A STUDY OF PSYCHOLOGICAL SEX-ROLE ORIENTATIONS AND ATTITUDES TOWARD PHYSICAL ACTIVITY OF UNIVERSITY STUDENTS

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PREFACE

This study was designed to examine from a social psychological perspective the differences in interests and choices of females and males as they pertain to participation in and attitudes toward physical activity. In addition, the study was an attempt to determine whether students as a result of a perceived psychological sex-role identity tend to select those activities which are more appropriately sex typed. The author of this study, as well as others, view sport and physical activity as being in a unique position to contribute to the total human being regardless of sex of the individual and to replace the myth of dichotomous sexuality training.

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CHAPTER I

INTRODUCTION AND PROBLEM

Sociological and psychological aspects of physical activities and sport have long been the subject of investigation by physical educators. More recently, sport sociologists and sport psychologists have enhanced the literature through the studies of humans involved in physical activities and sport.

The sport psychologist is concerned with relationships between the physical and social environment and human behavior occurring in the sport context. The personality of the athlete, the attitudes of students in physical education activities, the motivation of players and aggression in sport and competition, in general, have been of major concern to the sport psychologists.

The focus of research for sport sociologists has not been on the individual but, rather, with the group processes, the cultural influence on sport or sport as part of the culture, and with institutions and organizations concerned with sport. Of concern for the sport sociologist is why man becomes involved in sport and physical activity and what effect this involvement has on other aspects of the social environment.

The socialization process is the manner by which society transmits its culture to its members. The primary socialization function of physical education is in the teaching of skills necessary for participation in particular sports and physical activities and knowledge about physical fitness and movement. A secondary socialization function of physical education, found within the literature, is the development of interpersonal competence. Participation in physical activies--including games, sport and play--provides the opportunity for social interaction under a wide range of situations.

Physical activity conveys the notion of observable human movement occurring in a variety of settings. Research studies by the sport sociologists and psychologists with regard to the study of the human movement phenomenon have dealt with why individuals participate in specific sport, dance, or exercise activities. Other studies have focused on identifying an individual's motives for participation and his/her perceptions of the appropriateness of specific activities for satisfaction of these motives. Sociologists and psychologists believe that an understanding of the phenomenon of participation in movement activities is essential for designing educational and recreational programs that attempt to produce patterns of lifelong participation.

Male and female constitute ascribed social positions, and in every society, there appears a set of role appropriate attitudes and behaviors for males and females. As

Oakley (1976, p. 82) explained, "Biologically, people are male and female, culturally they are pressured to be masculine or feminine."

Raeder (1971) describes the socialization process in the following way:

> 'Men's work', 'women's work', 'masculine', and 'feminine' styles, attitudes and so forth are artificial behavioral divisions of the human race. They are pigeon holes built from custom, tradition, religion, accidental choice and rank stupidity. A human individual is crammed into one of these pigeon holes by social pressure and what does not fit into the compartment is trimmed off in the psychological blood bath known as 'adjusting.' Men and women are forced into roles that have no bearing whatever on their nature as individual humans (p. 4).

Sex-role differentiation becomes established at an early age. It is at this early age that beliefs about sex appropriate abilities, attitudes, and behavior begin to be acquired.

One of the most salient differences in male and female role expectations involves participation in sport and physical activities. For the male, aggressiveness, independence, and achievement are desirable qualities and involvement in sport is expected and rewarded. This involvement in sport by the male is a means of validating the internalization of the male sex role. For the female, desirable qualities include passivity, affiliation, nurturance, and dependence, qualities not necessarily essential for active sport participation. Girls learn that "tomboy" activities, though tolerated early, are not really considered "ladylike" and are expected to be discarded with maturity. Sport

participation is inconsistent with society's view of the female.

Learning to be a "psychological" male or female is one of the earliest and most pervasive tasks imposed upon the individual by the culture. Assigned sex roles and behavior in accordance with the role appear in nursery school children. Boys are more aggressive whereas girls restrict themselves to verbal and "pro-social" forms of aggression (Sears, 1965). Areas of the nursery school can be characterized as primarily occupied by one sex or the other. Blocks, transportation toys, sandbox, and climbing are preferred areas of interest of the boys while the girls engage in playing house, printing, dolls, clay, and stories (Fagot and Patterson, 1969).

Sex differences become more pervasive as children move from chidhood to adulthood and behavior becomes congruent with society's sex-role standards. Males are motivated by achievement, power, and competition, while females are motivated by affiliation, dependency, and cooperation (Oetzel, 1966). This process of sex-typing or stereotyping of "appropriate" masculine and feminine behavior abounds in our culture and has been documented.

That masculinity and femininity have been bipolar ends on a single continuum and that a person has to be either masculine or feminine, but not both, have been concepts accepted both in psychology and society at large (Bem, 1974).

> This sex-role dichotomy has served to obscure two very plausible hypotheses; first, that many individuals might be 'androgynous', that is, they might be both masculine and feminine, both assertive and yielding, both instrumental and expressive, depending on the situational appropriateness of these various behaviors; and conversely, that strongly sex-typed individuals might be seriously limited in the range of behaviors available to them as they move from situation to situation (Bem, 1974, p. 155).

The traditional assumption that the masculine male and feminine female typify mental health has been questioned as a consequence of the Women's Liberation Movement. The movement has made us aware that we are locked into these traditional sex roles.

According to Parson and Bales (1955), masculinity has been associated with an instrumental orientation, a cognitive focus on "getting the job done" or the problem solved, whereas, femininity has been associated with an expressive orientation, an affective concern for the welfare of others and group harmony. Bakan (1966) has suggested that masculinity is associated with "agentic" orientation and femininity with a "communal" orientation.

In any society, sex roles are reciprocal, in that any changes taking place affecting women will inevitably affect men. Harrison (1978) reports that Jung was the first person to attempt a major revision of early psychoanalytic theories. Jung observed that all persons have both "masculine" and "feminine" components in their personalitites and that fully integrated persons express both. Jung's work contributed to the theoretical underpinning of the view which has

recently been called "androgyny". According to Harrison (1978), androgyny can be seen as a transitional perspective and characterized as a "separate but equal" theory which attempts to affirm the psychological and social equality of men and women but perpetuates the association of personality characteristics with sex-linked differences between men and women.

The concept of psychological androgyny has been predicated on the assumption that, in principle, it is possible for an individual to be both masculine and feminine, both instrumental and expressive, both agentic and communal depending on the situational appropriateness (Bem, 1975). The "androgynous" person is emerging as the more appropriate sex role ideal for contemporary society. Theoretically, the androgynous person would have no need to limit behaviors to those traditionally defined as "sex appropriate". Bem (1976), in her studies, has found that androgynous individuals of both sexes do seem to vary their behavior cross-situationally so that they are able to "do well" at both masculine and feminine behaviors, whereas sex-typed individuals do not.

Although Title IX has had the effect of facilitating the expansion of physical activity, sport and athletic programs for females, the traditional sex-role prescriptions and psychological constraints may continue to limit choices made by women in the sports area (Hoferek, 1980). Sport in American society is both a prominent masculine rite and the

training ground for the "traditional male role". An essential element in becoming a man is the development of athletic ability. Researchers have noted that boys tend to be socialized in childhood for the traditional male role, which includes orientation toward the world and an emphasis on physical strength and athletic ability (Stein and Hoffman, 1978). There is considerable evidence to support the idea that in North American society participation in competitive sports is considered a masculine activity (Harres, 1968; Hart, 1971; Kennicke, 1972).

Games of physical skills are associated with achievement and aggressiveness which seem to make them an expressive model for males rather than females (Hart, 1971). When sport and physical activity are considered in light of sex-role expectations, masculine characteristics have been traditionally used to describe appropriate behavior. A conflict may occur for the female who wishes to participate in athletics or physical activities and also fulfill a traditional female sex role.

The image of women athletes in American society has been portrayed quite accurately by the cartoonist, Charles Schultz. Through the characters of Peppermint Patty, Marci, and Lucy Van Pelt, three varieties of female sport involvement are presented. Peppermint Patty, the tomboy and serious athlete, who was not above trading her femininity to strengthen her baseball team, is at one extreme. Marci, a neophyte intellectual with no redeeming athletic qualities,

is at the other extreme. In the middle is Lucy, whose lack of athletic skill and total unconcern for the game cause her no visible distress (Oglesby, 1978). Despite this conflict, there is evidence that more females are pursuing involvement in a variety of sports and physical activities in recent years.

Statement of Purpose

This research effort was designed to examine from a social psychological perspective the differences in interests and choices of females and males as they pertain to participation sport and physical activities. The study will attempt to determine whether students enrolled in physical education activity classes select those activities as a result of an expressed attitude preference toward the type of activity. In addition, the study will attempt to determine whether students, with a particular perceived sex-role identity, tend to select those activities which are more appropriately sex-typed.

Such an assessment appears vital in an era when myths about sport involvement are being reevaluated and changes in age old sex-typed attitudes are being sought. One concern of the study is whether participation in sports and physical activities have the same meaning for males and females. To the extent that there are differences, the failure to articulate them in planning will result in activities which are not intrinsically satisfying for the

participant or which result in less than optimal performance by the participant.

The traditional view of American sport asserts that the participant or athlete is more masculine and less feminine than the nonparticipant or nonathlete. This view of sports and physical activity assumes that femininity and masculinity are bipolar opposites--that is, if one is high in masculinity, by definition one has to be low in femininity. There is now considerable evidence in the psychological literature documenting this misleading position. There is nothing in any sport which makes it inherently "male" or "female". Rather, it is the existence of the sex-role stereotype present in American society. All the qualities of fully-functioning human beings are potentially communicable or reinforceable in sport. Sport is in a unique position to propose a replacement for the myth of the dichotomous sexuality training (Oglesby, 1978).

Statement of Problem

The primary problem of this study was to determine whether masculine men and feminine women, as measured by the Bem Sex Role Inventory, tend to select physical education activities which are stereotyped as more sex appropriate, and secondly, to determine whether androgynous or sex-reversed subjects tend to select for participation those physical education activities which are cross-sex activities. Using the Kenyon Attitude Toward Physical Activity

questionnaire, the study compared differences among six dimensions as they related to activities identified as sex appropriate and cross-sex activities and the sex-role orientation of the students.

Hypotheses to be Tested

HO_1: There is no significant difference between those students enrolled in physical education activity courses having an accepted masculine sex-typed orientation and those students enrolled in physical education activity courses having an accepted feminine sex-typed orientation with regard to attitudes toward physical activity often attributed as sex-appropriate characteristics for males and as sex-appropriate characteristics for females.

HO_2: There is no significant difference between those students enrolled in physical activity courses having an accepted feminine sex-typed orientation and those students enrolled in physical education activity courses identified as having no sex-typed orientation, masculine or feminine, with regard to attitude toward physical activity often attributed as sex-appropriate characteristics for males and as sex-appropriate characteristics for females.

HO_3: There is no significant difference between those students enrolled in physical education activity courses having an accepted masculine sex-typed orientation and those students enrolled in physical education activity courses having no sex-typed orientation, masculine or feminine, with

regard to attitudes toward physical activity often attributed as sex-appropriate characteristics for males and as sex-appropriate characteristics for females.

HO_4: There is no significant difference among the female population in this study enrolled in physical education activity courses having an accepted sex-typed orientation of masculine, feminine, or nonstereotype with regard to attitudes toward physical activity often attributed as sex-appropriate characteristics for males and sex-appropriate characteristics for females.

HO_5: There is no significant difference among the male population in this study enrolled in physical education activity courses having an accepted sex-typed orientation of masculine, feminine, or nonstereotype with regard to attitudes toward physical activity often attributed as sex-appropriate characteristics for males and sex-appropriate characteristics for females.

HO_6: There is no significant difference among females having a psychological sex-role orientation of masculine, feminine, androgynous, or undifferentiated with regard to the selection of physical education activity courses having a sex-typed orientation of masculine, feminine or nonstereotype.

HO_7: There is no significant difference among males having a psychological sex-role orientation of masculine, feminine, androgynous, or undifferentiated with regard to selection of physical education activity courses having a

sex-typed orientation of masculine, feminine, or nonstereotype.

HO_8: There is no significant difference among male physical education majors, female physical education majors, male nonphysical education majors and female nonphysical education majors on measures of psychological sex-role orientation.

HO_9: There is no significant difference between male physical education majors and male nonphysical education majors on measures of psychological sex-role orientation.

HO_{10}: There is no significant difference between female physical education majors and female nonphysical education majors on measures of psychological sex-role orientation.

HO_{11}: There is no significant difference between male physical education majors and female physical education majors on measures of psychological sex-role orientation.

HO_{12}: There is no significant difference between male physical education majors and female nonphysical education majors on measures of psychological sex-role orientation.

HO_{13}: There is no significant difference between male nonphysical education majors and female nonphysical education majors on measures of psychological sex-role orientation.

HO_{14}: There is no significant difference between male nonphysical education majors and female physical education majors on measures of psychological sex-role orientation.

HO_{15}: There is no significant difference between male nonphysical education majors and female nonphysical education majors on attitudes toward physical activity.

HO_{16}: There is no significant difference between male physical education majors and female physical education majors on attitudes toward physical activity.

HO_{17}: There is no significant difference between physical education majors and nonphysical education majors on attitudes toward physical activity.

Delimitations

The focus of the present study was delimited to the following:

1. All subjects were students at Southwestern Oklahoma State University during the 1981 spring term who were enrolled in physical education activity courses.
2 Students at Southwestern Oklahoma State University are required to complete four credit hours of physical education activity to satisfy the General Education requirement.
3. Physical education majors are required to complete an additional two hours of physical education activity for their Health, Physical Education, and Recreation major. They may also select activity courses to fulfill requirements in the elective area for the degree. During the spring term, two

required activity courses are offered for Health, Physical Education, and Recreation majors.

4. There are some physical education activity courses in the University schedule designated as being designed more for the benefit of men and more for the benefit of women.

Assumptions

The following assumptions were basic to the present study:

1. The sex-typed students are significantly more stereotyped in their choices of physical education activities than the androgynous or sex-reversed subjects. Attitude scores for sex-typed students will reflect the perceived instrumental value for the appropriate sex-role orientation.
2. The sex-typed individuals do not select physical education activities that are cross-sex activities.
3. The students classified as androgynous select physical education activities with no significant regard for sex-appropriateness. Attitude scores for the perceived instrumental value for the student will reflect both masculine and feminine characteristics.
4. Male physical education majors select physical education activities which are identified as sex

appropriate and possess attitudes toward the activity which are characteristically sex appropriate.

5. Female physical education majors are significantly more androgynous and masculine than female non-majors and select those physical education activities which are sex appropriate or have both masculine and feminine orientations. Attitude scores will reflect a perceived instrumental value for the individual in both masculine and feminine characteristics.

Operational Definitions

1. Aesthetic experience - (ATPA) Activity conceived of as possessing beauty or certain artistic qualities (Kenyon, 1968.)

2. Agentic orientation - A concern for oneself as an individual.

3. Androgyny - Sex role which represents the equal endorsement of both masculine and feminine personality characteristics (Bem, 1974).

4. Ascetic experience - (ATPA) Long, strenuous and often painful training and stiff competition demanding a deferment of gratification (Kenyon, 1968).

5. Catharsis - (ATPA) The belief that physical activity can provide a release from frustration and so-called, pent-up emotions created by pressures (Kenyon, 1968).

6. Communal orientation - A concern for the relationship between oneself and others.

7. Cross-sex activity - An activity engaged in by persons having a particular sex-role orientation which is identified as being more appropriate for a person with another sex-role orientation.

8. Feminine sex role - The endorsement of feminine attributes and rejection of masculine attributes (Bem, 1974).

9. Health and fitness - (ATPA) Physical activity characterized primarily by its contribution to the improvement of one's health and fitness (Kenyon, 1968).

10. Masculine sex role - The endorsement of masculine attributes and rejection of feminine attributes (Bem, 1974).

11. Physical activity - The organized nonutilitarian, gross human movement, usually manifested in active games, sports, calisthenics and dance (Kenyon, 1968).

12. Psychological androgyny - The concept implies that it is possible for an individual to be both assertive and compassionate, both instrumental and expressive, both masculine and feminine depending upon the situational appropriateness (Bem, 1976).

13. Pursuit of vertigo - (ATPA) Physical experiences providing at some risk to the participant an element of thrill through the medium of speed, acceleration, sudden change of direction, or exposure to dangerous situations,

with the participant usually remaining in control (Kenyon, 1968).

14. Sex role - From a sociological perspective, the process of role-taking emphasizes socialization. From a psychological perspective, sex role refers to the distinguishing characteristics of women and men themselves to differences in behavior, personality, abilities, preferences, and the like (Spence and Helmreich, 1978).

15. Sex-typing - The process by which children come to be psychologically male or female (Bem, 1974).

16. Social experience - (ATPA) An experience characterized by those activities having a primary purpose to provide a medium for social intercourse, to meet new people and perpetuate existing relationships (Kenyon, 1968).

CHAPTER II

REVIEW OF LITERATURE

Introduction

An investigation of the literature related to sex roles and attitudes toward physical activities has revealed the following general categories of study: female athletes in competitive athletics, sex-role patterns and change, attitudes of females toward athletic participation and attitudes of others toward the female athlete, comparisons between athletes and nonathletes on attitudes toward physical activities and physical education, studies on coeducational and single-sex classes, and student perceptions toward sex-role orientation. Until recently, engaging in sports and physical activity, particularly organized sports, was thought of as the province of males. Although this exclusivity is rapidly changing, the notion of sports as stereotypically male-linked is essentially valid.

Psychological Sex-Role Orientation

Literature related to psychological sex-role orientation has been concerned with changes in the traditional concept of masculinity and femininity. Related studies have been concered with sex roles and concepts of psychological

androgyny, sex-role behavior and physical activity, male sex roles and conflict, psycho-social correlates of body image and aspects of physical activity and performance in sports, and socialization into sport.

Sex Roles

Studies indicate a change in the traditional bipolar extremes of masculinity and femininity toward the more androgynous person. Donnenwerth and Norvell (1978) measured reward allocation patterns of female college students and compared these patterns to the student's preference for a sex-role orientation as measured by the Bem Sex Role Inventory. Included among the findings in the study was that women are increasingly adopting behaviors traditionally considered as competitive and masculine.

Society's concept of accepted sex-role behavior affects the form of movement provided for members of both sexes. In a study conducted by Roberts (1978), several hypotheses were tested involving gross motor tasks and subjects paired on the basis of scores representing the three areas of psychologically high masculinity, high femininity, and androgyny. Analysis of the data showed the presence of a strong sex difference.

It was hypothesized that the psychologically feminine subjects would display significantly more delicate or light qualities in their movements. Results indicated that the psychologically feminine female did show these light

qualities in movement, but her male counterpart did not. Also hypothesized was that the psychologically masculine subjects would display significantly more strong qualities in their movements than any other quality. The psychologically masculine male did use more strong movements, but his female counterpart did not. Roberts also found that there was no significant difference between the use of light and strong movement qualities by the male androgynous subject, while the female used significantly more light movements.

Further analysis by Roberts (1978) showed that the subject's movement qualities when compared by psychological group membership were more similar between subjects than when a comparison was made on the basis of sex. Tasks performed by the subjects in the study by Roberts included everyday gross motor activities of walking, climbing stairs, sitting down and standing up, running, and throwing a tennis ball against the wall.

Harris (1975) has stated that the Rorschach Ink Blot Test no longer discloses an individual's concept of sexuality accurately. The Bem Sex Role Inventory has indicated that university students no longer identify with the traditional male and female sex roles (Vickers, Lashuk, and Taerum, 1977). A study conducted by Vickers, Lashuk, and Taerum (1977) was designed to investigate attitudes toward participation in sport. Fourteen adjective pairs found to have consistently high ratings in other studies were used for each concept--male, female, male athlete, and female

athlete. Results demonstrated that the subjects were more positive in their attitudes toward the concept female than to the concept male, to the concept female athlete than to the concept male athlete, to the concept female athlete than the concept male, and to the concept male athlete than to the concept male.

In a study designed to determine the relationship between psychological androgyny and fear of success, it was found that androgynous and sex-reversed females demonstrated significantly less fear of success than either sex-typed or indeterminate females (Gayton, Havu, Barnes 1978). Subjects completed the Bem Sex Role Inventory and a fear of success scale designed to reflect anxiety of an individual when their performance was superior to that of another in a competitive activity. The findings of this study suggest that psychological androgyny is associated with dealing effectively with possible perceived negative consequences of success.

Concepts of Masculinity

It has been suggested that there are a small number of core concepts of masculinity which underlie a variety of beliefs and expectations about men.

> Brannon (1976) finds four basic themes important: (a) 'no sissy stuff'--the avoidance of all feminine behaviors and traits; (b) 'the big wheel'--the acquisition of success, status and breadwinning competence; (c) 'the sturdy oak'--strength, confidence and independence; (d) 'give 'em hell'--aggression, violence and daring (Cicone and Ruble 1978, p. 5).

Pleck (1976) suggested a contrast between "traditional masculinity" and "modern masculinity". The "traditional" which emphasizes physicality, suppression of tenderness, a functional relationship between the sexes and impulsive behavior contrasted with the "modern" with its emphasis on interpersonal skills, heterosexual tenderness and "coolness" as the desired emotional state (Cicone and Ruble, 1978).

Studies which have examined children's beliefs about males have found evidence of the importance of athletics and mechanical interests. Hartley and Hardesty (1964) found items most strongly agreed upon as masculine were predominantly mechanical (toys, trucks, and tools) and aggressive (toy rifles and soldiers) or athletics. The masculine activities were primarily job oriented (shovels walks) or reckless kinds of behavior (plays on roofs). Gender beliefs and concepts of maleness are present early in children.

A synthesis of findings of studies regarding adult beliefs about males revealed the following words to be most prevalent: adventurous, stable, courageous, interested in sex, self-confident, competitive, leader, individualistic, unemotional, and strong (Cicone and Ruble, 1978).

Pleck (1976) identified four major views present in current literature concerning the difficulties and stresses in the male role. The first two views, sex-role identity perspectives, assumed that there were desirable and functional behaviors of masculinity and focused on the difficulties men have in obtaining them. These perspectives

centered around the individual-level sex-role identity and the cultural-level sex-role identity. The individual-level sex-role identity perspective held that sex-role identities developed through identification with or imitation of the parent of the same sex or other same-sex adults. Boys were more likely to experience complete absence of the same-sex parent than were girls. Thus, males are predicted to have greater difficulty attaining their sex-role identity (Pleck, 1976). According to Pleck (1976), a solution to this problem for the males would be to increase the role of men in childcare so that the developing male would have the means to attain more secure sex-role identities. Pleck (1976) defined the cultural-level sex-role identity as a conflict between the traditional or past concept of masculinity and what is expected of the male today. The adult males of today when comparing themselves against males of the past cannot feel fully masculine because society does not provide them the means to do so. Males in the past found it easier to validate their masculinity because they took a dominant role in relationships with women and because they engaged in work that was directly related to physical survival. In contrast today, men are expected to accept women as their equals and are leading increasingly more sedentary lives (Pleck, 1976).

That males are confronted by contradictory demands and expectations in their socialization process has been proposed by Hacker (1957). Males tend to be socialized in

childhood for a traditional male role, which is comprised of physical strength and athletic ability and the avoidance of girls. For the adult male, expectations consist of acquiring intellectual and social skills and relating to females as work peers and emotional intimates. Thus, argued Hartley, Knox, and Kupferer, the contradiction is between expectations applied in early and later parts of the cycle (Pleck, 1976). This contradictory-demands role strain was the third proposed by Pleck.

The fourth view proposed by Pleck suggested an inherent role-strain perspective which exists for the male. This role strain suggested a conflict between the demands of the modern male role and the fundamental personality needs of the male. Pleck viewed the major stimulus for men to examine and change their sex role to be the dramatic change in women's definitions of their role and place in society (Pleck, 1976).

In a study of two groups of male college graduates, those who participated in high school and college athletics and those who did not participate in athletics, Stein and Hoffman (1978) found that both athletes and nonathletes had to cope with the social expectations of the athletic role. Athletes' preoccupation with and emphasis on high level performance and winning were underlying reasons for experiencing role strain. Nonathletes faced with their inability to make it in the pervasive child's world of sports experienced role strain and feelings of failure and nonmembership.

Career Choice and Sex-Role Orientation

In a study conducted by Puig-Casauranc (1977), females in three fields of academic study thought to be male dominated, female dominated, or dominated by neither sex were compared in relation to personality characteristics stereotypically associated with masculinity and femininity as measured by the Edwards Personal Preference Schedule and on their degree of psychological androgyny as defined by the Bem Sex Role Inventory. Academic fields were classified according to the ratio of men to women in each field. Traditional academic fields consisted of education, nursing, and social work. Nontraditional academic fields in the study included business administration, communications, and pharmacy with neutral fields including English, fine arts, and psychology. The data indicated the three groups were differentiated by their psychological androgyny scores. The nontraditional group demonstrated the highest degree of psychological androgyny, although all three groups fell within the range defined as psychologically androgynous. The females in the traditional group identified with the stereotypic female role as reflected by scores on the personality variables but did not reject those behaviors deemed exclusively masculine for themselves as measured by the Bem Sex Role Inventory. According to the authors, the most significant finding was that the females in the three fields tended to be more similar than disparate with respect to perceived behaviors (Puig-Casauranc, 1977).

In a study investigating the relationship of psychological androgyny to career choice among college freshmen, it was found that women in engineering differ from both men in engineering and women in home economics on psychological androgyny. Men in their major, engineering, scored in a masculine-typed direction while women in home economics scored in a more feminine-typed direction. The women in engineering did not describe themselves as less feminine than women in home economics but did describe themselves as more masculine (Yanico, Hardin, and McLaughlin, 1978). The authors of this study concluded that the data supported the idea that women with an androgynous self-concept are equally as likely to choose a traditional as a nontraditional field.

Socialization and Parental Models

> The social learning theory views the parents as important agents in the socialization of sex-role behaviors and suggests tht they fulfill this function in two ways: as role models who exhibit stereotypically masculine or feminine (or androgynous) behaviors, and as direct renforcement agents (Orlofsky, 1979, p. 496).

The Bem Sex Role Inventory was used by Orlofsky to assess the sex-role orientation of the subjects as well as the perceived sex-role orientation of the subject's parents. The purpose of the investigation was to examine the influence of parental closeness on the sex-role development of the child and whether preference for one parent over the other influenced modeling the sex-role attribute of the parent. An additional instrument, the Parent Behavior Form, was used to

describe each parent's behavior from the subject's perspective.

Findings for male subjects indicate that the father's behavior was a more important influence in their sex-role development than that of the mother. Feminine-typed males experienced the greatest perceived rejection by both parents than other groups. The feminine-typed male received less cognitive/intellectual encouragement than masculine- and androgynous-typed males. The feminine-typed males' lack of masculinity cannot be attributed to the modeling of the father as they were as masculine typed as any of the other fathers. In the study by Orlofsky (1979), the androgynous males along with the masculine males reported the highest level of paternal warmth and involvement. They perceived a greater closeness with the mother than other groups. Androgynous and masculine males received more intellectual encouragement than low masculine males. The father was perceived as nurturant and involved in encouraging masculine interests and traits. The mother of masculine males was slightly sex-typed low in femininity as compared to the mothers of androgynous males. The parents of the undifferentiated males were described as moderately involved offering little encouragement or modeling behaviors for males.

Orlofsky found that masculine-typed women described their parents' behavior toward them in the least positive light. The father presented a narrowly sex-typed appearance for the daughter while the mother was extremely low in

femininity. In the study, androgynous women were found to have the highest maternal encouragement for achievement and intellectual development and both parents were perceived to have androgynous personalities. For the feminine-typed women, mothers were perceived as sex-typed extremely low in masculinity, high in femininity. There existed for the feminine-typed women a close relationship with both parents, especially the father. Orlofsky (1979) assumed in the study that a casual relationship existed between reported parental behaviors and model characteristics and sex-role outcomes of the subjects. He concluded the study by indicating the need for longitudinal investigations on interactions involved in sex-role development.

Females--Sport and Physical Activity

Female Sport Socialization

Sport involvement can be viewed as a consequence of the process of socialization. Greendorfer (1975) sought to investigate those socializing factors which contribute to and affect the female involved in sport. Social systems utilized in the study were the family, peers, and the school. The findings of the research by Greendorfer suggested that the family and peers served as the original stimuli for the female to participate in sport. Continued reinforcement for the female sport participant beyond childhood came from peers and perhaps the school.

The influence of role models were also considered in

the study by Greendorfer. The most significant role model during childhood for the female sport participant was the male role model. Greendorfer (1975) also found that socioeconomic status was an influence on the type of sport in which the female participated, with team sports participants coming from a lower socioeconomic background.

> The grades before high school comprise a period in which many sex role behaviors and attitudes are learned. The demand for an adherence to sex role behavior is a societal pressure which may affect female participation. Hauge states that desirable qualities for males are independence, aggressiveness and achievement-orientation while desirable qualities for females are affiliation, nurturance, dependence and passivity. Harres and Sheriff found that teenage and college populations of both sexes believed athletics would increase a girl's 'mannishness'. Sports are then positively associated with the male sex role and negatively associated with the female role (Selby and Lewko, 1976, p. 454).

Research by Bardwick (1971) and Tyler (1973) has found evidence that sex-role identification varies with age, and preadolescent girls are permitted to succeed in competitive sports but, as the girls approach adolescence, their status becomes more dependent on their femininity. Kenyon (1968) concluded that a person's attitude toward physical activity was related to the degree of primary (active) and secondary (spectator) involvement in the activity. Generalizing from Kenyon's results, Selby and Lewko (1976) expected that an increase in sports participation would lead to more favorable attitudes toward participation in sports.

The attitudes of children towards female participation in sports were investigated by Selby and Lewko (1976).

Subjects for the study were boys and girls in grades three through six who were participants in a sponsored sports program along with boys and girls in grades three through nine who were not participants in the sports program.

Results of the Selby and Lewko (1976) study indicated that female participants were more favorable toward participation than the female nonparticipants; that nonparticipant boys were more favorable because of less concern about sports in general and the issue of women in sports; and that the negative bias for those boys participating in the sports program may be attributed to the feeling that they are competing with the girls for facilities, fields, and coaches. According to the authors, a contrast effect might account for the difference in the boy participants and nonparticipants. Because the participant boys are more athletically skilled, they may perceive the girls to be less skilled leading the participant boys to devalue female participation in sports as compared to male participation (Selby and Lewko, 1976).

Wilcoxon (1977) studied female athletes involved in the team sports of volleyball, basketball, and softball and in the individual sports of archery, badminton, gymastics, and swimming. Wilcoxon found that the greatest percentage of archers, badminton players, and basketball players were androgynous and the greatest percentage of gymnasts, softball players, swimmers, and volleyball players were classified as masculine. In her study, Wilcoxon indicated that an

increasing number of female athletes were exhibiting androgynous characteristics.

> Individual sport athletes, previously found to be high in femininity, are now demonstrating more masculine characteristics resulting in greater numbers of them to be classified as masculine and androgynous. Team sport athletes, previously found to be high in masculinity, are now displaying more femininity resulting in greater numbers to be classified as androgynous (Wilcoxon, 1977, p. 22).

Uguccioni (1978) investigated the concept of femininity and its relationship to attitudes concerning the role of women in present-day society. The study consisted of three groups of women: the athlete, the semi-athlete, the non-athlete. Among the women in the athletic group, proportionately more were classified as masculine and androgynous, expressing liberal attitudes toward the role of women in society. The greater portion of the semi-athletic group of women were classified as feminine and expressed liberal attitudes toward the role of women in society. The non-athletes were classified as proportionately more feminine and undifferentiated and expressed liberal views toward the role of women in society.

Feminine Image and Sport

Atkins, Morse, and Zweigenhaft (1978) conducted three studies using male and female university students to investigate the stereotype of the female athlete. The results of the first study indicated that the stereotype of women athletes in college was predominately positive. The second

study involved rating photographs of female athletes for attractiveness. The college students rated them equal to a control group of nonathletes. In the third study, male and female subjects interviewed selected the female athlete from a group of three or four pictures. The subjects explained their choice of women as athletes with comments including "healthy", "in good shape", and "determined". Data suggests that there are definite cues present which distinguish the female athlete from the nonathlete.

Personality characteristics, early sport experiences, family sports participation, and feelings about women involved in intercollegiate competition were the variables investigated in a study conducted by Malumphy (1968). Subjects in the study were divided into four groups which consisted of individual sports, team sports, a combination group (team-individual sports), and a subjectively-judged group. The individual sports group included participants in tennis, golf, fencing, swimming, and archery. Basketball, field hockey, and softball were the team sports. The combination group included participants involved in volleyball, badminton, and bowling while the subjectively-judged group participated in synchronized swimming and gymnastics.

Results of the study indicated that the individual and subjectively-judged sports groups were confident that their participation contributed to their feminine image because of the nature of the movements and history of the activity. The team sports group and the team-individual sports group

tended to be less sure that their participation enhanced the feminine image. The relationship of the team sports to men's sports was seen by the participants as the predominant reason for the less sure feeings of femininity. Of the 77 participants in the study, 50 were physical education majors with the majority participating in team sports group (Malumphy, 1968).

Psychological well-being and body image have been the subject of investigations which compared women athletes with nonathletes. Snyder and Kivlin (1975) found that although women athletes have received negative sanctions for participating in sports, their participation has been psychologically satisfying and rewarding. Sport groups represented in the study were gymnastics and basketball. It was found that on measures of body image the basketball players were as positive in their attitude as the gymnasts. Snyder and Kivlin (1975) concluded that the social values of participation are changing as society is changing the concept of sex roles.

The Competitive Female

Results from two studies conducted by Myers and Lips (1978) of male and female competitors in two types of tournaments with varying emphasis on competition implied that women athletes may show both feminine and masculine characteristitics. They also suggested that a sports situation which is defined as noncompetitive and not necessarily

"masculine" may open participation to women who are sex-typed feminine.

The results from the first study by Myers and Lips supported the hypothesis that the largest percentage of women entrants in a competitive sport situation will be androgynous while the largest percentage of male entrants will be masculine in sex-role orientation. In the second study, competitors were divided into competitive and noncompetitive categories on the basis of their stated reasons for entering the tournament. Results showed the competitive group tended to be androgynous or sex-typed masculine more than feminine sex-typed. Those in the noncompetitive group tended to be feminine or near feminine in their psychological sex-role orientation (Myers and Lips, 1978).

Clark (1980) examined the competitive sport profiles and compared the self-perceivd sex roles of the female sport participants within three defined sport groups in the sport populations of diving, swimming, golf, and volleyball. The self-perceived sex roles of the sport participants studied revealed: androgynous orientation, differences in role orientations with respect to levels of competitive involvement across sport populations, the most masculine scores to be in the intense competitive level, and stronger masculine role orientations among subjects in the intense and elite competitive populations (Clark, 1980). The competitive behavior sport population groups from which the subjects were selected included: a non-to-moderate competitive group

of university or community college beginner classes; an intensely competitive group composed of AAU and intercollegiate participants; and an elite competitive group composed of Olympic, national, or professional participants.

In a study designed to determine the attitude of men and women toward women competing in intensive athletic competition, Harres found no significant difference between the attitudes of men and women and that the poulation was favorable toward women participating in competition. Swimming and tennis were considered the most desirable sports for women to participate in followed by track and field, softball, and basketball. The author found that those subjects who had been participants in athletics had a more favorable attitude toward the desirability of competition for women (Harres, 1968).

Sage and Loudermilk (1979), studying role conflict of the female athlete, found that female athletes participating in sports (softball, basketball, volleyball, field hockey, track and field) traditionally not socially approved for women experienced greater role conflict than those participating in more socially approved sports for women (tennis, golf, swimming, and gymnastics).

Snyder and Kivlin (1975) found in their study of women athletes that there were certain aspects of competition considered acceptable as well as aspects of competition considered unacceptble. The least acceptable aspects included: body contact with the opponent, application of force to some

heavy object, projecting the body through space over long distances, and cooperative face-to-face competition. The most acceptable aspects of competition (and, thus, less contradictory to the female role) included: presenting the body in aesthetically pleasing patterns, use of a manufactured device to facilitate bodily movement, use of a light implement and/or a light object such as a tennis racket, and maintenance of a spatial barrier with the opponent.

In order to test the assumption that women involved in sports and games differ from other women in psychological femininity, Landers (1970) compared prospective female physical educators and education majors on the masculinity-femininity scale of the MMPI and the Gough Scale of Psychological Femininity. Although cultural sex-role expectations in general, as well as those regarding women's sport participation, have expanded in recent decades, games, and sports involving physical skill, as well as vocations which deal with games of physical skill, are still considered to be positively associated with the male sex role (Landers, 1970). Results of the study by Landers indicated that the physical education majors scored significantly lower and less feminine on both scales than did the education majors.

A number of investigators have concluded that role conflict is likely to be related to the sport and that acceptability varies according to sport. Sports which emphasize strength, bodily contact, and endurance are not socially approved for women, while sports emphasizing skill, grace,

and beauty are more socially approved for women participants (Malumphy, 1968; Metheny, 1965; Snyder, Kivlin, Spreitzer, 1975).

Physical Education

Studies in physical education have been concerned with preference for coeducational physical education or single-sex activity and self-concept of participants, sex-role training and expectations that develop from socialization practices between boys and girls in sport activities, sex-type and preference for activity, and stereotyping of physical activities in the elementary school textbooks.

Physical Education and Self-Concept of Participants

DeWette (1980) selected high school students as subjects to determine if there was a significant difference in preference for participation in coeducational or single-sex physical education classes among students with varying self-concepts. DeWette concluded that gender was a more important variable than concept level, that students' attitudes were favorable toward coeducational physical education, and that they preferred coeducational individual and dual sports. The study also showed that the physical education classroom is perceived as a socializing environment and that students were aware of skill differences and indicated an interest in current recreational activities to be included

as part of their program.

Data obtained in a study by Solomons (1976) of fifth grade students supported the difference in sets of roles, role-training practices, and expectations and opportunities that developed from different socialization practices. In the study, boys as a group exhibited significantly higher levels of skills associated with the traditional ball games involving team concepts and, subsequently, were rewarded with encouragement, practice opportunities, and opportunities for further success. The girls participating in the same activities and accomplishing as well as or even better were not generally perceived by others as being as highly skilled and, consequently, did not perceive themselves appropriately.

Hoferek (1980) examined the internal perceptions of students enrolled in voluntary physical education classes and students enrolled in a required fundamentals of movement class. The results of the study suggested that highly sex-typed individuals will not choose to participate in situations requiring behaviors inconsistent with their self-perceptions. That high-feminine women are absent from physical education activities perceived to be of an instrumental nature would support previous research documenting the absence of highly feminine individuals in high achievement areas (Hoferek,1980).

In a study of college age students enrolled in general study classes in physical education, Mize (1979) found that

attitude toward physical activity based upon Mize medians were similar among the various sex-role categories on all variables of Kenyon's Attitude Toward Physical Activity questionnaire except vertigo. Attitudes on the vertigo and aesthetic factors were a function of sex-role orientation with males having a more favorable attitude toward the vertigo and the females having a more favorable attitude toward the aesthetic aspect.

Seventh and eighth grade boys were the subjects for a study conducted by Felker and Kay in which the effects of self-concept on body type and self and father's interest in sports were investigated. The authors found that the main effect of body type on self-concept scores was significant for the seventh grade boys only. The results suggested that body type loses its influence on self-concept at the eighth grade level (Felker and Kay, 1971). For the eighth grade subjects, perceived father's high interest in sports and high self-interest in sports caused higher scores in self-concept than for those eighth grade boys who had perceived their fathers' interest and their own interest in sports as low. The authors suggested that the capacity for sports participation is a source of status and self-esteem for the older group while body type influences self-concept earlier (Felker and Kay, 1971).

Silhouettes representing extremes of endomorphy and ectomorphy and mesomorphy of male and female bodies along with results from the Bem Sex Role Inventory were used in

the study which focused on delineating a relationship between sex-role stereotyping and body types. In the study, the authors found that the male mesomorph is clearly sex-typed masculine, while the female ectomorph is clearly sex-typed feminine. The remaining male and female body types appear to be androgynous (Guy, Rankin, and Norvell, 1980).

Children and Physical Activity

The purpose of a study conducted by Duquin (1977) was to determine if elementary textbooks reflected differential sex-role socialization toward physical activity. In her study, she found that children are 13 times more likely to see a relatively active man than a relatively active woman, and the ratio of vigorously active boys to girls found in elementary school textbooks was 3.5 to 1.

Based on the commonly held assumption that children's games are one of the ways that children learn appropriate sex-role behavior, a study conducted by Rosenberg and Sutton-Smith (1960) examined the game preferences of children. Items which discriminated between boys and girls in grades four, five, and six included: for boys--bows and arrows, boxing, cars, football, marbles, soldiers, and wrestling; for girls--cartwheels, dance, dolls, hopscotch, jump rope, and low organized games such as Drop the Handkerchief and London Bridge. Items which remain neutral and failed to discriminate between boys and girls included: baseball, dominoes, tennis, bicycle riding, swimming,

stunts, volleyball, and roller skating (Rosenberg and Sutton-Smith, 1960). It was concluded that boys' games involved forceful physical contact, dramatization of conflict, propulsion of objects in space, and team organization. The girls tended to play games which involved static activity, ritualistic noncompetitive actions, and rhythmic activities.

Relationships between self-esteem and level of participation and attitudes toward physical activity of adolescent boys was the focus of an investigation conducted by Neale, Sonstroem, and Metz. The authors hypothesized that the boys who participated in voluntary physical activities and had favorable concepts about their own abilities would tend to be high in self-esteem. The Physical Activity Attitude Inventory developed by the authors was designed to assess self-perceived relationships to physical activity (estimation of capability and attraction to and liking for vigorous physical activities). The AAHPER Youth Fitness Test was utilized to determine the fitness level of the subjects. The results of the study showed that there was no evidence to indicate that high- and low-fit boys differed in general self-esteem, that the high-fit group had higher estimates of physical abilities than the low-fit group, that the high-fit group expressed greater attraction to physical activities, and that for the whole group there were no significant correlations between self-esteem and measures either of voluntary participation or of attitudes toward physical activity

(Neale, Sonstroem, and Metz, 1970).

Personality Traits

It has been hypothesized in psychological literature that psychological androgyny and mental health are related. Several authors have shown that androgynous individuals in contrast to sex-typed individuals have significantly higher levels of self-esteem (Bem, 1977; Spence, Helmerich, and Stapp, 1976). Heilbrun (1976) found androgynous individuals to be significantly higher in level of adjustment as defined by the degree of role consistency.

In an early investigation of personality traits and physical activity groups, it was found that groups who spontaneously selected one physical activity course in preference to another physical activity course demonstrated that personality was a factor in making that selection (Flanagan, 1951). Subjects were men enrolled in fencing, basketball, boxing, swimming, volleyball, and badminton. The following traits were measured in the study: ascendance-submission, masculinity-femininity, introversion-extroversion, and emotional stability-emotional instability. Pertinent to the present study was the section of the inventory dealing with masculinity-femininity. Flangan's study revealed fencers to be the more feminine of the sport groups, but not significantly. Basketball players exhibited the highest degree of masculinity, followed by groups in swimming, boxing, badminton, volleyball, and fencing.

On items of personality, Flanagan (1951) found the badminton group was more extroverted, the volleyball group more introverted, and that the fencers were more emotionally stable and exhibited significant more tendency to dominate others. Flanagan concluded from the study that an understanding of an individual's preference and response to certain types of physical activities was important for the physical educator.

Sex-Role Orientation and Physical Activity

Age-role expectations, sex-role orientation, and selected sport activities were the focus of an investigation conducted by Ostrow, Jones, and Spiker (1981). Subjects for the study were undergraduate nursing students who completed an Activity Appropriateness Scale and the Bem Sex Role Inventory. Sports selected were based on literture reviews identifying certain activities as being stereotyped masculine or feminine. Activities chosen included: marathon race, shot put, basketball, figure skating, archery, ballet, bowling, tennis, racketball, swimming, bicycling, and jogging. The purpose of the study was to determine whether role expectations for participation in selected sport activities existed based on the age or gender of the referent person as well as whether sex-role or age-role appropriateness was an underlying factor in selected sport activities.

Results indicated that the subjects viewed sport

participation as less appropriate across all sports as the age of the referent person increased. Bowling was the one exception, in that it was viewed as equally appropriate for 20 year olds as for 40-year-old persons. The authors concluded that the findings suggested that young people have developed clear social prescriptions of what older people can and cannot do, and that disengagement from sport is an inevitable process of aging (Ostrow, Jones, and Spiker, 1981).

With respect to sex-role orientation and activity, two sports, figure skating and ballet, were viewed as female appropriate by masculine, feminine, androgynous, and undifferentiated groups. Masculine-oriented subjects viewed marathon race, shot put, basketball, and archery as more appropriate for the male. Ostrow, Jones, and Spiker (1981) found that for the androgynous, feminine, and undifferentiated groups all sports except figure skating and ballet were viewed as more appropriate for participation by males.

Research conducted by Bain, using the theories of Kenyon, Ellis, Birrell, and Roberts and Sutton-Smith, sought to identify dimensions that described variations of college students' perceptions of selected movement activities. Bain (1979) utilized the above-mentioned theories to construct an instrument for use in the study. Kenyon's work represented the major effort to measure perceived reasons for participation. Ellis (1973) has summarized various theories and hypothesized that physical activities are perceived to focus

upon the individual's need to seek arousal. Birell (1978) suggested that a motive for sport participation may relate to the assertive competitive stage of power motivation. Roberts and Sutton-Smith (1969), using sociological-anthropological methods, have examined the relationships of child-rearing practices with game preference.

Results of the study by Bain (1979) suggested that there were two basic dimensions underlying one's perceptions of the instrumental value of specific activities: the worth of the activity which tends to reflect its perceived fitness and aesthetic qualities, and the social dynamics of the activity which seems to relate to perceived gender appropriateness. Sex of the subject was not significantly correlated with the activity, but familiarity was correlated with the perceived value of the activity. Subjects rated a familiar activity as good and simple, while an unfamiliar activity was rated as bad and complex. Activities in the study which proved to be more familiar to the subjects included flag football, softball, jogging, bicycling, basketball, and badminton, while the least familiar activities included karate, ice skating, folk dance, ballet, archery, weight training, and gymnastics.

Cultural Perceptions

In a report, "Three Cultural Perceptions of Sport," Duquin (1976) reported the level of androgynous development found in university students attracted to the sport

experience. Subjects for the study included female and male physical education majors and female and male varsity athletes. The female athletes were participants in gymnastics, track, and swimming while the male athletes participated in track, swimming, and wrestling. The Bem Sex Role Inventory was administered to the groups. As hypothesized, the majority of males in both samples scored in the androgynous category. Duquin concluded that, given the male's perception of sport as an agent of masculine-orientation, sport tends to attract highly sex-typed males. For females, the traditional perceptions of sport, with its emphasis on process and product, tends to attract the more androgynous woman (Duquin, 1976).

In the article, Duquin (1976) explored the basic issues of cultural perceptions and psychological motivation as they related to the perception of sex roles and psychological well-being. Societies tend to label certain behaviors as masculine and certain others as feminine which lead men and women to play socially distinct roles. Bem (1972) suggested that traits needed to fulfill a given sex role were considered desirable for that sex. The social image of femininity projects women in the role of performing expressively. The expressive role is characterized by the capability to be understanding, sympathetic, affectionate, compassionate, and tender. The male in society is expected to perform instrumentally, that is, to be independent, assertive, ambitious, aggressive, and willing to take risks.

Duquin (1976) stated that the masculine domination of sport results from cultural patterns and perceptions which determine not only who participates in sport but how sport is conducted and experienced. According to Duquin, an important societal problem is the need to develop in females a sense of instrumentality. In order for this development to occur, females must come to view themselves as capable of instrumental activity. Sport provides instrumental experiences and should make a significant contribution to the development of female instrumentality. For Duquin, the direction of change is from a perception of sport as an "agent of masculine orientation" to a perception of sport as an "instrumental activity" open to and desirable for both sexes. Ideally, Duquin proposed that sport be perceived as an "androgynous" activity which requires and fulfills both instrumental and expressive tendencies.

Sport perceived as an "agent of masculine orientation" precludes females from prolonged or serious participation. Bem's data suggested that "feminine" females, when given a choice, would reject sport as an activity because they perceive sport as a cross sex-typed activity. Masculine and androgynous females would be expected to exhibit an attraction to sport. Sport defined as an "instrumental" activity open to both sexes would offer for the "feminine" females a low-to-moderate attraction, but their actual performance would be low in comparison to masculine and androgynous women. Sport perceived as an "androgynous" activity would

attract masculine and androgynous females as well as the feminine female who would be expected to perform moderately well (Duquin, 1976). The proposals made by Duquin in her article reflected the changing perceptions of sport as being male dominated.

Conclusions

From the research of the literature related to sex roles and attitudes toward physical activity, some conclusions may be drawn. Studies indicated a changing concept of the traditional roles of masculine and feminine toward a more androgynous person. A move toward a more psychologically androgynous person implies that it is possible for an individual to be both assertive and compassionate, both instrumental and expressive, both masculine and feminine depending upon the situation.

From the research on females involved in sport and physical activity, one may conclude: women are socialized into and out of sport, female participation begins early and is influenced by family and peers, male role models are important agents of socialization for the female early in childhood, and female sport participation is related to personality aspects as well as body image.

The research on males can be summarized as follows: primary involvement begins in childhood, the learning of the sport role of active participation is influenced significantly by others, role conflicts occur for the male not involved actively in sports and physical activity.

CHAPTER III

METHODS AND PROCEDURES

This study was designed to assess the psychological sex-role orientation of students enrolled in physical education activity courses at Southwestern Oklahoma State University during the 1981 spring term. In addition, attitudes toward physical activity as the perceived instrumental value of the activity for the participant were measured. Comparisons were made between the sex-role orientation and attitude toward physical activity of the subjects as they related to choice and participation in physical education activity courses.

Selection of Instruments

The first test used in the study was the Bem Sex Role Inventory (BSRI). The BSRI was designed to measure the extent to which a person divorces himself/herself from those characteristics that might be considered more "appropriate" for the opposite sex. Items for the test were selected for the masculinity and femininity scales if they were judged to be more desirable in American society for one sex than for the other. A personality characteristic qualified as neutral with respect to sex and eligible for the social

desirability scale if it were independently judged to be more desirable for one sex than for the other (Bem, 1974).

The BSRI is composed of 60 words or phrases which an individual can rate on a scale from one ("never or almost never true") to seven ("always or almost always true"), according to how well each of the 60 masculine, feminine, or neutral personality characteristics described his/her personality.

Research with the instrument has supported the assumption of different behavior patterns by the groups. Bem (1974) scored subjects on the basis of their responses as masculine, feminine, or androgynous. A student's score is computed as a t-ratio for the difference between the total points assigned to the feminine and masculine attributes, respectively. The t-ratio is used rather than a simple difference score primarily because it allows the researcher to ask whether a person's masculinity and femininity scores differ significantly from one another and, if they do ($|t| \leq 2.025$, $p \leq .05$), to characterize that person as significantly sex-typed or sex-reversed.

Information on the BSRI was gathered initially in 1973, from 444 male and 279 female students in an introductory psychology class at Stanford. The results obtained in earlier and later tests proved to be identical to those gathered in different psychology classes at Stanford (Bem, 1974).

Psychometric analyses of the BSRI indicated that it was

quite satisfactory as a measuring instrument.

> The masculinity and femininity scores turned out to be empirically as well as conceptually independent (average r = -.03). The t-ratio itself is internally consistent (average = .86), reliable over a four week interval (average r = .93), and uncorrelated with the tendency to describe oneself in a socially desirable direction (average r = -.06) (Bem, 1974, p. 159).

Bem (1975) administered the BSRI to introductory psychology classes. The data was scored with the subjects categorized both on the basis of a t-ratio and on the basis of a median split (Bem, 1974; Spence et al., 1975). Bem found that the two systems did not differ on the way they defined either masculinity or femininity, but they did differ on the way they defined androgyny. The term androgynous should be reserved for those individuals who score high in both masculinity and femininity, and the BSRI should be scored so as to yield four distinct groups of masculine, feminine, androgynous, and undifferentiated subjects (Bem, 1977). Androgynous and undifferentiated individuals are alike in not being sex-typed, masculine, or feminine.

On the basis of a median split, subjects were classified as either above or below the median on both the Masculinity and Femininity Scales of the BSRI. The four groups would then include: masculine (high masculine-low feminine), feminine (high feminine-low masculine), androgynous (high masculine-high feminine), undifferentiated (low masculine-low feminine).

Those sex-typed as masculine or feminine would actively prefer sex-appropriate activities and resist

sex-inappropriate activities and would, perhaps, experience discomfort and some temporary loss of self-esteem if they were required to perform cross-sex behavior (Bem and Lenny, 1968). An androgynous view of oneself is found to be accompanied by greater maturity in one's judgments and higher level of self-esteem. The androgynous individual not only performs cross-sex behavior with little reluctance or discomfort, but furthermore, he/she displays high levels of both "masculine" independence and "feminine" nurturance when the situation seems to call for it (Bem, 1975; Bem and Lenny, 1976). Low-low scorers or undifferentiated individuals were shown to be significantly lower in self-esteem than high-high scorers or androgynous individuals (Bem, 1977).

The second test used in the present study was the Attitude Toward Physical Activity (ATPA) questionnaire by Kenyon. Kenyon's model characterizes physical activity in terms of socio-psychological phenomena and attempts to describe in conceptual terms the multidimensionality of physical activity. Kenyon devised an attitude questionnaire to measure the quasi-independent subdomains hypothesized as representing the major manifest and latent instrumental values that physical activity has for the individual participant (Alderman, 1974).

Physical activity as defined by Kenyon denotes organized, nonutilitarian, gross human movement which is usually manifested in active games, sports, calisthenics, and dance.

The frame of reference for determining attitude toward physical activity was based upon a conceptual model for characterizing physical activity developed by Kenyon as part of previous studies (Kenyon, 1965, 1966b, 1968a). It was assumed that "physical activity" can be reduced to more specific components, that physical activities can be reduced to logical subsets, and that a meaningful basis for doing so was the "perceived instrumentality" of each class of physical activity (Kenyon, 1968).

The six dimensions of the ATPA are: social experience, health and fitness, the pursuit of vertigo, an aesthetic experience, catharsis, and the ascetic experience. For each of the six subdomains of the hypothesized model, a universe of content was identified and defined.

Likert-type attitude statements (the stimuli) thought to be representative of each dimension were evaluated by judges, revised, and incorporated into two separate forms, one for college women and one for college men. Reliability coefficients based upon Hoyt's procedure, response frequencies, and item discriminations statistics were computed for each of the six scales. The reliability of each scale was maximized by rescaling the a priori weights of the best items (thus yielding form D) which was based upon the distribution of response choice frequencies, three-item discrimination statistics, and the range and distribution of rescaled weights (Kenyon, 1968).

Hoyt's reliabilty for the six scales are: social

experience (.72 men and .72 women), health and fitness (.79 men and .83 women), vertigo (.89 men and .86 women), aesthetic (.82 men and .87 women), catharsis (.77 men and .79 women), and ascetic (.81 men and .78 women). Scale scores differentiated between strong and weak preference groups in the predicted direction for all scales except catharsis (Kenyon, 1968).

Experimental Procedures

Subjects for the study were students enrolled in physical education activity courses during the 1981 spring term. Of the 851 subjects in the study, 507 were females and 344 were males.

Physical education activity courses used in the study included: folk, social, and aerobic dance; beginning and intermediate swimming; water safety and life saving instructor training; sailing-canoeing; basic scuba; bowling; golf; tennis; individual sports-corecreational, for women and for physical education majors and minors; physical fitness; physical fitness for majors and minors; and jogging. Physical education activity courses were grouped as being more sex appropriate for males, for females and for nonstereotype based on 1981, 1980, and 1979 semester enrollments of male and female students in each activity course. Activity courses categorized as having an accepted sex-typed orientation toward masculinity were: golf, individual sports (corec), physical fitness, PEMM lab-physical fitness, scuba,

shotgun, and team sports. Those activities identified as more sex appropriate for females included: aerobics, elementary movement and adapted physical education, folk dance, individual sports (women), social dance, and stunts and tumbling. A nonstereotype orientation was given to the following based on equal numbers of males and females in the activities for prior semesters: bowling, racket sports, jogging, PEMM lab-individual sports, tennis, sailing-canoeing swimming, and water safety instruction. Refer to Table XXVI in the Appendix A for the number of students enrolled in each physical education activity course.

Activity courses, with the exception of water safety instruction and basic scuba met for one hour physical education credit twice a week. Water safety instruction and basic scuba students received two hours credit. The outdoor classes met only the second eight weeks of the semester. The golf and jogging classes met two hours, one day a week with two hours of lab by arrangement. The tennis classes met four days a week for 50-minute sessions. Beginning swimming and intermediate swimming met for eight weeks two hours two days a week. Sailing-canoeing and shotgun classes met one day a week for four hours. The indoor classes met the entire semester for 50 minutes two days a week.

The Bem Sex Role Inventory and Kenyon's Attitude Toward Physical Activity questionnaire were administered during the regularly scheduled class sessions.

Treatment of Data

The data collected for the study were recorded on disc tape to be entered into the computer. The Statistical Package for the Social Sciences (SPSS II) was used for the data analysis. It is a computer software system for data analysis providing a wide range of statistical procedures and a comprehensive set of data and file transformation capabilities.

The BSRI was scored using the revised scoring packet for the Bem Sex Role Inventory. The investigator scored the BSRI by hand calculating the masculinity and the femininity scores of each subject's ratings of the masculine and feminine items on the test. According to Bem (1976),

> . . . a subject's masculinity score is the mean of that subject's rating on the masculine adjectives, and that same subject's femininity score is the mean of his or her ratings on the feminine adjectives (p. 3).

The median masculinity score and the median femininity score for male and female subjects were calculated by the computer. Once the median masculinity and femininity scores had been determined, subjects were classified as shown in Figure 1. For the present study, median scores for the subjects were found to be: male--masculinity score 5.202, femininity score 4.647; females--masculinity score 4.848, femininity score 5.103. The mean scores for all subjects in the psychological sex-role groups were compared on the basis of each of the ATPA varibles.

Femininity Score	Masculinity Score: Above Median	Masculinity Score: Below Median
Above Median	Androgynous	Feminine
Below Median	Masculine	Undifferentiated

Figure 1. Subjects Classified According to Median Masculinity and Femininity Scores

Scoring for the Attitude Toward Physical Activity (ATPA) questionnaire consisted of generating a total for responses made on each of the six dimensions. Each question related to one of the perceived instrumental values thought to be held for physical activity. A student responded to the statement expressing either agreement or disagreement. The responses ranged from 1 (very strongly disagree) to 7 (very strongly agree). Students were asked to use rarely, if at all, number 4 (undecided). Each subject in the present study received a score for each of the dimensions, which reflects his/her attitude toward that dimension.

Other data collected for the study, which the investigator thought might be pertinent to descriptive analysis or trend analysis of the student population in the study, consisted of general information on each subject. The general information related to the student's marital status, birth order, age, year in school, major, and responses to a

questionnaire composed by this investigator to assess possible reasons for enrolling in a particular physical education course.

Data Analysis Procedures

The pre-written programs for the Statistical Package for the Social Sciences (SPSS II) were used in the calculations necessary for testing the hypotheses stated in the study. The following tests were used in the analyses:

1. Hypotheses 1-3 were tested using the One Way Analysis of Variance when comparing all subjects in the study on attitudes toward physical activity with physical education activity curses stereotyped as having a masculine, feminine, or nonstereotype orientation. For the significant F value, t-tests were computed.
2. Hypotheses 4 and 5 were tested using a One Way Analysis of Variance and subsequent t-tests for those ANOVA's that were significant. Subjects were divided into male and female populations. Comparisons were made on each of the six dimensions of the Attitude Toward Physical Activity questionnaire with the stereotyped activity courses.
3. Hypotheses 6-14 were tested using the Chi-square test. The population was divided into six groups--males, females, male physical education majors, female physical education majors, male

nonphysical education majors, and female non-physical education majors. Comparisons were then made using a 2 X 2 Chi for sex-role orientation with group, stereotype of activity with sex-role group.

Summary of Proposed Methods and Procedures

Students in physical education activity courses during the Spring 1981 semester were given a battery of tests, including the Bem Sex Role Inventory, the Kenyon Attitude Toward Physical Activity questionnaire, and a personal data sheet which requested general informtion about the student. The battery of tests was completed during a regularly scheduled meeting of the class after permission was obtained from the various instructors.

Data was then scored for the two tests and placed on the computer tape for analysis using the Statistical Package for the Social Sciences (SPSS II) programs of frequency distributions, one way ANOVA's, t-tests, and Chi-square tests.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

An analysis and interpretation of the data collected for this study is presented in Chapter IV. An overview of the population in the study is presented by examining the following material requested from each subject: marital status, birth order, sex, age, year in school, and a summary of responses to a questionnaire designed by the investigator to assess possible reasons students might have for enrolling in a particular activity course. The above material was not treated statistically but did provide some insight into the type of student enrolled in particular activity classes.

The study assessed the psychological sex-role orientations and attitudes toward physical activity of the sample population in physical education activity courses. The data was treated statistically in the following manner:

1. An ANOVA was used to test comparisons between the means of three or more groups, and a significant F-ratio allowed for rejection of the null hypothesis of equality of means.
2. The t-tests were used to test comparisons between the means of two groups, and a significant t-ratio allowed a rejection of the null hypothesis of the

equality of means.

3. A Chi-square test was used to test the association between groupings of individuals. A significant Chi-square in a 2 X 2 contingency table allowed for a rejection of the null hypothesis if there was no relationship between obtained distribution of subjects by groups.

Subjects for the study included 344 males and 507 females enrolled in physical education activity courses during the Spring 1981 semester. The mean age for all subjects was 20 years. Thirty-seven percent of the subjects were classified as freshmen, 24 percent as sophomores, and 19 and 18 percent as juniors and seniors, respectively. There were 303 subjects enrolled in activity courses stereotyped as having a nonstereotype orientation, 321 in feminine-stereotyped activities and 227 in masculine-stereotyped activities. Business Administration, Elementary Education, Health and Physical Education, Pharmacy, and the group of students with undecided majors were the largest of the 24 major groups. Refer to Table XXX in Appendix B for students enrolled in stereotyped activities by major groups.

Hypotheses to be Tested--Results of Testing HO_1, HO_2, and HO_3

Hypotheses 1-3 were as follows:

HO_1: There is no significant difference between those students enrolled in physical education activity courses

having an accepted masculine sex-typed orientation and those students enrolled in physical education activity courses having a feminine sex-typed orientation with regard to attitudes toward physical activity often attributed as sex-appropriate characteristics for males and as sex-appropriate characteristics for females.

HO_2: There is no significant difference between those students enrolled in physical education activity courses having an accepted feminine sex-typed orientation and those students enrolled in physical education activity courses identified as having a nonstereotyped orientation, masculine or feminine, with regard to attitudes toward physical activity often attributed as sex-appropriate characteristics for males and as sex-appropriate characteristics for females.

HO_3: There is no significant difference between those students enrolled in physical education activity courses having an accepted masculine sex-typed orientation and those students enrolled in physical education activity courses having nonstereotype orientation, masculine or feminine, with regard to attitudes toward physical activity often attributed as sex-appropriate characteristics for male and as sex-appropriate characteristics for females.

Results of the data for all subjects on comparisons of the perceived instrumental value of an activity with the physical education activity courses grouped as having a masculine, feminine, or nonstereotype orientation indicated a significant difference on the attitude toward physical

activity of aesthetics (F (2,848) = 16.732, $p < .0001$). Refer to Table I for the one way analysis of variance of subjects in stereotyped activity courses with attitudes toward physical activity.

Further analysis using the t-tests when the physical education activity courses were separated into masculine-oriented activities, feminine-oriented activities, and nonstereotype-oriented activities, indicated some significance occurring among the groups. The analysis of the data revealed significance on the aesthetic value of physical activities between all group comparisons.

When comparisons were made between those students enrolled in masculine-stereotyped activities and those in feminine-oriented activities on aesthetics, a significant result occurred (t (546) = -5.76, $p < .0001$). Students enrolled in masculine-stereotyped activities possessed a lower instrumental orientation toward the aesthetic qualities of physical activity (M = 38.50) than did those students in feminine sex-typed activities (M = 41.89). Refer to Table II for t-tests comparing students in masculine- and feminine-oriented activities on the ATPA variables.

When comparisons were made between the students enrolled in feminine-stereotyped activities and activities having a nonstereotype orientation, a significant difference was disclosed between the groups regarding the aesthetic value of physical activity (t (622) = 2.69, $p < .001$). Those students enrolled in the feminine-stereotyped

TABLE I

ONE WAY ANOVA FOR ALL SUBJECTS IN STEREOTYPED ACTIVITY COURSES WITH ATTITUDES TOWARD PHYSICAL ACTIVITY

Variable	Masculine Activity		Feminine Activity		Nonstereotype Activity		F	p
	M	SD	M	SD	M	SD		
Social Experience	42.56	5.07	42.47	5.61	42.53	5.34	.023	N.S.
Health and Fitness	39.31	5.99	38.47	5.85	39.47	5.86	2.544	.07
Vertigo	38.92	5.47	38.68	6.05	39.71	5.82	2.624	.07
Aesthetics	38.50	6.56	41.89	6.93	40.42	6.72	16.732	.0001
Catharsis	37.67	5.12	38.46	5.47	38.48	5.19	1.572	N.S.
Ascetic	42.67	6.06	43.02	6.50	43.27	6.21	.600	N.S.

Note: df for all comparisons is 2,848, $p < .05$.

activities possessed a more favorable attitude toward the aesthetic value (M = 41.89) than did the students enrolled in the nonstereotype activities (M = 40.41).

TABLE II

T-TESTS COMPARING STUDENTS IN STEREOTYPED ACTIVITIES--MASCULINE AND FEMININE ON ATPA

Variable	Masculine Activity		Feminine Activity		t	p
	M	SD	M	SD		
Social Experience	42.56	5.07	42.46	5.61	0.21	N.S.
Health and Fitness	39.31	5.99	38.46	5.85	1.65	N.S.
Vertigo	38.91	5.47	38.67	6.05	0.48	N.S.
Aesthetics	38.50	6.56	41.89	6.93	-5.76	.0001*
Catharsis	37.66	5.12	38.26	5.47	-1.28	N.S.
Ascetic	42.66	6.06	43.02	6.50	-0.64	N.S.

Note: df = 546 for all comparisons; subjects in masculine activities N = 227; subjects in feminine activities N = 321; *$p < .05$.

Comparisons between students in feminine-oriented activities and students enrolled in activities having a nonstereotype orientation revealed a significant difference toward the perceived instrumental value of health and

fitness ($t(622) = -2.13$, $p < .05$) and on the perceived instrumental value of physical activity as the pursuit of vertigo ($t(622) = -2.17$, $p < .05$). The health and fitness value of physical activity was perceived as having more importance by the students enrolled in activities having a nonstereotype orientation ($M = 39.46$) than for those students in feminine stereotyped activities ($M = 38.46$).

Attitudes expressed toward the perceived value of physical activity as the pursuit of vertigo were higher for those students in activities having nonstereotype orientation ($M = 39.70$) than for students enrolled in feminine-stereotyped activities ($M = 38.67$). Refer to Table III for t-tests comparing students in feminine and nonstereotype activities on the ATPA variables.

Those students enrolled in activities having a sex-typed orientation of nonstereotype possessed a significantly more favorable attitude toward the aesthetic value of physical activities than did those students who participated in masculine-stereotyped activities ($t(528) = -3.28$, $p < .001$). Mean scores on the perceived instrumental value of physical activity of aesthetic qualities for the masculine group of activities ($M = 38.50$) were lower than the mean scores for those students in activities having a nonstereotype orientation ($M = 40.41$).

Marginal significance was shown on the perceived instrumental value of physical activity on catharsis, when comparisons were made between the students enrolled in

masculine-oriented activities and those in nonstereotype activities (t (528) = -1.78, $p > .07$). Mean scores were higher for the nonstereotype activity group ($M = 38.47$) than for the masculine activity group ($M = 37.66$). Refer to Table IV for t-tests comparing students in masculine and nonstereotype activities on ATPA variables.

TABLE III

T-TESTS COMPARING STUDENTS IN STEREOTYPED ACTIVITIES--FEMININE AND NONSTEREOTYPE ON ATPA

Variable	Feminine Activity		Nonstereotype Activity		t	p
	M	SD	M	SD		
Social Experience	42.46	5.61	42.53	5.34	-0.15	N.S.
Health and Fitness	38.46	5.85	39.46	5.86	-2.13	0.03*
Vertigo	38.67	6.05	39.70	5.82	-2.17	0.03*
Aesthetics	41.89	6.93	40.41	6.72	2.69	0.007*
Catharsis	38.26	5.47	38.47	5.19	-0.50	N.S.
Ascetic	43.02	6.50	43.27	6.21	-0.49	N.S.

Note: Students in feminine activities N = 321; students in nonstereotype activities N = 303; df for all comparisons = 622; *$p < .05$.

TABLE IV

T-TESTS COMPARING STUDENTS IN STEREOTYPED ACTIVITIES--MASCULINE AND NONSTEREOTYPE ON ATPA

Variable	Masculine Activity		Nonstereotype Activity		t	p
	M	SD	M	SD		
Social Experience	42.56	5.07	42.53	5.34	0.07	N.S.
Health and Fitness	39.31	5.99	39.46	5.86	-0.29	N.S.
Vertigo	38.91	5.47	39.70	5.82	-1.59	N.S.
Aesthetics	38.50	6.56	40.41	6.72	-3.28	0.001*
Catharsis	37.66	5.12	38.47	5.19	-1.78	0.07
Ascetic	42.66	6.06	43.27	6.21	-1.12	N.S.

Note: Students in masculine activities N = 227; students in nonstereotype activities N = 303; df = 528 for all comparisons; *$p < .05$.

Results of Testing HO_4

Hypothesis 4 was as follows:

HO_4: There is no significant difference among the female population in this study enrolled in physical education activity courses having an accepted sex-typed orientation of masculine, feminine, or nonstereotype with regard to attitudes toward physical activity often attributed as sex-appropriate characteristics for males and sex-appropriate characteristics for females.

Data for the one way analysis of variance comparing

females in the stereotype physical education activity courses on each of the six dimensions of the ATPA, revealed a significant difference for the aspect of health and fitness and its value to physical activity only ($F(2,504) = 3.08$, $p < .05$). Refer to Table V for the results of the one way ANOVA for females in stereotype activities on the ATPA variables.

There was a significant difference between females in masculine-oriented activities and those in feminine-oriented activities ($t(349) = 2.44$, $p < .05$) on the attitude toward physical activity expressed as health and fitness. Females in masculine-oriented activities had more positive attitudes toward the health and fitness benefits of physical activities ($M = 40.02$) than females in feminine-oriented activities ($M = 38.14$). Refer to Table VI for the results of the t-tests comparing females in masculine and feminine-oriented activities on the ATPA variables.

Data comparing females in feminine-oriented activities with those in nonstereotype sex-typed activities revealed a marginal significance on the attitude toward physical activity expressed as the pursuit of vertigo ($t(429) = -1.75$, $p > .08$). Females in activities having a nonstereotype orientation expressed slightly more favorable attitudes toward physical activity as a vertiginous experience ($M = 39.41$) than females in feminine-oriented activities ($M = 38.41$). Refer to Table VII for the results of the t-test comparing females in nonstereotype activities with females in feminine-stereotype activities.

TABLE V

ONE WAY ANALYSIS OF VARIANCE FOR FEMALES IN ACTIVITIES STEREOTYPED AS MASCULINE, FEMININE, NONSTEREOTYPE ON ATTITUDES TOWARD PHYSICAL ACTIVITY

Variable	Masculine Activity		Feminine Activity		Nonstereotype Activity		t	p
	M	SD	M	SD	M	SD		
Social Experience	42.76	5.23	42.30	5.62	42.27	5.32	.238	N.S.
Health and Fitness	40.02	5.58	38.14	6.01	38.50	5.64	3.08	.04*
Vertigo	39.65	5.88	38.31	5.99	39.41	5.16	2.28	N.S.
Aesthetics	41.21	5.91	42.07	6.85	41.70	6.33	.56	N.S.
Catharsis	38.84	4.69	37.94	5.39	38.16	5.25	.87	N.S.
Ascetic	43.31	6.19	42.77	6.46	42.76	6.22	.23	N.S.

Note: df for all comparisons is 2,504; *$p < .05$.

TABLE VI

T-TESTS COMPARING FEMALES IN MASCULINE-ORIENTED ACTIVITIES WITH FEMALES IN FEMININE-ORIENTED ACTIVITIES ON ATPA

Variable	Masculine Activity M	Masculine Activity SD	Feminine Activity M	Feminine Activity SD	t	p
Social Experience	42.76	5.23	42.30	5.62	0.64	N.S.
Health and Fitness	40.02	5.58	38.14	6.01	2.44	.01*
Vertigo	39.65	5.88	38.41	5.99	1.61	N.S.
Aesthetics	41.21	5.91	42.07	6.85	-1.00	N.S.
Catharsis	38.84	4.69	37.94	5.39	1.32	N.S.
Ascetic	43.31	6.19	42.77	6.46	0.65	N.S.

Note: df = 349 for all comparisons; students in masculine activity N = 76; students in feminine activity N = 275; *$p < .05$.

There was a significant difference ($t(230) = 1.94$, $p < .05$) between females in masculine-oriented activities and females in activities having a nonstereotype orientation on the value of physical activity expressed as health and fitness. Female subjects in masculine-oriented activities had a higher regard for the health and fitness value of physical activity ($M = 40.42$) than those females in activities having a nonstereotype orientation ($M = 38.50$). Refer to Table VIII for t-tests comparing females in masculine and nonstereotype activities on the ATPA variables.

TABLE VII

T-TESTS COMPARING FEMALES IN NONSTEREOTYPE-ORIENTED ACTIVITIES WITH FEMALES IN FEMININE-ORIENTED ACTIVITIES ON ATPA

Variable	Feminine Activity		Nonstereotype Activity		t	p
	M	SD	M	SD		
Social Experience	42.30	5.62	42.27	5.32	0.05	N.S.
Health and Fitness	38.14	6.01	38.50	5.64	-0.60	N.S.
Vertigo	38.41	5.99	39.41	5.16	-1.75	.08*
Aesthetics	42.07	6.85	41.70	6.33	0.56	N.S.
Catharsis	37.94	5.39	38.16	5.25	-0.41	N.S.
Ascetic	42.77	6.46	42.76	6.22	0.02	N.S.

Note: df = 429 for all comparisons; students in feminine activity N = 275; students in nonstereotype activity N = 156; *marginal significance.

Results of Testing HO_5

Hypothesis 5 was as follows:

HO_5: There is no significant difference among the male population in this study enrolled in physical education activity courses having an accepted sex-typed orientation of masculine, feminine, or nonstereotype with regard to attitudes toward physical activity often attributed as sex appropriate for males and as sex appropriate for females.

TABLE VIII

T-TESTS COMPARING FEMALES IN STEREOTYPED ACTIVITIES--MASCULINE AND NONSTEREOTYPE ON ATPA

Variable	Masculine Activity M	Masculine Activity SD	Nonstereotype Activity M	Nonstereotype Activity SD	t	p
Social Experience	42.76	5.23	42.27	5.32	0.66	N.S.
Health and Fitness	40.02	5.58	38.50	5.64	1.94	.05*
Vertigo	39.65	5.88	39.41	5.16	0.32	N.S.
Aesthetics	41.21	5.91	41.70	6.33	-0.57	N.S.
Catharsis	38.84	4.69	38.16	5.25	0.96	N.S.
Ascetic	43.31	6.19	42.76	6.22	0.64	N.S.

Note: df = 230 for all comparisons; students in masculine activities N = 76; students in nonstereotype activities N = 156, *p < .05.

One way analysis of variance statistics yielded significant differences when male subjects enrolled in physical education activity courses having accepted sex-typed orientations, masculine, feminine, and nonstereotype, were compared on the six perceived instrumental values held for physical activity. Significant differences among the groups occurred on the following variables: the pursuit of vertigo ($F(2,341) = 2.85$, $p < .05$); aesthetics ($F(2,341) = 6.19$, $p < .01$); catharsis ($F(2,341) = 7.72$, $p < .01$); and ascetics ($F(2,341) = 3.17$, $p < .05$). The attitude toward physical

activity of health and fitness reached marginal significance ($F(2.341) = 2.80$, $p > .06$) among the three classifications of physical activities for males in the study. For results of the one way analysis of variance, refer to Table IX.

The t-tests revealed a significant difference between males enrolled in activities having a feminine-stereotyped orientation when compared with those in masculine-oriented activities on the value of aesthetics held toward physical activity ($t(195) = 3.25$, $p < .01$). Males in feminine-oriented activities had a more favorable attitude ($M = 40.80$) toward the aesthetic value of physical activity than the males in masculine-oriented activities ($M = 37.13$).

The perceived instrumental value of an activity expressed as catharsis was significantly different ($t(195) = -3.46$, $p < .01$) for those males in feminine stereotyped activities ($M = 40.17$) when compared with males in masculine-stereotyped activities ($M = 37.07$).

The ascetic value held for a physical activity was significantly different ($t(195) = -2.07$, $p < .05$) when comparisons were made between males in feminine-stereotyped activities ($M = 44.47$) and those males in masculine-stereotyped activities ($M = 42.34$).

There was marginal significance ($t(195) = -1.84$, $p > .06$) for the males attitude toward physical activity expressed as the pursuit of vertigo. Males in feminine-oriented activities expressed more favorable attitudes ($M = 40.23$) than males in masculine-oriented activities

TABLE IX

ONE WAY ANOVA FOR MALES IN STEREOTYPED ACTIVITIES ON ATPA

Variable	Masculine Activity		Feminine Activity		Nonstereotype Activity		F	p
	M	SD	M	SD	M	SD		
Social Experience	42.46	5.00	43.43	5.48	42.80	5.37	0.627	N.S.
Health and Fitness	38.95	6.17	40.36	4.40	40.48	5.94	2.80	.06*
Vertigo	38.54	5.23	40.23	6.26	40.02	6.45	2.85	.05**
Aesthetics	37.13	6.46	40.80	7.38	39.05	6.87	6.197	.002***
Catharsis	37.07	5.23	40.17	5.56	38.80	5.12	7.728	.001***
Ascetic	42.34	5.98	44.47	6.59	43.81	6.17	3.177	.04**

Note: df = 2,341; *marginal significance $p < .05$; **$p < .05$; ***$p < .01$.

(M = 38.54) toward physical activity as the pursuit of vertigo. Refer to Table X for the results of the t-tests comparing males in masculine- and feminine-stereotype activities on the ATPA variables.

TABLE X

T-TESTS COMPARING MALES IN STEREOTYPED ACTIVITIES--MASCULINE AND FEMININE ON ATPA

Variable	Masculine Activity		Feminine Activity		t	p
	M	SD	M	SD		
Social Experience	42.46	5.00	43.43	5.48	-1.13	N.S.
Health and Fitness	38.95	6.17	40.36	4.40	-1.45	N.S.
Vertigo	38.54	5.23	40.23	6.26	-1.84	.06*
Aesthetics	37.13	6.46	40.80	7.38	-3.25	.001***
Catharsis	37.07	5.23	40.17	5.56	-3.46	.001***
Ascetic	42.34	5.98	44.47	6.59	-2.07	.04**

Note: df = 195; students in masculine activities N = 151; students in feminine activities N = 46; *marginal significance, ** $p < .05$, *** $p < .01$.

Results of t-tests for the males enrolled in masculine-oriented activities, when compared with those enrolled in activities having a nonstereotyped orientation on each of the six dimensions of the perceived value of physical

activity, revealed several significant differences. Males in activities sex-typed as having a nonstereotype orientation possessed significantly different ($t(296) = -2.19$, $p < .05$) attitudes toward health and fitness than those males in masculine-oriented activities. Attitudes toward the health and fitness aspect of physical activity were more favorable for males in nonstereotype sex-typed activities ($M = 40.48$) than for those males in masculine-oriented activities ($M = 38.95$). Refer to Table XI for results of t-tests comparing males in masculine and nonstereotype activities on the ATPA variables.

TABLE XI

T-TESTS COMPARING MALES IN STEREOTYPED ACTIVITIES--MASCULINE AND NONSTEREOTYPED ON ATPA

Variable	Masculine Activity		Nonstereotpe Activity		t	p
	M	SD	M	SD		
Social Experience	42.46	5.00	42.80	5.37	-0.56	N.S.
Health and Fitness	38.95	6.17	40.48	5.94	-2.19	.02*
Vertigo	38.54	5.23	40.02	6.45	-2.17	.03*
Aesthetics	37.13	6.46	39.05	6.87	-2.48	.01**
Catharsis	37.07	5.23	38.80	5.12	-2.88	.004**
Ascetic	42.34	5.98	43.81	6.17	-2.09	.03.

Note: df = 296; students in masculine activity N = 151; students in nonstereotype activity N = 147; *$p < .05$; **$p < .01$.

Attitude toward physical activity expressed as the pursuit of vertigo was significantly different ($t(296) = -2.17$, $p < .05$) for males in activities having a nonstereotype orientation than for those in activities sex-typed masculine. Vertigo as a perceived value for physical activity was greater for males in nonstereotype activities ($M = 40.02$) when compared with males in masculine activities ($M = 38.54$).

Males enrolled in activities having a nonstereotype orientation expressed a more favorable attitude toward physical activity as an aesthetic experience ($M = 39.05$) than those males in masculine-oriented activities ($M = 37.13$). The difference revealed by the t-test was significant ($t(296) = -2.48$, $p < .01$).

There was a significant difference ($t(296) = -2.88$, $p < .01$) of the attitude toward physical activity expressed as catharsis between those males in nonstereotype activities and those in masculine-oriented activities. More favorable attitudes were expressed by males in nonstereotype activities ($M = 38.80$) than by males in masculine activities ($M = 37.07$).

Attitude toward physical activity expressed as having a perceived instrumentality of ascetics was significantly different ($t(296) = -2.09$, $p < .05$) for those males in activities having an accepted orientation of nonstereotype than for those in masculine-oriented activities. Mean scores disclosed males in nonstereotype activities ($M = 43.81$) as

having a higher value toward activity as an ascetic experience than males in masculine oriented activities (M = 42.34). Refer to Table XI for the results of the t-tests.

No significant differences were found when comparisons were made between the males in feminine-stereotyped activities and those in nonstereotyped activities for any of the variables. Refer to Table XII for the results of the t-tests comparing males in feminine and nonstereotype activities.

TABLE XII

T-TESTS COMPARING MALES IN STEREOTYPED ACTIVITIES--FEMININE AND NONSTEREOTYPE ON ATPA

Variable	Feminine Activity		Nonstereotype Activity		t	p
	M	SD	M	SD		
Social Experience	43.43	5.48	42.80	5.37	0.69	N.S.
Health and Fitness	40.36	4.40	40.48	5.94	-0.13	N.S.
Vertigo	40.23	6.26	40.02	6.45	0.20	N.S.
Aesthetics	40.80	7.38	39.05	6.87	1.48	N.S.
Catharsis	40.17	5.56	38.80	5.12	1.54	N.S.
Ascetic	44.47	6.59	43.81	6.17	0.62	N.S.

Note: df = 191; students in feminine activities N = 46; students in nonstereotype activities N = 147.

Results of Testing HO_6

Hypothesis 6 was as follows:

HO_6: There is no significant difference among females having a psychological sex-role orientation of masculine, feminine, androgynous, or undifferentiated with regard to the selection of physical education activity courses having a sex-typed orientation of masculine, feminine, or nonstereotype.

The comparison of the distributions of females categorized as psychological sex-role groups and separated into physical education activity courses having an accepted stereotype revealed a significant difference in the distribution (χ^2 (6) = 12.524, $p < .05$). Proportionately more psychologically masculine and androgynous females were enrolled in those activities stereotyped as having a masculine orientation. The psychologically undifferentiated group of females accounted for the largest percentage of females enrolled in the feminine-stereotyped activities, while the androgynous, masculine, and feminine sex-role oriented females were proportionately distributed in feminine-typed activities. The distribution of females in the nonstereotype sex-typed activity courses was proportionate over the four sex-role groups. For Chi-square test refer to Table XIII.

TABLE XIII

CHI-SQUARE PERCENTAGES OF FEMALES BY SEX-ROLE GROUPS AND STEREOTYPED OF PHYSICAL ACTIVITY COURSES

Stereotype of Activity	N	Androg	Masc	Fem	Undiff
Masculine Activities	76	35.5	28.9	18.4	17.1
Feminine Activities	275	24.7	21.8	21.5	32.0
Nonstereotype Activities	156	25.0	26.9	25.6	22.4

Note: χ^2 (6) = 12.524, $p < .05$.

Results of Testing HO_7

Hypothesis 7 was as follows:

HO_7: There is no significant difference among the males having a psychological sex-role orientation of masculine, feminine, androgynous, or undifferentiated with regard to selection of physical education activity courses having a sex-typed orientation of masculine, feminine, or nonstereotype.

When comparing the distribution of males enrolled in physical education activity courses stereotyped as masculine, feminine, or nonstereotype, by psychological sex-role groups, no significant differences were found (χ^2 (6) = 6.634, $p > .05$). Refer to Table XIV for the results of the Chi-square analysis.

TABLE XIV

CHI-SQUARE PERCENTAGES OF MALES BY SEX-ROLE GROUPS AND STEREOTYPE OF PHYSICAL ACTIVITY COURSES

Stereotype of Activity	N	Androg	Masc	Fem	Undiff
Masculine Activities	151	31.3	23.2	15.9	29.8
Feminine Activities	46	32.6	10.9	26.1	30.4
Nonstereotype Activities	147	27.2	19.0	24.5	29.3

Note: χ^2 (6) = 6.634, $p > .05$.

Results of Testing HO_8

Hypothesis 8 was as follows:

HO_8: There is no significant difference among male physical education majors, female physical education majors, male nonphysical education majors and female nonphysical education majors on measures of psychological sex-role orientation.

Results of the Chi-square analysis of sex-role groups by male and female physical education major groups and male and female nonphysical education major groups disclosed that there was a significant difference among the four groups on the four sex-role groups (χ^2 (9) = 22.58, $p < .01$). Refer to Table XV for the results of the Chi-square analysis.

TABLE XV

CHI-SQUARE PERCENTAGES OF SEX-ROLE GROUPS BY PHYSICAL EDUCATION MAJOR AND NONPHYSICAL EDUCATION MAJORS

Physical Education Major and Nonmajor Groups	N	Androg	Masc	Fem	Undiff
Male Phys. Ed. Major	51	37.3	21.6	13.7	27.5
Male Nonphys. Ed. Major	293	28.3	19.5	22.2	30.0
Female Phys. Ed. Major	35	48.6	34.3	5.7	11.4
Female Nonphys. Ed. Major	472	24.8	23.7	23.5	28.0

Note: χ^2 (9) = 22.58, sig. .0072, $p < .01$

Results of Testing HO_9, HO_{11}, HO_{12}, and HO_{13}

Hypotheses 9, 11, 12, and 13 were as follows:

HO_9: There is no significant difference between male physical education majors and male nonphysical education majors on measures of psychological sex-role orientation.

HO_{11}: There is no significant difference between male physical education majors and female physical education majors on measures of psychological sex-role orientation.

HO_{12}: There is no significant difference between male physical education majors and female nonphysical education majors on measures of psychological sex-role orientation.

HO_{13}: There is no significant difference between male

nonphysical education majors and female nonphysical education majors on measures of psychological sex-role orientation.

Further breakdown of the significant Chi-square from Hypothesis 8 yielded no significant differences when comparisons were made betwen sex-role groups and the following: male physical education majors and female physical education majors (χ^2 (3) = 5.70, $p > .05$); male physical education majors and female nonphysical education majors (χ^2 (30) = 4.80, $p > .05$); male nonphysical education majors and female nonphysical education majors (χ^2 (3) = 2.77, $p > .05$); male physical education majors and male nonphysical education majors (χ^2 (3) = 2.848, $p > .05$). Refer to Tables XVI, XVII, XVIII, and XIX for results of Chi-square analyses.

TABLE XVI

CHI-SQUARE PERCENTAGES OF SEX-ROLE GROUPS BY MALE PHYSICAL EDUCATION AND MALE NONPHYSICAL EDUCATION MAJORS

Groups	N	Androg	Masc	Fem	Undiff
Male Physical Ed. Majors	51	37.3	21.6	13.7	27.5
Male Nonphys. Ed. Majors	293	28.3	19.5	22.2	30.0

Note: χ^2 (3) = 2.84, sig. 0.41, $p > .05$

TABLE XVII

CHI-SQUARE PERCENTAGES OF SEX-ROLE GROUPS BY MALE PHYSICAL EDUCATION AND FEMALE PHYSICAL EDUCATION MAJORS

Groups	N	Androg	Masc	Fem	Undiff
Male Phys. Ed. Majors	51	37.3	21.6	13.7	27.5
Female Phys. Ed. Majors	35	48.6	34.3	5.7	11.4

Note: χ^2 (3) = 5.7, sig. 0.12, $p > .05$

TABLE XVIII

CHI-SQUARE PERCENTAGES OF SEX-ROLE GROUPS BY MALE PHYSICAL EDUCATION AND FEMALE NONPHYSICAL EDUCATION MAJORS

Groups	N	Androg	Masc	Fem	Undiff
Male Phys. Ed. Majors	51	37.3	21.6	13.7	27.5
Female Nonphys. Ed. Majors	472	24.8	23.7	23.5	28.0

Note: χ^2 (3) = 4.80, sig. 0.12, $p > .05$.

Results of Testing HO_{10} and HO_{14}

Hypotheses 10 and 14 were as follows:

HO_{10}: There is no significant difference between female physical education majors and female nonphysical

education majors on measures of psychological sex-role orientation.

TABLE XIX

CHI-SQUARE PERCENTAGES OF SEX-ROLE GROUPS BY MALE AND FEMALE NONPHYSICAL EDUCATION MAJORS

Groups	N	Androg	Masc	Fem	Undiff
Male Nonphys. Ed. Majors	293	28.3	19.5	22.2	30.0
Female Nonphys. Ed. Majors	472	24.8	23.7	23.5	28.0

Note: χ^2 (3) = 2.77, sig. 0.428, $p > .05$.

HO_{14}: There is no significant difference between male physical education majors and female physical education majors on measures of psychological sex-role orientation.

There were significant differences found when comparisons were made between female physical education majors and female nonphysical education majors (χ^2 (3) = 16.413, $p < .001$) and male nonphysical education majors and female physical education majors (χ^2 (3) = 15.48, $p < .001$). When the psychological sex-role groups of female physical education majors and female nonphysical education majors were examined, the distribution was found to be significant,

suggesting an association between sex-role orientation and physical education major and nonmajor status.

Proportionately more female physical education majors were in the androgynous and masculine sex-role groups, while the distribution of female nonphysical education majors was similar over the four sex-role groups. Nonphysical education majors as a group were distributed slighty more in the undifferentiated sex-role group.

When the psychological sex-role groups of male nonphysical education majors and female physical education majors were examined, a significant difference was found. The male nonphysical education majors were distributed proportionately in the androgynous and undifferentiated groups. The masculine sex-typed group was porportionately smaller than the other three groups, suggesting a smaller percentage of masculine sex-typed males among the physical education nonmajor group.

The percentage of females in the androgynous and masculine sex-typed groups was significantly larger than in the feminine and undifferentiated sex-typed groups. Female physical education majors as a group were more androgynous and masculine than male nonphysical education majors, while male nonphysical education majors possess more feminine and undifferentiated orientations than female physical education majors. Refer to Tables XX and XXI for Chi-square analyses.

TABLE XX

CHI-SQUARE PERCENTAGES OF SEX-ROLE GROUPS BY FEMALE PHYSICAL EDUCATION AND NONPHYSICAL EDUCATION MAJORS

Groups	N	Androg	Masc	Fem	Undiff
Female Phys. Ed. Majors	35	48.6	34.3	5.7	11.4
Female Nonphys. Ed. Majors	472	24.8	23.7	23.5	28.0

Note: χ^2 (3) = 16.41, sig. 0.0009, $p < .001$.

TABLE XXI

CHI-SQUARE PERCENTAGES OF SEX-ROLE GROUPS BY MALE NONPHYSICAL EDUCATION MAJORS AND FEMALE PHYSICAL EDUCATION MAJORS

Groups	N	Androg	Masc	Fem	Undiff
Male Nonphys. Ed. Majors	293	28.3	19.5	22.2	30.0
Female Phys. Ed. Majors	35	48.6	34.3	5.7	11.4

Note: χ^2 (3) = 15.48, sig. 0.0014, $p < .001$.

Results of Testing HO_{15}

Hypthesis 15 was as follows:

HO_{15}: There is no significant difference between male nonphysical education majors and female nonphysical

education majors on attitudes toward physical activity.

Data revealed that male nonphysical education majors when compared with female nonphysical education majors were significantly different on the following attitudes toward physical activity: health and fitness ($t(763) = -2.59$, $p < .01$) and aesthetics ($t(763) = -6.75$, $p < .01$). Male nonmajors expressed a more favorable attitude toward health and fitness value of physical activity ($M = 39.51$) than female nonphysical education majors ($M = 38.36$). Female nonphysical education majors have a greater expressed orientation toward the aesthetic value of physical activity ($M = 41.75$) than male nonmajors ($M = 38.40$). Refer to Table XXII for results of t-tests comparing male nonphysical education majors with female nonphysical education majors on the ATPA variables.

Results of Testing HO_{16}

Hypothesis 16 was as follows:

HO_{16}: There is no significant difference between male physical education majors and female physical education majors on attitudes toward physical activity.

A significant difference ($t(84) = -2.79$, $p < .01$) was found on the aesthetic value of physical activity when comparisons were made with female physical education majors and male physical education majors. Female majors possessed a more favorable ($M = 42.85$) attitude toward the aesthetic quality than did male majors ($M = 38.70$). Refer to Table

XXIII for results of t-tests comparing male physical education majors with female physical education majors on the ATPA variables.

TABLE XXII

T-TESTS COMPARING MALE NONPHYSICAL EDUCATION MAJORS WITH FEMALE NONPHYSICAL EDUCATION MAJORS ON ATPA

Variable	Male Nonmajor M	Male Nonmajor SD	Female Nonmajor M	Female Nonmajor SD	t	p
Social Experience	42.74	5.19	42.30	5.45	1.09	N.S.
Health and Fitness	39.51	6.10	38.36	5.90	2.59	.01*
Vertigo	39.59	6.02	38.85	5.79	1.69	N.S.
Aesthetics	38.40	6.71	41.75	6.66	-6.75	.0001*
Catharsis	38.19	5.44	38.09	5.32	0.24	N.S.
Ascetic	43.36	6.13	42.70	6.30	1.42	N.S.

Note: df = 763; male nonmajor N = 293; female nonmajor N = 472; *$p < .01$.

Results of Testing HO_{17}

Hypothesis 17 was as follows:

HO_{17}: There is no significant difference between physical education majors and nonphysical education majors on attitudes toward physical activity.

TABLE XXIII

T-TESTS COMPARING MALE PHYSICAL EDUCATION MAJORS WITH FEMALE PHYSICAL EDUCATION MAJORS ON ATPA

Variable	Male Phys. Ed. M	Male Phys. Ed. SD	Female Phys. Ed. M	Female Phys. Ed. SD	t	p
Social Experience	42.72	5.47	43.14	5.62	-0.34	N.S.
Health and Fitness	41.45	4.21	40.94	4.77	0.52	N.S.
Vertigo	38.29	5.44	39.62	5.08	-1.15	N.S.
Aesthetics	38.70	7.79	42.85	4.87	-2.79	.006*
Catharsis	38.47	4.67	38.80	4.24	-0.33	N.S.
Ascetic	42.66	6.55	44.91	6.64	-1.55	N.S.

Note: df = 84 for all comparisons; male physical education = 51; female physical education - 35; *$p < .01$.

When comparing physical education majors with nonphysical education majors on attitudes toward physical activity, there was a significant difference on the health and fitness value of physical activity ($t(849) = 3.66$, $p < .001$). Physical education majors expressed a more favorable attitude toward health and fitness ($M = 41.24$) than did nonmajors ($M = 38.80$). Refer to Table XXIV for comparisons of physical education majors and physical education nonmajors on the ATPA variables.

TABLE XXIV

T-TESTS COMPARING PHYSICAL EDUCATION MAJORS AND PHYSICAL EDUCATION NONMAJORS ON ATPA

Variable	Majors M	Majors SD	Nonmajors M	Nonmajors SD	t	p
Social Experience	42.89	5.50	42.47	5.35	0.69	N.S.
Health and Fitness	41.42	4.43	38.80	6.00	3.66	.0001*
Vertigo	38.83	5.31	39.13	5.89	-0.45	N.S.
Aesthetics	40.39	7.03	40.47	6.87	-0.10	N.S.
Catharsis	38.60	4.48	38.13	5.36	0.79	N.S.
Ascetic	43.58	6.60	42.95	6.24	0.88	N.S.

Note: df = 849; majors N = 86; nonmajors N = 765,
*$p < .01$.

Summary of Hypotheses Testing Results

HO_1: A significant ANOVA for aesthetics, $p < .0001$ and marginal significance on health and fitness (.07) and vertigo (.07) suggested the need for further testing. Results allowed the acceptance of Hypothesis 1 at the α .05 level of significance. There were no significant differences between students in masculine-oriented activities and feminine-oriented activities on the ATPA variables, social experience, health and fitness, vertigo, catharsis, and ascetics. The null hypothesis was rejected a α .05 level of confidence, when significant differences were found between

students in masculine-oriented activities and those in feminine-oriented activities on the aesthetic value of physical activity. The feminine-oriented group expressed the more favorable attitude, $p < .001$, toward the aesthetic value of physical activity than did the masculine-oriented group.

HO_2: Results allowed acceptance of the null hypothesis at the α .05 level for the ATPA variables, social experience, catharsis, and ascetics. The null hypothesis was rejected at the α .05 level for the variables of health and fitness, vertigo, and aesthetics when comparisons were made between students in feminine-stereotyped activities and activities having nonstereotype orientation. Students in nonstereotype activities possessed a more favorable attitude toward health and fitness and the pursuit of vertigo, $p < .05$, than those in feminine-stereotyped activities. Students in feminine-oriented activities possessed more favorable attitude, $p < .01$, toward the aesthetic value of physical activity than those in nonstereotype-oriented activities.

HO_3: Results allowed the acceptance of the null hypothsis at the α .05 level when comparisons were made between students in masculine-oriented activities and those in nonstereotype-oriented activities on ATPA variables, social experience, health and fitness, vertigo, and ascetics. The null hypothesis was rejected at the α .05 level for the ATPA variable, aesthetics. Those students in activities having nonstereotype orientation were more favorable toward the aesthetic value.

HO_4: A significant ANOVA for the ATPA variable, health and fitness, $p < .05$, indicated a difference existed somewhere among the means of the groups being tested. Results allowed acceptance of the null hypothesis at the α .05 level for ATPA variables of social experience, vertigo, aesthetics, catharsis, and ascetics for differences between the means of females in activities stereotyped, masculine, feminine, and nonstereotype.

The null hypothesis was rejected at the α .05 level for health and fitness when comparisons were made between the means of females enrolled in masculine-oriented activities and feminine-oriented activities. More favorable attitudes were expressed by females in the masculine-oriented activities.

Rejection of the null hypothesis at the α .05 level occurred when comparisons were made between the females in masculine-oriented activities and those in nonstereotype activities on ATPA variable, health and fitness. Again, females in masculine-oriented activities were more favorable toward the health and fitness value of physical activity.

The null hypothesis was accepted at the α .05 level as there were no significant differences between females in feminine-typed activities and those in nonstereotype activities.

HO_5: A significant F value at the α .05 level or beyond for the ATPA variables, aesthetics, catharis, ascetics, and marginal significance on health and fitness, was

found when comparisons were made between males in the three stereotyped activity groups. When comparisons were made between males in masculine-oriented activities and those in feminine-oriented activities, the null hyptohesis was accepted at the α .05 level for social experience, health and fitness, and vertigo.

The null hypothesis was rejected at the α .001 level for ATPA variables, aesthetics and catharsis, and at the α .05 level for ascetics for males in masculine-oriented activities and males in feminine-oriented activities. Males in feminine-oriented activities expressed more favorable attitudes on aesthetics, catharsis, and ascetic value of physical activity than those in masculine-oriented activities.

The null hypothesis was accepted at the α .05 level for all ATPA variables when comparing males in feminine and nonstereotype-oriented activities.

The null hypothesis was accepted at the α .05 level for the ATPA variable social experience on comparisons of males in masculine and nonstereotype activities. The null hypothesis was rejected at the α .05 level for health and fitness, vertigo, and the ascetic variables of the ATPA. Males in nonstereotype activities were more favorable toward these attitudes. The null hypothesis was rejected at the α .01 level for the ATPA variables of aesthetics and catharsis. The males in activities having nonstereotype orientation were more favorable on both variables.

HO_6: Results allowed rejection of the null hypothesis at the α .05 level. There was a difference in the distribution of females by sex-role groups in stereotyped activity courses. There were proportionately more androgynous and masculine-oriented females enrolled in the masculine-stereotyped activities. The distribution of females in non-stereotype activities was similar across the four sex-role groups with the undifferentiated group slightly higher. There were more undifferentiated females in the feminine-oriented activities than in either of the other two activity groups. The greatest differences in expected percentages occurred in the masculine-stereotype activities and with the masculine and undifferentiated psychological sex-role groups.

HO_7: Results allowed acceptance of the null hypothesis at the α .05 level. There was no significant difference found in the distribution of males by sex-role groups in each of the stereotyped activity groups.

HO_8: Comparisons of male physical education majors, female physical education majors, male nonphysical education majors, and female nonphysical education majors by sex-role groups yielded a significant Chi-square, which allowed rejection of the null hypothesis at the α .05 level. Differences in the distributions occurred between expected and obtained cell frequencies for each sex-role category and for the female physical education major group. A further breakdown of distributions was required in order to determine significance.

HO_9: The null hypothesis was accepted at the α .05 level when comparisons were made between male physical education majors and male nonphysical education majors.

HO_{10}: Results of comparisons between female physical education majors and female nonphysical education majors allowed rejection of the null hypothesis at the α .05 level. Female physical education majors were proportionately more androgynous and masculine in sex-role orientation than female nonmajors. There were significantly fewer feminine and undifferentiated physical education majors than nonmajors. These results would support the literature which suggested that participants in sports and sport-oriented professions would require cross-sex behavior.

HO_{11}: Results allowed acceptance of the null hypothesis at the α .05 level, suggesting no significant differences existed in the distribution of male physical education majors and female physical education majors by sex-role groups. Female physical education majors were proportionately more androgynous and masculine oriented.

HO_{12}: Results allowed acceptance of the null hypothesis at the α .05 level, stating there is no significant difference between male physical education majors and female nonphysical education majors. The female nonphysical education grouping was proportionate across the four sex roles. Males were significantly higher in the androgynous group.

HO_{13}: Results allowed acceptance of the null hypothesis at the α .05 level with no significant difference in

comparisons of male and female nonphysical education majors by sex-role groups.

HO_{14}: Results allowed rejection of the null hypothesis at the α .05 level for comparisons between male nonphysical education majors and female physical education majors. The difference appeared in the distribution of female physical education majors across sex-role groups. Female physical education majors in the androgynous and masculine sex-role groups exceeded the expected relationship. Female physical education majors were notably absent from the feminine and undifferentiated sex-role groups.

The distribution of male nonphysical education majors across the sex-role groups, androgynous, feminine, and undifferentiated met the expectations proportionately. Male nonphysical education majors fell short of the expected in the masculine sex-role group.

HO_{15}: Results allowed acceptance of the null hypothesis at the α .05 level, on the ATPA variables of social experience, vertigo, catharsis, ascetics and rejection of the null hypothesis at the α .05 level for the ATPA variables of health and fitness and aesthetics for comparisons between male and female nonphysical education majors. Male nonphysical education majors had more positive attitudes toward health and fitness values. Female nonphysical education majors exhibited more favorable attitudes toward aesthetics.

HO_{16}: When comparisons were made between male physical education majors and female physical education majors on

ATPA, results allowed acceptance of the null hypothesis at the α .05 level for the ATPA variables of social experience, health and fitness, vertigo, catharsis, and ascetics. Results allowed rejection of the null hypothesis at the α .05 level for ATPA, aesthetics. Female majors had a more positive attitude toward aesthetics, suggesting similarities between female populations.

HO_{17}: Results allowed acceptance of the null hypothesis at the α .05 level on ATPA variables, social experience, vertigo, aesthetics, catharsis, and ascetics. Results showed no significant difference between physical education majors and nonphysical education majors. The null hypothesis was rejected at the α .01 level on ATPA, health and fitness, with results indicating a significant difference between physical education majors and nonmajors. Health and fitness was valued more positively by physical education majors.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this study was to examine from a social psychological perspective the differences in interests and choices of females and males as they pertain to physical activity. In addition, the study was an attempt to determine whether students as a result of a perceived psychological sex-role identity tend to select those activities which are more appropriately sex typed.

Data was collected from 851 subjects enrolled in physical education activity courses during the 1981 spring term at Southwestern Oklahoma State University. Subjects completed the Bem Sex Role Inventory which measures the psychological sex-role orientation of the student and the Kenyon Attitude Toward Physical Activity questionnaire which measures the "perceived instrumentality" that physical activity has for the individual participant. Additional information gathered on the subject population consisted of marital status, birth order, age, year in school, academic major, and responses to a questionnaire designed by this investigator to assess reasons for enrollment in a particular activity courses.

Males in the study numbered 344 and had a mean age of 20.3 years. The largest percentage (32.3) of males were the

youngest member in the family. Refer to Table XXXIV in Appendix D for additional percentages. The freshman group (33 percent) was the largest group enrolled in physical education courses. The largest representation by academic major group for the male subjects was from Health, Physical Education, and Recreation (14 percent), Business Administration (12.8 percent), and Pharmacy (11.9 percent). Refer to Table XXIX in Appendix B for other percentages.

In response to the questionnaire designed by this investigator on reasons for enrolling in a particular course, males identified the following as "very important": physical education is required, like activity and wanted to stay active, and the course sounded like fun. Reasons identified as "unimportant" or "not affecting the decision" included: fit best into schedule, because of the teacher, friends advised taking the courses, and requirement in the major. Refer to Table XXXI in Appendix C for all percentages.

There were 507 females in the study. The mean age was 20.14 years. Females were the eldest or middle child in the family. Refer to Table XXXIV in Appendix D for all percentages. The largest percentage of females were in the freshman and sophomore classes, 37.5 percent and 24.4 percent, respectively. The Undecided academic major group accounted for the largest percentage (9.7) of females enrolled in activity courses followed by Business Administration (9.3), Nursing (7.3 percent), and Health, Physical Education, and Recreation (6.9 percent). Refer to Table XXIX in Appendix B for

all percentages.

The questionnaire regarding reasons for taking a particular course identified as "very important" for the females were: like physical activity to stay active, course description sounded fun, have never done before, and something I've always wanted to do. Not affecting the decision to enroll in a particular activity for the females include: because of the teacher, major requirement, and the advice of friends. Refer to Table XXXI in Appendix C for all percentages.

Physical education activity courses were divided into three distinct groups based on prior male and female enrollment in a particular activity, information gained from the literature review suggesting activities having a stereotype orientation, and from Kenyon's classification of activities. The physical education activities were stereotyped as having a masculine orientation, a feminine orientation or a non-stereotype orientation. Refer to Tables XXVI, XXVII, and XXVIII in Appendix A for the breakdown of groups by stereotype of activity.

Kenyon (1968) found that attitude toward physical activity was: a function of the perceived instrumental value associated with the activity, a function of sex, and directly related to the degree of primary and secondary involvement. In the Kenyon study, the most positive attitudes were held for those physical activities characterized as a social experience, health and fitness, and catharsis. As function of sex, Kenyon (1968) found females to be more favorable to

physical activity when it was perceived as a social experience, health and fitness, asesthetics, and catharsis. Males expressed more positive attitudes toward physical activity when it was perceived as the pursuit of vertigo and as an ascetic experience.

Kenyon (1968) found that attitudes toward physical activity were a function of a combination of factors--behavioral, dispositional, and situational. Variables considered in the Kenyon study included: body esteem, need for approval, frequency of actual participation, peer involvement, family size, social class background, and religious preference. No attempt was made in the present study to assess the above mentioned factors.

Kenyon's model characterized physical activity into subdomains which represent manifest and latent instrumental values that physical activity has for each participant. The present study was designed to assess the values held for physical activity among various subpopulations of the total population in the study.

In the present study, no differences were found among any of the groups on the attitude social experience, suggesting, perhaps, that it is an accepted outcome of participation in a physical activity. Activities identified in the Kenyon study as those whose primary value was to provide the participant with affiliative needs were bowling, golf, and social dancing. Activities in the present study which contributed to the social dimension for females were racket sports,

fitness for the physical education major, shotgun, team sports, bowling, and tennis; for males the activities were swimming, folk dance, and team sports. Inclusion of team sports by both groups would suggest that the team sports are a holdover from previous days in which athletics is often times associated with a social atmosphere.

The value of physical activity expressed as health and fitness differed in the present study significantly among groups in the population sampled. Health and fitness is associated with a more positive orientation for females (Kenyon, 1968). Students in the feminine and nonstereotype activity groups valued this dimension more positively than the students in the masculine-stereotyped activities. Females in masculine-oriented activities were more favorable toward health and fitness. This group was also more androgynous and masculine with regard to sex-role orientation. This suggests cross-sex behavior, the ability to be associated with a particular orientation and value a sex-inappropriate characteristic.

Male nonmajors possessed a positive attitude toward the health and fitness value of physical activity. As a group, they were significantly more androgynous and undifferentiated. This would suggest that they are able to engage in activity for the health and fitness aspect even though it has been found to be more appropriate for the female sex. The study also found that male physical education majors valued this dimension of physical activity. Notably absent from the

male physical education group was the feminine sex-typed male. That the male physical education majors valued this dimension favorably suggests some knowledge of the benefits of a variety of activities regardless of sex appropriateness or inappropriateness.

According to Kenyon (1968), activities whose main or immediate contribution to health and fitness for the participant were circuit and weight training, jogging, and swimming. In the present study, females included team sports, racket sports, fitness, stunts and tumbling, and golf as contributing to this dimension. Males included racket sports, stunts and tumbing, and invididual sports as being associated with the health and fitness dimension.

Vertigo as a function of sex was more positively attributed to males (Kenyon, 1968). Vertiginous activities, according to Kenyon, were gymnastics, football, basketball, sailing, skin and scuba diving. Attitudes toward physical activity as the pursuit of vertigo, which has been described as physical experiences providing some risk to the participant, were found to be marginally significant between various population groups in this study. Marginal significance was found between students in feminine and nonstereotype sex-typed activities with the more favorable attitude associated with those students in the nonstereotype sex-typed activities.

The females in the nonstereotype activities were distributed proportionately over the four sex-role groups, while

females in feminine-stereotyped activities were proportionately more undifferentiated. The males in masculine and nonstereotype sex-typed activities differed significantly on the pursuit of vertigo in physical activity with the males in masculine sex-typed activities having a more favorable attitude. This may be attributed to the greater percentage of masculine and androgynous males in the masculine-oriented activities and the larger number of feminine sex-typed males in activities having a nonstereotype orientation.

Activities in the present study associated with high mean scores on vertigo included: for females--racket sports, water safety instruction, shotgun, and golf. For the males, vertiginous activities included: water safety instruction, tennis, folk dance, fitness, and sailing-canoeing.

Positive attitudes for the dimension of the aesthetic value of a physical activity are more often attributed to the female sex. Activities characterized by grace, beauty, or artistic qualities included gymnastics, figure skating, social, and other dance.

In the present study, significant differences were found among students in all stereotyped activity groups. Students in feminine-oriented activities possessed a more positive attitude toward the aesthetic qualities of physical activity than did students in either the masculine or nonstereotyped activity groups. The distribution of sex-role groups indicated more feminine and undifferentiated and androgynous females in feminine-oriented activities, which suggests they

would behave in a more positive way toward this dimension.

The distribution percentages of males by sex-role groups revealed more feminine and undifferentiated males in feminine-oriented activities which would account for this activity group possessing more favorable attitudes toward aesthetics. Students in activities have a nonstereotype orientation were more favorable toward the aesthetic value of physical activity than students in the masculine-oriented activities. There were more androgynous males and females in masculine-oriented activities suggesting their inability to engage in behaviors not characteristically sex appropriate.

Activities in the present study associated with the aesthetic dimension included: for females--stunts and tumbling, aerobics, and fitness; for males--social dance, folk dance, and jogging.

Cathartic activities classified by Kenyon (1968) included swimming, tennis, golf, and bowling. Those classified as having high mean scores for the cathartic variable in the present study included: for females--racket sports, stunts and tumbling, tennis, team sports, and jogging; for males--stunts and tumbling, swimming, and racket sports.

The cathartic value for a physical activity generally denotes a release of tension through participation. As a function of sex, catharsis is more positively associated with females (Kenyon, 1968). In the present study, comparisons made among all students revealed the nonstereotype activity group differed marginally from the masculine-oriented

activity group on the attitude, catharsis. This difference may be due to the distribution of females by sex-role groups in masculine-oriented activities. There are proportionately more androgynous and masculine-oriented females in the masculine-oriented activities, which suggests a tendency to view catharsis as a cross-sex behavior that they choose not to value as highly as the nonstereotype activity students.

Males in feminine-oriented activities were more favorable toward the cathartic value than males in masculine-oriented activities. Differences in percentages of masculine males in masculine-oriented activities and masculine males in feminine-oriented activities and feminine males in masculine-oriented activities infers that males in feminine activities favor the value of physical activity as catharsis.

The ascetic value of physical activity involves a continued effort on the part of the participant to engage in the activity even though gratification may be delayed. Kenyon (1968) identified this dimension as more positively attributed to the male sex. Ascetic activities, according to Kenyon include football, basketball, and gymnastics. Stunts and tumbling, fitness, tennis, and sailing were identified in the present study as having an ascetic value. Differences may occur between the present study and the Kenyon study in that the traditional athletic activities are not apparent in the physical education courses under study.

Differences were revealed between males in

masculine-oriented activities and males in feminine-oriented activities, with the males in feminine-oriented activities expressing a more favorable attitude. Androgynous and undifferentiated males were proportionate in both stereotype of activity groups. There were proportionately more masculine males in masculine activities than masculine males in feminine activities and proportionately more feminine males in feminine activities than feminine males in masculine activities which would suggest the differences occurring with the feminine males in feminine activities and the perception of physical activity as an ascetic experience and their ability to engage in cross-sex behavior.

The mean scores of androgynous males and androgynous females were above the mean scores of the total population on the attitudes concerned with physical activity as a social experience, health and fitness, vertigo, catharsis, and ascetics. The androgynous males scored lower on the attitude toward physical activity expressed as aesthetics than did the sample population. The lower mean scores suggested that androgynous males held a less favorable attitude toward the aesthetic value of physical activity than the sample population.

The mean scores for masculine-oriented females and masculine-oriented males were below the population mean for the variables of social experience, and catharsis suggesting a less favorable attitude toward the value of physical activity expressed as social experience and as catharsis for the

masculine-oriented males and females. The mean scores for masculine-oriented females were below the population means for health and fitness and ascetics. Masculine-oriented males held more favorable attitudes toward the value of physical activity expressed as health and fitness, vertigo, and ascetics than did the population in the study. Masculine-oriented females expressed a more favorable attitude toward physical activity for the varibles vertigo and aesthetics.

Females with a feminine psychological sex-role orientation scored below the population mean on each of the ATPA variables except aesthetics. The feminine-oriented females expressed a less favorable attitude for the variables than did the total population in the study.

Feminine-oriented males expressed more favorable attitudes for the values of physical activity expressed as social experience, health and fitness, catharsis, and ascetics than did the population in the study. Less favorable attitudes for the variables of vertigo and aesthetics were held by the psychologically feminine-oriented males.

Males and females who possessed an undifferentiated psychological sex-role orientation expressed less favorable attitudes toward physical activity than the population in the study on all variables.

When the mean scores of the total population were compared with the mean scores for each of the psychological sex-role groups, it appeared the androgynous groups possessed the more favorable attitudes on the instrumental values held

for physical activity. The researcher assumed a neutral score for each of the variables to be a 36 (nine statements x four, an undecided response), consequently, positive attitudes toward each value held for physical activity would be above the neutral score. In the present study, all mean scores for each of the variables and for all of the subpopulations in the study were above the researchers' neutral score. Thus, the author concludes that the population sampled in the study have a positive attitude toward physical activity expressed as a social experience, health and fitness, vertigo, aesthetics, catharsis, and ascetics. Refer to Table XXV for mean scores on the ATPA variables by subpopulation groups.

Findings

This research effort was designed to assess the values held for physical activity among various subpopulations of the total population and determine whether students as a result of psychological sex-role orientations tend to select physical activities characterized as sex appropriate.

Some specific questions to which this research was directed were:

1. Are there differences between males and females with regard to values and interests associated with various types of physical activities and sports?
2. Are there sexist views associated with physical activity and sport which tend to socialize the male and female differently into the sport experience?

TABLE XXV

MEANS FOR ATPA VARIABLES FOR EACH OF THE PSYCHOLOGICAL SEX-ROLE GROUPS

Variable	All Subjects M	Andr Fem M	Andr Male M	Masc Fem M	Masc Male M	Fem Fem M	Fem Male M	Undiff Fem M	Undiff Fem M
Social Experience	42.51	43.76	44.02	42.04	42.27	41.92	42.95	42.64	41.59
Health and Fitness	39.04	39.70	41.38	38.86	39.83	37.69	39.50	37.79	38.40
Vertigo	39.10	40.20	40.42	39.25	39.19	37.94	38.95	38.11	38.83
Aesthetic	40.46	43.54	39.56	41.09	36.70	42.35	38.93	40.38	38.14
Catharsis	38.18	39.57	39.63	37.12	37.39	37.67	38.26	38.05	37.36
Ascetic	43.01	44.98	43.44	42.22	43.36	42.38	43.95	41.71	42.51

Note: Androgynous females N = 134; androgynous males N = 102; masculine females N = 124; masculine males N = 68; feminine females N = 113; feminine males N = 72; undifferentiated females N = 136; undifferentiated males N = 102.

3. What attitudes and behaviors foster or inhibit the development of physical activity interests and skills? Does participation have the same value for males and females?
4. Do students select a physical activity based on prior orientations as to the value of the activity for the participant?
5. Do males and females who possess different psychological sex-role orientations view their attraction to a particular activity differently?
6. Do psychologically-oriented sex-role groups tend to cluster in activities identified as more appropriate for one sex or the other?
7. Do sex-typed individuals avoid activities which are identified as sex-appropriate behavior?
8. Do the physical education activity courses meet the needs of the population with regard to psychological sex-role orientation and perceived instrumental values held for the activity by the participants?
9. Should curricular changes occur within the physical education activity course offerings based on data obtained in this study?

A summary of the findings derived from the results are as follows:

1. Female subjects as a group scored higher on the ATPA variables of aesthetics and ascetics. Male subjects as a group scored higher on the ATPA for the

variables of social experience, health and fitness, vertigo, and catharsis. Ascetics as a function of sex was more often attributed to the male while social experience, health and fitness, and catharsis have been more sex-appropriate attitudes toward physical activity for the female. Results would suggest a change in concepts as to what are appropriate expectations of an attitude toward physical activity or a change in psychological sex-role orientation.

2. Females did not differ across activity stereotype groups with regard to attitudes toward physical activity of social experience, vertigo, aesthetics, catharsis, and ascetics.
3. Females in masculine sex-typed activities were more favorable toward health and fitness suggesting an ability to engage in a physical activity not sex appropriate and still maintain a sex-appropriate orientation toward the attitude.
4. Females in masculine-oriented activities were proportionately more androgynous and masculine than undifferentiated and feminine in sex-role orientation.
5. Androgynous and feminine sex-role oriented females were proportionately distributed in activities stereotyped as feminine. There was an absence of masculine-oriented females in feminine activities.

6. Androgynous and masculine-oriented females were proportionately distributed in nonstereotype activities. This was to be expected for the androgynous group but not the masculine-oriented female. Feminine females were more prevalent in nonstereotyped activites.
7. Males in nonstereotype activities and males in feminine activities were similar on ATPA variables. Males in masculine-oriented activities differed on all variables except social experience. Males in nonstereotype activities were more favorable on the attitude of health and fitness than males in the other activity groups.
8. Males in feminine and nonstereotype activities were more favorable toward aesthetics than males in masculine activities. Males in feminine and nonstereotype activities possessed a more favorable attitude toward catharsis than males in masculine activities.
9. Males in masculine activities were distributed proportionately in undifferentiated and androgynous sex roles with a notable absence of feminine-oriented males. Proportionately more males in the masculine sex-role group were in masculine activities.
10. Males in feminine activities were more androgynous and feminine in sex-role orientation.

Undifferentiated males in feminine activities were proportionate with the expected frequency. There were fewer masculine males in feminine activities.

11. Males in nonstereotype activities were proportionate across sex-role groups androgynous, masculine, and undifferentiated. There were fewer feminine-oriented males in nonstereotype activities.
12. There were more masculine and androgynous female physical education majors than female nonmajors.
13. Male physical education majors were similar to male nonphysical education majors on sex-role orientation.
14. Male and female physical education majors possessed similar sex-role orientations, with similar attitudes on all aspects of the ATPA except aesthetics.
15. The distribution of male nonphysical education majors, female nonphysical education majors, and male physical education majors was proportionate across sex-role groups.

Recommendations for Further Research

Based on the findings and results of the present study, the author recommends additional research should be considered utilizing the concepts of psychological sex-role orientations and the assessment of attitudes of participants toward physical activity and sport. Studies should be

undertaken using various population groups which may include: college and university students, children and youth, areas of education concerned with advisement, personnel involved with sport and physical education programs, such as coaches, administrators, and instructors of physical education.

Longitudinal studies should be conducted with children and youth in an effort to determine the effects of societal changes and pressures for those involved in sport and physical activity. Additional studies should be conducted comparing male and female athletes from various sport populations on attitudes toward physical activity and sex-role orientations. Finally, efforts should be made to assess the values of physical activity held by the participant in order to determine the relative effectiveness of curricular offerings.

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APPENDIXES

APPENDIX A

STEREOTYPES OF PHYSICAL EDUCATION ACTIVITY COURSES

TABLE XXVI

SEMESTER ENROLLMENTS IN ACTIVITY COURSES

Activities	Stereotype of Activity	1981		1980		1979	
		M	F	M	F	M	F
Archery	Nonstereotype	8	11	19	15	19	7
Aerobics	Feminine	0	92	0	94	0	90
Bowling	Nonstereotype	48	47	103	117	97	77
Elem. Movement-Adapted PE	Feminine	1	13	--	--	--	--
Folk Dance	Feminine	18	65	21	78	21	108
Golf	Masculine	45	40	68	38	72	29
Ind Spts (Corec)	Masculine	20	4	25	7	7	5
Ind Spts (Women)	Feminine	0	26	--	18	--	--
Racket Sports	Nonstereotype	4	3	11	6	--	--
Jogging	Nonstereotype	11	16	29	27	26	31
PEMM Lab (Ind Spts)	Nonstereotype	12	9	18	21	9	15
Physical Fitness	Masculine	6	2	62	6	56	10
PEMM Lab (Phys Fit)	Masculine	13	8	18	12	--	--
Tennis	Nonstereotype	34	39	54	47	64	62
Sailing-Canoeing	Nonstereotype	11	15	24	30	26	33
Scuba	Masculine	21	9	36	19	30	5
Shotgun	Masculine	27	9	27	13	24	8
Social Dance	Feminine	22	69	25	79	33	105
Stunts-Tumbling	Feminine	4	11	4	24	13	10
Swimming	Nonstereotype	9	13	39	43	46	38
Team Sports	Masculine	19	4	46	14	43	6
Water Safety	Nonstereotype	8	5	11	4	8	12

TABLE XXVII

SPRING 1981, FREQUENCIES FOR MALES, FEMALES, PHYSICAL EDUCATION MAJORS

Activities	Freq Enrolled N	Freq Enrolled %	Males N	Males %	Females N	Females %	PE Majors N	PE Majors %	Non-Majors N	Non-Majors %
Archery	19	2.2	11	3.2	8	1.6	2	2.3	17	2.2
Aerobics	92	10.8	0	--	92	18.1	1	1.2	91	11.9
Bowling	95	11.2	48	14.0	47	9.3	8	9.3	87	11.4
Elem. Movement-Adapted PE	14	1.6	1	0.3	13	2.6	3	3.5	11	1.4
Folk Dance	83	9.8	18	5.2	65	12.8	3	3.5	80	10.5
Golf	85	10.0	45	13.1	40	7.9	5	5.8	80	10.5
Ind Spts (Corec)	24	2.8	20	5.8	4	0.8	6	7.0	18	2.4
Ind Spts (Women)	26	3.1	0	--	26	5.1	--	--	26	3.4
Racket Sports	7	0.8	3	0.9	4	0.8	1	1.2	6	0.8
Jogging	27	3.2	11	3.2	16	3.2	2	2.3	25	3.3
PEMM Lab (Ind Spts)	21	2.5	12	3.5	9	1.8	16	18.9	5	0.7
Physical Fitness	8	0.9	6	1.7	2	0.4	--	--	8	1.0
PEMM Lab (Phys Fit)	21	2.5	13	3.8	8	1.6	17	19.8	4	0.5
Tennis	73	8.6	34	9.9	39	7.7	3	3.5	70	9.2
Sailing-Canoeing	26	3.1	11	3.2	15	3.0	--	--	26	3.4
Scuba	30	3.5	21	6.1	9	1.8	2	2.3	28	3.7
Shotgun	36	4.2	27	7.8	9	1.8	3	3.5	33	4.3
Social Dance	91	10.7	23	6.7	68	13.4	4	4.7	87	11.4
Stunts-Tumbling	15	1.8	4	1.2	11	212	2	2.3	13	1.7
Swimming	22	2.6	9	2.6	13	2.6	--	--	22	2.9
Team Sports	23	2.7	19	5.5	4	0.8	3	3.5	20	2.6
Water Safety	13	1.5	8	2.3	5	1.0	5	5.8	8	1.0
Total	851		344		507		86		765	

TABLE XXVIII

STUDENTS BY SEX ROLE GROUPS PHYSICAL EDUCATION COURSES

Activities	Females				Males			
	Andr	Masc	Fem	Undiff	Andr	Masc	Fem	Undiff
Archery	4	0	3	1	3	3	4	1
Aerobics	30	20	18	24	-	-	-	-
Bowling	12	13	13	9	10	9	14	15
Elem. Movement-Adapted PE	7	3	2	1	-	-	-	1
Folk Dance	10	13	19	23	8	2	4	4
Golf	14	9	9	8	15	9	5	16
Ind Spts (Corec)	2	2	-	-	4	5	6	5
Ind Spts (Women)	4	5	5	12	-	-	-	-
Racket Sports	1	1	1	1	1	1	-	1
Jogging	7	5	2	2	2	1	3	5
PEMM Lab (Ind Spts)	3	4	1	1	6	2	-	4
Physical Fitness	1	-	-	1	-	2	2	2
PEMM Lab (Phys Fit)	5	2	-	1	6	4	1	2
Tennis	6	10	11	12	10	6	9	9
Sailing-Canoeing	1	5	4	5	2	3	2	4
Scuba	2	4	2	1	8	5	3	5
Shotgun	3	4	1	1	6	6	6	9
Social Dance	14	15	13	26	5	3	6	9
Stunts-Tumbling	3	4	2	2	2	-	2	-
Swimming	3	3	4	3	4	-	3	2
Team Sports	-	1	1	1	8	4	1	6
Water Safety	2	1	1	1	2	3	1	2

APPENDIX B

ACADEMIC MAJORS

TABLE XXIX

FREQUENCIES OF MALES AND FEMALES IN ACADEMIC MAJORS

Majors	All Subj		Females		Males	
	N	%	N	%	N	%
Allied Health	15	1.8	13	2.6	2	0.6
Art	14	1.6	6	1.2	8	2.3
Business Administration	91	10.7	47	9.3	44	12.8
Business Education	30	3.5	17	3.4	13	3.8
Business Shortcourse	12	1.4	11	2.2	1	0.3
Computer Science	39	4.6	19	3.7	20	5.8
Elementary Education	76	8.9	72	1.4	4	1.2
Health, Phys. Ed., Rec.	86	10.1	35	6.9	51	14.8
Home Economics	20	2.4	20	3.9	--	--
Industrial Education	12	1.4	--	--	12	3.5
Language Arts	22	2.6	17	3.4	5	1.5
Library Education	1	0.1	1	0.2	--	--
Mathematics	15	1.8	9	1.8	6	1.7
Music	9	1.1	8	1.6	1	0.3
Natural Science	36	4.2	15	3.0	21	6.1
Nursing	41	4.8	37	7.3	4	1.2
Office Administration	69	8.1	34	6.7	35	10.2
Other	13	1.5	6	1.2	7	2.0
Pharmacy	75	8.8	34	6.7	41	11.9
Pre Professional	11	1.3	3	0.6	8	2.3
Recreational Leadership	15	1.8	6	1.2	9	2.6
Social Sciences	36	4.2	23	4.5	13	3.8
Special Education	32	2.7	23	4.5	--	--
Undecided	80	9.4	49	9.7	31	9.0

TABLE XXX

STUDENTS ENROLLED IN STEREOTYPED ACTIVITIES BY MAJORS

Majors	Feminine-Stereotype Activity		Masculine-Stereotype Activity		Nonstereo.-Stereotype Activity	
	N	%	N	%	N	%
Allied Health	4	1.2	6	2.6	5	1.7
Art	5	1.6	3	1.3	6	2.0
Business Administration	31	9.7	27	11.9	33	10.9
Business Education	10	3.1	9	4.0	11	3.6
Business Shortcourse	11	3.4	--	--	1	0.3
Computer Science	10	3.1	14	6.2	15	5.0
Elementary Education	41	12.8	7	3.1	28	9.2
Health, Phys. Ed., Rec.	13	4.0	36	15.9	37	12.2
Home Economics	11	3.4	2	0.9	7	2.3
Industrial Education	2	0.6	8	3.5	2	0.7
Language Arts	9	2.8	4	1.8	9	3.0
Library Education	--	--	1	0.4	--	--
Mathematics	5	1.6	7	3.1	3	1.0
Music	5	1.6	--	--	4	1.3
Natural Science	14	4.4	13	5.7	9	3.0
Nursing	20	6.2	5	2.2	16	5.3
Office Administration	27	8.4	17	7.5	25	8.2
Other	4	1.2	4	1.8	5	1.7
Pharmacy	30	9.3	16	7.0	29	9.6
Pre Professional	2	0.6	8	3.5	1	0.3
Recreational Leadership	8	2.5	3	1.3	4	1.3
Social Sciences	11	3.4	10	4.4	15	5.0
Special Education	15	4.7	4	1.8	4	1.3
Undecided	31	9.7	15	6.6	34	11.2

APPENDIX C

SURVEY OF PHYSICAL EDUCATION ACTIVITY COURSES

TABLE XXXI

EXPRESSED REASONS FOR SELECTION OF PHYSICAL EDUCATION COURSES BY MALE AND FEMALE

I took this course because:	All Subjects (N = 851)			Males (N = 344)			Females (N = 507)		
	1	2	3	1	2	3	1	2	3
1. Physical Education is required.	49.8	28.9	17.2	47.4	29.1	18.0	51.5	28.8	16.6
2. I like physical activity and wanted to stay active.	65.9	23.6	6.6	61.9	25.0	8.1	68.6	22.7	5.5
3. It fit best into my schedule.	31.4	35.8	28.8	32.0	34.9	28.2	31.0	36.5	9.2
4. It sounded from the course description like it would be fun.	68.2	20.2	7.4	59.6	23.8	11.0	74.0	17.8	4.9
5. I have never done anything like this before and thought I might enjoy it.	41.1	29.0	25.9	32.3	29.7	32.8	47.1	28.6	21.1
6. Of the teacher.	9.6	51.1	33.8	11.0	46.5	35.5	8.7	54.2	32.7
7. My friends are in the class and advised me to take it.	13.0	38.8	43.8	11.3	38.7	44.2	14.2	38.9	43.6
8. It's something I've always wanted to do.	44.5	30.8	20.7	37.2	34.3	23.0	49.5	28.4	19.1
9. It's required in my majors.	17.9	34.5	43.2	19.2	32.6	42.4	17.0	35.9	43.8

Note: 1 = very important to me; 2 = did not affect my decision; 3 = unimportant reason.

TABLE XXXII

EXPRESSED REASONS FOR SELECTION OF PHYSICAL EDUCATION ACTIVITY COURSES--BY GROUPS

I took this course because:	Feminine Act. (N = 321)			Masc. Act. (N = 227)			Nonstereo. (N = 303)		
	1	2	3	1	2	3	1	2	3
1. Physical Education is required.	48.0	29.9	16.5	43.2	33.5	20.7	56.8	24.4	15.2
2. I like physical activity and wanted to stay active.	67.0	22.7	5.6	65.2	23.3	8.8	65.3	24.8	5.9
3. It fit best into my schedule.	29.9	36.1	28.0	29.1	39.6	28.6	34.7	32.7	29.7
4. It sounded from the course description like it would be fun.	77.9	12.5	4.0	67.4	23.8	6.2	58.4	25.7	11.9
5. I have never done anything like this before and thought I might enjoy it.	50.8	26.8	16.8	36.6	30.8	30.0	34.3	30.0	32.3
6. Of the teacher.	9.7	56.7	27.4	14.1	46.3	35.7	6.3	48.8	39.3
7. My friends are in the class and advised me to take it.	15.3	37.7	41.4	11.9	46.7	38.8	11.6	34.0	50.2
8. It's something I've always wanted to do.	45.5	30.8	18.7	44.9	32.2	20.3	43.2	29.7	23.1
9. It's required in my majors.	15.3	36.8	42.4	18.5	34.8	43.6	20.1	32.0	43.4

Note: 1 = very important to me; 2 = did not affect my decision; 3 = unimportant reason.

TABLE XXXIII

EXPRESSED REASONS FOR SELECTION OF PHYSICAL EDUCATION ACTIVITY COURSES--BY MAJORS

I took this course because:	Phys Ed. Majors (N = 86)			Nonmajors (N = 765)		
	1	2	3	1	2	3
1. Physical Education is required.	41.9	31.4	23.3	50.7	28.6	16.5
2. I like physical activity and wanted to stay active.	79.1	14.0	3.5	64.4	24.7	6.9
3. It fit best into my schedule.	24.4	46.5	25.6	32.3	34.6	29.2
4. It sounded from the course description like it would be fun.	59.3	33.7	3.5	69.2	18.7	7.8
5. I have never done anything like this before and thought I might enjoy it.	29.1	34.9	32.6	42.5	28.4	25.1
6. Of the teacher.	14.0	61.6	20.9	9.2	49.9	35.3
7. My friends are in the class and advised me to take it.	7.0	51.2	38.4	13.7	37.4	44.4
8. It's something I've always wanted to do.	39.5	36.0	20.9	45.1	30.2	20.7
9. It's required in my majors.	46.5	36.0	14.0	14.6	34.4	46.5

Note: 1 = very important to me; 2 = did not affect my decision; 3 = unimportant reason.

APPENDIX D

BIRTH ORDER

TABLE XXXIV

BIRTH ORDER OF SUBJECTS

Birth Order	All Sub.		Females		Males		Masc Act		Fem Act		Nonstereo.	
	N	%	N	%	N	%	N	%	N	%	N	%
Only	32	(3.8)	24	(4.7)	8	(2.3)	4	(1.8)	17	(5.3)	11	(3.6)
Oldest	248	(29.1)	161	(31.8)	87	(25.3)	70	(30.8)	101	(31.5)	77	(25.4)
Middle	272	(32.0)	165	(32.0)	107	(31.1)	71	(31.3)	103	(32.1)	98	(32.3)
Youngest	256	(30.1)	246	(28.6)	111	(32.3)	68	(30.0)	93	(29.0)	95	(31.4)
Missing Data	43	(5.1)	12	(2.4)	31	(9.0)	14	(6.2)	7	(2.2)	22	(7.3)

Full Name _____

Sex: M F Age: _____ Year in School: Fr So Jr Sr Grad

Telephone: _____ (If you have no phone, please give some way of contacting you.)

Major: _____ Activity Course _____

BEM SEX ROLE INVENTORY
Sandra L. Bem

On the following page, you will be shown a large number of personality characteristics. We would like you to use those characteristics in order to describe yourself. That is, we would like you to indicate, on a scale from 1 to 7, how true of you these various characteristics are. Please do not leave any characteristic unmarked.

Example: sly

Mark a 1 if it is NEVER OR ALMOST NEVER TRUE that you are sly.

Mark a 2 if it is USUALLY NOT TRUE that you are sly.

Mark a 3 if it is SOMETIMES BUT INFREQUENTLY TRUE that you are sly.

Mark a 4 if it is OCCASIONALLY TRUE that you are sly.

Mark a 5 if it is OFTEN TRUE that you are sly.

Mark a 6 if it is USUALLY TRUE that you are sly.

Mark a 7 if it is ALWAYS OR ALMOST ALWAYS TRUE that you are sly.

Thus, if you feel it is sometimes but infrequently true that you are "sly", never or almost never true that you are "malicious", always or almost always true that you are

"irresponsible", and <u>often true</u> that you are "carefree", then you would rate these characteristics as follows:

Sly	3	Irresponsible	7
Malicious	1	Carefree	5

1	2	3	4	5	6	7
NEVER OR ALMOST NEVER TRUE	USUALLY NOT TRUE	SOMETIMES BUT INFRE-QUENTLY TRUE	OCCASIONALLY TRUE	OFTEN TRUE	USUALLY TRUE	ALWAYS OR ALMOST ALWAYS TRUE

Self-reliant	
Yielding	
Helpful	
Defends own beliefs	
Cheerful	
Moody	
Independent	
Shy	
Conscientious	
Athletic	
Affectionate	
Theatrical	
Assertive	
Flatterable	
Happy	
Strong Personality	
Loyal	
Unpredictable	
Forceful	
Feminine	
Reliable	
Analytical	
Sympathetic	
Jealous	
Has leadership abilities	
Sensitive to the needs of others	
Truthful	
Willing to take risks	
Understanding	
Secretive	

Makes decisions easily	
Compassionate	
Sincere	
Self-sufficient	
Eager to soothe hurt feelings	
Conceited	
Dominant	
Soft-spoken	
Likable	
Masculine	
Warm	
Solemn	
Willing to take a stand	
Tender	
Friendly	
Aggressive	
Gullible	
Inefficient	
Acts as a leader	
Childlike	
Adaptable	
Individualistic	
Does not use harsh language	
Unsystematic	
Competitive	
Loves children	
Tactful	
Ambitious	
Gentle	
Conventional	

APPENDIX F

KENYON ATPA

ATPA-Form I

Name:_____ Age:_____ Sex: M F

Year in School: Fr So Jr Sr Grad Marital Status: Single
Married
Divorced
Widowed

Activity Course:_____

Birth Order: Only Oldest Middle Youngest

INTRODUCTION

The following questionnaire is designed to understand the opinions people have about physical activity. We are asking you to express what you think or feel about the statements on the following pages. The best answer is your personal opinion. Different and opposing points of view are presented in the questions. You may find yourself agreeing strongly with some of the statements and disagreeing just as strongly with other statements.

After you have read each statement, you are asked to place a number on the line at the left of the statement, to indicate how strongly you agree or disagree with the statement. The numbers mean the following:

1 = very strong disagree (VSD)
2 = strongly disagree (SD)
3 = mildly disagree (MD)
4 = undecided (U)
5 = mildly agree (MA)
6 = strongly agree (SA)
7 = very strongly agree (VSA)

Do not spend too much time on any one statement. Try to respond, then go on to the next. Please rate all statements. You should rarely need to use 4 (undecided).

At the top of each page, you will find a guideline showing the numbers and the terms they represent.

1	2	3	4	5	6	7
VSD	SD	MD	U	MA	SA	VSA

___ 1. I would gladly put in the necessary years of daily hard training for the chance to try out for the U.S. Olympic Team.

___ 2. I would prefer quiet activities like swimming or tossing a ball around rather than such activities as automobile and speedboat racing.

___ 3. Among desirable forms of physical activity are those that show the beauty and form of human movement, such as modern dance and water ballet.

___ 4. I prefer those sports which require very hard training and involve intense competition such as interscholastic and intercollegiate athletics.

___ 5. A happy life does not require regular participation in physical activity.

___ 6. The risk of injury would be well worth it when you consider the thrills that come from engaging in such activities as mountain climbing and bobsledding.

___ 7. It is important that everyone belong to at least one group that plays games together.

___ 8. Of all physical activities, those whose purpose is primarily to develop physical fitness, would <u>not</u> be my first choice.

___ 9. Among the best physical activities are those which represent a personal challenge, such as skiing, mountain climbing, or heavy weather sailing.

___ 10. I would get by far the most satisfaction from games requiring long and careful preparation and involving stiff competition against a strong opposition.

___ 11. The degree of beauty and grace of movement found in sports is sometimes less than claimed.

___ 12. Almost the only satisfactory way to relieve severe emotional strain is through some form of physical activity.

___ 13. I would usually choose strenuous physical activity over light physical activity, if given the choice.

1 2 3 4 5 6 7

VSD SD MD U MA SA VSA

___ 14. Physical education programs should place a little more emphasis upon the beauty found in human motion.

___ 15. There are better ways of relieving the pressures of today's living than having to engage in or watch physical activity.

___ 16. Frequent participation in dangerous sports and physical activities are all right for other people, but ordinarily they are not for me.

___ 17. I like to engage in socially-oriented physical activities.

___ 18. A large part of our daily lives must be committed to vigorous exercise.

___ 19. I am not in the least interested in those physical activities whose sole purpose is to depict human motion as something beautiful.

___ 20. College should sponsor more physical activities of a social nature.

___ 21. Being strong and highly fit is <u>not</u> the most important thing in my life.

___ 22. The <u>least</u> desirable physical activities are those providing a sense of danger and risk of injury such as skiing on steep slopes, mountain climbing, or parachute jumping.

___ 23. For a healthy mind in a healthy body the only place to begin is through participation in sports and physical activities every day.

___ 24. A sport is sometimes spoiled if allowed to become too highly organized and keenly competitive.

___ 25. The time spent doing daily calisthenics could probably be used more profitably in other ways.

___ 26. I enjoy sports mostly because they give me a chance to meet new people.

___ 27. Practically the only way to relieve frustrations and pent-up emotions is through some form of physical activity.

1	2	3	4	5	6	7
VSD	SD	MD	U	MA	SA	VSA

___ 28. Given a choice, I would prefer motor boat racing or running rapids in a canoe rather than one of the quieter forms of boating.

___ 29. Strength and physical stamina are the most important prerequisites to a full life.

___ 30. Of all the kinds of physical activities, I dislike the most those requiring a lot of socializing.

___ 31. The most enjoyable forms of physical activity are games and sports engaged in on the spur of the moment, rather than those requiring long periods of training.

___ 32. One of the things I like most in sports is the great variety of ways human movement can be shown to be beautiful.

___ 33. Most intellectual activities are often just as refreshing as physical activities.

___ 34. Physical activities that are purely for social purposes, like college dances, are sometimes a waste of time.

___ 35. I am given great pleasure when I see the form and beauty of human motion.

___ 36. I believe calisthenics are among the less desirable forms of physical activity.

___ 37. The self-denial and sacrifice needed for success in today's international competition may soon become too much to ask of a 13 or 14 year old.

___ 38. People should spend 20 or 30 minutes a day doing vigorous calisthenics.

___ 39. Too much attention is paid to those physical activities that try to portray human movement as an art form.

___ 40. Sports are fun to watch and to engage in, only if they are not taken too seriously, nor demand too much time and energy.

___ 41. Of all the physical activities, my first choice would be those whose purpose is primarily to develop and maintain physical fitness.

1 2 3 4 5 6 7

VSD SD MD U MA SA VSA

___ 42. If I had to choose between "still-water" canoeing and "rapids" canoeing, "still-water" canoeing would be the better alternative.

___ 43. Watching athletes become completely absorbed in their sport nearly always provides me with a welcome escape from the many demands of present-day life.

___ 44. Participating in games and sports can sometimes spoil good friendships.

___ 45. The idea that every human movement is beautiful is absurd.

___ 46. Physical activities having a strong element of daring requiring one to take chances are highly desirable.

___ 47. I could easily spend an hour watching the graceful and well-coordinated movements of a figure skater or modern dancer.

___ 48. There are better ways of getting to know people than through games and sports.

___ 49. The fun is sometimes taken out of sports and games when they become too highly organized, overly competitive, and too demanding of the participant.

___ 50. Among the best forms of physical activity are those which use the body as an instrument of expression.

___ 51. Since competition is fundamental to American society, sports and athletics need to be much more demanding and competitive than at present.

___ 52. The best thing about games and sports is that they give people more confidence in social situtions.

___ 53. One of the best forms of physical activity is that which provides a thrilling sense of danger such as sailing in heavy weather or canoeing on river rapids.

___ 54. Regular physical activity is the major prerequisite to a satisfying life.

___ 55. Vigorous daily exercises are absolutely necessary to maintain one's general health.

1	2	3	4	5	6	7
VSD	SD	MD	U	MA	SA	VSA

___ 56. One of the most desirable forms of physical activity is social dancing.

___ 57. In this country there is sometimes too much emphasis on striving to be successful in sports.

___ 58. I would enjoy engaging in those games and sports requiring, to a large extent, the defiance of danger.

___ 59. Most people would live happy lives without depending upon frequent watching or participating in physical games and exercise.

___ 60. I would participate in boxing or full contact karate if given the chance.

___ 61. In sports such as boxing or karate I would try to knock-out my opponent, rather than win a decision.

APPENDIX G

GENERAL INFORMATION SURVEY

Name _____

High School Athletic Experience: Years Sport(s)
Collegiate Athletic Experience: Years Sport(s)

SPORT PARTICIPATION

On this form you are asked to indicate how often you participated in different sports in the past, and over the last year, as well as how often in the future you would like to participate in these sports. In the blank space under the column enter a number to indicate your participation as follows:

0 = Never
1 = Once a year
2 = Several times a year
3 = Several times a month
4 = Several times a week
5 = every day

Sport	Past	Last Year	Future
Baseball/softball			
Basketball			
Bowling			
Boxing			
Football			
Golf			
Gymnastic			
Ice skating			
Jogging			
Judo/karate			
Roller Skating			
Snow skiing			
Tennis/racketball			
Track			
Volleyball			
Weight lifting			
Wrestling			
Boating/sailing			
Swiming			
Archery			
Fishing			
Hunting			
Target shooting			
Car racing			
Motorcycling			

For each of the following statements, indicate by using the number that best describes your reason for taking the course.

1 = Very important to me
2 = Did not affect my decision
3 = Unimportrant reason for me

I took this course because:

_____ physical education is required.

_____ I like physical activity and wanted to stay active.

_____ it fit best into my schedule.

_____ it sounded from the course description like it would be fun.

_____ I have never done anything like this before and I thought I might enjoy it.

_____ of the teacher.

_____ my friends are in the class and advised me to take it.

_____ it's something I've always wanted to do.

_____ it's required in my major.

VITA

Dianne L. Busch

Candidate for the Degree of

Doctor of Education

Thesis: A STUDY OF PSYCHOLOGICAL SEX-ROLE ORIENTATIONS AND ATTITUDES TOWARD PHYSICAL ACTIVITY OF UNIVERSITY STUDENTS

Major Field: Higher Education

Minor Field: Health, Physical Education, and Recreation

Biographical:

Personal Data: Born in Lanagan, Missouri, July 25, 1946, the daughter of Mr. and Mrs. O. W. Busch.

Education: Graduated from Northwest Classen High School, Oklahoma City, Oklahoma, in May, 1964; received the Bachelor of Science in Education degree in Health, Physical Education, and Recreation from Central State University, Edmond, Oklahoma, January, 1968; received the Master of Science degree in Health, Physical Education, and Recreation from Oklahoma State University, Stillwater, Oklahoma, July, 1971; additional graduate work completed at Oklahoma State University during the summer semesters 1973, 1975, and 1976, and at Central State University during the fall semester 1976; declared candidacy for the degree of Doctor of Education at Oklahoma State University, Summer, 1980; completed the requirements for the Doctor of Education degree in December, 1981.

Professional Experience: Teacher of Physical Education and English, Del Crest Junior High School, Del City, Oklahoma, 1968-1970; Graduate Assistant in Health, Physical Education, and Recreation, Oklahoma State Univerity, Stillwater, Oklahoma, 1970-1971; Instructor and Assistant Professor of

Health, Physical Education, and Recreation, Southwestern Oklahoma State University, Weatherford, Oklahoma, 1971 to present.

Professional Organizations: Memberships in the Higher Education Alumni Council of Oklahoma; Oklahoma Association of Health, Physical Education, and Recreation; American Alliance for Health, Physical Education, Recreation and Dance; Kappa Delta Pi; Delta Psi Kappa; Oklahoma Association of Intercollegiate Athletics for Women (past president); Softball Chairperson for the National Association of Intercollegiate Athletics District Nine.