

AN EXAMINATION OF THE SIGNIFICANCE OF EDUCATIONAL
AND REGIONAL FACTORS IN EXPLAINING WOMEN'S
INTERCOLLEGIATE ATHLETIC PROGRAM QUALITY

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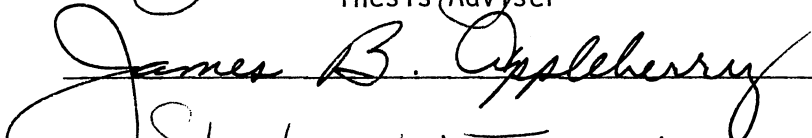
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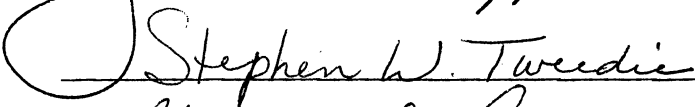
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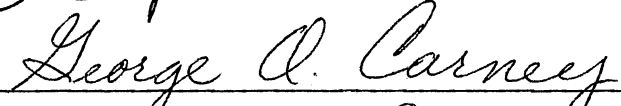
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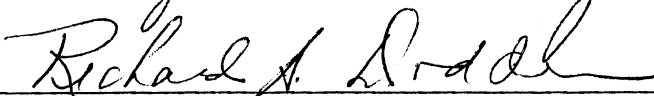


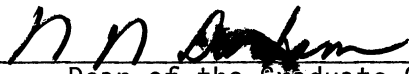
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PREFACE

This study is concerned with the analysis of women's athletic program quality within institutions of higher education in the United States. The primary objective is to determine factors which influence levels of breadth-and-depth and winning quality within these institutions. Step-wise multiple regression analyzing is employed to determine the significance of educational factors in explaining variation in levels of quality attained by responding programs. Next, cartographic analysis serves as the basis for an examination of the significance of regional factors in explaining quality.

The author wishes to express his appreciation to his major adviser, Dr. John F. Rooney, Jr., for his guidance and assistance throughout this study. Appreciation is also expressed to the other committee members, Dr. Stephen W. Tweedie, Dr. George O. Carney, Dr. Richard Dodder, and Dr. James B. Appleberry, for their invaluable assistance in the preparation of the final manuscript.

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Special gratitude is expressed to my wife, Marla, our daughter Robyn Michelle, and my mother, Ethyle, for their understanding.

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Finally, I wish to dedicate this manuscript to my late father, Reuben, whose honesty and sense of dedication toward his family I strive to emulate.

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CHAPTER I

INTRODUCTION

Background

The role of women in society has long been of concern to scholars, theologians, and other men of learning. Archaeologists, historians, sociologists, political scientists and psychologists, among others, have commented on the roles of women in various ancient and contemporary societies. By examining the evolution of local, state and national laws, one may visualize the transition of the rights, privileges, and obligations of women in American society. As seems to be true of most cultural traits, the transition of women's roles in society has been a gradual one.¹ This transition has been observed from many perspectives; however, it has been largely ignored by geographers.

In the last five years, women have gained recognition in most of the American institutions which formerly exhibited an exclusively male membership. One of the areas in which candid discrimination against women has persisted is the world of sport. Women had long been expected to avoid participation in strenuous athletics due to the physical shortcomings and social taboos which have been popularly propagated.² Coubertin, referred to by sport historians as the Father of the Modern Olympic Games, wrote in 1912 that "women have but one task, that of crowning the winner with garlands as was their role in ancient Greece."³

Kiafs and Lyon tell us that from 1920 through 1960, women were

shielded from extramural collegiate competition because it was considered too strenuous, particularly during the period of menstruation.⁴

Recently, women have moved to gain recognition in the world of sport. Billie Jean King, Laura Baugh, and Robyn Smith, to name a few, have tried to demonstrate that women can display both athletic prowess and femininity, thus dispelling one of the traditional social taboos against women in sport. In the United States, most women athletes are discouraged throughout their careers.⁵ Unlike male collegiate athletes who flourish under the financial aid and social patronage provided within the sphere of higher education, the anonymity of female athletes is great. One need only observe the small proportion of female athletes (compared to male) engaged in high-level amateur and professional competition who have attended colleges to realize that many promising female athletes have, until recently, elected other alternatives to college enrollment.⁶

The question of the role of higher education programs in fostering this phenomenon has been largely ignored by social scientists. Geographers had ignored the spatial analysis of sport until recently. The work of John F. Rooney is innovative in the field.⁷ The spatial analysis of women's sport could provide a key to understanding a social situation which is of topical significance and has deep historical roots.

That women's intercollegiate athletics receive a comparatively minor proportion of the support that is given to men's athletic pursuits is displayed in the proportions of newspaper column-square-inches allotted to their athletic pursuits, although a few exceptions do exist.⁸ Certain women's sports are associated with place. Santa Clara, California is known as a "factory" for Olympic swimming champions.⁹ Iowa is a

bastion of women's high school basketball.¹⁰ And Stratford, Connecticut, is a focal point for women's competitive softball.¹¹

Women's athletic programs are presently expanding at a rate unparalleled in their history. The recent popularity among greater numbers of American college women may be due, to a larger degree, to the influence of Women's Liberation ideals and the "Title IX" legislation (see Appendix A). We cannot have a thorough understanding of this dynamic aspect of college activity until significant variables are identified. This study attempts to examine some of the forces that may explain the present spatial variation in the quality of women's intercollegiate athletic programs within four-year institutions of higher education. Higher education is defined as "academic programs on a college or university campus." This is distinguished from further education ("quasi-academic and non-academic programs involved in training specific skills through industry, the military, and other institutions") or post-secondary education (both higher and further education).¹² The study will be limited to four-year institutions due to constraints of population size.

Statement of Purpose

This study employs a spatial approach in exploring a phenomenon of American college life - women's intercollegiate athletics. It is specifically concerned with the question of program quality, a major issue presently confronting co-ordinators of women's intercollegiate athletic programs and others. Traditionally, women's athletic programs emphasized the role of athletics in developing the individual in her primary role as a college student.¹³ High quality programs, therefore,

were those which provided sufficient breadth and depth of experience (see "Definition of Quality" section below).

At present, the impact of Title IX legislation is causing directors of both men's and women's athletic programs to re-examine their programs. Several co-ordinators seek to transform the emphasis of women's athletics, using the men's programs as a model.¹⁴ Traditionalists now fear that an increase in emphasis upon winning will result in a lessened emphasis upon the traditional goals of women's programs.

The purpose of this study is to increase available knowledge of contemporary trends within women's intercollegiate athletics. It attempts to incorporate educational and regional factors in explaining the present geographical distribution of levels achieved on respective measures of quality by Association of Intercollegiate Athletics for Women (AIAW) member institutions.

Importance of the Research. Females represented more than forty-three percent of the one million-eleven thousand graduates of four-year institutions of higher education during the 1973-1974 academic year.¹⁵ The implementation of Title IX legislation has created much controversy regarding the future role of women's athletics on college campuses and in American society.

This research attempts to clarify the present spatial pattern of women's intercollegiate athletic quality within the United States by determining factors which affect that pattern. Such an effort is in keeping with current efforts of many geographers who employ spatial analysis as a means of developing a greater understanding of the integral make-up of our way of life. Their goal is to contribute to a higher quality of life for a greater segment of American population.¹⁶

In accordance with the definition of the sub-discipline of social geography proposed by the Kariels, the work examines "a subset of variables dealing with the spatial aspect of a social institution.," women's athletics.¹⁷ It is intended that this study will contribute to a greater understanding of the spatial morphology of women's intercollegiate athletic competition. Also, it is hoped that the results of the study will contribute to a greater awareness of the role of athletics within institutions of higher education.

Methodology. The initial step to be executed in this study is to establish definitions and measures of quality among women's intercollegiate athletic programs. Guidelines set by the Division for Girls and Women's Sport and the Association for Intercollegiate Athletics for Women will be utilized for this purpose. Intercollegiate athletic programs are defined as highly organized programs of operation administered by either a department of physical education or an autonomous department. Their purpose is to organize, schedule, and administer competition in one or a variety of sports, among opposing individuals or teams representing two or more institutions of higher education. The end of such activity shall be victory.¹⁸ Measures of intercollegiate athletic program quality will serve as dependent variables in the study. The women's intercollegiate athletic programs examined in this study are respondents to a questionnaire which was sent to women's athletic directors whose programs were identified in the 1974-1975 Directory of Women's Athletics as holding membership in the Association for Intercollegiate Athletics for Women. The study was limited to programs within four-year institutions of higher education.

In the second step of this study, definitions and measures of the

independent variables - those variables which may logically be used to explain spatial variation in the levels attained on the measure of quality by women's intercollegiate athletic programs - will be established.

In step three, the spatial distributions of the respective measures of quality will be identified. The level attained by each institution on the respective measures of quality will be presented cartographically, employing a "proportional circles" mapping technique.

In step four, correlation coefficients will be examined in order to discover the one-to-one relationship between independent variables and the measures of quality. The role of independent variables in explaining the existing spatial distribution of levels of athletic program quality will be examined. The respective measures of quality will be "explained" separately. Stepwise multiple regression analysis will be employed because of its suitability in analyzing the contribution of two or more independent variables in explaining variation of a dependent variable.¹⁹

An ecological perspective is employed in this study. The institution of higher education is regarded as an organism or system within which the women's athletic program occupies a niche.²⁰ In keeping with the concept of ecological balance, the study assumes that the changes in the level of athletic program quality are affected by alterations in one or more areas of the institution's total make-up. It is with the ecological concept in mind that independent variables have been selected; each of the variables may affect the level of quality attained by the institution's athletic program (Note: While it is also recognized that

the political, social, and economic characteristics of the population served by the institution should be included in order to represent the total ecological structure, this is impossible due to geographical limitations in census data collection). Independent variables have been categorized in the following manner: Intercollegiate Athletic Program Variables, Physical Education Program Variables, Intramural Program Variables, and Institutional Variables (see Appendix B for data sources).

Institutional variables and women's athletic program variables represent characteristics of institutions of higher education and intercollegiate athletic programs, respectively, which may logically be expected to affect the quality of women's athletic programs. Physical education variables pertain to institutions' physical education programs for women and intramural program variables pertain to institutions' intramural programs for women as each affects the quality of women's intercollegiate athletic programs.

In step five, a regionalization of the patterns of both measures of quality will be attempted employing cartographic analysis. The significance of regional location in explaining the patterns of both measures of program quality will be evaluated on the basis of mapped distributions of levels attained on the respective measures of quality.

Finally, description and data treated in steps one through five will be employed in drawing conclusions regarding the present spatial morphology of women's intercollegiate athletic program quality.

Definition of Terms. Many American sport enthusiasts, having adopted their attitudes from a male-dominated sporting world, associate athletic program quality with winning and developing a winning

reputation in competitive circles. Traditionally, this definition has not applied to women's athletic programs.²¹ The Division of Girls and Women's Sport (DGWS), representative organization for women's physical educators, requested in a policy paper published in 1957, that high level athletic competition among women be limited. In that paper, the organization stated that "limiting participation in high level competitive sports to the few highly skilled deprives others of many different kinds of desirable experiences which are inherent in a well co-ordinated sports program"²² The Association for Intercollegiate Athletics for Women (AIAW), which has co-ordinated women's intercollegiate athletics since its foundation in 1972, has stated that women's programs should avoid creating a "mirror image" of men's athletic programs.²³ This should not preclude, however, "equality in overall programmatic benefits and resources."²⁴ The AIAW suggests that women's intercollegiate athletic programs provide breadth and depth.²⁵ This attitude may stem from a belief that the focus of women's intercollegiate athletics should remain on the participation of the individual in her primary role as a college student.²⁶

Breadth of experience may be translated into the opportunity, within an activity, to experience a wide extent or scope of something.²⁷ A broad program for women's intercollegiate athletics provides students with the opportunity to participate in a wide range of sporting activities.²⁸

Depth of experience is mastery or thorough understanding of the elements of a discipline or experience.²⁹ Therefore, depth of experience can best be offered within an athletic program by providing a sufficient number of events to allow participants to gain personal

satisfaction from skill achievement without being denied the time to participate in other activities (academic, social or athletic).³⁰ Four measures of program breadth and depth will be employed in this study. These are: "total number of sports in which opportunities for inter-collegiate athletic competition are available for the institutions," "average number of events participated in by the institution's athletic teams;"³¹ "average length of sport seasons for all women's intercollegiate teams within the institution;"³² and "mean hours of practice per week."³³ The institution's score on each of the above variables will be transferred into standard scores, then totalled and standardized again. This latter standard score will be the institution's measure of breadth and depth quality. Standard scores are used in order to allow equal weighting of each variable.

Although the AIAW has sought to avoid duplication of the men's programs, organization leaders recognize that Title IX will stimulate the desire among some women's athletic programs to place winning ahead of breadth and depth of experience. Evidence that this phenomenon has already surfaced is displayed in the attention accorded winning in two of the four editorials in the 1974-75 National Directory of Women's Athletics.³⁴ Katherine Ley,³⁵ President of the American Alliance for Health, Physical Education and Recreation, expresses concern that women's programs are already mirroring the preoccupation with winning which has characterized men's athletics.³⁶ She calls upon the AIAW and the director of women's athletics to supply leadership in interpreting and implementing Title IX.

Evidence presented here indicates that the desire to "mirror" men's athletic programs is gaining popularity in many women's athletic

programs. Recently, a basketball game involving the national women's championship team from Immaculata College was televised, with future telecasts of women's intercollegiate athletics in the discussion stage.³⁷ It is, therefore, necessary within a study of women's intercollegiate athletic programs to define and explain the distribution of a second measure of "quality" - attainment of a "big time" or highly successful (winning) athletic program.

Since the concern with developing a "big time" or highly successful (successful in terms of building a reputation as a winner) image is a recent occurrence in women's sport, definitions and measures of this phenomenon are without precedent outside of men's athletics. Replies to two of the variables included in the questionnaire will be employed to distinguish the degree to which a program has developed a winning quality program. These are - winning percentage in each intercollegiate sport in which each institution has engaged during the past competitive year, and receipt of an invitation to participate in national tournaments.³⁸ It must be noted that attendance at state and regional tournaments were eliminated from consideration as measures. These have been regarded as poor measures because of the profound variation in quality which exists among states and the low standards required of participants in some recent regional events.³⁹

Programs have been assigned a score ranging from 0 to 8 based upon their achievement on the two variables which comprise the measure of winning quality. Programs which have not won 80 percent or more of their events (an arbitrary figure) in any sport and have not attended a national tournament have been assigned a value of "0". Programs which have not won 80 percent or more of their events in one sport but have

not attended a national tournament have been assigned the value "1". Programs which have won 80 percent or more of their events in two sports but have not attended a national tournament have been assigned a value of "2". Programs which have won 80 percent or more of their events in three sports but have not attended a national tournament have been assigned a value of "3". Programs which have won 80 percent or more of their events in four or more sports but have not attended a national tournament have been assigned a value of "4". Programs which have attended a national tournament in one sport have been assigned a value of "5". Programs which have attended national tournaments in two sports have been assigned a value of "6". Programs which have attended national tournaments in three sports have been assigned a value of "7". Finally, programs which have attended national tournaments in four or more sports have been assigned a value of "8".

The distinction between tournament and non-tournament programs is necessitated by the fact that teams receive invitations to participate in national tournaments on the basis of their success in state and regional tournaments. Therefore, a team which wins all or most of its events may be eliminated in the state or regional tournament by another team which won few events playing against superior teams from outside the state and region (possibly to build its own competitive quality).

Content validity of this measure has been established by means of interviews of experts - four directors of women's intercollegiate athletics within institutions located in the state of Oklahoma. Dr. Betty Abercrombie, Director of Women's Athletics at Oklahoma State University; Dr. Amy Dahl, Director of Women's Athletics at the University of Oklahoma; Ms. Mary Jess Tibbels, Director of Women's Athletics at

Northwestern Oklahoma State University; and Dr. Virginia Peters, Director of Women's Athletics at Central State University, all confirmed the validity of the measure of winning quality.

The Independent Variables. Having defined and established measures of the dependent variables, attention will be directed toward the athletic program, physical education program, intramural program and institutional variables which "explain" spatial variation in the levels of quality attained by women's athletic programs within four-year institutions of higher education.

Intercollegiate athletic program variables employed in this study deal with four areas - program organization, coaching, athletic facilities, and scholarships and funding. Variables 1-4 are all concerned with the reaction of women's athletic directors or program representatives to statements relating to prevailing attitudes within their respective athletic programs. Variables 1 and 2 - "Degree to which intercollegiate athletic competition is valued as an agent in the physical education process of women within the institution" and "Degree to which intercollegiate athletic competition is valued as an agent in the general education process of women within the institution" are employed in order to establish the degree to which these AIAW and AAHPER goals have been accepted within each institution's athletic program for women (the abbreviation AAHPER will be used in this text to refer to the American Alliance of Health, Physical Education and Recreation). It is expected that schools which have high quality programs, according to the breadth-and-depth definition, will feel that both variables are very strong, positive agents. Variable 3 - "Degree to which the women's program is seeking a "big time" or "high calibre"

image" - is intended to establish the importance accorded these two trends within respective athletic programs. Presumably, programs which give these variables a high, positive rating will be those that score high on the "winning" measure of quality.

Variables 4-5 - "Degree to which the institution's intercollegiate athletic program for men serves as a model for the women's program" and "NCAA division ranking of the institution's intercollegiate athletic program for men" - are intended to establish the significance of men's programs within respective institutions in explaining the levels of quality - both measures which the women's program has attained.

Variable 6 - "Length of existence of a formal program of intercollegiate athletic competition for women within the institution" - is included in order to establish the effect of temporal longevity upon the levels of quality attained.⁴⁰

The following variables, 7 through 11, will be treated as both dependent and independent variables. Variables 7 through 10 together comprise the first dependent variable, breadth-and-depth quality. However, each of these variables will be treated as separate independent variables in explaining the second dependent variable, winning quality. Variable 11 serves as the second dependent variable, winning quality. However, it will be employed as an independent variable explaining the first dependent variable, breadth-and-depth quality (see Appendix C).

Variables 7-10 - "Total number of sports in which opportunities for women's intercollegiate athletic competition are available within the institution," "Average number of women's intercollegiate events participated in by the institution's athletic teams," "Average length of sports seasons for all women's teams within the institution," and

"Mean hours of practice per week" - are included to establish the role of these aspects of athletic programs in affecting winning quality.

Variable 11 - A measure of winning based upon season (most recent) records in women's intercollegiate athletics and total number of sports in which the institution was represented in national tournaments during the most recent season completed is used to examine the affect of levels of winning quality attained by programs in explaining the levels of breadth-and-depth quality achieved by athletic programs.

Variables 12-17 - "Total number of coaches of women's intercollegiate athletics (specific individuals) within the institution," "Percentage of the institution's coaches of intercollegiate athletics for women who are female," "Percentage of the average coach's teaching load which is satisfied by coaching women's sport," "Percentage of coaches of women's intercollegiate athletics within each institution who have completed at least an undergraduate minor in Health and Physical Education," "Percentage of coaches of women's intercollegiate athletics within each institution who hold master's degrees in Health and Physical Education," and "Percentage of coaches of women's intercollegiate athletics within each institution who hold doctorates in Health and Physical Education" - are intended to examine the role of the coaching staff in explaining the levels of quality (both definitions) attained by the institution. The latter three variables in this group are measures of proper training of the athletic coaches. Administrators for women's athletics are adamant that coaches possess certain skills.⁴¹ Since no coaching certification process has attained ubiquity, measures 15-17 have been employed.⁴²

Variables 18-21 - "Men's and women's athletic program facilities

(shared or separate)," "Women's athletic program facilities - (shared or separate from women's physical education facilities)," "Age of oldest and newest buildings which house women's intercollegiate athletics" - explore the role of women's athletic facilities in explaining program quality of both measures. Presumably, higher scores on both measures of program quality will correlate with higher quality facilities.

Variables 22-35 are "Total amount (dollars) of athletic scholarships for women," "Number of sports in which scholarships are available," "Total number of female athletes for whom scholarships are provided," and "Approximate percentage of the total athletic scholarship monies allotted during the past year which were received by women." It is expected that the presence of scholarships will be indicative of the desire to create "winning" quality within women's intercollegiate athletic programs. Many women oppose scholarships and excessive funding to women's athletics, fearing that their increased availability will result in the "mirroring" of men's programs.⁴³

Physical Education Programs Variables Variables 26-35 have been included in order to examine the role of women's physical education program characteristics in explaining quality in intercollegiate athletic programs. Physical education programs are traditionally more concerned with the development of healthy individuals than with winning.⁴⁴ Therefore, it will be interesting to observe the role of these variables in explaining the respective measures of athletic program quality.

Variables 26-29 - "Physical education as a required course of female undergraduates within the institution," "Presence of an undergraduate major in physical education within the institution," "Presence

of a master's degree offering in physical education within the institution," "Presence of a doctoral degree offering in physical education within the institution" - pertain to curricular support for women's physical education programs.

Variables 30-33 - "Number of full-time instructors of physical education within the institution," "Percentage of full-time instructors of physical education within the institution which are female," "Percentage of full-time instructors of physical education within the institution who hold master's degrees in physical education," and "Percentage of full-time instructors of physical education within the institution who hold doctorates in physical education" - pertain to the background of instructors of physical education within institutions.

Variable 34 - "Percentage of all funds allotted to physical education programs within the institutions which is directed toward women's physical education programs" - is designed to examine the role of physical education funding in explaining quality of the women's intercollegiate athletic program.

Variable 35 - "Men's and women's physical education facilities (shared or separate)" - is designed to examine the role of separate physical education facilities in explaining quality of women's intercollegiate athletic programs.

Intramural Program Variables. Variables 36-37 - "Number of years that the institution has operated an intramural program," and "Number of sports in which intramural competition is provided" - are designed to examine the role of intramurals in explaining the level of quality attained by women's intercollegiate athletic programs. Intramural sport is organized to allow participation for fun or pleasure for those

without the skills or desire to enter intercollegiate competition.⁴⁵

It may be expected that a well developed intramural program will have a draining effect upon the intercollegiate athletic program; while a well developed program for intercollegiate athletics may effect the intramural program in a like manner. Therefore, its role in explaining the levels of quality attained by programs should be of interest.

Institutional Variables. As stated earlier, this study has been undertaken with a primary underlying assumption in mind: the four-year institution for higher education is an ecological entity, a system. While it is expected that athletic program variables will explain much about the levels of program quality, physical education, intramural, and institutional variables may explain much of the variation in program quality. Institutional variables displaying size, economy, demography, affiliation, program, and quality are employed within the study to explain levels of program quality.

Variables 38-39 - "Student enrollment," and "Number of faculty" = are designed to examine the role of size (students and faculty) in explaining emphasis upon athletic program quality.

Variable 40 - "Tuition rate" - explores the effect of economic accessibility of the institution in determining athletic program quality.

Variable 41 - "Female to male ratio among students." Presumably, an institution which has a majority of female students will provide high quality programs for its female students, with a decrease in program quality accompanying each decrease in female representation.

Variable 42 - "Percentage of full-time undergraduate student enrollment from minority group backgrounds"⁴⁶ - examines the effect of accessibility of the institution to minority groups upon athletic

program quality.

Variables 43-45 - "University or college," "Private or state," and "Church or non-church" - examine the affiliation of the four-year institution. These variables are included in order to see whether the affiliation of a four-year institution of higher learning is relevant in explaining the quality of women's athletic programs.

Variable 46 - "Graduate degrees awarded (outside of physical education)" - examines the importance of this aspect of higher education in explaining program quality.

Variable 47 - "Academic level (as measured by SAT and ACT scores)" - is used to examine the relationship between the academic quality of students and the quality attained by the women's intercollegiate programs.

In summary, this study seeks to examine the impact of athletic program, physical education program, intramural program, and institutional characteristics in explaining levels attained by women's intercollegiate athletic programs on two measures of program quality. First, employing stepwise multiple regression analysis, the role of each of these variables in explaining the respective measures of program quality will be explored. Thus, the popular contentions that the various parts of the university are related to the whole and that women's athletic programs reflect the goals and values of their respective institutions will be tested. Next, cartographic analysis of the patterns of quality displayed among responding programs on the two measures of women's athletic program quality will be employed in order to establish the presence of regional patterns of quality. This

is a requisite of an examination of the role of regional location in explaining the present pattern of program quality.

FOOTNOTES

- ¹George F. Carter, Man and the Land (New York, 1964), p. 42.
- ²Eleanor Metheny, Connotations of Movement in Sport and Dance (Dubuque, 1965), pp. 132-148.
- ³Carl E. Klafs and M. Joan Lyon, The Female Athlete (St. Louis, 1973).
- ⁴Ibid.
- ⁵Alice Cheska, "Current Development in Competitive Sports for Girls and Women," JOHPER, XLI, No. III (1970), pp. 86-91.
- ⁶Ellen W. Gerber et al., The American Woman in Sport (Reading, 1974), p. 48.
- ⁷Rooney's key works are "Up from the Mines and Out from the Prairies," Geographical Review, Vol. LIX, No. IV (1969), pp. 471-492 and Geography of American Sport (Reading, 1974).
- ⁸Mark J. Okrant, Content Analysis of Selected Sport Pages, Stillwater, Oklahoma, 1974.
- ⁹Gerber, et al., p. 295.
- ¹⁰Judy Klemesrud, "State of Frenzy," Womensports, Vol. I, No. II (1974), pp. 42-45.
- ¹¹Gerber, et al., p. 119.
- ¹²"Carnegie Commission Final Report, 'Priorities for Action'," The Chronicle of Higher Education (1973), p. 8.
- ¹³Margot Polivy, Comments of the Association for Intercollegiate Athletics for Women (Washington, D.C., 1974), p. 10.
- ¹⁴"Recruiters Seek Female Cage Talent," Tulsa Daily World (March 23, 1975), p. S-4. The Associated Press article reports open recruiting at the annual Iowa Girls' State High School Basketball Tournament. In

addition, she reports that female high school athletes are demanding and receiving financial aid and scholarships from colleges.

¹⁵Information Please Almanac, Atlas and Yearbook (New York, 1975) p. 753.

¹⁶David Harvey, "Social Justice and Spatial Systems," Geography and Contemporary Issues, [Melvin Albaum, ed.] (New York, 1973), p. 565.

¹⁷Herbert and Patricia Kariel, Exploration in Social Geography (Reading, 1972), p. v.

¹⁸Harold J. Vanderswaag, Toward a Philosophy of Sport (Reading 1972), pp. 67-70. James Keating and Paul Weiss disagree on the goal of athletic competition. Keating insists that the goal of athletics is winning. Weiss admits that the urge to win is present in any athletic competition, but insists that the goal of athletics is "excellence." Within these definitions we find the major distinctions of quality to be examined in this study.

¹⁹Fred N. Kerlinger and Elazer J. Pedhazur, Multiple Regression in Behavioral Research (New York, 1973), p. 4.

²⁰Philip H. Phenix, Realms of Meaning (New York, 1964), p. 4. Phenix supports this idea, stating that all constituent parts of the educational experience should possess a "coherent system of ideas." He also states that ... "because a person (student) is essentially an organized totality and not simply a collection of separate parts, the curriculum should also have an 'organic' quality." In the AIAW Handbook, the constitution of the AIAW reflects the organization's attitude regarding the role of intercollegiate athletics in the higher education system. Article III, Purpose I, states that a purpose of the AIAW "shall be to foster broad programs of women's intercollegiate athletics which are consistent with the educational aims and objectives of the member schools..."

Walter C. Schwank stated in "The Role of Athletics in Education" that "sports and athletics are for preparation for life. As such they are to be considered to be a part of the education program, not outside it. They should be used to broaden education programs and contribute to the goals of general education ... considered a part of the total education environment." Schwank's work appeared in Administration of Athletics in Colleges and Universities, edited by E. S. Steitz, (Washington, 1971), p. 7.

²¹Barbara J. Hoepner, ed., Women's Athletics: Coping with Controversy (Washington, D.C., 1974), pp. 106-107.

²²Gerber, et al., p. 74-75. The DGWS altered its position in 1963, allowing the formation of intercollegiate athletic programs for

women. However, it was not until 1966, with the formation of a Commission on Intercollegiate Athletics for Women, that competition was actually encouraged.

²³Margot Polivy, p. 10.

²⁴Ibid. Thus, in 1974-75, the AIAW wishes women to have every opportunity offered the men to participate in intercollegiate athletic competition. However, the AIAW does not wish its member institutions to model their programs after men's programs.

²⁵Ray Franks, "Meet the New President," The 1974-75 Directory of Women's Athletics (Amarillo), p. 4. This attitude was expressed by Leotus Morrison, President-AIAW.

²⁶Polivy, p. 1.

²⁷Peter Davis, ed., The American Heritage Dictionary of the English Language (New York, 1970), p. 89.

²⁸Interview with Dr. Betty Abercrombie, Director of Women's Athletics at Oklahoma State University, January 30, 1975.

²⁹Paul L. Dressel, College and University Curriculum (Berkeley, 1971), p. 26

³⁰Judith R. Holland, ed., AIAW Handbook of Policies and Operating Procedures - 1974-1975 (Washington, D.C., 1974), p. 32. These measures are provided by the AIAW. Unfortunately, the AIAW does not specify what constitutes a "sufficient" situation. Limits for these measures of depth are provided by Holly Poindexter and Carole L. Mushier, Coaching Competitive Team Sports for Girls and Women (Philadelphia, 1973), pp. 41-42, and within Philosophy and Standards for Girls and Women's Sports (Washington, D.C.: 1972, revised edition). These will be presented below.

³¹Philosophy and Standards, p. 19. Neither the DGWS nor the AIAW has set numerical limits upon the "sufficient" number of events to be participated in during a sport season. They prefer to state that "the number of events or games scheduled should not exceed the ability and endurance as related to the endurance and physiological conditioning of the participants ... Schedules should also be arranged so that the participants' academic work will not be jeopardized." Dr. Betty Abercrombie, in a January 30, 1975 interview, stated that women's programs generally accept two events per week as their maximum acceptable scheduling load. Two events per week will serve as a meter of proper depth in this study.

³²Ibid. The DGWS has set standards for acceptable season length. Ten weeks is the minimum amount of time required to produce the necessary results discussed above. Fourteen weeks is the maximum amount of time recommended by the DGWS.

³³Poindexter and Mushier, pp. 41-42. Drawing from DGWS guidelines, Poindexter and Mushier set one and one-half hours per day or seven and one-half hours per week as a minimum acceptable amount of weekly practice. Two hours per day, or ten hours per week, is the recommended maximum amount of time that should be spent in athletic preparation or "practice."

³⁴Craig Brown, "Rush to the Top," p. 8-10. This article examines the success story of Cathy Rush and her basketball dynasty at Immaculata College. Rush and Immaculata are compared to John Wooden and his UCLA basketball dynasty throughout. Neil Landsman, "Eight Areas Carry Prairie View to Title," p. 12-16. While not as candid in his emphasis upon winning, Landsman definitely stresses that aspect in his article.

³⁵Katherine Ley, "Women in Sports: Where Do We Go From Here Boys?", Phi Delta Kappa, Vol. LVI, No. II (1974), pp. 129-131.

³⁶Personal correspondence with George Nicodemus, Director of Athletics at John F. Kennedy College, Wahoo, Nebraska, February 20, 1975. Nicodemus described the equality among men's and women's athletic programs. He stated that John F. Kennedy has "achieved more (success) than any other college in the United States ... because of our size, 300 or less students, it is important to our well-being." Will women's athletic programs in other small colleges use the new freedom established by Title IX to develop similar programs?

³⁷Joe Marshall, "On and Up With the Mighty Macs," Sports Illustrated, Vol. XLII, No. V (February 3, 1975), pp. 50, 53.

³⁸It is recognized that, by limiting the measure of "winning" quality to a single season's athletic records, it is not possible to establish evidence of temporal consistency - "the winning tradition" - among women's athletic programs. The absence of this measure is not an oversight. Rather, the emphasis upon success during the most recent season was devised so that the amount of emphasis accorded winning in women's intercollegiate athletics subsequent to the implementation of Title IX could be measured from a common point in time. The use of 1974-75 as a beginning point is easily defensible, for most athletic administrators will agree that Title IX marks the beginning of a new era in women's intercollegiate athletics.

³⁹Interview with Dr. Betty Abercrombie, January 30, 1975.

⁴⁰A formal program for women's intercollegiate athletic competition is one which is organized and administered by either the physical education department or an athletic department which is distinguished for that purpose. The functions of such a program will be budgeting, training, and scheduling athletic competition between institutions.

⁴¹Poindexter and Mushier, p. 30. Poindexter and Mushier list the following skills as important for successful coaching — ability to teach, knowledge of sport, ability to specialize, ability to respond to changes in a consistent manner, and willingness to devote a large amount of time to a small group of students.

⁴²Donna Mae Miller, Coaching the Female Athlete (Philadelphia, 1974), p. 52. Miller contends that the most appropriate coaching preparation at present "appears to be the existing programs of professional physical education curricula." Dr. Betty Abercrombie concurs with this view.

⁴³Comments of the Association for Intercollegiate Athletics for Women, p. 10. Also, Wayne Bishop, "Schools Handle Women's Sports Differently," Tulsa Daily World (January 29, 1975), Sec. B., p. 4.

⁴⁴Hoepner, p. 106-107.

⁴⁵VanderZwaag, pp. 19, 68.

⁴⁶"Undergraduate Enrollment of Minorities in U. S. Higher Education," Chronicles of Higher Education, Vol. IX, No. VII (November 11, 1974), pp. 8-12. Minority groups under consideration are those polled by the Office for Civil Rights of the Department of Higher Education in 1972. These are - American Indians, Negroes, Orientals, and Spanish surnamed.

CHAPTER II

REVIEW OF THE LITERATURE

A study designed to define and explain spatial variation in women's intercollegiate athletic program quality is without precedent in the literature of the fields of geography, physical education, or athletics. In A Geography of American Sport,¹ John Rooney has examined the spatial variation and organization of American men's sport, devoting a chapter to women's competition. Rooney suggests variables which may affect the regional levels of participation by women in several sports; however, it is not within the scope of his book to define or prescribe for the levels of program quality within institutions of higher learning.

There are several anthologies which examine women's athletics, including where they have been, where they are, and where they are going. Three anthologies of women's athletics are: The American Woman in Sport,² Women and Sport,³ and The Female Athlete: Conditioning, Competition, and Culture.⁴ Each of these works examines the history of participation, social implications, and the psychological and bio-physical perspectives of women in sports.

In examining the history of American participation, Gerber, Felshin, Berlin, and Wyrick trace the development of women's athletics from a "Spontaneous, self-directed endeavor to a well-organized program replete with sponsors and promoters from educational institutions to cigarette companies."⁵ The latter half of the nineteenth century is described as

the Victorian era of American Sport. During this period, the woman was an "ethereal" person, placed on a pedestal away from the realities of life. She was to maintain an image of purity.⁶ During the years between the commencement of World War I and the onset of the Great Depression, women made great strides educationally and economically. While the prestige of women did not advance to the point where they enjoyed equal status, more men realized that they could no longer afford to coddle one-half of the nation's human resource. During this period, many women used their leisure time to participate in sport.⁷

During World War II, the status of women changed drastically. Many joined the work force in order to assist in the war effort. At the conclusion of the war, many women desired to remain employed. According to Oppenheimer,⁸ an ever increasing proportion of women went to work during the years which followed the armistice.⁹ The "new feminism" of the 1960's developed into a drive to achieve equal employment rights and incomes for women. This movement provided much of the impetus which gave rise to Title IX legislation.

Margaret Coffey and Madge Phillips have examined women's athletics from a temporal perspective. Coffey divided the post World War I years into eras.¹⁰ In an interesting study, she examined the existence of a correlation between the length and bulk of women's athletic wear and their freedom to participate in athletics. Phillips examined the changes in the degree of concern with maintaining the Victorian-type feminine image, as observed in women's athletic rules.¹¹

There are many works which employ sociological perspectives in examining women's athletics. In her master's thesis, "Factors Influencing College Women's Attitudes Toward Sport and Dance," M. Marie Hart

examines the attitudes of college students toward participation of women in athletics.¹² Her study verifies that social taboos toward female participation in some activities have persisted up to the present. At the time of Hart's study (1963), students rated tennis, swimming, ice skating, diving, bowling, skiing and golf as socially and aesthetically acceptable. Interestingly, Hart reported that a study conducted within a Black community showed that Black women were accorded greater freedom to participate in athletic activities than were their white counterparts during that period.

Patricia Griffin, in a study of social attitudes toward women in various roles, discovered a rationale behind the social rejection of women physical education and athletic instructors.¹³ A sample group of university people characterized the ideal female as dependent, emotional, intuitive and passive. In studying ideal campus roles for women, the roles of athlete and educator were found by both Griffin and Brown to be least desirable. These roles were perceived to be active and potent; therefore they were polar to the accepted female model. Thus, women physical educators were forced to face the dual problem of being associated with both education and athletics.¹⁴

Alice Cheska, writing in 1970, offered a series of factors which contribute toward an increase in the level of participation in women's athletic competition. Three of the factors which she listed are - 1) the political, social, economic and sexual emancipation of women, 2) equal education opportunities for women, and 3) women's sport leadership. These three factors have materialized in the form of 1) the advanced stage of the "new feminism" which characterizes the 1970's, 2) enactment of Title IX, and 3) the founding of the Association for Intercollegiate

Athletics for Women, respectively.

Numerous studies have been directed at the psychological aspects of women in sport. Since female athletes have been regarded as somewhat of a deviant group, they have frequently been studied by sociologists and psychologists. In examining "personality factors," Gerber, Felshin, Berlin and Wyrick found that nearly half (49.5%) of a sample of college women athletes indicated that they were Protestant; thirty percent were Catholic; fifty-two percent were either nineteen or twenty years of age; thirty-two percent fell in the seventeen and eighteen age bracket.¹⁶ The authors report that these characteristics are not untypical of most college age American females.

In a study of psychological stress which plagues the female athlete who attempts to assume a socially acceptable role, Dorothy Harris found the woman was:

forced to assume the role of a chameleon. She must be feminine or assume the socially acceptable role of the female in social situations. At the same time ... in athletic competition, she must become more aggressive, dominant, achievement-oriented and demonstrate more tough-mindedness and endurance and be less afraid to take risks.¹⁷

Until recently, studies of the physiology of the female athlete were characterized by statements concerning the limited physical capacity of women to engage in athletics, especially during the menstrual cycle. Most physiologists, the majority of whom were male, invariably reached the conclusion that women were not the "physical equal" of males.¹⁸ The "weaker sex" stereotype pervaded women's athletics until the beginning of the present decade. In 1965, Eleanor Metheny divided women's athletics into four levels of social acceptability: categorically unacceptable, generally unacceptable, generally acceptable, and acceptable.¹⁹ Among the activities which Metheny listed as categorically

unacceptable are - attempts to subdue an opponent by means of bodily contact, direct application of bodily force to some heavy object, attempt to project one's body through space over long distances, and competitive face-to-face opposition in situations in which some body contact may occur.

In more recent research reported by Carl Klafs and M. Joan Lyon, women were found capable of competition in athletics under all conditions in which men can compete.²⁰ It was reported that women compare to men in all areas of anatomical performance save for power and strength. A twenty to thirty percent handicap exists in those areas. In addition, data showed that severe exercise was not damaging to women; and, women are capable of great endurance. Finally, they reported that the emotional reaction of women to stress is like that of men.

The present situation within women's athletics supports the report of Klafs and Lyon. Field events such as the shotput are now common within women's track and field competition. Women's intercollegiate basketball has taken on more and more of the character of the men's game. On the professional level, women are now playing football. On the club level, women have become ardent followers of the martial arts.

The gains made by women in sport during the past year are reflected in a series of articles written by Bil Gilbert and Nancy Williamson. In their original three-part study, published in 1973, the authors stated that women are barred from sharing the joy of athletic competition by numerous laws, traditions, and forms of hostility.²¹ They presented facts and figures which showed how this prejudice takes the form of financial discrimination in high school, college, and

professional athletics. In a follow-up study published a year later, the effects of Title IX are reported.²² Whereas the earlier series possessed negative overtones, the latter presented a promising future for women's athletics. The attention paid to women's sport has been repeated on many occasions in all forms of the mass media. Reactions to Title IX have appeared nationally.²³ Title IX has caused administrators of women's athletic programs to question the direction that their athletic programs should take.

Two doctoral dissertations have treated the subject of the role of athletics within systems of higher education. Robert Mason examined the perceptions of college and university presidents concerning the role of intercollegiate athletics in higher education.²⁴ He concluded that intercollegiate athletics is an integral part of the total higher education program in most institutions throughout the United States. In an earlier study of the relationship between levels of athletic success and expenditures and development in colleges and universities in the state of Ohio, Robert Strimer contradicts the findings of Mason.²⁵ Employing simple correlation figures among his variables, Strimer concludes that any general statement concerning the influence of athletic success upon aspects of college life could not be made on the basis of his study.

In their histories of higher education in the United States, Brubacher and Rudy²⁶ and Rudolph have treated the origin and development of athletics on college campuses.²⁷ These works refer to the development of athletics, physical education, and intramurals within the systems of higher education in America as an interrelationship between extracurriculum and curriculum.

The interrelationship among athletics, physical education, and intramural programs is discussed at length in The American Woman in Sport.²⁸ The authors refer to women's intercollegiate athletics as occupying a pyramid, with the physical education curriculum as the base, intramural activities occupying the middle portion, and extamural or intercollegiate athletics at the apex of the pyramid. They state that women's intercollegiate athletics have traditionally been supervised by Physical Education departments. However, recently, several programs are breaking their ties with their institutions' Physical Education programs.

The AIAW Handbook²⁹ and Poindexter and Mushier's Coaching Competitive Team Sports for Girls and Women treat topics such as proper education of women's coaches and Physical Education instructors and travel expenses and insurance for female athletes.³⁰ Poindexter and Moshier's discussion of coaching has been of particular value, for it outlines education and other background skills expected of coaches of women's athletics. These ideas have been incorporated into the present research as variables 12-17 and 30-33.

Another work which has been of great significance to this research is William Moskoff's study of budgetary aspects of women's athletics in Illinois universities.³¹ An elected official within the state of Illinois, Moskoff was able to collect budgetary data for both men's and women's athletics within ten Illinois public universities. In examining budgetary aspects of Illinois' universities, Moskoff treats the relationship between athletic programs, physical education and intramurals. He concludes that the athletic programs within the universities studied dwarf the impact of physical education and intramurals upon

the institutions themselves as well as the general public. In dealing with budgetary problems, Moskoff discusses the tremendous discrepancy that exists between men's and women's expenditures for athletics as well as physical education. He examines the scholarship situation in Illinois on an individual, per sport, and program basis. Other areas which Moskoff treats in presenting the differences between the men's and women's programs are: sources of funds - particularly student fees and state appropriations, travel expenses and insurance for athletes, and age of facilities and amount of space allotted to both athletic programs. Several of these items have been incorporated into the present research.

Among the works discussed above, only the Strimer research has attempted to explain an aspect of athletic quality. Strimer's research is limited by the select number of variables and small geographic area which he employs in his study of athletic success in men's athletic programs within Ohio. The present research incorporates a large number of questions and ideas raised in the numerous works described above in explaining contrasting measures of women's athletic program quality within institutions of higher education within the United States.

FOOTNOTES

¹Rooney, A Geography of American Sport, pp. 242-253.

²Gerber et al., The American Women in Sport.

³Women and Sport, Proceedings from the National Research Conference on Women and Sport, Dorothy V. Harris, ed., State College: The Pennsylvania State University: Penn State HPER Series No. (1973).

⁴Klafs and Lyon. Carl E. Klafs and M. Joan Lyon are Professors of Physical Education at California State University - Long Beach.

⁵Gerber et al., p. 3.

⁶Ibid., pp. 9-10.

⁷Ibid., pp. 17-19.

⁸V. K. Oppenheimer, "Demographic Influence on Female Employment and the Status of Women," in Changing Women in a Changing Society, ed. by J. Huber, (Chicago, 1973), p. 185. Oppenheimer offers the following figures regarding the proportion of women between the ages of 18 and 64 in the labor market. In 1900, twenty percent of the women were employed. In 1940, thirty percent of the women were employed. By 1970, Oppenheimer reports that the figure for employed women had reached fifty percent.

⁹Ibid. Oppenheimer reports that, starting in the 1940's, there was a re-entry of women past the age of 35 into the labor market. Starting in the 1950's, and increasing in intensity since then, there has been an increase in the labor force participation of younger married women with pre-school children.

¹⁰Margaret A. Coffey, "Then and Now" The Sportswoman," JOHPER Vol. XXXVI, No. II (February, 1965), pp. 38-41, 50. At the time of publication, Margaret Coffey was an Associate Professor of Physical Education at the University of Massachusetts.

¹¹Madge Phillips, "Sociological Considerations of the Female Participant," Women and Sport. Madge Phillips is a Professor of Physical Education at the University of Nebraska - Lincoln.

¹²M. Marie Hart discusses her thesis in "On Being Female in Sport," Sport in the Socio-Cultural Process, ed. by M. Marie Hart (Dubuque, 1972), pp. 291-302. M. Marie Hart is a Professor of Physical Education at California State College - Hayward.

¹³Patricia S. Griffin, "What's a Nice Girl Like You Doing in a Profession Like This?" Quest (January, 1973), pp. 96-101. At the time of publication, Patricia Griffin was an Instructor of Physical Education at The University of Massachusetts.

¹⁴Ibid. Griffin confirms the results presented by Ruth E. Brown in her doctoral dissertation, "A Use of the Semantic Differential to Study the Feminine Image of Girls Who Participate in Competitive Sports and Certain Other School-Related Activities" (Florida State University, 1965).

¹⁵Cheska, pp. 86-91.

¹⁶Gerber et al., p. 284.

¹⁷DGWS Research Reports: Women in Sports, Dorothy V. Harris, ed. (Washington, D.C.: American Alliance for Health, Physical Education and Recreation), p. 5. Dorothy Harris is an Associate Professor of Physical Education at Pennsylvania State University. She served as Chairman of the National Research Conference on Women in Sport, in August, 1972.

¹⁸Gerber et al., p. 404.

¹⁹Eleanor Metheny, "Symbolic Forms of Movement: The Feminine Image in Sports," Sport in the Socio-Cultural Process (Dubuque, 1972), pp. 277-290. Eleanor Metheny is a Professor of Physical Education at the University of Southern California.

²⁰Klafs and Lyon, "Anatomical and Physiological Factors in Sports Performance," The Female Athlete, pp. 38-60.

²¹Bill Gilbert and Nancy Williamson, "Sport is Unfair to Women" (3 parts), Sports Illustrated, Vol. 38, Nos. 21, 22, 23 (May 28; June 4; and June 11, 1973), pp. 88-98; 44-45; and 32-36.

²²Gilbert and Williamson, "Women in Sport -- A Progress Report," Sports Illustrated, Vol. 41, No. 5 (July 29, 1974), pp. 26-31.

²³Examples of the geographically dispersed reactions to Title IX are: Bill Clark, "The Girl Jocks: Equals or Delilahs," Orlando Sentinel Star (March 15, 1974); "Justice and Gym Suits," Breakaway,

WKY-TV, (Oklahoma City, Oklahoma, April 7, 1974); and Peter Vander Veer reported upon changes in high school girls' athletics in New Haven (Connecticut) County in a seven part series carried by The New Haven Register (June 16-22, 1974).

²⁴Robert J. Mason, "The Role of Intercollegiate Athletics in Higher Education as Perceived by College and University Presidents Throughout the United States." (Unpublished dissertation, North Texas State University, 1969.)

²⁵Robert M. Strimer, "The Interrelationship of Success or Failure in Athletics and Certain Dynamics of Growth and Development in Selected Colleges and Universities in the State of Ohio" (Unpublished dissertation, Ohio State University, 1963).

²⁶Frederick Rudolph, The American College and University (New York, 1962), pp. 150-155, 373-393.

²⁷John S. Brubacher and Willis Rudy, Higher Education in Transition (New York, 1968), pp. 130-135, 347-349.

²⁸Gerber et al., p. 40-43.

²⁹AIAW Handbook of Policies and Operating Procedures, p. 32.

³⁰Poindexter and Mushier, pp. 38-42.

³¹Will Moskoff, "Budgetary Aspects of Women's Athletics in Illinois Public Universities" (Springfield, Illinois), 1974.

CHAPTER III

AN EXPLANATION OF QUALITY EMPLOYING INDEPENDENT VARIABLES

The four-year institutions examined in this research are displayed in Map I and listed in Appendix D. The 268 respondents represent approximately 34 percent of the 779 programs within four-year institutions of higher education which hold membership in the Association for Intercollegiate Athletics for Women. More than sixty-three percent of the responding programs are situated within colleges, while nearly 37 percent are university programs. Fifty-nine percent of the programs are situated within private institutions; the remaining 41 percent within public institutions. Nearly forty percent of the programs are situated within institutions which have church affiliations, while more than sixty percent are not church affiliated. The majority, approximately 51 percent, of all programs are located within institutions with a maximum of 2000 students. Twenty-two percent are situated within institutions having enrollments of 2001 to 6000 students. Finally, more than 27 percent are situated within institutions of more than 6001 full-time enrolled students (see Table I.).

The majority of the 268 responding programs are located east of the Mississippi River. Northeastern, Great Lakes, and West Coast Megalopoli are particularly well represented, while fewer responses were received from the less densely populated Rocky Mountain and Great Plains states.

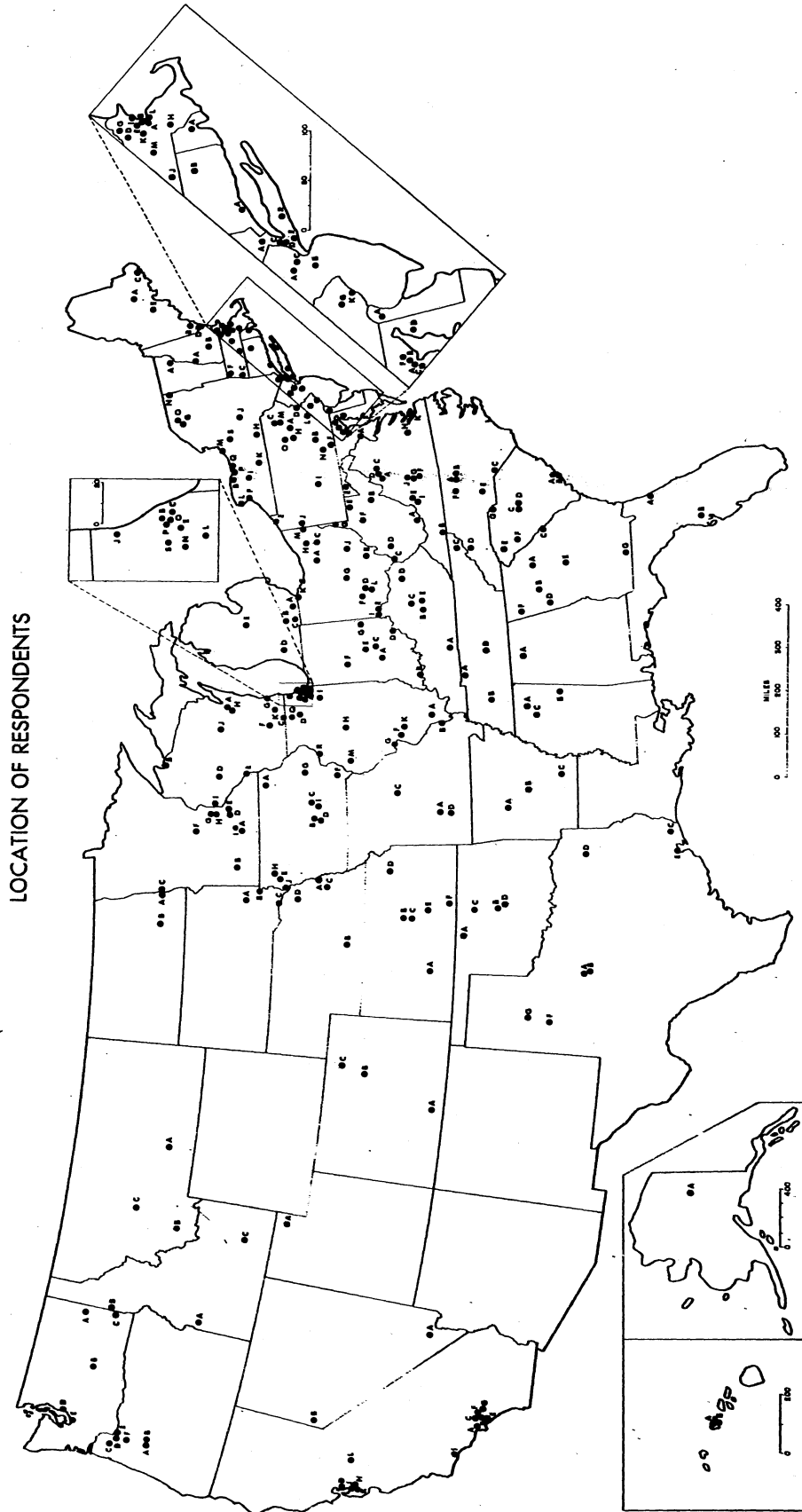


Figure 1. Location of Respondents

TABLE I
 AGGREGATED INSTITUTIONAL CHARACTERISTICS
 OF THE 268 RESPONDING PROGRAMS

Student Enrollment	1-2000 136 programs 50.7 percent	2001-6000 59 programs 22.0 percent	6001 + 73 programs 27.2 percent
University 98 programs 36.6 percent	-	College 170 programs 63.4 percent	
Private 158 programs 59.0 percent	-	Public 110 programs 41.0 percent	
Church 106 programs 39.6 percent	-	Non-Church 162 programs 60.4 percent	

Correlation Coefficients

In order to examine which of the independent variables possess significant one-to-one relationships with each of the dependent variables, breadth-and-depth and winning quality, an analysis of correlation coefficients has been undertaken. These correlation coefficients are examined at the .05 and .01 levels of significance (see Table II).

Eighteen independent variables - presence of an undergraduate major in Physical Education, presence of a master's degree offering in Physical Education, presence of a doctoral degree offering in Physical Education, number of full-time Physical Education instructors of women, age of newest building which houses women's athletics, total amount (dollars) of athletic scholarships available for women, number of sports in which scholarships are available for women, number of female athletes receiving athletic scholarships, number of sports in which intramural competition is provided, NCAA division ranking of the institution's athletic program for men, university or college status, private or public affiliation, church or non-church affiliation, tuition per term, student enrollment, number of faculty, graduate degrees awarded outside of the field of Physical Education, and number of coaches of women's athletics within the institution - each correlate with both measures of quality at the .05 and .01 levels of significance. Also, the two measures of quality correlate significantly with each other (.462).

Among the aforementioned independent variables it is especially interesting that three of the variables pertaining to sport scholarships, total amount (dollars of athletic scholarships available for women, number of sports in which scholarships are available, and number of

TABLE II
CORRELATION COEFFICIENTS BETWEEN INDEPENDENT
AND DEPENDENT VARIABLES*

	Breadth-and-Depth Quality	Winning Quality
Degree to which competition is valued as an agent in the physical education process	.222	.147
Degree to which competition is valued as an agent in the general education process	.206	.179
Length of existence of a formal program of intercollegiate athletic competition for women within the institution	-.039	-.205
Percentage of coaches of women's athletics who are female	-.084	-.089
Percentage of coaches who have completed at least a minor in Physical Education	-.031	-.134
Percentage of coaches who hold master's degrees in Physical Education	.025	.042
Percentage of coaches who hold doctorates in Physical Education	.142	.243
Percentage of full-time instructors of Physical Education who are female	.023	.003
Percentage of full-time instructors of Physical Education who hold master's degrees in Physical Education	.131	.113
Percentage of full-time instructors of Physical Education who hold doctorates in Physical Education	.166	.265
Percentage of average coach's teaching load which is satisfied by coaching women's sport	.195	.103

TABLE II (Continued)

	Breadth-and Depth Quality	Winning Quality
Percentage of total athletic scholarship monies allotted during the past year which was received by women	.118	.108
Degree to which institutions's athletic program for men serves as a model for the women's program	.029	.008
Degree to which women's athletic program is seeking a "big time" image	.179	.105
Physical Education as a required course of female undergraduates	-.022	-.086
Presence of an undergraduate major in Physical Education	.272	.256
Presence of a master's degree offering in Physical Education	.409	.463
Presence of a doctoral degree offering in Physical Education	.255	.256
Number of full-time physical Education instructors of women	.400	.469
Percentage of all Physical Education funds directed to women's program	-.228	-.073
Men's and women's Physical Education facilities: shared or separate	-.001	.102
Women's athletic facilities: shared or separate from Physical Education facilities	-.067	.027
Age of oldest building which houses women's athletics	.067	-.059
Age of newest building which houses women's athletics	.226	.181
Total amount (dollars) of athletic scholarships available for women	.239	.215
Number of sports in which scholarships are available	.243	.272

TABLE II (Continued)

	Breadth-and Depth Quality	Winning Quality
Number of female athletes receiving athletic scholarships	.189	.243
Number of years that institution has operated an intramural program	.116	.203
Men's and women's athletic facilities: shared or separate	-.035	.051
Number of sports in which intramural competition is provided	.275	.292
NCAA division ranking of the institution's intercollegiate program for men	-.329	-.297
University or college	-.329	-.323
Private or public	.458	.386
Church or non-church	.315	.299
Tuition rate per term	-.300	-.221
Student enrollment	.352	.404
Female to male ratio among students	-.041	.083
Number of faculty	.251	.349
Percentage of full-time undergraduate student enrollment from minority group backgrounds	-.001	-.080
Graduate degrees awarded - outside of Physical Education	.315	.336
Level of winning quality	.462	--
Level of breadth-and-depth quality	--	.462
Number of sports in which opportunities for women's intercollegiate competition are available	--	.554
Average number of events participated in by women's athletic teams	--	.031

TABLE II (Continued)

	Breadth-and-Depth Quality	Winning Quality
Average length of sport seasons for all women's teams	--	.287
Mean hours of practice per week	--	.158
Number of coaches of women's athletics within the institution	.449	.532

*A correlation coefficient of .138 is required for significance at the .05 level. A correlation coefficient of .181 is required for significance at the .01 level.

female athletes receiving athletic scholarships - correlate at similar rates with the two measures of quality. The correlation between these three variables and breadth-and-depth quality is .239, .243, and .189, respectively, while the correlation between these variables and winning quality is .215, .272, and .243, respectively. The fourth scholarship variable - percentage of total athletic scholarship monies allotted during the past year which was received by women - correlates at insignificant rates with breadth-and-depth and winning quality - .118 and .108 respectively. It was presupposed that the four scholarship variables would correlate substantially with the measure of winning quality, but would not be significantly related to the measure of breadth-and-depth quality. The failure of these variables to distinguish between the two measures of quality gives rise to doubts about the exclusiveness of breadth-and-depth and winning quality.

Four variables - degree to which competition is valued as an agent in the physical education process, degree to which competition is valued as an agent in the general education process, percentage of all Physical Education funds directed to the women's program, and percentage of the average coach's teaching load which is satisfied by coaching women's sport - correlate significantly with levels of breadth-and-depth quality, but not with levels of winning quality. It had been presupposed that all except the latter variable would be related to levels of breadth-and-depth quality, since they indicate a concern with offering opportunities for many students to experience a wide range of athletic activities. It is most interesting that the variable - coach's teaching load satisfied by coaching women's programs - correlates more closely with breadth-and-depth quality than winning

quality. It had been presupposed that programs seeking high levels of winning quality would allow coaches more time away from normal teaching duties than programs stressing breadth-and-depth quality. This phenomenon again leads one to question whether the two measures of quality are indeed representative of polar objectives within women's athletics.

Four variables - length of existence of a formal program of intercollegiate athletic competition for women within the institution, percentage of coaches who hold doctorates in Physical Education, percentage of full-time instructors of Physical Education who hold doctorates in Physical Education, and number of years that the institution has operated an intramural program - correlate at the .05 and .01 levels of significance with the measure of winning quality, but do not correlate significantly with the measure of breadth-and-depth quality. Among these four variables, it was presupposed that only one - length of existence of a formal program of athletic competition for women within the institution - would correlate significantly with the measure of winning quality. The underlying assumption was that older programs would have had a greater opportunity to build winning athletic traditions and to learn what was required to maintain a winning tradition. It had been expected that the three remaining variables would be indicative of emphasis upon breadth-and-depth quality. Logic would indicate that these three variables are representative of the tradition within women's athletics which emphasizes the opportunity for participation of large numbers of students in several activities rather than the development of the skills of a few superior athletes. The presence of a significant relationship between these three variables and levels attained on the winning measure of quality again causes one to suspect

whether dichotomous philosophies toward athletic quality presently exist within women's intercollegiate athletics. Certainly, the substantial amount of relationship (.462) between the measures of breadth-and-depth and winning quality cause one to doubt the existence of a duality of purposes within women's intercollegiate athletics. Indeed, if such a duality exists, the results presented thus far have not indicated that the means for achieving breadth-and-depth quality varies substantially from the means of attaining winning quality.

Forward Step-Wise Multiple Regression Analysis

The forward step-wise multiple regression analysis procedure has been employed in order to examine the value of groups of independent variables in explaining breadth-and-depth and winning quality. Coefficients of determination generated by the computer programs display the total amount of variation in the two measures of quality which can be explained by collections of independent variables.

The coefficient of determination scores displayed in Table III, show variation in levels of breadth-and-depth quality explained by the independent variables. One variable, level of winning quality, explains .195 of the variation in levels of breadth-and-depth quality. By adding the variable percent of programs' coaches who hold doctor's degrees in Physical Education, .258 of the variation is explained. The relative importance of winning quality in explaining breadth-and-depth quality was not presupposed, as discussed earlier in this chapter. However, it was expected that coaches holding doctoral degrees in Physical Education would be knowledgeable in devising programs which provide sufficient breadth and depth of experience.

TABLE III
RESULTS OF THE FORWARD STEP-WISE MULTIPLE REGRESSION ANALYSIS
BREADTH-AND-DEPTH QUALITY

R^2 - Coefficient of determination (percent of variation in levels of breadth-and-depth quality explained by independent variables)	Independent Variables
.195	1. Level of winning quality
.258	2. Number 1 (above) + percent of programs' coaches who hold doctor's degrees in Physical Education
.295	3. Numbers 1 and 2 (above) + degree to which intercollegiate athletic competition is valued as an agent in the Physical Education process of women
.334	4. Numbers 1-3 (above) + percentage of all funds allotted to Physical Education within each institution which is directed toward women's Physical Education programs
.350	5. Numbers 1-4 (above) + presence of a master's degree offering in Physical Education within the institutions
.365	6. Numbers 1-5 (above) + percentage of full-time undergraduate student enrollment from minority group backgrounds
.380	7. Numbers 1-6 (above) + degree to which the institutions' intercollegiate athletic programs for men serve as models for the women's programs

TABLE III (Continued)

R^2 - Coefficient of determination	Independent Variables
.392	8. Numbers 1-7 (above) + number of years that institutions have operated an intramural program
.405	9. Numbers 1-8 (above) + female to male ratio among students
.416	10. Numbers 1-9 (above) + presence of a doctor's degree offering in Physical Education within the institutions
.425	11. Numbers 1-10 (above) + percentage of institutions' coaches of women's athletics who are female
.438	12. Numbers 1-11 (above) + tuition rate per term
.453	13. Numbers 1-12 (above) + length of existence of a formal program of intercollegiate athletic competition for women within the institution
.461	14. Numbers 1-13 (above) + total amount (dollars) of athletic scholarships for women
.469	15. Numbers 1-14 (above) + percentage of total athletic scholarship monies allotted during the past year which was received by women
.477	16. Numbers 1-15 (above) + NCAA division ranking of the institutions' intercollegiate athletic programs for men

TABLE III (Continued)

R^2 - Coefficient of determination	Independent Variables
.482	17. Numbers 1-16 (above) + percentage of full-time instructors of Physical Education within the institution who hold master's degrees in Physical Education
.488	18. Numbers 1-17 (above) + Physical Education as a required course of female undergraduates
.495	19. Numbers 1-18 (above) + number of sports in which intramural competition is provided

Standard error of estimate = 1.558

Nineteen variables - level of winning quality, percent of programs' coaches who hold doctor's degrees in Physical Education, degree to which intercollegiate athletic competition is valued as an agent in the physical education process of women, percentage of all funds allotted to Physical Education which is directed toward women's Physical Education programs, presence of a master's degree offering in Physical Education within the institutions, percentage of full-time undergraduate student enrollment from minority group backgrounds, degree to which the institutions' intercollegiate athletic program for men serves as models for the women's programs, number of years that institutions have operated intramural programs, female to male ratio among students, presence of a doctor's degree offering in Physical Education within the institutions, percentage of institution's coaches of women's athletics who are female, tuition rate per term, length of existence of a formal program for intercollegiate athletics competition, total amount (dollars) of athletic scholarships for women, percentage of total athletic scholarship monies allotted during the past year which was received by women, NCAA ranking of the institutions' intercollegiate athletic programs for men, percentage of full-time instructors of Physical Education who hold master's degrees in Physical Education, Physical Education as a required course for female undergraduates, and number of sports in which intramural competition is provided - together explain .495 of the variation in levels of breadth-and-depth quality. While this is a substantial amount of explained variation, the large number of variables required in explaining this level of variation severely limit its usefulness in explaining quality.

The standard error of estimate - 1.558 - indicates the average

miss which occurs when comparing the predicted level of quality to the actual or observed level of quality. The standard error of estimate is to multiple regression as the standard deviation is to the mean. Since the measure of breadth-and-depth quality consists of standard scores, the standard error of estimate (1.558) is multiplied times the standard deviation figure relative to the mean level of breadth-and-depth quality (2.19) in order to examine the amount of average miss which will occur in comparing the predicted with the actual level of breadth-and-depth quality. The resulting figure is 3.41. This figure indicates that the amount of average miss ranges from -3.41 to +3.41 on the measure of breadth-and-depth quality. Thus, this group of nineteen independent variables has proven to be an insufficient model for explaining variations in levels of breadth-and-depth quality attained by women's athletic programs.

Next, the same forward step-wise multiple regression analysis has been employed in an attempt to explain variation in levels of winning quality attained by responding programs. One variable, number of coaches of women's intercollegiate athletics, has explained the greatest amount of variation in levels of quality, .359 (see Table IV). The addition of three variables - presence of a master's degree program in Physical Education, total number of female athletes for whom athletic scholarships are available, and average length of sports season for all women's teams - increases the amount of explained variation to .490. The importance of numbers of coaches in explaining levels of women's quality is not unexpected since increased size of coaching staffs allows for greater specialization within athletic programs. The significance of total number of female athletes receiving

TABLE IV
RESULTS OF THE FORWARD STEP-WISE MULTIPLE REGRESSION ANALYSIS
WINNING QUALITY

R^2 - Coefficient of determination (percent of variation in levels of winning quality explained by independent variables)	Independent Variables
.358	1. Number of coaches of women's intercollegiate athletics
.425	2. Number 1 (above) + average length of sports seasons for all women's teams
.467	3. Numbers 1 and 2 (above) + total number of female athletes for whom scholarships are available
.490	4. Numbers 1-3 (above) + presence of a master's degree offering in Physical Education within the institution
.513	5. Numbers 1-4 (above) + total number of sports in which opportunities for women's intercollegiate athletic competition are available
.531	6. Numbers 1-5 (above) + percentage of institutions' coaches of intercollegiate athletics who are female
.549	7. Numbers 1-6 (above) + women's athletic program facilities: shared or separate from women's Physical Education facilities
.557	8. Numbers 1-7 (above) + percentage of the average coach's teaching load which is satisfied by coaching women's sport

TABLE IV (Continued)

R^2 - Coefficient of determination	Independent Variables
.565	9. Numbers 1-8 (above) + female to male ratio among students
.574	10. Numbers 1-9 (above) + percentage of total athletic scholarship monies allotted during the past year which was received by women
.581	11. Numbers 1-10 (above) + private or public
.590	12. Numbers 1-11 (above) + men's and women's athletic program facilities: shared or separate
.594	13. Numbers 1-12 (above) + tuition rate per term
.601	14. Numbers 1-13 (above) + presence of an undergraduate degree offering in Physical Education
.605	15. Numbers 1-14 (above) + degree to which intercollegiate athletic competition is valued as an agent in the general education process of women

Standard error of estimate = 1.701

scholarships and average length of sport seasons in explaining levels of winning quality are also not surprising. One would expect programs which subsidize athletes and have longer sport seasons to achieve greater levels of winning quality. The appearance of the variable, presence of a master's degree program in Physical Education in explaining winning quality was not presupposed. It was expected that programs having graduate programs in Physical Education would be those which had a greater orientation toward breadth-and-depth quality, since breadth-and-depth quality is more closely associated with the academic than the "big time" aspect of athletics.

By adding to these four variables the following independent variables - degree to which intercollegiate athletic competition is valued as an agent in the physical education process of women, presence of an undergraduate degree offering in Physical Education, presence of a master's degree offering in Physical Education, men's and women's physical education facilities - shared or separate, women's athletic program facilities - shared or separate from physical education facilities, total number of female athletes for whom scholarships are provided, private or public institution, tuition rate per term, female to male ratio among students, percentage of coaches of women's intercollegiate athletics who are female, percentage of average coach's teaching load which is satisfied by coaching women's sport, total number of coaches of women's intercollegiate athletics, percentage of total athletic scholarship monies allotted during the past year which was received by women, number of sports in which opportunities for women's athletic competition are available, and average length of seasons for all women's sport teams - .605 of the variation in levels of

winning quality attained by responding women's athletic programs is accounted for (see Table III). Thus, a more substantial amount of variation of winning quality is explainable employing the independent variables than was observed in the examination of breadth-and-depth quality. However, as was observed earlier, the large number of variables required to explain this level of variation limits the model's effectiveness.

The standard error of estimate for the explanation of winning quality is 1.701. This means that a program which is predicted to attain a "2" on the measure of winning quality (2.12 is the actual mean level of winning quality), employing these variables, could actually attain a level ranging from a "0" to a "4" on the measure of winning quality. Although the measure of winning quality is based on only nine intervals, this is a substantially more efficient agent for predicting quality than was observed in examining breadth-and-depth quality.

In summary, an examination of one-to-one correlations between each independent variable and the two dependent variables has given rise to suspicion regarding the two measures of quality. Only eight of the independent variables significantly distinguished between the two measures of quality; and, it was discovered that several variables which were logically presupposed to relate to one measure of quality were, in fact, related significantly to the other. These findings suggest that the means of attaining the respective types of quality are not mutually exclusive. Also, empirical evidence indicates that a duality of purposes - breadth-and-depth versus winning quality - may not actually exist within women's intercollegiate athletics.

Programs attaining levels of breadth-and-depth quality between one and two standard deviations above the mean are assigned slightly smaller unblackened circles. Programs attaining levels of breadth-and-depth quality which is between one standard deviation above and below the mean are represented by a still slightly smaller circle with a figure "x" within its inblackened area. Programs attaining levels of breadth-and-depth quality between one and two standard deviations below the mean are still smaller and blackened. Finally, programs attaining levels of breadth-and-depth quality greater than two standard deviations below the mean are represented by the smallest circles, which are blackened. While these scopes do not distinguish the specific variables which are over and underemphasized, they present the general trend among responding programs. Since the measure of breadth-and-depth is based upon standard scores, the majority of respondents have attained levels within one standard deviation of the mean of the normal distribution. Approximately 70 percent of the programs displayed in Figure 2 belong to this group. By examining Figure 2, one may observe that there is an absence of consistent patterns of breadth-and-depth quality within the majority of states. Certain states, however, have displayed uniform patterns. High percentages of responding programs from four states have achieved levels on the measure of breadth-and-depth quality within one standard deviation from the mean. These states are Ohio (92 percent), Wisconsin (91 percent), North Carolina (100 percent), and West Virginia (100 percent).¹ Highest percentages of deviation from the mean level of breadth-and-depth quality are exhibited within Texas (89 percent), Georgia (71 percent), and California (50 percent).

Employing forward step-wise multiple regression analysis, the significance of combinations of these independent variables in explaining levels of quality attained by the responding women's athletic programs was examined. This analysis revealed that breadth-and-depth quality cannot be explained substantially employing combinations of the independent variables. However, a more substantial measure for predicting winning quality was derived from the regression analysis. The failure of regression to present a substantial measure of breadth-and-depth quality has shed some doubt that a substantial amount of concern about this measure of quality exists within women's intercollegiate athletic programs.

CHAPTER IV

REGIONAL LOCATION AND QUALITY

In Chapter III, the roles of various program and institutional variables in explaining levels of women's intercollegiate athletic program quality were examined. The significance of regional location in explaining the existing levels of quality attained by athletic programs will be explored in this chapter.¹ Maps of breadth-and-depth quality and winning quality (Figures 2 and 3) will be examined for this purpose.

Breadth-and-Depth Quality

Levels attained by responding programs on the measure of breadth-and-depth quality are displayed on the proportional circles map (Figure 2). Levels indicated on the map are standard scores which reflect the amount of emphasis placed by programs upon the four variables which comprise the measure, relative to emphasis by other respondents. Scores between + or -2.19 and + or -4.37 on the measure indicate deviation from the mean level of breadth-and-depth quality of less than two but greater than one standard deviation. Scores of + or -4.38 to + or -6.59 indicate a level of emphasis which is less than three but greater than two standard deviations from the mean. Programs represented by the largest unblackened circle have attained levels of breadth-and-depth of program quality of greater than two standard deviations above the mean.

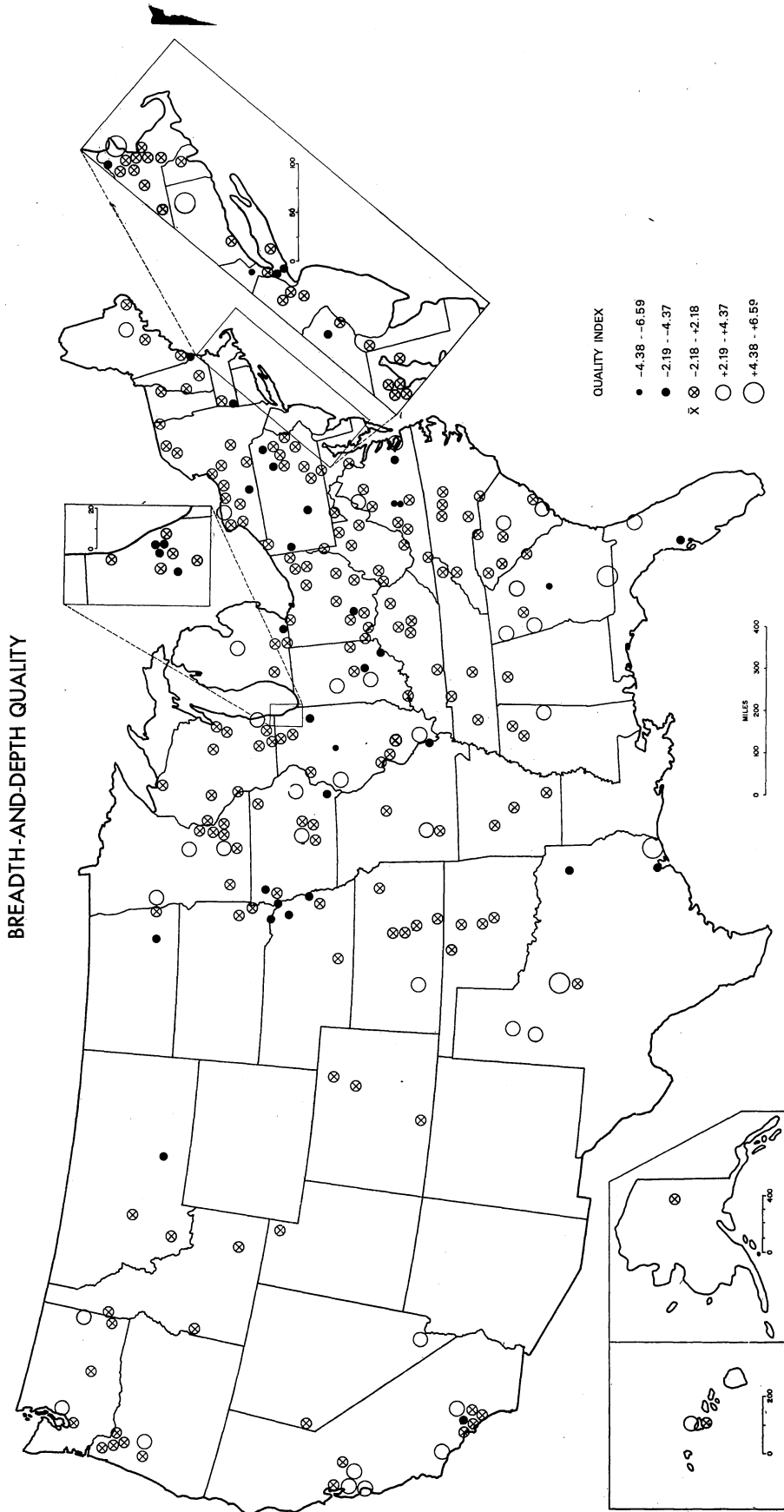


Figure 2. Breadth-and-Depth Quality

In order to observe whether consistent trends exist within these states, levels attained by individual programs on each of the four variables comprising the measure of breadth-and-depth quality have been examined. These data are presented in Tables V and VI. Within these tables, plus (+) and minus (-) symbols indicate that levels attained on a variable do not deviate significantly from the mean value. Scores of + or - 1 indicate that the amount of deviation is equal to or greater than one standard deviation from the mean score on a variable, but less than two standard deviations from the mean. Scores of 2, 3, or greater indicate succeeding greater amounts of deviation from the mean of the variable.

A great deal of disparity in levels attained on each of the four variables is observable among programs within Wisconsin, Ohio, North Carolina, and West Virginia. These findings cause serious doubts concerning the importance of regional factors in effecting the present pattern of breadth-and-depth quality. The failure of the four variables which comprise the measure of breadth-and-depth quality to intercorrelate within programs exhibiting homogeneous levels on that measure also suggests that breadth-and-depth quality is not co-ordinated within the respective responding athletic programs.

Within Georgia, Texas, and California, substantial percentages of the responding women's athletic programs attained levels which deviated by more than one standard deviation from the mean on the measure of breadth-and-depth quality. Within Georgia, five of seven respondents deviated significantly; four of the five programs have overemphasized breadth-and-depth quality. Six of the seven responding programs from the state of Texas and six of twelve programs responding from California

TABLE V

RANGES OF DEVIATION FROM MEAN LEVELS ON THE FOUR VARIABLES WHICH
 COMPRISE THE BREADTH-AND-DEPTH MEASURE - WISCONSIN,
 OHIO, NORTH CAROLINA AND WEST VIRGINIA

<u>Wisconsin</u>				
	Number of sports	Events	Length	Practice
Lawrence University	+	-1	-	-
Northland College	-	+	-	-
Beloit College	+	-	-	+
Wisconsin State Eau Claire	+	-	+	-
Wisconsin State La Crosse	+2	-1	-	+
University of Wisconsin Madison	+2	-	-	+
Wisconsin State Oshkosh	+	-	+1	-
Wisconsin State River Falls	+	+	-	+
Wisconsin State Stevens Point	+	-	-	+
Wisconsin State Whitewater	+1	-	-	+
<u>Ohio</u>				
Ashland College	+	-	-	-
Ohio University	+1	-	-	-2
Malone College	-1	-	+	-
Cincinnati Bible Seminary	-	+	+	-2
University of Dayton	-	+1	-	+
Ohio Wesleyan	+1	-	-1	-1
Kent State University	+1	-	-	+
College of Mt. Saint Joseph	-	+1	-1	-
Muskingum College	+	-	-1	-
Toledo University	-	-	+	-
Wilmington College	-1	-	+	-
Youngstown State University	+	-	-	+

TABLE V (Continued)

<u>North Carolina</u>				
	Number of sports	Events	Length	Practice
Guilford College	-	+	-	+
University of North Carolina - Greensboro	+	+1	-	+
St. Andrews Presbyterian	-	+	+	-
Mars Hill College	1	+	-1	+1
Pfeiffer College	-1	+	-	+
Wake Forest University	-	+	-	-
<u>West Virginia</u>				
Concord College	-	+	-	+2
Davis and Elkins College	-1	+	-	+
Marshall University	-	+	+	+
West Virginia State College	-1	-	-	+
West Virginia University	-	+	+	+1
Salem College	-	-	-1	-
West Liberty State College	-	+	-	+1

Table Legend:

Number of sports = Total number of sports in which opportunities for women's intercollegiate athletic competition are available within the institution.

Events = Average number of women's intercollegiate events participated in by the institution's athletic teams.

Length = Average length of sport seasons for all women's teams within the institution.

Practice = Mean hours of practice per week.

TABLE VI

RANGES OF DEVIATION FROM MEAN LEVELS ON THE FOUR VARIABLES WHICH
COMPRISE BREADTH-AND-DEPTH QUALITY - GEORGIA,
TEXAS, AND CALIFORNIA

<u>Georgia</u>				
	Number of sports	Events	Length	Practice
University of Georgia	+	+	+1	+
West Georgia College	-	+3	-	+
Wesleyan College	-1	-1	-1	-
Shorter College	-1	+2	+	+1
Valdosta State College	-	+1	+1	+2
<u>Texas</u>				
Abilene Christian College	-1	+2	+	+
Lamar University	-	-2	-1	-
Jarvis Christian College	+	-	-	-2
Rice University	+	+	+2	-
Texas Tech University	-	+1	+1	+1
Wayland Baptist College	-	+	-	+
<u>California</u>				
LaVerne College	-	-	-	-2
Chapman College	+	+	+	+1
San Jose State University	+	-	+2	-
University of California Santa Barbara	+3	-1	+1	-1
University of California Santa Clara	+	-	+3	-
Stanford University	+	-	+3	-

Table Legend:

Number of sports = Total number of sports in which opportunities for women's intercollegiate athletic competition are available within the institution.

Events = Average number of women's intercollegiate events participated in by the institution's athletic teams.

Length = Average length of sport seasons for all women's teams within the institution.

Practice = Mean hours of practice per week.

deviate significantly from the mean. Five of California's responding programs have attained high levels of breadth-and-depth quality. Levels attained on individual variables by programs located within each of these states are displayed in Table VI.

Employing the data presented in Table VI, intercorrelation among the four variables comprising the measure of breadth-and-depth quality is found to be lacking within each of these states. Thus, the role of regional factors in effecting the present pattern of breadth-and-depth quality must be deemed negligible.

The failure of the four variables which comprise the measure of breadth-and-depth quality to intercorrelate within programs located in states exhibiting greatest homogeneity on that measure indicates that the empirical validity of the measure is negligible. Evidence, therefore, has determined that women's intercollegiate athletic programs have not at present co-ordinated the number of sports, season lengths, numbers of events, and hours of practice in which they engage.

Winning Quality Regions

The levels achieved on the measure of winning quality by responding athletic programs for women have been displayed in Figure 3. Levels are represented by numbers ranging from 0 to 8 (see Figure 3). Each level is represented on the map by a circle of proportionate size. Programs represented by the very smallest circle have not achieved a winning percentage of 80 percent or greater in any sport. Each subsequent increase in the size of the circles indicates that the programs represented have achieved an 80 percent or greater winning percentage in a proportionately greater number of sports, but have failed to

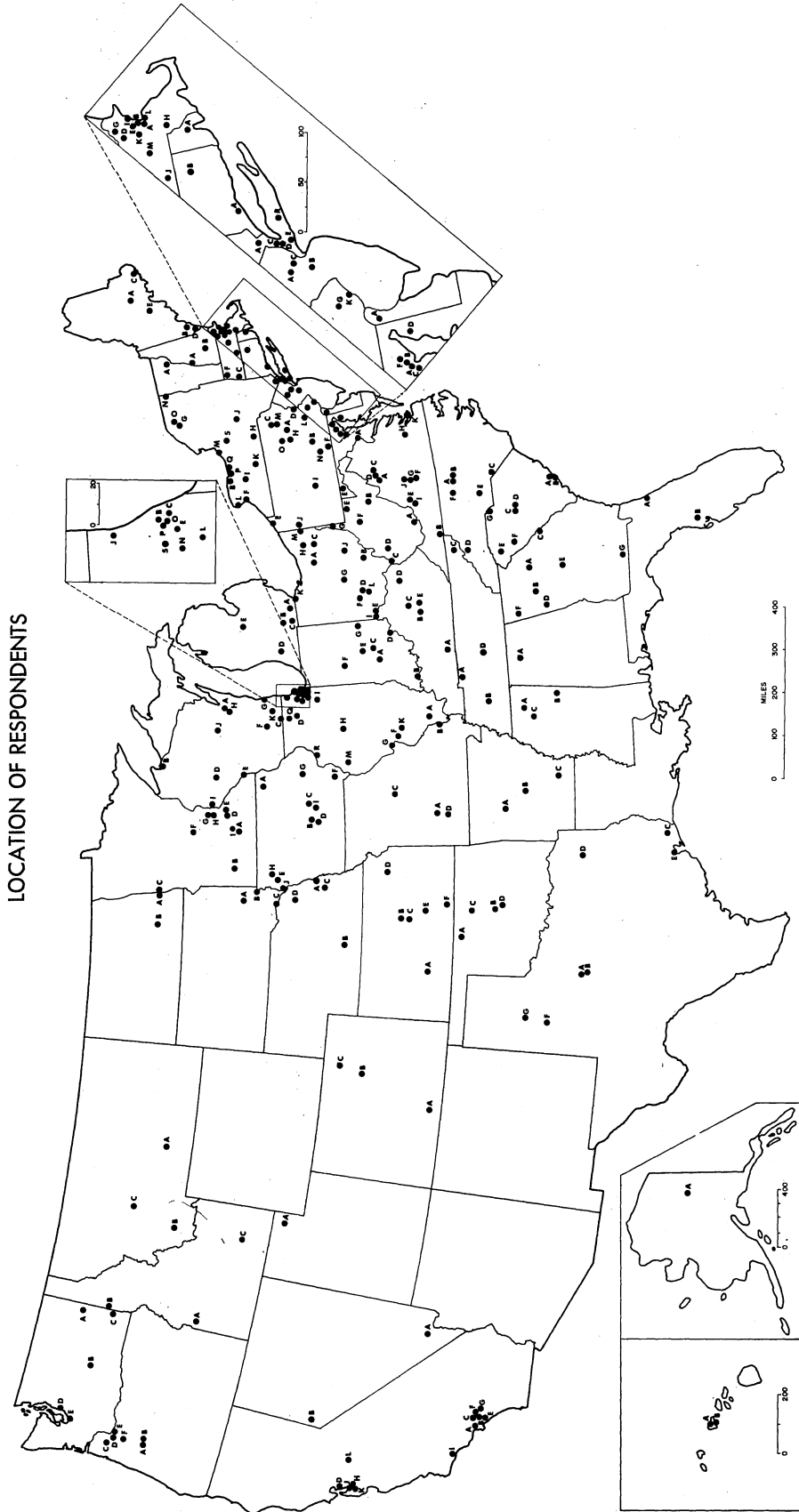


Figure 3. Winning Quality

attend a national tournament. Programs represented by a circle which is equivalent to the measure "5" (as indicated in the legend in Figure 3) have attended a national tournament in one sport. Each subsequent increase in the size of circles representing programs indicates a proportionate increase in the number of sports in which those programs have been represented in national tournaments.

Within only five states - Washington, Nebraska, Oregon, Kentucky, and Wisconsin - have more than fifty percent of the responding programs attended national tournaments. Four of five of the responding athletic programs from the state of Washington (80 percent) have attained high levels of winning quality. Three of four respondents from Nebraska (75 percent) have achieved high levels of winning quality. Also, four of Oregon's six responding programs (66 percent), three of Kentucky's five programs (60 percent) and six of Wisconsin's eleven programs (55 percent) have attained high levels of winning quality.

It is difficult to account for the high levels of winning quality within these states on the basis of available data. The possibility that the present situation within one or more of these states is the result of a consistent set of institutional factors not discernable in results of the step-wise multiple regression analysis has been explored (see Table VII). Trends exhibited among programs within Washington, Nebraska, Oregon and Kentucky reflect the results of the step-wise multiple regression analysis. There is a great disparity of institutional size and affiliations among programs achieving high levels of winning quality within each of these states. Within Wisconsin, however, there is a consistent trend toward high levels of winning quality among member institutions of the state university system. There

TABLE VII
 SELECTED INSTITUTIONAL CHARACTERISTICS OF PROGRAMS
 ATTAINING HIGH LEVELS OF WINNING QUALITY
 BY STATE

	<u>Washington</u>			
	College (non- university)	Private (non-public)	Non- Church	Student Enrollment
Eastern Washington State College	X	•	X	6,800
Central Washington State College	X		X	7,536
Washington State Seattle Pacific College	X	X	X	14,520 2,014
	<u>Nebraska</u>			
Kearney State College	X		X	6,000
John F. Kennedy College	X	X	X	800
Wayne State College	X		X	2,825
	<u>Oregon</u>			
Southern Oregon College	X		X	4,045
University of Oregon			X	18,728
Pacific University		X		1,249
Portland State University			X	11,354
	<u>Kentucky</u>			
Western Kentucky University			X	10,570
Centre College	X	X	X	770
Eastern Kentucky University			X	9,602
	<u>Wisconsin</u>			
Wisconsin State - Eau Claire			X	8,288
Wisconsin State - LaCrosse			X	7,200
U. of Wisconsin - Madison			X	34,388
U. of Wisconsin - Milwaukee			X	20,822
Wisconsin State - Oshkosh			X	11,650
Wisconsin State - Stevens Pt.			X	48,734

is reason to doubt the existence of program unity within Wisconsin's university system, for the earlier examination of levels of emphasis on the four variables which comprise breadth-and-depth quality revealed a great amount of disparity among programs within these institutions.

Consistently low levels of winning quality have been observed among programs located in Iowa, Massachusetts, and adjacent portions of Southeastern West Virginia and western Virginia. Each of the responding programs from the state of Iowa achieved low levels on the winning measure. Interestingly, all but one of these programs are located within small, private institutions eight of which are church affiliated (see Table VIII). Similar low levels of winning quality were displayed by ten responding programs situated in small, private colleges within adjacent portions of southeastern West Virginia and western Virginia (see Figure 3) - the core of the Appalachian region. Within Massachusetts, twelve of thirteen responding programs achieved very low levels on the measure of winning quality. There is diversity in the affiliations of the institutions within which these twelve programs are situated. However, small enrollments exist among each of the twelve Massachusetts programs attaining low levels of winning quality (see Table VIII).

On the basis of data examined in this study, the low levels of winning quality within these three large clusters of institutions appear to be related to their small enrollments. It is very difficult to speculate further about the significance of other factors in affecting low levels of quality within these institutions. It is possible that the low levels of quality are the effects of budgetary problems which face many small, and particularly private, colleges today. Several

TABLE VIII
 SELECTED INSTITUTIONAL CHARACTERISTICS OF PROGRAMS
 ATTAINING LOW LEVELS OF WINNING QUALITY
 BY STATE

<u>Iowa</u>				
	College	Private	Non-Church	Enrollment
Luther College	X	X		2,115
Drake University		X	X	5,109
Grinnell College	X	X		1,250
Simpson College	X	X		1,001
Westmar College	X	X		1,140
Iowa Wesleyan	X	X		899
Cornell College	X	X		615
Northwestern College	X	X		769
Central College	X	X		1,225
Morningside College	X	X		1,550
<u>Massachusetts</u>				
Boston College		X		13,760
Berkshire Christian College	X	X		175
Lowell State College	X		X	1,915
Tufts University		X	X	-
North Adams State College			X	1,350
Merrimack College	X	X		1,947
Wheaton College	X	X	X	1,140
Salem State College	X		X	3,537
American International College	X	X	X	1,731
Brandeis University		X		1,900
Eastern Nazarene College		X		851
Worcester State College	X		X	2,762
<u>Southeastern West Virginia - Western Virginia</u>				
<u>West Virginia</u>				
Concord College	X		X	1,980
Davis and Elkins College	X	X		750

TABLE VIII (Continued)

	College	Private	Non-Church	Enrollment
<u>Virginia</u>				
Bridgewater College	X	X		840
Emory and Henry College	X	X		900
Eastern Mennoite College	X	X		900
Hollins College	X	X		945
Lynchburg College	X	X		1,600
Randolph-Macon College	X	X		840
Roanoke College	X	X		1,180
Sweet Briar College	X	X	X	730

budgetary variables were incorporated in the questionnaire sent to athletic directors. These included such items as - the percentage of funds for women's athletics derived from standard fees, the percentage of funds for women's athletics derived from state appropriations, percent of total athletic fees allocated to women's athletics, and percentage of all funds allotted to physical education and intramural programs which is allotted to women's physical education and intramural programs. Unfortunately, all but a very small number of programs failed to respond to these items. Most stated that the information was not available to them. Without the information which was to be derived from those items, it has not been possible to speculate about the impact of budgetary characteristics upon the present patterns of program quality. The impact of social, political, and economic traits of the areas immediately surrounding each institution may also be significant in explaining present patterns of program quality. However, the lack of an efficient source of data for the geographic areas relevant to this research has prohibited further exploration of these factors. Census data is not available for many of the smaller central places in which some responding programs are situated. Also, it is extremely difficult to distinguish the representative populations of private affiliated institutions.

In summary, examining the maps of breadth-and-depth and winning quality, homogeneity of quality among responding programs was exhibited within several states. An analysis of programs located within states exhibiting homogeneous levels of breadth-and-depth quality revealed a lack of intercorrelation among variables comprising the measure of quality. Thus, it was concluded that breadth-and-depth regions are

non-existent and the measure of breadth-and-depth quality is invalid.

An analysis of states exhibiting high levels of winning quality revealed the absence of unifying regional factors. However, within Iowa, Massachusetts, and contiguous portions of West Virginia and Virginia, the vast majority of programs attaining low levels of winning quality were situated within private colleges with enrollments of fewer than 2000 students.

FOOTNOTES

¹Geographers distinguish two types of regions - uniform or formal and functional or nodal. Uniform regions are bounded areas within which one or more traits are shared homogeneously throughout. Formal regions are based upon spatial interactions between nodes along links, or routes of movement, through space. Emphasis within this study is directed at the examination of homogeneity of a single trait - similar levels of athletic quality within political uniform regions (the state). However, since the majority of women's athletic programs presently engage in competition with programs located within their respective states, the pattern of women's athletic competition consists of functional athletic regions located within uniform regions.

²Each of these states is represented by at least six responding programs, a limit which was set subjectively.

CHAPTER V

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This research has been conducted in order to add to the understanding of contemporary trends within women's intercollegiate athletics. It was proposed that place to place variation in the character of certain athletic programs, physical education program, intramural program, and institutional variables can be used to explain differences in levels of breadth-and-depth and winning quality attained by women's intercollegiate athletic programs throughout the United States.

Empirical evidence has indicated that the theoretical distinction between breadth-and-depth and winning quality has been over-emphasized, for the means of attaining one measure of quality does not differ substantially from the means of attaining the other. It has been observed that most women's athletic programs do not co-ordinate the variables which together comprise the measure of breadth-and-depth quality. There appears to be little relationship among the numbers of sports, numbers of events, length of seasons, and hours of practice participated in by individual programs. Therefore, it is apparent that the program standards recommended by the Association for Intercollegiate Athletes for Women have not yet been implemented within most women's intercollegiate athletic programs.

The examination of winning quality has yielded more substantive

results. Levels of winning quality have been explained to an appreciable extent by a large group of the independent variables. Also, the presence of several winning quality regions was supported by empirical observation of educational variables. The partial success achieved in explaining winning quality is significant in light of the fact that an overt expression of concern with winning within women's intercollegiate athletics has had its inception within the last five years.

Recommendations

The above conclusions are based solely upon the athletic program, physical education program, intramural program, and institution characteristics of 268 programs. This number represents a significant percentage (34 percent) of institutional membership in the Association for Intercollegiate Athletics for Women. However, the results of this study should not be misapplied toward explaining trends among the entire population of the Association. The absence of program representation from Louisiana, Arizona, New Mexico, and Wyoming, and poor representation from other states limit the geographical effectiveness of the study. A future study of this nature must devise a means to obtain representation from these states.

A major shortcoming of this study has been the absence of responses from several of the "big time" athletic powers - Immaculata College, Southern Connecticut State College, Texas Women's University, Delta State College, and the University of California at Los Angeles - to name a few. One can only speculate about the impact that data from those sources would have upon findings in relation to winning quality.

An examination of the relationship between the independent variables and winning quality employing only responses from these proven "winners" should yield meaningful results about factors which influence quality.

The opportunities for future geographic research in the area of women's athletics are limitless. One possible area of research is an examination of the impact of local political, economic, and social characteristics upon women's intercollegiate athletic program quality. Earlier in this study, it was stated that suitable data of this nature was not available for several of the areas within which many of the responding programs are situated. This problem can be circumvented by limiting the study to groups of programs situated within two and four-year urban institutions which draw large percentages of their student bodies from the respective urban areas. By limiting a study of athletic quality to these programs, one may draw data for potentially significant independent variables from the census and urban classification studies such as that by Harris.¹

Earlier it was stated that the regional examination employed in this research is based upon the concept of the uniform region. The use of this type of region as opposed to the functional region in examining athletic program quality is appropriate, for most women's programs presently compete against other institutions' programs located within their respective states. It would be of considerable interest and value to sport scholars to trace the development of women's athletic functional regions, or competition networks through time and space. Also, a series of comparisons of men's and women's competition networks carried out at regular intervals among schools of various sizes and affiliations will contribute to an awareness of the relative dynamics

of intercollegiate athletics for the two sexes.

A study which should be undertaken as a supplement of the present research is an examination of patterns of winning, to be carried out after a three to five year hiatus. A simple comparison of present and future patterns of winning quality will indicate much about the dynamics of individual programs and trends within the women's intercollegiate athletics.

Yet another study which should provide meaningful results is an examination of the role of program, institution, and regional factors in explaining men's athletic program quality. By comparing results of such a study with present findings, a better basis for understanding the present pattern of women's athletic quality as well as the status of both programs within the system of higher education would be available.

FOOTNOTES

¹Chauncy D. Harris, "A Functional Classification of Cities in the United States," Geographical Review, Vol. 33 (1943), pp. 86-99.

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APPENDIX A

TITLE IX

TITLE IX

The "Title IX" referred to in the text of this proposal is Title IX of the Education Amendments of June, 1972 (Public Law 92-318). This replaces Executive Order 11246, effective October, 1968, which barred universities and other federal contractors from sex discrimination in employment. The enactment of Title IX foreclosed the possibility of sex discrimination in all federally aided education programs - either against employees or students.

Responsibility for Title IX is assigned to the Department of Health, Education, and Welfare's Office for Civil Rights (part of the Office of the Secretary and separate from the Office of Education). That office is responsible for establishing a mechanism to assure coordination of regulations developed by all federal agencies which give assistance to educational institutions.

Under the Presidentially approved HEW-Labor fiscal 1974 budget, the office has been authorized several new positions designated for Title IX enforcement. Title IX covers the areas of admissions, recruitment, housing, and extracurricular activities. Regulation implementations have not yet been finalized.

(The above information was taken from personal correspondences of Casper Weinberger, Secretary of Health, Education, and Welfare, to United States Senator Charles Percy, published in the Congressional Record-Senate Vol. 120, No. 21, February 25, 1974, S2170-2171.)

APPENDIX B

DATA SOURCES

Data Sources

- A = Questionnaire sent to member institutions of the Association for Intercollegiate Athletics for Women (four-year institutions only).
- B = College Blue Book, Vol. I, New York: CCM Information Corporation, 1972.
- C = College Blue Book, Vol. II, New York: CCM Information Corporation, 1972.
- D = "Undergraduate Enrollment of Minorities in U. S. Higher Education," Chronicles of Higher Education, Vol. IX, No. 8 (November 11, 1974), pp. 8-12.
- E = "Intercollegiate Sports: How the National Intercollegiate Athletic Association has Aligned 665 Colleges and Universities," Chronicles of Higher Education, December 10, 1973, pp. 9-10.

Independent Variables

Data Source	Variable
A	1. Degree to which intercollegiate athletic competition is valued as an agent in the physical education process of women within the institution.
A	2. Degree to which intercollegiate athletic competition is valued as an agent in the general education process of women within the institution.
A	3. Degree to which the women's program is seeking a "big time" or "high calibre-winning image."
A	4. Degree to which the institution's intercollegiate athletic program for men serves as a model for the women's program.
E	5. NCAA division ranking of the institution's intercollegiate athletic program for men.
A	6. Length of existence of a formal program of intercollegiate athletic competition for women within the institution.
A	7. Total number of sports in which opportunities for women's intercollegiate athletic competition are available within the institution.

APPENDIX B (Continued)

Data Source	Variable
A	8. Average number of women's intercollegiate events participated in by the institution's athletic teams.
A	9. Average length of sports seasons for all women's teams within the institution.
A	10. Mean hours of practice per week.
A	11. A winning measure based upon season (most recent) records in women's intercollegiate athletics and total number of sports in which the institution was represented in national tournaments during the most recent season completed.
A	12. Total number of coaches of women's intercollegiate athletics (specific individuals) within the institution.
A	13. Percentage of the institution's coaches of intercollegiate athletics for women who are female.
A	14. Percentage of the average coach's teaching load which is satisfied by coaching women's sport.
A	15. Percentage of coaches of women's intercollegiate athletics within each institution who have completed at least an undergraduate minor in Health and Physical Education.
A	16. Percentage of coaches of women's intercollegiate athletics within each institution who hold master's degrees in Health and Physical Education.
A	17. Percentage of coaches of women's intercollegiate athletics within each institution who hold doctorates in Health and Physical Education.
A	18. Men's and women's athletic program facilities (shared or separate).
A	19. Women's athletic program facilities (shared or separate from women's physical education facilities).
A	20. Age of oldest building which houses women's intercollegiate athletics.
A	21. Age of newest building which houses women's intercollegiate athletics.

APPENDIX B (Continued)

Data Source	Variable
A	22. Total amount (dollars) of athletic scholarships for women.
A	23. Number of sports in which scholarships are available.
A	24. Total number fo female athletes for whom scholarships are provided.
A	25. Approximate percentage of total athletic scholarship monies allotted during the past year which was received by women.
A	26. Physical education as a required course of female undergraduates within the institution.
A	27. Presence of an undergraduate major in Physical Education within each institution.
A	28. Presence of a master's degree offering in Physical Education within the institution.
A	29. Presence of a doctoral degree offering in Physical Education within the institution.
A	30. Number of full-time instructors of Physical Education within the institution.
A	31. Percentage of full-time instructors of Physical Education within the institution who are female.
A	32. Percentage of full-time instructors in Physical Education within the institution who hold doctorates in Physical Education.
A	33. Percentage of full-time instructors in Physical Education within the institution who hold doctorates in Physical Education.
A	34. [*] Percentage of all funds allotted to Physical Education programs within each institution which is directed toward women's physical education programs.
A	35. Men's and women's physical education facilities (shared or separate).
A	36. Number of years that each institution has operated an intramural program.

APPENDIX B (Continued)

Data Source	Variable
A	37. Number of sports in which intramural competition is provided.
B	38. Student enrollment.
B	39. Number of faculty.
C	40. Tuition rate (per term).
C	41. Female to male ratio among students.
D	42. Percentage of full-time undergraduate student enrollment from minority group backgrounds.
C	43. University or College.
C	44. Private or Public.
C	45. Church or Non-Church.
C	46. Graduate degrees awarded (outside of Physical Education) (Yes - No).
C	47. Academic level (measured by SAT and ACT scores).

APPENDIX C

MULTIPLE REGRESSION TECHNIQUE

Dependent Variable to
be Explained

Independent Variables Employed in
Explaining Dependent Variables

Winning quality

All variables listed in Appendix B
except for variable 11.

-

-

Breadth-and-depth quality

All variables listed in Appendix B
except for variables 7-10.

APPENDIX D

RESPONDING PROGRAMS AS DISPLAYED IN
FIGURE 1

Alabama

A Athens College

Alaska

A University of Alaska - Fairbanks

Arkansas

A Arkansas Polytechnic College
B University of Arkansas - Little Rock
C University of Arkansas - Monticello

California

A California State College - Dominguez Hills
B Biola College of La Mirada
C LaVerne College
D Mills College
E Chapman College
F California Polytechnic Institute
G University of California - Riverside
H San Jose State University
I University of California - Santa Barbara
J University of Santa Clara
K Stanford University
L California State College - Stanislaus

Colorado

A Adams State College
B Colorado Women's College
C University of Northern Colorado

Connecticut

A University of Bridgeport
B University of Connecticut

Delaware

A American University

Florida

A Flagler College
B St. Leo College

Georgia

A University of Georgia
B Emory University
C Augusta College

Georgia (Continued)

D West Georgia College
E Wesleyan College
F Shorter College
G Valdosta State College

Hawaii

A University of Hawaii
B Church College of Hawaii

Idaho

A College of Idaho
B University of Idaho
C Idaho State

Illinois

A Southern Illinois University
B Loyola University
C University of Chicago
D Northern Illinois University
E George Williams College
F Southern Illinois University
G Principia College
H Eureka College
I Olivet Nazarene College
J Lake Forest College
K McKendree College
L Lewis College
M Western Illinois University
N North Central College
O Concordia Teacher's College
P Rosary College
Q Rockford College
R Augustana College
S Wheaton College

Indiana

A Indiana University
B University of Evansville
C Franklin College
D Hanover College
E Indiana Central College
F Purdue University
G Earlham College

Iowa

A Luther College
B Drake University
C Grinnell College

Iowa (Continued)

D Simpson College
E Westmar College
F Iowa Wesleyan College
G Cornell College
H Northwestern College
I Central College
J Morningside College

Kansas

A St. Mary of the Plains
B Bethany College
C McPherson College
D Washburn University
E Wichita State University
F Southwestern College

Kentucky

A Western Kentucky University
B Centre College
C Georgetown College
D Morehead State University
E Eastern Kentucky University

Maine

A Husson College
B University of Maine at Portland - Gorham
C University of Maine at Machias
D Nason College
E Colby College

Maryland

A Coppin State College
B Johns Hopkins University
C University of Maryland - Baltimore County
D Washington College
E Frostburg State College
F Goucher College

Massachusetts

A Boston College
B Boston University
C Berkshire Christian College
D Lowell State College
E Tufts University
F North Adams State College
G Merrimack College
H Wheaton College

Massachusetts (Continued)

I Salem State College
J American International College
K Brandeis University
L Eastern Nazarene College
M Worcester State College

Michigan

A Siena Heights College
B Albion College
C Hillsdale College
D Western Michigan University
E Central Michigan University

Minnesota

A Mankato State College
B Southwest Minnesota State College
C Concordia College
D Carleton College
E St. Olaf College
F St. Cloud State College
G Bethel College
H Macalester College
I Gustavus Adolphus College

Mississippi

A Blue Mountain College
B Mississippi University for Women
C University of Mississippi

Missouri

A Southwest Baptist College
B Southwest Missouri State College
C University of Missouri
D Evangel College

Montana

A Eastern Montana College
B Western Montana College
C Carroll College

Nebraska

A Dana College
B Kearney State College
C John F. Kennedy College
D Wayne State College

Nevada

A University of Nevada - Las Vegas
B University of Nevada - Reno

New Hampshire

A Dartmouth College
B New England College

New Jersey

A Drew University
B Rutgers University
C Seton Hall University

New Mexico

New York

A Briarcliff College
B State University College of New York at Brockport
C Concordia College
D Sarah Lawrence College
E Long Island University - Brooklyn Center
F State University College of New York at Buffalo
G St. Lawrence University
H Elmira College
I State University College at Geneseo
J Colgate University
K Keuka College
L Niagara University
M State University College at Oswego
N State University College at Plattsburgh
O State University College at Potsdam
P Roberts Wesleyan College
Q University of Rochester
R Molloy College
S Syracuse University

North Carolina

A Guilford College
B University of North Carolina at Greensboro
C St. Andrews Presbyterian
D Mars Hill College
E Pfeiffer College
F Wake Forest University

North Dakota

A North Dakota State University
B Jamestown College

Ohio

A	Ashland College
B	Ohio University
C	Malone College
D	Cedarville College
E	Cincinnati Bible Seminary
F	University of Dayton
G	Ohio Wesleyan University
H	Kent State University
I	College of Mt. St. Joseph
J	Muskingum College
K	Toledo University
L	Wilmington College
M	Youngstown State College

Oklahoma

<u>A</u>	Northwestern Oklahoma State University
<u>B</u>	Central State University
<u>C</u>	Phillips University
<u>D</u>	University of Oklahoma

Oregon

<u>A</u>	Southern Oregon College
<u>B</u>	University of Oregon
<u>C</u>	Pacific University
<u>D</u>	Lewis and Clark College
<u>E</u>	Portland State University
<u>F</u>	Willamette University

Pennsylvania

<u>A</u>	Bloomsburg State College
<u>B</u>	Dickinson College
<u>C</u>	Baptist Bible College
<u>D</u>	Lafayette College
<u>E</u>	Pennsylvania State University
<u>F</u>	Gettysburg College
<u>G</u>	Gwynedd Mercy College
<u>H</u>	Bucknell University
<u>I</u>	St. Francis College
<u>J</u>	Westminster College
<u>K</u>	Drexel University
<u>L</u>	Albright College
<u>M</u>	Marywood College
<u>N</u>	Shippensburg State College
<u>O</u>	Lycoming College

Rhode Island

<u>A</u>	Rhode Island College
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South Carolina

A Baptist College at Charleston
B College of Charleston
C Benedict College
D University of South Carolina
E Furman University
F Lander College
G Winthrop College

South Dakota

A Dakota State College
B Augustana College
C Mount Mary College

Tennessee

A Austin Peay State University
B Union University
C Milligan College
D Middle Tennessee State University

Texas

A Abilene Christian College
B McMurry College
C Lamar University
D Jarvis Christian College
E Rich University
F Texas Tech University
G Wayland Baptist College

Utah

A Utah State University

Vermont

A Lyndon State College

Virginia

A Bridgewater College
B Emory and Henry College
C Eastern Mennonite College
D Madison College
E Hollins College
F Lynchburg College
G Randolph-Macon College
H Westhampton College - University of Richmond
I Roanoke College
J Sweet Briar College
K College of William and Mary

Washington

<u>A</u>	Eastern Washington State College
<u>B</u>	Central Washington State College
<u>C</u>	Washington State University
<u>D</u>	Seattle Pacific College
<u>E</u>	University of Puget Sound

West Virginia

<u>A</u>	Concord College
<u>B</u>	Davis and Elkins College
<u>C</u>	Marshall University
<u>D</u>	West Virginia State College
<u>E</u>	West Virginia University
<u>F</u>	Salem College
<u>G</u>	West Liberty State College

Wisconsin

<u>A</u>	Lawrence University
<u>B</u>	Northland College
<u>C</u>	Beloit College
<u>D</u>	Wisconsin State University - Eau Claire
<u>E</u>	Wisconsin State University - La Crosse
<u>F</u>	University of Wisconsin - Madison
<u>G</u>	University of Wisconsin - Milwaukee
<u>H</u>	Wisconsin State University - Oshkosh
<u>I</u>	Wisconsin State University - River Falls
<u>J</u>	Wisconsin State University - Stevens Point
<u>K</u>	Wisconsin State University - Whitewater

Wyoming

APPENDIX E
QUESTIONNAIRE

Mark J. Okrant, Department of Geography, Oklahoma State
University, Stillwater, Oklahoma 74074

To whom it may concern,

I am a graduate student in the Ed.D. program in Higher Education-
Geography, at Oklahoma State University. My dissertation concerns the
effect of educational and social factors on women's intercollegiate
athletic competition. I am especially interested in identifying the
geographic variation which characterizes women's sport.

Will you please assist me in this effort by replying to items
on the attached questionnaire and returning it to me as soon as possible.
I have enclosed a self-addressed, stamped envelope.

Thank you for your co-operation in this effort. If you wish to
receive a summary of the study, please indicate using the appropriate
space.

Sincerely yours,

Respondent's Institution _____

Respondent's Name _____

Questionnaire

Please reply to the following items in the manner appropriate for each:

Intercollegiate Athletics

- 1) To what degree is intercollegiate athletic competition valued as an agent in the physical education process of female students within your institution (circle one)?

Very strong negative agent -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 Very strong positive agent

- 2) To what degree is intercollegiate athletic competition valued as an agent in the general process of education of female students within your institution (circle one)?

Very strong negative agent -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 Very strong positive agent

- 3) When was a formal program for intercollegiate athletic competition for women implemented at your institution? Year _____

- 4) What is the total number of contests to be played during the 1974-1975 season in each of the following sports?

Archery	_____	Golf	_____	Squash	_____
Badminton	_____	Gymnastics	_____	Competitive Swim	_____
Basketball	_____	Lacrosse	_____	Synchronized Swim	_____
Bowling	_____	Riflery	_____	Tennis	_____
Crew	_____	Skiing	_____	Track and Field	_____
Diving	_____	Soccer	_____	Volleyball	_____
Fencing	_____	Softball	_____	Other	_____
Field Hockey	_____				

- 5) What is the length of the 1974-1975 varsity sports season (first practice to last game) in each of the following sports?

Archery	_____	Golf	_____	Squash	_____
Badminton	_____	Gymnastics	_____	Competitive Swim	_____
Basketball	_____	Lacrosse	_____	Synchronized Swim	_____
Bowling	_____	Riflery	_____	Tennis	_____
Crew	_____	Skiing	_____	Track and Field	_____
Diving	_____	Soccer	_____	Volleyball	_____
Fencing	_____	Softball	_____	Other	_____
Field Hockey	_____				

- 6) How many hours are presently devoted to practice in each sport per week?

Archery	_____	Golf	_____	Squash	_____
Badminton	_____	Gymnastics	_____	Competitive Swim	_____
Basketball	_____	Lacrosse	_____	Synchronized Swim	_____
Bowling	_____	Riflery	_____	Tennis	_____

Crew	_____	Skiing	_____	Track and Field	_____
Diving	_____	Soccer	_____	Volleyball	_____
Fencing	_____	Softball	_____	Other	_____
Field Hockey	_____				

7) What are your season records in each of the following?

Archery	_____	Folg	_____	Squash	_____
Badminton	_____	Gymnastics	_____	Competitive Swim	_____
Basketball	_____	Lacrosse	_____	Synchronized Swim	_____
Bowling	_____	Riflery	_____	Tennis	_____
Crew	_____	Skiing	_____	Track and Field	_____
Diving	_____	Soccer	_____	Volleyball	_____
Fencing	_____	Softball	_____	Other	_____
Field Hockey	_____				

8) Have you attended the NATIONAL tournament in any of the following sports, (yes or no), if so, where did you place?

Archery	_____	Golf	_____	Squash	_____
Badminton	_____	Gymnastics	_____	Competitive Swim	_____
Basketball	_____	Lacrosse	_____	Synchronized Swim	_____
Bowling	_____	Riflery	_____	Tennis	_____
Crew	_____	Skiing	_____	Track and Field	_____
Diving	_____	Soccer	_____	Volleyball	_____
Fencing	_____	Softball	_____	Other	_____
Field Hockey	_____				

9) What percentage of the coaches of women's intercollegiate athletics within your institution are female? (circle one)

- | | |
|-----------|------------|
| a. 0 | e. 51-70% |
| b. 1-10% | f. 71-90% |
| c. 11-30% | g. 91-100% |
| d. 31-50% | |

10) What percentage of coaches of intercollegiate athletics within your institution have completed at least an undergraduate minor in Health and Physical Education?

- | | |
|-----------|------------|
| a. 0 | e. 51-70% |
| b. 1-10% | f. 71-90% |
| c. 11-30% | g. 91-100% |
| d. 31-50% | |

11) What percentage of the coaches of women's intercollegiate athletics within your institution hold master's degrees in Health and Physical Education?

- | | |
|-----------|------------|
| a. 0 | e. 51-70% |
| b. 1-10% | f. 71-90% |
| c. 11-30% | g. 91-100% |
| d. 31-50% | |

- 12) What percentage of the coaches of women's intercollegiate athletics within your institution hold doctorate degrees in Health and Physical Education?
- | | |
|-----------|------------|
| a. 0 | e. 51-70% |
| b. 1-10% | f. 71-90% |
| c. 11-30% | g. 91-100% |
| d. 31-50% | |
- 13) What is the total number of coaches (specific individuals) of women's intercollegiate athletics within your institution?
Number _____
- 14) What percentage of the average coach's teaching load is satisfied by coaching women's intercollegiate sports?
- | | | |
|-----------|-----------|------------|
| a. 1) | d. 21-30% | g. 71-90% |
| b. 1-10% | e. 31-50% | h. 91-100% |
| c. 11-20% | f. 51-70% | |
- 15) Are women's intercollegiate athletic facilities shared or separate from men's facilities? (check one) _____ shared _____ separate
- 16) Are women's physical education facilities shared or separate from facilities used for women's intercollegiate athletic competition? (check one) _____ shared _____ separate
- 17) Age of oldest building within which the women's athletic program is presently housed.
- | | |
|--------------------|---------------|
| a. less than 1 yr. | d. 11-20 yrs. |
| b. 1-5 yrs. | e. 21-30 yrs. |
| c. 6-10 yrs. | f. 31 + yrs. |
- 18) Age of newest building within which the women's athletic program is presently housed.
- | | |
|--------------------|---------------|
| a. less than 1 yr. | d. 11-20 yrs. |
| b. 1-5 yrs. | e. 21-30 yrs. |
| c. 6-10 yrs. | f. 31 + yrs. |
- 19) Approximate number of square feet allocated to participation in women's intercollegiate athletics.
- | | |
|------------------|------------------|
| a. 1-5000 | d. 20,001-30,000 |
| b. 5001-10,000 | e. 30,001-50,000 |
| c. 10,001-20,000 | f. 50,001 + |
- 20) What is the total amount (dollars) in athletic scholarships presently available for women in your institution?
Amount _____

21) In which women's sports are scholarships available?

Archery	_____	Golf	_____	Squash	_____
Badminton	_____	Gymnastics	_____	Competitive Swim	_____
Basketball	_____	Lacrosse	_____	Synchronized Swim	_____
Bowling	_____	Riflery	_____	Tennis	_____
Crew	_____	Skiing	_____	Track and Field	_____
Diving	_____	Soccer	_____	Volleyball	_____
Fencing	_____	Softball	_____	Other	_____
Field Hockey	_____				

22) How many individuals (women) receive athletic scholarships in the following sports:

Archery	_____	Golf	_____	Squash	_____
Badminton	_____	Gymnastics	_____	Competitive Swim	_____
Basketball	_____	Lacrosse	_____	Synchronized Swim	_____
Bowling	_____	Riflery	_____	Tennis	_____
Crew	_____	Skiing	_____	Track and Field	_____
Diving	_____	Soccer	_____	Volleyball	_____
Fencing	_____	Softball	_____	Other	_____
Field Hockey	_____				

23) What is the year in which you first offered athletic scholarships to female athletes? _____

24) What is the percentage of total athletic scholarship monies which is allocated to women's sport?

- | | |
|----------|-----------|
| a. 0 | e. 51-70 |
| b. 1-10 | f. 71-85 |
| c. 11-25 | g. 86-100 |
| d. 26-50 | |

25) Average per-person financial allotment to female athletes for travelling expenses to individual athletic events away from your institution.

- | | |
|------------|------------|
| a. 0 | e. \$16-20 |
| b. \$1-5 | f. \$21-25 |
| c. \$6-10 | g. \$25 + |
| d. \$11-15 | |

26) Does your institution provide extra insurance coverage for women who participate in women's intercollegiate athletics?
Yes _____ No _____

27) Approximately what percentage of all funds allotted to inter-collegiate athletics are directed toward the women's intercollegiate athletic program?

- | | |
|-----------|------------|
| a. 0 | e. 51-70% |
| b. 1-10% | f. 71-90% |
| c. 11-30% | g. 91-100% |
| d. 31-50% | |

28) What is the percentage of annual funds for women's intercollegiate athletics which is received from student activity fees?

- | | |
|----------|-----------|
| a. 0 | e. 51-70 |
| b. 1-10 | f. 71-85 |
| c. 11-25 | g. 86-100 |
| d. 26-50 | |

29) What percentage of annual funds for women's intercollegiate athletics is derived from state appropriations?

- | | |
|----------|-----------|
| a. 0 | e. 51-70 |
| b. 1-10 | f. 71-85 |
| c. 11-25 | g. 86-100 |
| d. 26-50 | |

Please indicate your feelings regarding the importance of statements in items 30-32, respectively, in affecting the growth of women's intercollegiate athletics within your institution.

30) The Women's Liberation Movement has greatly affected this institution's philosophy toward women's intercollegiate competition.

Very strongly disagree -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 Very strongly agree

31) The women's intercollegiate athletics program within this institution uses the men's athletic program within the institution as a model.

Very strongly disagree -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 Very strongly agree

32) The institution's intercollegiate athletic program for women is seeking to develop a "big time" athletic image.

Very strongly disagree -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 Very strongly agree

Physical Education Program

33) Is Physical Education a required course for women undergraduates seeking a Bachelor's degree at your institution?

_____ Yes _____ No

34) Does your institution offer an undergraduate major in physical education?

_____ Yes _____ No

35) Does your institution offer a graduate degree in physical education?

(check one) Master's _____ Yes _____ No
 doctorate: _____ Yes _____ No

- 36) What percentage of the instructors of women's physical education within your institution are female? (circle one)
- | | |
|-----------|------------|
| a. 0 | e. 51-70% |
| b. 1-10% | f. 71-90% |
| c. 11-30% | g. 91-100% |
| d. 31-50% | |
- 37) What is the total number of full-time instructors of women's physical education within your institution? Amount _____
- 38) What percentage of the instructors of women's physical education hold at least a master's degree in Health and Physical Education? (circle one)
- | | |
|-----------|------------|
| a. 0 | e. 51-70% |
| b. 1-10% | f. 71-90% |
| c. 11-30% | g. 91-100% |
| d. 31-50% | |
- 39) What percentage of the instructors of women's physical education hold a doctoral degree in Health and Physical Education?
- | | |
|-----------|------------|
| a. 0 | e. 51-70% |
| b. 1-10% | f. 71-90% |
| c. 11-30% | g. 91-100% |
| d. 31-50% | |
- 40) Approximately what percentage of all funds allotted to Physical Education are directed toward the women's physical education program?
- | | |
|-----------|------------|
| a. 0 | e. 51-70% |
| b. 1-10% | f. 71-90% |
| c. 11-30% | g. 91-100% |
| d. 31-50% | |
- 41) Are women's physical education facilities within your institution shared or separate from men's facilities? (check one)
- _____ shared _____ separate

Intramural Program

- 42) What is the approximate number of years that the institution has operated a women's intramural athletic program?
- | | |
|---------|---------------------------------|
| a. 0-1 | d. 11-15 |
| b. 2-5 | e. more than 15 years (specify) |
| c. 6-10 | |

43) In which of the following sports is intramural competition presently provided?

Archery	_____	Golf	_____	Squash	_____
Badminton	_____	Gymnastics	_____	Competitive Swim	_____
Basketball	_____	Lacrosse	_____	Synchronized Swim	_____
Bowling	_____	Riflery	_____	Tennis	_____
Crew	_____	Skiing	_____	Track and Field	_____
Diving	_____	Soccer	_____	Volleyball	_____
Fencing	_____	Softball	_____	Other	_____
Field Hockey	_____				

44) What is the percentage of total expenditures for all intramural athletic programs which is allotted to women's intramural programs.

- | | |
|----------|-----------|
| a. 0 | e. 51-70 |
| b. 1-10 | f. 71-85 |
| c. 11-25 | g. 86-100 |
| d. 26-50 | |

Will you please provide a roster for each of your 1974-1975 intercollegiate teams including information about high school attended.

Do you wish a summary of the results of this study?

(circle one) Yes No

VITA

Mark Jay Okrant

Candidate for the Degree of

Doctor of Education

Thesis: AN EXAMINATION OF THE SIGNIFICANCE OF EDUCATIONAL AND REGIONAL FACTORS IN EXPLAINING WOMEN'S INTERCOLLEGIATE ATHLETIC PROGRAM QUALITY

Major Field: Higher Education **Minor:** Geography

Biographical:

Personal Data: Born in New London, Connecticut, September 6, 1947, the son of Mr. and Mrs. Reuben Okrant; married December 19, 1970, to the former Marla Jeanne Chatzek; father of Robyn Michelle, born December 27, 1972.

Education: Graduated from New London High School, New London, Connecticut, in June, 1965; received Bachelor of Science degree in Geography from Southern Connecticut State College in 1969; received Master of Science in Geography from Southern Connecticut State College in 1972; enrolled in doctoral program at Texas A&M University, 1972-73; completed requirements for the Doctor of Education degree at Oklahoma State University in July, 1975.

Professional Experience: Teacher of Social Studies, Richard C. Lee High School, New Haven, Connecticut, 1969-70; graduate research assistant, Department of Geography, Texas A&M University, 1972-73; graduate research assistant, Geography Extension Service, Oklahoma State University, 1973-74; graduate teaching assistant, Department of Geography, Oklahoma State University, 1974-75; correspondence study examiner, Oklahoma State University, 1974-75.