposes of improving "skills of self-expression," and "learning better body control" to be significantly more meaningful than did the men. The data seemed to indicate that the majority of women under 35 years of age were significantly more inclined to participate in physical activity for the purpose of improving skills for self-expression than were men of that age group. On the other hand, the data suggested that most of the men 35 years of age and over showed a greater inclination to participate in physical activity for competitive purposes than did the women who were in that age group. The majority of



whites 35 years of age and over appeared to be significantly more inclined towards involvement in physical activity for the purpose of relieving frustrations and tensions than were blacks of that age group. Black males as a group seemed more inclined to participate in physical activity for the purpose of improving their overall physical appearance than were black females.

Pearson correlation coefficients were calculated to determine the relationship between respondents' physical activity preferences and purposes. While the concept of fitness represented the fundamental value inherent in the activity choices of a majority of respondents, the correlation coefficients indicated that fitness-focused activities were directly related to the students' desire to improve their overall physical appearance and circulo-respiratory efficiency. The obtained coefficients were moderate and statistically significant ( $p < .05$ ).

While some caution may be warranted before generalizing the findings of this study to institutions beyond the three whose students collectively served as the data base for this study, the overall consistency of results is noteworthy. The data revealed that there was a consistent lack of statistically significant main effect variations, and interaction variations with respect to respondents' general feelings about involvement in physical education activity, the areas of preferred involvement in physical education activity, and the key purposes underlying physical activity participation. This finding alone could be considered the most significant result of the study. Indeed, in the present study a preponderance of data showed the majority of respondents

across institutions including both sexes, both age groups, and both ethnic groups indicating overall physical activity participation intentions that were consistently similar.

### Implications

While the preference-purpose approach was employed to understand better the physical activity participation intentions of adult college students as defined by the students themselves, the results could prove valuable for physical education curriculum specialists, for practitioners involved and concerned with the physical education activity interests of adult college students, and for the adult students themselves. As adult students increasingly join with traditional-aged college students in mutual physical activity settings, curriculum specialists and practitioners will need to become more knowledgeable about the demographic characteristics of their students as well as the physical activity intentions of those students. There appears to be a clear signal from the adult student undergraduate population to professional physical educators to recognize the physical activity concerns of its growing numbers. Their age differences are beginning to add yet another and quite important dimension to undergraduate enrollments.

Currently many general college physical education curricula are planned and developed to provide learning experiences primarily for the traditional college age student. Older students are likely to place increasing demands on the services provided by physical educators. It is generally recognized that increasing numbers of adults are today finding higher education or re-education to be a necessary pursuit. If

the pattern of increasing adult enrollment in undergraduate programs continues to hold, then physical education curriculum specialists, and practitioners as well, must become more sensitive to their professional obligations to adult students. They must assure that learning environments are developed which are flexible enough both in content and structure to accommodate the physical activity concerns of older students. Such action was stressed as a vital professional direction by Hoffberger (1980), and Hattlestead (1979), who perceived the need for colleges and universities to expand their general physical education curricula to provide appropriate physical activity experiences for the adult students who may seek such services.

Indeed, some modification of present learning environments may be needed with respect to adjusting rigid course schedules, and modifying course content that was perhaps designed primarily to accommodate the physical education concerns of younger students or those whose programs of study fit into the typical 8 to 5 schedule of classes. If such is not the case, adult students, according to Hoffberger (1980), and Hanson and Lenning (1976), may be disinclined to participate in physical activity programs owing to their disdain for structure, and their generally overcautious approach to physical activity involvement. Based on this insight it seems practical to suggest that most adult students will likely reject those physical education activity experiences that are not clearly addressed to their private concerns. Consequently, every attempt should be made by curriculum specialists, and practitioners as well, to assure that the full benefits of properly designed, physical education activity learning experiences can be realized by older students

as well as their younger peers. Learning environments as such should be so designed that they are clearly oriented towards assisting adult students in achieving their personally rewarding life goals. This is essentially the direction stressed by Kneer (1981) who stated that physical education curricula should become less group-oriented and more individual-focused while at the same time providing for more student input of content choices.

In the present study the physical activity behavioral intentions of adult students appeared to indicate a highly personal demeanor relative to physical activity involvement. This was evidenced by the low preference for group-oriented activity, and the lack of interest for competitive involvement. This implies that both learning environments and instructional strategies should be so designed that match-ups and comparisons of performances between adult participants and their younger peers are not likely to occur. Thus, the likelihood of anxious feelings and inferior attitudes being developed among older students toward their own competencies may be considerably reduced.

The vast majority of undergraduate adult students in this study were women under 35 years of age. They appeared to prefer involvement in general college physical education curriculum environments that provided for noncompetitive, low stress participation which focused on fitness activity, personal development activity, and lifetime sports activity in that order. This by implication suggests that both curriculum planners and practitioners must recognize the adult female students' presence and influence when deciding upon the general orientation and even the content of curriculum experiences aimed at accommodating the

physical activity concerns of those students. It would appear that where adult students prefer particular physical education activity experiences that can be provided for only through modalities that appear personally meaningful to the individual participant, and where preferences and purposes for specific physical activity experiences exist, then the general college physical education curriculum should provide for such an existence.

Perhaps one of the most urgent concerns to be faced by practitioners will be the call for the innovation of alternative instructional designs to satisfy the broad range of adult student concerns rather than simply involving those students in traditional or prearranged classes. Integrating adult learning experiences into the general physical education curriculum may be one way of initiating expedient and effective adult student involvement in existing programs. However, teachers should assure that the likelihood of a delicate balance can be reached in integrated learning environments so that opportunities for success or for failure of adult students can approximate that of their younger peers. Thus, it seems imperative that teachers acquire knowledge of effective instructional approaches which will accommodate adult student physical activity concerns in the mixed environments. While this may or may not suggest that teachers be expected to develop expertise in preparing learning situations for adult students, the stronger inference is that they should acquire an appreciative understanding of student demographic characteristics and physical activity preferences and purposes. Such understandings should be based upon data derived from research relative to the student population.

In the present study, results of data pertinent to the general feelings about physical education activity involvement of adult students suggests that several generally held beliefs about the values of physical education activity are important to those students. Their awareness and understanding of the significance of regular exercise and physical activity to their physical well-being was clearly reflected in their concern and attention for fitness and improved physiological efficiency. The collective sample of adult student respondents appeared to exhibit a consistent orientation toward low stress fitness-focused physical activity, both in outlook, and involvement. Their involvement in such activities provided for in the general college program of physical education will likely bring them together quite frequently with traditional-college-age students in a variety of physical activity settings. In turn such frequent interaction will likely provide for the development of several new and meaningful experiences for many older students. Consequently, it may prove easier for those students to share and explore their questions, expectations, and concerns about involvement in physical activity with both their cohorts, and their younger peers (Kelman & Stanley, 1974).

## CHAPTER V

## SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to determine the physical education activity patterns of adult college students, and the underlying purposes influencing the movement behaviors of these students. The study specifically sought demographic characteristics of adult students, their physical activity preferences, the purposes underlying the physical activity involvement of those students, and the extent to which persons with similar demographic characteristics possessed similar preferences and purposes for their physical activity selections. An additional aim of the study was to make appropriate recommendations upon which curriculum decisions may be based for the purpose of developing meaningful physical education learning experiences for such adult college students.

Relevant research reviewed during this investigation focused chiefly on the areas of adult student physical activity preference and purpose. Included were the need of adults for physical activity, the physical activity preferences of adult college students, and the physical activity participation purposes of those students. In addition to supporting the need for adult students to participate in physical education activity of their personal preference, and for a purpose specific to the individual, the review identified the physical education activities

in which college students most preferred participating as well as the purposes advanced by college students themselves, that seemed to undergird their physical activity choices.

Fifteen of the sixteen institutions comprising the University of North Carolina and represented in the study are universities distinguished as either major research, doctorate-granting, comprehensive, or general baccalaureate. These institutions were prearranged into three groupings based upon their academic mission and student enrollment. One institution from each of the three clusters was selected from which to randomly draw a respondent sample.

The study was conducted in the spring of 1982. The Director of Institutional Research at each institution selected provided a list of 90 randomly drawn names from the stratum of the institution's adult undergraduate students that were 25 years of age or older. A questionnaire, cover letter, and a return self-addressed, stamped envelope were mailed to 270 adult students from the three separate subject groups. One hundred forty-seven (54.4%) of the inventories were returned.

The survey method of research was selected as the most efficient means of securing necessary data. Inventory questions were organized into four sections. One section for respondents' demographic data was developed. Three other areas relating to respondents' general feeling about physical activity, physical activity preferences, and physical activity purposes were included. The instrument's development was based on the method of scale construction recognized as the Likert technique.



The data were analyzed by employing a Statistical Analysis System (SAS, 1979) software package. Both descriptive and inferential statistics were used to analyze the data gathered for this investigation. The independent variables were sex, age, institution, and ethnic background. The dependent variables were the mean scores on the general feeling items, physical activity preference items, and physical activity purpose items. When  $F$  ratio was found to be significant ( $p < .05$ ), Duncan's Multiple Range Tests were computed as follow-up analyses in order to determine where variations occurred, and which means were significantly different from each other. Graphs were constructed of two-way interactions found to be statistically significant ( $p < .05$ ) in order to depict existing patterns of variations. The Pearson correlation coefficient was computed to determine relationships between physical activity preferences and purposes for each demographic group.

The demographic data revealed that the majority of respondents were white with blacks comprising the second largest ethnic representation. The largest group consisted of married white females under 35 years of age, and full-time students. They were primarily city residents that were likely to be employed either full-time or part-time. Most had previously enrolled in a physical education activity class but were not currently enrolled.

With respect to respondents' general feelings about physical activity involvement, ANOVA results failed to indicate any significant main effect variations (age, sex, institution, race) ( $p > .05$ ) for any general feeling item analyzed. The majority of respondents across institutions indicated that the physical education activity classes

provided by their particular university were of the kind in which they liked participating. They were also in general agreement that regular involvement in physical activity could help to make them feel better, and that such involvement should be a top priority concern. While respondents were generally self-confident in their present levels of physical skill ability, they also felt that more volunteer involvement in physical education activity would be encouraged if classes were more oriented to adult physical activity preferences.

The preference area data revealed that the greatest proportion of respondents under 45 years old, and enrolled at each institution studied, ranked fitness activity highest, followed by personal development activity and lifetime sports activity as their three most preferred areas of physical activity involvement. ANOVA results failed to indicate any significant main effect variations (age, sex, race, institution) ( $p > .05$ ) for the three most preferred areas of physical activity involvement. Dance as an area of preferred physical activity involvement was ranked lowest by male respondents. Fundamental skill activity as an area of preferred physical activity involvement was ranked lowest by female respondents.

Walking, tennis, exercise programs, swimming, aerobic dance, jogging, cycling, volleyball, racquetball, and sailing were the ten physical education activities indicated to be of highest interest by the majority of respondents. They indicated that tennis, exercise programs, swimming, aerobic dance, racquetball, jogging, horseback riding, karate, bowling, and sailing were the ten physical education activities in which class instruction was most desired.

The purpose area data revealed that the order of ranking of the top five purposes for physical activity participation by the majority of respondents was to improve circulo-respiratory efficiency, to improve overall physical appearance, to release frustrations and tensions, to participate in physical activities with others on a cooperative basis, and to learn better body control. ANOVA results failed to indicate any significant main effect variations (age, sex, institution, race) ( $p > .05$ ) for the top-ranked purpose of improving circulo-respiratory efficiency, the third-ranked purpose of releasing frustrations and tensions, and the fifth-ranked purpose of learning better body control. Blacks as a group appeared more inclined to find involvement in physical activity for the purpose of improving overall physical appearance, and for the purpose of participating with others on a cooperative basis meaningful than did whites. Participating in physical activity for competitive purposes, and for the purpose of developing skills of self-expression were both perceived by a majority of respondents to be of minimal importance and ranked ninth and tenth respectively.

Lower ranked purposes were the primary sources of interaction variations. Respondents under 35 were more inclined to participate in physical activity for the purpose of releasing frustrations and tensions than were respondents who were 35 years of age and over. Males as a group were more inclined to participate in physical activity for competitive purposes than were females.

With respect to physical activity preferences and purposes that were similar among respondents with similar demographic characteristics, the data revealed that the concept of fitness represented the fundamental value

inherent in the physical activity choices of a majority of respondents. The data indicated that most respondents were also more inclined to participate in physical activity for the purpose of improving their physiological efficiency than for any other reason. Concurrently, Pearson correlation coefficients indicated that involvement in fitness-focused activity was directly related to a majority of respondents' inclination to improve their circulo-respiratory efficiency and their overall physical appearance. The obtained coefficients were moderate and statistically significant ( $p < .05$ ).

With respect to recommended learning experiences for adult college students, respondents' preference area data indicated that physical activity programs should be designed to provide for a variety of low stress physical activity alternatives aimed to satisfy the fitness concerns, personal development interests, and lifetime sports interests of those students.

### Conclusions

Based on the data provided by this investigation, and within the limits of the study, the following conclusions appear to be justified:

1. The Inventory of College Adults' Physical Activity Preferences and Purposes, whose validation rests on the expert opinion of a panel of judges, provided both an accurate description of respondents' demographic characteristics and an accurate assessment of their physical activity preferences and purposes.

2. Both male and female adult students most prefer physical activity involvement that emphasizes physical fitness. Improving physiological efficiency is perceived by the majority of those students to be

the most meaningful purpose underlying their physical activity involvement. Their selection of physical activity that emphasizes fitness is directly related to their desire to improve their physiological efficiency. Neither fitness activity nor improving physiological efficiency were significantly influenced by factors related to their age, sex, ethnic background, or institution enrolled. Post-hoc comparisons indicate that the key physical activity preferences, and purposes of adult students reflect greater main effect and two-way interaction similarities than differences.

3. There are interaction differences for some general feeling items, and for some lower ranked preferences, and purposes. As a group females at institution C agree that the physical education activity classes offered are the kind in which they like participating. Males at that institution do not agree that the physical education classes offered are the kind in which they like participating.

4. Black males as a group are in stronger agreement than are black females that regular involvement in physical activity will make them feel better. They are also more inclined to participate in physical activity for the purpose of improving their overall physical appearance than are black females. White females believe more strongly than white males that regular involvement in physical activity should be a top priority concern.

5. Women at institution B are more inclined to feel that regular involvement in physical activity should be a top priority concern than are men at that institution. Those women also perceive involvement in physical activity for the purpose of learning better body control to be more meaningful than do the men.

6. Women under 35 years of age are more inclined to participate in physical activity for the purpose of improving skills of self-expression than are men of that age group. On the other hand, men 35 years of age and over are more inclined to participate in physical activity for competitive purposes than are women who are over 35 years of age.

7. Fitness-oriented learning experiences will encourage increased participation and more meaningful receptivity of physical education activity by adult students owing to the high interest and concern those students hold with respect to enhancing their own personal well-fare (how they feel and how they look).

8. The results of this study compared favorably with previous investigations which have shown that college students and adults generally prefer involvement in those physical activities that fall in the individual and dual sports categories (Arwe & Jacobs, 1981; Broer & Holland, 1954), promote circulo-respiratory efficiency (Pasternak, 1981), neuro-muscular efficiency (Loucks, 1979), and overall health and fitness (Broer & Holland, 1954; Hanson & Lenning, 1976; Riddle, 1980).

#### Recommendations for Future Research

The possibilities are many for additional research concerning adult college students' physical activity behavioral intentions. And while this study did answer several research questions, it gave rise to some other future research concerns.

1. The instrument developed for this study is valid, and has served to effectively identify the demographic characteristics of adult students

along with certain psychosocial factors associated with the physical activity participation of those students. The instrument is recommended for use by others interested in acquiring an increased understanding of the physical activity interests of people, and planning physical activity programs accordingly.

2. The scope of this study was limited to describing the demographic characteristics of respondents, and establishing their physical activity preference, and purposes. Reasons underlying respondents' preference-purpose indications were not pursued. Further research is recommended in this regard.

3. Future research could attempt to determine the degree of commonality of physical activity preferences, and purposes of college students of all age classifications, and enrolled in undergraduate, graduate, and professional programs.

4. Experimentation with subjects and their physical education activity preferences and purposes could be undertaken with a view towards determining consistency or change of these variables.

5. Future research could examine the physical activity preferences and purposes of adult students as related to their educational and professional orientations.

## BIBLIOGRAPHY

- Adams, L. C. Active recreational interests of Columbia College alumni. Research Quarterly, 1948, 19, 43-47.
- Arwe, K. E., & Jacobs, K. The required activity program: A student evaluation at The University of North Carolina at Chapel Hill. The North Carolina Journal, 1981, 17, 9-15.
- Backstrom, C. H., & Hursh, G. D. Survey research. Evanston: Northwestern University Press, 1963.
- Bagwell, D. Reaction to forecast of the 80's: Trends affecting curriculum development in physical education. In A. E. Jewett (Ed.), Curriculum Theory Conference In Physical Education. Athens: University of Georgia, 1979.
- Birren, J. E., & Clayton, V. History of gerontology. In D. S. Woodruff & J. E. Birren (Eds.), Aging: Scientific perspectives and social issues. New York: D. Van Nostrand, 1975.
- Birren, J. E. The psychology of aging. Englewood Cliffs: Prentice-Hall, Inc., 1964.
- Broer, M. R., & Holland, D. A. J. Physical interest and needs of University of Washington women in service classes. Research Quarterly, 1954, 25, 387-397.
- Carp, F. M. The psychology of aging. In R. Boyd & C. G. Oakes (Eds.), Foundations of practical gerontology. Columbia: University of South Carolina Press, 1974.
- Chapman, P. A. Evaluation of affective responses of students to a selected list of purposes for human movement. Unpublished doctoral dissertation, University of Wisconsin, 1974.
- Chrouser, R. D. A trend analysis of the association between leisure time physical activity participation and increase in age of male Indiana University alumni. Unpublished doctoral dissertation, Indiana University, 1973.
- Cruse, D., & Rosato, F. D. Exercise and aging: New perspective and educational approaches. Educational Gerontology, 1979, 4, 367-376.



- Cutler, N. E., & Harootyan, R. A. Demography of the aged. In D. S. Woodruff and J. E. Birren (Eds.), Aging: Scientific perspectives and social issues. New York: D. Van Nostrand, 1975.
- Dobbs, R., & Steponovich, A. J. Understanding physical education programs for adults. Adult Leadership, 1972, 21, 149-150.
- Espenschade, A. A., & Eckert, H. M. Motor development (2nd ed.). Columbus, Ohio: Charles E. Merrill, 1980.
- Ginn, H. L. Preference identification, dependence and the decision to move. Unpublished master's thesis, University of North Carolina at Greensboro, 1977.
- Goodson, E. M. The implications of an attitudinal survey of adult male community college students toward physical education. Unpublished doctoral dissertation, Middle Tennessee State University, 1975.
- Hanson, G. R., & Lenning, O. T. Differences in characteristics and outlooks of men and women college students at various age levels. Paper presented at the meeting of the North Central Special Interest Group for Community College Research, Ann Arbor. Eric document ED 078 840, July, 1976.
- Hattlestead, N. W. Improving physical fitness of senior adults: A statewide approach. Journal of Physical Education and Recreation, 1979, 50, 29-31.
- Havighurst, R. J. The leisure activities of the middle aged. American Journal of Sociology, 1957, 63, 152-162.
- Hoffberger, K. S. Activities for over sixty. Journal of Physical Education and Recreation, 1980, 51, 26-27.
- Huck, S., Cormier, W., & Bounds, W. G. Reading Statistics and Research. New York: Harper and Row, 1974.
- Ibrahim, H. Recreational preference and personality. Research Quarterly, 1969, 40, 76-82.
- Issac, S., & Michael, W. B. Handbook in research and evaluation. San Diego: Edits, 1976.
- Jewett, A. E. Addressing the problems that confront the profession. In Proceeding of the NAPECW/NCPEAM National Conference. Washington, D.C.: The National Association for Physical Education College Women, 1977.

- Jewett, A. E., & Mullan, M. R. Curriculum design: Purposes and processes in physical education teaching-learning. Washington, D.C.: The American Alliance for Health, Physical Education and Recreation, 1977.
- Kelman, E., & Stanley, B. The returning woman student: Needs of an important minority group on college campuses. Student Development Report, Vol. 12, No. 2. Fort Collins: Colorado State University Counseling Center. Eric Document ED 103 747, 1974.
- Kenyon, G. S. Six scales for assessing attitude toward physical activity. Research Quarterly, 1968, 39, 566-574.
- Kerlinger, F. N. Foundations of behavioral research. New York: Holt, Rinehart and Winston, Inc., 1973.
- Kneer, M. E. Personalizing the curriculum. Paper presented at the Second Conference On Curriculum Theory In Physical Education, University of Georgia, Athen, Georgia, 1981.
- Krueger, E. T., & Reckless, W. C. Social psychology. New York: Longsmans, Green, 1931.
- Kuntzleman, C. The exercisers handbook. New York: David McKay, 1978.
- LaPlante, M. J. Evaluation of a selected list of purposes for physical education using a modified delphi technique. Unpublished doctoral dissertation, University of Wisconsin, 1973.
- Lawther, J. D. The learning and performance of physical skills, Englewood Cliffs: Prentice-Hall, Inc., 1977.
- Leslie, D. K. Fitness programs for the aging. In Careers In Physical Education. Washington, D.C.: The National Association for Physical Education of College Women, The National College Physical Education for Men, 1975.
- Likert, R. A technique for the measurement of attitudes. Archives of Psychology, 1932, 22, 1-55.
- Logsdon, B. J. Physical education: A design for direction. In B. J. Logsdon, et al., Physical education for children: A focus on the teaching process. Philadelphia: Lea and Febiger, 1977.
- Logsdon, B. J., & Barrett, K. R. Movement: The content of physical education. In B. J. Logsdon, et al., Physical Education for children: A focus on the teaching process. Philadelphia: Lea and Febiger, 1977.
- Loucks, D. H. New professionals reorder objectives. Journal of Physical Education and Recreation, 1979, 50, 64-65.

- Martens, R. Selling physical education. In Proceedings of The NAPECW/NCPEAM National Conference. Washington, D.C.: The National Association for Physical Education College Women, 1977.
- Maslow, A. H. Toward a psychology of being. New York: D. Van Nostrand, 1968.
- Maslow, A. H. Motivation and Personality. New York: Harper and Row, 1970.
- Morehouse, L. E., & Miller, A. T. Physiology of exercise. St Louis: C. V. Mosby, 1976.
- Palmore, E. Health practices, illnesses, and longevity. In E. Palmore and F. C. Jeffers (Eds.), Prediction of life span. Lexington: D. C. Heath, 1971.
- Pasternak, M. Adult perspectives on purposes for moving, 1980-2000: A Delphi Study. Unpublished doctoral dissertation, University of Georgia, 1981.
- Piscopo, J. Indications and contraindications of exercise and activity for older persons. Journal of Physical Education and Recreation, 1979, 50, 31-34.
- Riddle, P. K. Attitudes, beliefs, behavioral intentions, and behaviors of women and men toward regular jogging. Research Quarterly, 1980, 51, 663-674.
- Robertson, B. C. Activity for the aging. Journal of Physical Education and Recreation, 1976, 47, 29.
- Roscoe, J. T. Fundamental research statistics for the behavioral sciences. New York: Holt, Rinehart, and Winston, 1975.
- Rosentswieg, J. A ranking of objectives of physical education, Research Quarterly, 1969, 40, 783-787.
- Rosentswieg, J. Motor development throughout life. In C. B. Corbin (Ed.), A textbook of motor development (2nd ed.). Dubuque, Iowa: William C. Brown Company, 1980.
- Sax, G. Empirical foundations of education research. Englewood Cliffs: Prentice-Hall, 1968.
- Scheibe, K. E. Beliefs and values. New York: Holt, Rinehart, and Winston, 1970.
- Selltiz, C., Wrightsman, L. S., & Cook, S. W. Research methods in social relations (3rd. ed.). New York: Holt, Rinehart, and Winston, 1976.

- Sepasi, H. An assessment of attitudes toward physical education activity of Michigan State University undergraduate students. Unpublished doctoral dissertation, Michigan State University, 1975.
- Shepard, R. J. Exercise and aging. In J. A. Behnke, C. E. Finch, & G. B. Moment (Eds.), The biology of aging. New York: Plenum Press, 1978.
- Simpson, I. H. Problems of the aging in work and retirement. In R. R. Boyd & C. G. Oakes (Eds.), Foundations of practical gerontology. Columbia: University of South Carolina Press, 1974.
- Soudan, S. A., & Everett, P. W. Physical education objectives expressed as needs by Florida State University students. Journal of Physical Education, Recreation, and Dance, 1981, 52, 15-17.
- University of North Carolina Board of Governors. Long Range Planning, 1978-1983. Chapel Hill: University of North Carolina, 1978.
- University of North Carolina at Greensboro. Final Report of The Ad Hoc Committee on Non-Traditional Study. Greensboro: University of North Carolina at Greensboro, 1973.
- Verwoerdt, A. Biological characteristics of the elderly. In R. R. Boyd & C. G. Oakes (Eds.), Foundations of practical gerontology. Columbia: University of South Carolina Press, 1974.
- Weg, R. B. Changing physiology of aging: Normal and pathological. In D. S. Woodruff & J. E. Birren (Eds.), Aging: Scientific perspectives and social issues. New York: D. Van Nostrand, 1975.
- Weick, K. Objectives of physical education expressed as needs by university students. Research Quarterly, 1975, 46, 385-388.
- Whaley, D. B. The relationship between selected personality traits and the selection of recreational activities of college sophomore male students. Unpublished master's thesis, North Carolina Central University, 1975.
- Wickstrom, R. L. Fundamental motor patterns. Philadelphia: Lea and Febiger, 1970.
- Ziegler, E. F. Recreational interest of undergraduate men physical education majors. Research Quarterly, 1959, 30, 486-491.

APPENDIX A

COPY

INVENTORY OF COLLEGE ADULTS' PHYSICAL ACTIVITY  
PREFERENCES AND PURPOSES

INVENTORY OF COLLEGE ADULTS' PHYSICAL ACTIVITY PREFERENCES AND PURPOSES

A. BIOGRAPHICAL DATA SECTION: Please (✓) the appropriate response for each item in this section.

1. Name of institution in which you are in attendance:   UNC-G ( )           UNC-W ( )           NCCU ( )
  
2. Sex:       \_\_\_\_\_ Male       \_\_\_\_\_ Female                   3. Marital Status:       \_\_\_\_\_ Married       \_\_\_\_\_ Single
  
4. Age Range:       \_\_\_\_\_ 25-34;       \_\_\_\_\_ 35-44;       \_\_\_\_\_ 45 or over
  
5. Student Status:       \_\_\_\_\_ Full-time;       \_\_\_\_\_ Part-time                   6. Employment Status:       \_\_\_\_\_ Full-time;       \_\_\_\_\_ Part-time
  
7. Present Residence:   City \_\_\_\_\_;       Town \_\_\_\_\_;       Suburban \_\_\_\_\_;       Rural \_\_\_\_\_  
(Check One)
  
8. Ethnic Background:   American                   Asian Pacific                   Hispanic  
                          Indian \_\_\_\_\_;       Islander \_\_\_\_\_;       Black \_\_\_\_\_;       (Surname) \_\_\_\_\_;       White \_\_\_\_\_
  
9. Spouse Status:       Full-time       Part-time                   Employed       Employed  
                          Student ( )       Student ( )       None ( )       Outside Home       Outside Home  
  Full-time ( )       Part-time ( )       None ( )
  
10. I have \_\_\_\_\_; have not \_\_\_\_\_ enrolled previously in physical education. I have not enrolled previously because:
  
11. I am \_\_\_\_\_; am not \_\_\_\_\_ currently enrolled in physical education. I am not currently enrolled because:

B. GENERAL FEELING SECTION: Please read each statement carefully. Then, in the appropriate response column to the right of each statement, CIRCLE the number from 5 (Strongly Agree) to 1 (Strongly Disagree) which most nearly indicates how you feel about the statement.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. Physical education activity classes at this university are generally of the kind in which I like participating.	5	4	3	2	1
2. Regular participation in physical education activity will make me feel better about things in general.	5	4	3	2	1
3. Regular exercise and physical activity should be a top priority concern of mine.	5	4	3	2	1
4. My present physical skill ability will allow me to confidently tackle most tasks in which I might decide to engage.	5	4	3	2	1
5. The university's physical education activity classes might attract more volunteer participation from adults if classes were more oriented to adult physical activity preferences and purposes.	5	4	3	2	1

C. PHYSICAL ACTIVITY PREFERENCE SECTION: Most people prefer participating in physical activity that can be classified under one of the six subject areas below. Please review each area carefully. Then, in the appropriate response column to the right of each area, CIRCLE the number from 5 (Highly Preferred) to 1 (Not Preferred) which most nearly represents your degree of preference for that area.

	Highly Preferred	Pre- ferred	Undecided	Slightly Preferred	Not Preferred
1. Fitness Area--Examples: exercise programs, weight training, walking, jogging, etc.	5	4	3	2	1
2. Personal Development Area--Examples: swimming, hiking, cycling, gymnastics, etc.	5	4	3	2	1
3. Lifetime Sports Area--Examples: tennis, golf, bowling, softball, archery, etc.	5	4	3	2	1
4. Fundamental Skill Development Area--Examples: throwing, catching, running, rope skipping, etc.	5	4	3	2	1
5. Dance Area--Examples: creative, disco, folk, social, etc.	5	4	3	2	1

The list of specific activities which follows is directly related to your physical activity preference areas.  
 Please check (✓) those activities of HIGHEST INTEREST to you in the spaces provided to the right of the activities.

I am HIGHLY INTERESTED in those activities checked below:

Speedball	_____	Ice Skating	_____	Archery	_____
Flag Football	_____	Diving	_____	Canoeing	_____
Frisby	_____	Wrestling	_____	Water Skiing	_____
Aerobic Dancing	_____	Backpacking	_____	Weight Training	_____
Volleyball	_____	Disco Dance	_____	Softball	_____
Cycling	_____	Sailing	_____	Folk Dance	_____
Cross Country Running	_____	Exercise Programs	_____	Fencing	_____
Paddle Ball	_____	Gymnastics	_____	Squash	_____
Roller Skating	_____	Riflery	_____	Soccer	_____
Bait Casting	_____	Basketball	_____	Ice Hockey	_____
Water Polo	_____	Horseback Riding	_____	Rope Skipping	_____
Rugby	_____	Tennis	_____	Baseball	_____
Outdoor Education	_____	Square Dance	_____	Racquetball	_____
Climbing	_____	Swimming	_____	Handball	_____
Fly Casting	_____	Hiking	_____	Jogging	_____
Track & Field	_____	Officiating	_____		
Social Dance	_____	Bowling	_____	Please specify others:	
Golf	_____	Ballet Dance	_____	_____	
Lacrosse	_____	Orienteering	_____	_____	
Scuba	_____	Creative Dance	_____	_____	
Karate	_____	Coaching	_____	_____	
Walking	_____	Badminton	_____	_____	
Field Hockey	_____	Snow Skiing	_____	_____	



The list of specific activities which follows is directly related to your physical activity preference areas. Please check (✓) those activities in which you DESIRE CLASS INSTRUCTION in the spaces provided to the right of the activities.

I DESIRE CLASS INSTRUCTION in those activities checked below:

Jogging	_____	Hiking	_____	Fly Casting	_____
Handball	_____	Swimming	_____	Climbing	_____
Racquetball	_____	Square Dance	_____	Outdoor Education	_____
Baseball	_____	Tennis	_____	Rugby	_____
Rope Skipping	_____	Horseback Riding	_____	Water Polo	_____
Ice Hockey	_____	Basketball	_____	Bait Casting	_____
Soccer	_____	Riflery	_____	Roller Skating	_____
Squash	_____	Gymnastics	_____	Paddle Ball	_____
Fencing	_____	Exercise Programs	_____	Cross Country Running	_____
Folk Dance	_____	Sailing	_____	Cycling	_____
Softball	_____	Disco Dance	_____	Volleyball	_____
Weight Training	_____	Backpacking	_____	Aerobic Dancing	_____
Water Skiing	_____	Wrestling	_____	Frisby	_____
Canoeing	_____	Diving	_____	Flag Football	_____
Archery	_____	Ice Skating	_____	Speedball	_____
Snow Skiing	_____	Field Hockey	_____		
Badminton	_____	Walking	_____	Please specify others:	
Coaching	_____	Karate	_____	_____	
Creative Dance	_____	Scuba	_____	_____	
Orienteering	_____	Lacrosse	_____	_____	
Ballet Dance	_____	Golf	_____	_____	
Bowling	_____	Social Dance	_____	_____	
Officiating	_____	Track & Field	_____	_____	

D. PURPOSE SECTION: Please read each statement carefully. Then, in the appropriate response column to the right of each statement, CIRCLE the number from 5 (Strongly Agree) to 1 (Strongly Disagree) which most nearly reflects how that statement satisfies your purpose for participating in physical activity.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
My purpose for participating in physical activity is:					
1. To improve my overall physical appearance.	5	4	3	2	1
2. To develop a greater understanding and appreciation of the way other people move and perform skillful acts.	5	4	3	2	1
3. To participate in physical activities with others on a cooperative basis.	5	4	3	2	1
4. To improve my circulation, breathing, muscle coordination, strength, and general body control.	5	4	3	2	1
5. To improve my proficiency in handling objects such as balls, bats, etc.	5	4	3	2	1
6. To improve my ability to better express my inner feelings to others.	5	4	3	2	1
7. To learn better body control when I am moving from place to place quickly when other people or objects are traveling in my path of movement.	5	4	3	2	1
8. To release my frustrations and tensions while getting to know myself and the extent of my physical skill capacity.	5	4	3	2	1
9. To satisfy my general education requirement or elective requirement.	5	4	3	2	1
10. To participate with others on a competitive basis.	5	4	3	2	1

THANK YOU VERY MUCH for giving your time to help complete this study. We are certain that the results will be of benefit to you in some way.

( ) Check if you desire results. If so, please enclose your name and address in the space below.

This Inventory is to be returned to: Willie S. Smith, Jr., 1027 Jerome Road, Durham, North Carolina 27713.

APPENDIX B  
CORRESPONDENCES

COPIES

1. Letter of request to Jurors.
2. Letter of request to Directors of Institutional Research.
3. Cover Letter.

1027 Jerome Road  
Durham, North Carolina 27713  
February 17, 1982

Dear

The enclosed instrument has been constructed for the purpose of examining the Physical Education Activity Preferences and Purposes of Adult College Students. I am asking that you assist in the instrument validation process by serving as a juror to evaluate and assist in preparing the instrument in final form for data collection.

The instrument has been constructed to measure:

1. Adult college students' general feeling towards physical education activity.
2. Adult college students' preferences for physical education activity.
3. Adult college students' purposes for participating in physical education activity.

First, please respond to each statement of the instrument as the directions indicate. After completion of step 1, please evaluate each statement in each area for the statement's representativeness of the content for that area. For example, the response column to the left of each statement asks if the statement represents content for that area. Circle "Yes," if in your opinion the statement does represent the content for that area; Circle "No" if in your opinion the statement does not represent the content for that area. Feel free to edit each statement for clarity and understanding; delete any inappropriate statement or term; and add statements or terms that will in your judgement enhance the overall quality of the instrument.

Thank you in advance for your kind assistance in this endeavor.

Sincerely,

Willie S. Smith, Jr.

1027 Jerome Road  
Durham, North Carolina 27713  
February 23, 1982

Dr. Don Reichard  
Director of Institutional Research  
The University of North Carolina at Greensboro  
Greensboro, North Carolina 27412

Dear Dr. Reichard:

Please recall our telephone conversation early last semester during which you provided me with data of the adult student enrollment at The University of North Carolina at Greensboro. We are, by this letter, formally commencing a research study of the Physical Education Activity Preferences and Purposes of adult undergraduate college students enrolled in selected institutions in The University of North Carolina System. The University of North Carolina at Greensboro has been selected as one of the representative institutions to be included in the study and we are now making a formal request for your assistance.

The data from the study will be used to plan meaningful Physical Education Activity Programs for adult students enrolled at The University of North Carolina at Greensboro in particular and other institutions in The University of North Carolina System in general. So that the study will accurately reflect the views of adult students themselves, we urgently request your participation by:

1. Providing the total enrollment figure of undergraduate students enrolled at your institution who are 25 years of age or older.
2. Providing a randomly chosen list of ninety (90) student names, and addresses from your institution's 25 years' of age and over undergraduate student population.

The status and well being of adult students enrolled at your institution is of vital concern to you we are sure. The results of this study can prove valuable in assisting concerned individuals at The University of North Carolina at Greensboro in particular to improve upon the quality of on campus life for adult students. Accordingly, the results will be made available to you if you desire.

Thank you in advance for your time and cooperation.

Sincerely,

Willie S. Smith, Jr.

April 7, 1982

Dear UNC-G Student:

You have been selected as one of the adult college students in The University of North Carolina System to participate in a research study I am conducting as a doctoral student at The University of North Carolina at Greensboro. The study is the result of a strong desire to better understand the physical education concerns of adult students in our University System. Consequently, we are in need of your valuable input.

Enclosed is an inventory designed to gather useful information of your Preferences and Purposes as they pertain to Physical Education Activity. The inventory will only take a few minutes to complete. While doing so, I feel strongly that you will benefit personally from reading, considering, and responding to the various items. Also, you will be making a valuable contribution to our University System and your university in particular because the results will be helpful to individuals interested in improving the quality of campus life for adult students.

Some researchers hold that a low response rate should be expected on a study of this nature. Contrary to this view, I am confident that students in the UNC System are considerably more responsible than students of other universities. Indeed, I project a very high response rate--one that is 90 percent or better. Be sure that you are not one of the few "unaccounted for." Remember, in the statistical treatment of a study of this type every single response is important. So why not take a few minutes to complete your Inventory while you have it before you. Use the enclosed self-addressed envelope to return your completed Inventory to me by April 26, 1982.

All replies will be strictly confidential. Your name is not requested on any part of the inventory. However, the results will be made available to you upon request.

Thank you in advance for your time and cooperation in this important undertaking, and we look forward to receiving your completed Inventory by April 26, 1982.

Sincerely,

Willie S. Smith, Jr.