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Characteristics of institutions of higher education employing women in top level administration and a profile of the women

Augustine Busbee Wright
Iowa State University

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CHARACTERISTICS OF INSTITUTIONS OF HIGHER EDUCATION
EMPLOYING WOMEN IN TOP LEVEL ADMINISTRATION AND A
PROFILE OF THE WOMEN

Iowa State University

PH.D.

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Characteristics of institutions of higher education
employing women in top level administration
and a profile of the women

by

Augustine Busbee Wright

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of the
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CHAPTER I. INTRODUCTION

Statement of the Problem

Numerous studies have addressed the problem of the under-representation of women in administrative positions in higher education and the extent to which such under-representation is the result of sex discrimination. As the review of literature will show, the fact that women are under-represented in the ranks of university administrators has been documented. Studies have suggested some possible reasons for the under-representation of women administrators as internal and external barriers. In addition to pointing out barriers, other researchers identified the characteristics of those women who succeed. While several studies looked at several characteristics of women who succeeded in higher education, information is lacking about the characteristics of the institutions where women held top level administrative positions. The present research contrasts certain characteristics of institutions which do and do not have women in the highest levels of administration.

Background

Important influences generating change for women in education have been the Civil Rights Act of 1964 and the Women's Movement. The passage of the Civil Rights Act of 1964 made it unlawful to discriminate on the basis of sex. That law set the stage for equal employment opportunities for women and minorities. Even so, it was not until 1970 that the Women's Movement was effective in documenting the status of women in this society and attracting the attention of the United States Congress regarding the

extent of discrimination against women. Ann Southerland Harris (1970) is credited with documenting the problem of sex discrimination in higher education. Her data, presented to the special House Committee on Education in 1970, revealed that women in administration were few in number and held low positions. Her findings resulted in the establishment of the President's Commission on the Status of Women.

The Commission subsequently held a series of hearings focusing on the status of women in many professional work areas and found much legal and economic discrimination against women. The Commission recommended that each governmental and educational organization compile economic and social data by sex. The data produced by this action have helped to provide a more realistic picture of the status of women in American society.

The new national policy enacted to end sex discrimination in educational institutions, coupled with the awareness of discrimination against women in educational institutions, forced the academic community to assess the status of women in educational institutions. But while there are no closed doors for women to battle down, there is a style of life that makes it difficult for women to attain the degree of success that is equal to men in educational institutions.

The fact that women are under-represented in the ranks of university administrators has been documented in several studies. Numerous studies have addressed the problem of the under-representation, but the extent to which such under-representation in higher education administration is the result of sex discrimination has not been documented. Several studies have revealed that women rarely are represented in top level administrative positions.

Purpose of the Study

Although several studies have identified the professional and personality characteristics of women in higher education administration, no studies have analyzed the relationship between the characteristics of those institutions not employing women and those employing women in top level positions of administration, and the characteristics and career patterns of women employed in those institutions.

This current study will analyze the characteristics of four-year public and private institutions over three time periods: 1969-70, 1974-75, and 1978-79. The focus will be on the characteristics of the institutions where women were employed in top level positions of President, Vice President, Dean or Chief Officer during the three time periods, and the personal characteristics and career patterns of the women who held those positions in 1978-79. The institutional analyses will also contrast characteristics of institutions which do and do not employ women in top level positions of administration.

Scope

This study encompassed all publicly and privately controlled four-year institutions of higher education registered in the Education Directory: Colleges and Universities for the years 1969-70, 1974-75, and 1978-79. Each institution is listed with the following information: name, address, telephone, area, zip code, congressional district, county, identification code, entity number, date of establishment, enrollment, tuition and fees, sex of student body, calendar system, control or affiliation, highest degree offering, type of program, accreditation, name and

title of principal officer and code classification of principal officers by area of responsibility. Only those institutions certified by the Division of Eligibility and Agency Evaluation of the Bureau of Higher and Continuing Education of the U.S. Office of Education were eligible for listing in the Directory.

The scope of the study was limited to public and private four-year institutions. The top level administrative positions studied were those bearing titles of President or Chancellor, Vice-President or Vice-Chancellor, Dean, or a title indicating the position was the chief position for a major administrative area.

Objective of the Research

The objective of this research is to analyze the characteristics of four-year institutions of higher education where women are or are not in top level positions of administration, and to present some personal, educational, and professional data about women who have advanced to the highest level positions of administration in public and private four-year institutions.

Earlier studies have explored the backgrounds and career patterns of women who have advanced to leadership positions. The present study will attempt to fill a lacuna by providing a profile of both women and their institutions and by analyzing changes which have taken place over the ten-year period of 1969 to 1979. Basic questions guiding this study are:

1. Is there a relationship between the date of establishment of the institution and the number of women administrators employed in top level administrative positions?

2. Is there a relationship between the affiliation of institutions and the number of women administrators in top level positions?
3. Has the number of women employed in top level administrative positions changed over the ten-year period studied?
4. Is there a relationship between the number of women employed and the highest degree offered by the institution?
5. Is there a relationship between the size of the institution and the number of top level women administrators in four-year public and private institutions?
6. Is there a relationship between the Region of the country where the institution is located and the number of women administrators employed in top level administrative positions?
7. Is there a relationship between the number of women and the student body gender?
8. What top level administrative titles are women most likely to hold in higher education?
9. What is the educational background of the women who hold top level administrative positions?
10. What is the work experience of the women in top level administrative positions?
11. What is the marital and family status of women in top level administrative positions in higher education?

CHAPTER II. REVIEW OF THE LITERATURE

Introduction

This review of the literature provides an historical perspective of the education of women in the United States and the status of women in higher education administration. Essentially, the literature reviewed covers the (1) history of establishment of women's institutions of higher education, (2) status of women in higher education, (3) influence of gender on career advancement, (4) barriers to professional achievement of women, (5) personal, educational, and professional backgrounds of women in top level positions in administration, (6) psychological, personality, and leadership characteristics of women administrators, and (7) geography of women in administration and women in top administrative positions.

The History of Establishment of Women's Institutions of Higher Education

The characteristics of higher education in the United States have been influenced by a variety of historical forces. The roots of American higher education can be traced back to Europe and the early pioneers who came to the United States to advance education. Those early pioneers were men who provided the majority of the teaching until the 1900s when universities and state colleges came into existence. Most of the institutions established early were affiliated with churches, missionary societies or individuals. During the early establishment, there was a strong emphasis on theology, and for the most part those persons intended for the

ministry were encouraged to attend. The religious motives and male dominance in the schools continued to be strong through the American Revolutionary period (Woodring, 1968).

Harvard was established in 1636 as the first American institution of higher education, and it was not until almost two hundred years later that the first institution for women was established. The first higher education institution for women was the Emma Willard School (1821) in Troy, New York. This school was first a girls' seminary at Watertown, New York, and was later moved to Troy where it became the Emma Willard School. The founder, Emma Hart Willard, strongly supported the establishment of public schools and educated hundreds of women teachers. The Willard school did not grant baccalaureate degrees to women, and it was not until the establishment of the Wesleyan Female College of Macon, Georgia, that women were first awarded degrees.

The South took the lead in establishing institutions that granted degrees to women. Judson College (1838) was established in Alabama and Mary Sharp College for Women (1852) in Tennessee (Brubacker and Willis, 1968). The North followed with a school chartered in Rockford, Illinois in 1849 and with Elmira College in New York in 1853. Several reformers and activists like Lucinda H. Stone, Sara Dix Hamlin, and Mary Wollstonecraft are credited with persuading the public of the value of educating women (Brubacker and Willis, 1968) and contributing greatly to the advancement of women in education.

Although women were allowed in educational institutions beginning in 1821, it was over fifty years later that the first woman president of an American college was appointed. Frances Willard, the first woman presi-

dent, was appointed to Evanston (Illinois) College for Women in 1871. She represented .18% of all college presidents at that time. When Evanston merged with Northwestern University, she became dean of the women's college (Brubacker and Willis, 1968).

The Civil War had an impact on the advancement of education. By the end of the war in 1865, 182 prominent colleges and universities had been founded, but few were open to women. Several did not survive the war for various reasons such as the location of the college or the financial panics of 1837 and 1857. Only those women who could pay their own tuition were encouraged to attend during that period.

It was during the 1837 financial crisis, two hundred years after the first institution was established, that Oberlin College led the way in permitting women to matriculate. The role of women at that time was reported to have been to serve the men students, remain silent in the classroom, and perform household duties (Chronicle of Higher Education, 1976).

The country was growing in several directions. By the end of the Civil War, opportunities for higher education were available to both white and black women, but facilities were crowded and space limited. While several activists were fighting for the education of white women, Myrtilla Miner, a white woman, led the first organized effort to provide higher education for black women. She received help from the Quakers and Harriet Beecher Stowe in the establishment of "The Miner Normal School for Colored Girls" (O'Conner, 1969) in the mid 1850s. The normal schools were private and consisted of a two-year course and student teaching. They were first established in 1823 and replaced the early Latin schools.

Following the Revolutionary War, many Americans realized that separate private and religious schools could not provide the equality, unity, and freedom necessary for the new nation. Beginning in 1830, they sought a state system of public schools.

American society became more industrialized, urban, specialized, and secular. With this growth, society recognized that private colleges could not provide for the wave of students desiring college. The Federal government helped meet the educational needs of the country by passing the Morrill Land Grant Act of 1862. Shortly after, over 200 state colleges were established in forty-five states (Woodring, 1968). The focus of these institutions was to advance education in engineering, military science, and agriculture (Brubacker, 1968).

Women were still not very visible in colleges and universities until the passage of the Smith-Hughes Act of 1917 which encouraged agriculture, industry, and home economics education. Although several prestigious women's colleges were educating women, as in the earlier years, women still had to cope with the criticism of the education of women. The curriculum for women combined to emphasize home duties and teaching (Brubacker and Willis, 1968).

The second generation of prestigious women's colleges was founded in the 1920s (Jencks and Riesman, 1969). Women became more visible in these colleges. World War II had some influence on the number of women in leadership roles in education. Although women had positions of leadership in some women's colleges, men continued to dominate the administration and the faculty (Sandler, 1971), and women were seldom chosen for administrative positions in universities (Mattfeld, 1974).

The majority of the women's colleges were established in the 1800s. The numbers continued to increase until the early 1900s. In 1968, there were 248 women's colleges, but by 1970, the number was down to 150 (Tompkins, 1972).

Only a few of the coeducational institutions were willing to hire female faculty and administrators. When women were hired, they often held the position of dean of women. As recently as 1970, there were no women presidents and no women vice presidents in colleges and universities with enrollments over 10,000, and the 1979-80 data show only three chief executive officers in institutions with a student enrollment between 10,000 and 20,000 (Taylor, 1980).

The Status of Women in Higher Education

Numerous reports published by the Carnegie Commission on Higher Education, the U.S. Office of Education Newman Task Force, and the American Council on Education have focused on the changing status of women in education that has taken place during the last ten years.

During the past ten years, several agencies have grappled with the discriminatory effects restricting the advancement of women in higher education and have initiated steps to heighten awareness of this discrimination. One report, published by the National Center for Education Statistics provided an update on the changing patterns in degrees awarded to women (Brown, 1979).

This report described the changes which took place between 1971 and 1977 among women recipients of bachelor's, master's, and doctoral degrees. There were 231,486 master's degrees awarded in the United States in 1971,

and 40.1 percent of those were awarded to women. The numbers increased somewhat in 1977 with 318,241 master's degrees awarded to women. The degrees earned by women were spread over twenty-four fields but were awarded mainly in the fields of education, foreign language, health professions, home economics, letters, library science, and fine and applied arts. The traditionally feminine fields of home economics and library science showed minor declines in numbers of degrees awarded from 1971 to 1977. More than half of the master's degrees awarded in 1971 and in 1977 were in education, thus it remained the most popular field for women.

Also, according to the same study, the number of doctoral degrees awarded in the United States in 1971 was 32,113 with only 14.3 percent awarded to women. In 1977, a total of 33,244 were awarded, and 24.4 percent went to women. The percentage of doctoral degrees to women continues to increase, yet only about one-fourth of all doctoral degrees are earned by women (Brown, 1979).

It was interesting to note that when black males and females were compared, black female college attendance is higher than that of black males, yet black females hold only 21.4 percent of the total doctorates earned by the black population. Evidence further shows that black women are not advancing to top level positions in higher education (American Council of Education, 1973; U.S. Bureau of Census, 1978).

The overall conclusions from these data are that (1) the percentage of women active in higher education continued to increase; (2) degrees awarded to women showed the greatest percentage increase in nontraditional fields at the bachelor's and master's degree level, (3) women's gains were greatest in traditional female fields and were lowest in nontradi-

tional female fields at the doctoral degree level; and (4) education was the most popular field of study for women at all three levels.

The degree of representation of women receiving degrees has continued to increase, and it could be speculated that women would also be entering the work force at a higher level since education is the most popular field of study for women.

However, women college and university administrators were extremely rare until the last decade. In fact, a survey completed in 1978 of 106 major public land grant universities revealed that women held only 2,905 of the 13,639 administrative positions. A later study of state and land grant institutions revealed the number of women administrators had risen from zero in 1970-71 to nineteen in 1977-78 (Arter, 1972; NASULGC, 1978).

Some of the factors responsible for the paucity of women in the higher levels of administration in higher education are now considered.

Influence of Gender on Career Advancement

In the last few years, investigators concerned with women's issues have focused on gender as an influence in career advancement. Van Alstyne et al. (1977), who studied the employment patterns of women, found that titles and salaries vary substantially by sex and race, with differences more consistently related to sex than race. Kaufman (1961) also established the fact that gender is a decisive factor in appointment to high positions. The study included 156 women graduates with degrees in administration and supervision from New York University School of Education and 355 other colleges and universities for teacher education. The

study covered a twenty-year period from 1938 to 1958. The women were asked to list factors considered crucial in appointment of women to high level positions. The respondents identified five critical factors: sex, level of the position, field of appointment, experience, and education. Women who were not selected for positions were asked why they felt they had not been hired, and most felt that sex bias and the traditional belief that men perform better than women professionally were significant factors. Women in the sample had applied for higher level positions not typically held by females and in areas traditionally dominated by males. The results of the Kaufman study confirmed that persons in decision-making positions shared the belief that gender is a deciding factor in appointments to high level positions.

Research by Kanter (1977) suggested that two crucial factors determining the level of success within an organization are the initial selection process and entrance into the informal setting of the organization.

Faunce (1977) pointed out two obstacles hampering women's access to managerial positions: (1) the stereotype that women cannot cope under stress, and (2) the fact that women are excluded from the process that results in the early identification of potential leaders.

Barriers to Professional Achievement of Women

Kaufman's (1961) study indicated that though women's merit, qualifications, and experience may be equal to that of men, women are less likely to be appointed to top level positions in higher education. Since Kaufman's (1961) research, numerous studies have addressed the problem of

the under-representation of women in administrative positions in higher education and the extent to which such under-representation is the result of sex discrimination and other barriers.

Barriers can be either self-imposed or imposed on the individual by society. Virginia O'Leary (1974) identified internal and external barriers which inhibit the professional achievement of women. The internal barriers were things such as fear of failure, low self-esteem, role conflict, and fear of success. The external barriers were identified as societal sex role stereotypes, negative attitudes toward women in management, negative attitudes toward female competence, and the prevalence of the male managerial model.

Margaret Fenn (1978) discussed another set of barriers which women face in professional advancement. She identified these barriers as sociological, psychological and organizational. According to Fenn (1978), women aspiring to top level positions are faced with social, psychological, and organizational barriers created by negative sexual stereotypes. These stereotypes inhibit a woman's willingness and ability to succeed on the job and limit development of professional potential. Fenn (1978) argued that assumptions made about the limited potential of women have had an inhibiting effect upon the development of female potential.

One of the most complicated of the psychological barriers is the definition of success. Society has multiple and conflicting definitions of success for women who are asked to demonstrate competence in a range of roles, both female and occupational, and yet women are not recognized for those skills (Astin, 1973; Horner, 1970).

A brief review of the educational history of women indicates that conditions have not changed much as women have fought to gain access to positions in spite of the barriers. Women who seek independence and intellectual mastery pay a high price for defiance of prescribed sex roles. They also experience conflict between achievement and femininity.

Both Fenn (1978) and O'Leary (1975) agreed that women in America are discouraged from achieving as much as or advancing over their male counterparts. Women are first exposed to the socialization process when they are infants, and the process becomes more intense and complex with age. In youth, female children engage in family play, caring for dolls, and housekeeping. Young women seldom experience physically and intellectually aggressive problem-solving tasks. They learn it is inappropriate for them to enjoy competition or to aspire for excellence. While aggressive behaviors are encouraged in their brothers, women are taught to be "ladies" and to value dependent roles in which the pleasure of others is placed ahead of their own. Both the studies of O'Leary (1975) and Fenn (1978) indicated that women receive limited exposure to job opportunities and, as a result, fail to understand and use risk to further their careers.

Studies over the past few years have demonstrated clearly that women find conflict between femininity and intellectual achievement. Horner (1972) studied the motivation of women to avoid success and presented evidence that some women fear appearing "unfeminine." She found that women fail to develop their talents, abilities, and interests because they fear success will hinder their social lives and interfere with their popularity with men. Horner used sex, age,

education, race, and occupational level as variables.

In the 1970 study of men and women at an Eastern law school, negative attitudes toward success increased in white women from 65% in 1964 to 88% in 1970. Male attitudes toward female success remained constant over this time period, but men were threatened by female achievement drives. Some of the men in the study revealed that they did not take female achievement seriously, while other men were overtly hostile toward the achievements of women. Men feared women were seeking superiority over them rather than equality. Men also expressed resentment when women's objectives were achievement and career advancement. At the same time, women tended to alter their career aspirations downward when they experienced anxiety about success and social rejection by the men (Horner, 1970).

Bernard (1964) investigated the effects of sex discrimination on career development and concluded that women scholars are not taken seriously and cannot look forward to a normal professional career. She claim that women end up in low prestige jobs and are excluded from the prestige system entirely. Both studies reflect the strong influence of attitude on the advancement of women.

The Carnegie Commission on Higher Education (1973) indicated that university administration has traditionally been a prestigious male profession with few women in the ranks. This was a fact that affirmative action legislation was intended to change, but in some instances affirmative action actually resulted in lowering the status of women. An example is the merging of prestigious male institutions with female institutions. After institutions merged, women administrators who formerly were in top

level positions were relegated to subordinate positions whereas male administrators retained their top level status.

Although research shows that women are receiving educational preparation and professional experiences similar to that of men, few women are found in positions of presidents of the institutions. An exception has recently been reported. For the first time in a hundred-year history, the "seven sister" schools in the East (Wellesley, Smith, Radcliffe, Bryn Mawr, Barnard, Vassar, and Mount Holyoke) have women presidents. In 1975 when the Office of Women, ACE, reported an increase in women chief executive officers in colleges and universities, the number was still about five percent in the Fall of 1976 (Comment, Fall, 1976).

Several researchers have looked at reasons for women not advancing to top level positions in education administration, and the most dominant reason appears to be the socialization process women experience (O'Leary, 1975; Horner, 1970). The social experience causes certain expectations about the relationship between sex and occupation. For women, the choices of occupations are associated with the role of helper, and these "helper" jobs are appropriated to women. In fact, even those women who are exposed to a variety of professions tend to follow the traditional careers such as social worker, teacher, nurse or secretary (Rossi, 1964; Patrick, 1973)

Parents are often unaware that they use guiding principles to socialize their children. Boys learn that it is better to be a male than a female because it is men who exhibit highly valued traits and are the benefactors of privileges and prestige in society. The message to little girls is that women are important only in the role of mother and they never become important decision makers.

According to Super et al., (1963), women play out sex role scripts assigned at birth. At an early stage, women begin to develop an awareness of self that influences later career goals. The process begins with primary self-concepts and gradually becomes more elaborated and complicated through maturation. Vocational self-concept is only one of the many self-concept systems which an individual develops. Both self-concept and vocational self-concept develop in parallel ways. First, self-concept formation begins as the infant becomes aware of the self as a separate entity and recognizes the similarities that exist between the self and others. As individuals mature, they begin to test these similarities in several ways which have implications for career decision later in life.

The growing child imitates the like-sexed parent and develops a corresponding sex-role identification. If unable to identify with one parent, the individual usually identifies with some other self-selected same-sex adult model. The identification is constantly expanding and contracting as development occurs. It is a continuing process of defining one's identity in vocational terms. Researchers agree that career decision-making is a function of the degree of accuracy in making self-evaluations, and education is a viable means for enhancing the ability to make realistic self-evaluations (Super, 1957; Tiedeman and O'Hara, 1963; Roe, 1956).

Super (1957) refers to reality testing as a process in which the individual's skills, aptitudes and abilities serve either to confirm, deny, or modify plans for educational and vocational decisions. Often sex-role play enhances the development of the vocational self-concept.

Through playing various roles, i.e., lawyers, doctors, engineers, the individual learns and adopts the norms and values of the particular reference group. After identifying a role, the individual determines if his or her own skills, aptitudes and abilities are appropriate for the real-life occupation.

Horner (1968) studied the impact of society's attitudes on women's choices of careers and reported that women incorporate those attitudes which serve to influence both professional careers and family life. Astin (1973) stated that women adopt the avoidance syndrome to resolve the dual family conflict. According to Astin, the avoidance syndrome has been an effective barrier which discourages women from seeking high level positions and non-traditional professions.

Astin (1973) explored the conflicts that women in administration experience when men show prejudices against them. Women tend to choose the less significant position and see the job as secondary to the spouse's career. This decision also makes mobility easier for the one career family.

These studies reinforce the belief that attitudes of others play a major role in women's decision making. Women avoid competition, success, competence, and show of intellectual achievement because those qualities, according to society, are inconsistent with femininity. Women feel they have to make a choice between a career and being female (Horner, 1970).

Society's negative attitude toward women managers tends to be prominent throughout the literature, but recently researchers have looked at other barriers which inhibit women from advancing to top level positions. A common illusion is that any woman who seeks a top level position in

education would earn a terminal degree, gain some experience, and compete for the top jobs and be successful. Research data do not support this illusion.

Kanter (1979) suggested several career paths which might improve the quality of work life for women in education. She applied theories developed in the corporate work world and suggested women pursue alternative paths:

1. advancement through the faculty ranks,
2. movement from lower level positions to upper, and
3. movement from one position of leadership to another using both technical skills and faculty rank.

Walsh (1975) found that the majority of the women studied had entered administration by chance, and one-third had never considered administration a possible career field. Most of the women received the job offer for their present position through the "old buddy" system, and those who encountered problems ranked discriminatory practices as the most frequent obstacle to career development. In addition to the discrimination practiced by educators, women were also limited by the sex roles taught to them as children (Pfiffner, 1975, 1976). Even when education and experience are equal, women tended not to be chosen for leadership positions (Bernard, 1964).

Gasser's (1975) study revealed that fear and unwillingness to accept policy-making roles are major barriers to women entering higher administration, but she also indicated that women do desire responsibility. Tessler (1976) found that women felt their inability to relocate was a major barrier to advancement. Her finding was supported by other

researchers who argued that the status between men and women is attributed to geographic limitations and two-career families (Maxwell, Rosenfield, Spileman, 1979).

McCorkle (1974) and Tessler (1976) found that an environment that is supportive of women had a positive influence on their status in the job market. Women in the Tessler study felt that the feminist movement had a positive impact on them.

There is evidence that women who achieve upper level administrative positions have parents with similar educational backgrounds and higher education experience. This trend exists for women in education as well as in other spheres of employment. For example, Hennig (1970) found that family background was a major factor in the success of the twenty-five corporate businesswomen she studied. These women felt that the encouragement and close relationship with their fathers during early childhood helped them make career decisions. The women were from families with fathers of influence. In all cases, the father helped the women obtain their first jobs.

Occupational choices of career women in male-dominated and traditional occupations are thought to be associated with parental background. Tenzer (1977) studied parental background variables and concluded there is a relationship between parental background and career choice. Career women in male-dominated occupations were more highly father-identified, while career women in traditional occupations were more mother-identified. This study indicated that women identified more with their mothers than with their fathers which suggested that mothers have a greater role in career development of women than previously believed. However, other

literature supports the notion that the father has the greater influence on the career goals of women (Hennig, 1970).

Researchers have posited the importance of parental attitudes, environmental surroundings, and educational experiences on career development, but not all agree to what extent each is a factor (Roe, 1956; Holland and Gottfredson, 1976; Krumboltz, 1976).

Ann Roe, for example, also focused on the impact of family on career decision-making. According to her, the family plays a crucial role in shaping the types of interactions with others which influence vocational choices. She emphasized that early home climate is a determining factor in career choice and the most significant predictor of career development (Roe, 1956).

Personal, Educational, and Professional Backgrounds of Women in Top Level Positions in Administration

Several researchers have directed their attention to the personal, educational, and professional backgrounds of women in top level positions in higher education administration. In most of the studies, the women sampled tended to be similar. A profile of the women revealed that their ethnic background was American-English or American-Irish with Protestant religious upbringing predominant (Tessler, 1976; Goerss, 1975; Bernard, 1964).

The majority of the women came from middle class families with professional parents (Tessler, 1976). The women administrators tended to be only, first born, or youngest children, in a family with no more than two to four siblings. The family size seemed to remain constant (Walsh,

1975; Tessler, 1976). Tessler (1976) concluded that the professional growth of the women was strongly influenced by family background and achievement motivation.

The professional experiences of women administrators followed a similar pattern of employment. They were employed at the same institution about 14 years and held their current positions three to five years. Most of them taught in an academic field before entering administration. The maximum number of years in the position of president was six (Goerss, 1975; Gasser, 1975; Arter, 1972).

Like the women in the Hennig (1970) study, a large portion of the women's first jobs were as secretaries, and they began their professional careers as teachers or counselors.

The women administrators holding top level positions reported being active on university committees, particularly those committees which contribute to policy making decisions (Gasser, 1975). Others reported a high rate of participation in professional organizations as both members and as office holders. The women, however, published fewer articles than men published (Walsh, 1975; Gasser, 1975).

According to several researchers, the profile of a woman college president in 1978 was as follows: Her age was between 56 and 65, and she was married to a husband with a doctorate; she had either no children or two and was a white Protestant; she was born in Massachusetts, but worked in another region; she was either the first born of two or an only child; her mother did not work outside of the family while she was growing up, and her father was a college graduate employed in the professional or managerial field; she graduated from a private religiously affiliated

coeducational undergraduate school with an enrollment between 500 and 2500; she majored in social sciences or humanities and earned a Ph.D. in education or social sciences; she worked in more than three institutions, held four to six positions, and had 18.4 years of pre-presidential experience before accepting her present post which she has most likely held for three years or less; she came from another institution and belongs to a professional organization and is a current or former officer and member of a local, state, regional, or national corporation board (Gasser, 1975; Goerss, 1975; Patrick, 1973).

Earlier studies focused on parental background as an important factor in career choices for women and found that parents of top level administrators were somewhat better educated than parents of men in similar positions (Tessler, 1976). Although mothers of female administrators attended college, fathers tended to have higher earned degrees than did the mothers in a study by Gasser (1975) similar to the study of Tessler (1976). In both studies, the women who entered male-dominated professions were found to identify with their fathers but also to have a strong identification with both parents. Both parents held high expectations of their daughters' achievements. The mothers of many of the respondents chose homemaker or housewife as a principal occupation while the respondents themselves chose to combine the role of wife and mother with a professional career. The women in the Gasser (1975) study, ten female administrators in the Big Ten schools, had mothers who attended college and were employed.

Despite the traditional forms of family, occupational, and educational systems in this society, a majority of women still enter and

pursue a professional career (Bernard, 1964; Epstein, 1971; Graham, 1973). Several studies, for example, show that some professional women avoid the conflict of dual family and professional roles by remaining single (Astin, 1969). However, according to Astin, the majority of professional women do marry and have children.

For most professional women, marital status seems to present no serious barrier to holding or aspiring to positions of administration in higher education (Loyd, 1976). Studies show an equal number of successful women married and single. Those who were married had an average of two children (Tessler, 1976; Goerss, 1975; Benedetti, 1975).

Regardless of their marital or family status, a high number of women remained in the labor force. Women tended to marry men who had attended college and who had completed a graduate or professional degree in education, engineering, business, or law. There were no differences in the ages of those women who married and those who had never married (Goerss, 1975; Tessler, 1976; Gasser, 1975; Walsh, 1975; Astin, 1969). However, those women who married tended to marry later in life compared to women in general and compared to the men in the study (Walsh, 1975).

Age appears not to be a significant factor in determining the advancement of women to top level positions in higher education. In various studies, women in upper level positions ranged in age from 32 to 64 years with a mean age of 48 (McGorkle, 1974; Gasser, 1975; Walsh, 1975; Goerss, 1975; Tessler, 1976). The average age for women in positions of President, Vice President, Vice Chancellor and Dean was 53.51. The Presidents studied were between 40 and 49 years of age, and the other women in positions ranged from 45 to 53 years in age (Goerss, 1975).

When compared to men in similar positions, women were found to be five to ten years older than their male counterparts (Benedetti, 1975; Goerss, 1975; Pfiffner, 1973; Walsh, 1975).

Women administrators tended to earn their first degrees in social sciences and to acquire master's degrees within three or four years after the bachelor's degree. They tended to earn their Ph.D.'s some years later, according to Tessler (1976). In the Goerss study (1975), women holding top level administrative positions in education were reported to have earned doctorate degrees and held a faculty rank of full professor. Fewer women in the Gasser (1975) study had earned doctorate degrees as compared to the Tessler study. When asked if they had prepared themselves for a career in administration, the women in the Loyd (1976) study stated they had not. This supports the hypothesis that the skills it takes to do a job are quite different from the skills it takes to qualify for one (Kanter and Wheatley, 1978).

The single-sex college was a topic of great debate in the sixties. By the mid-1970s after the civil rights laws, the debate had ended and very few single-sex institutions of higher education remained. Women's colleges had been under great pressure to justify their existence since the 1800s. Advocates had proclaimed that women's colleges had made a great contribution by providing a supportive force for women to develop their potential. The women's colleges were seen as a safe environment where women did not have to face the barriers of sex role stereotyping.

According to Tidball (1973), women enrolled in women's colleges are significantly more career oriented than women enrolled in coeducational colleges.

Women's colleges tend to reinforce the importance of an educational environment which allows for emotional, social, and cognitive development of women. These colleges further allow women an opportunity to practice leadership within a setting that is free of male dominance (Tessler, 1976; Goerss, 1975; Tidball, 1973).

Graduates from women's colleges and coeducational institutions were studied, and the women from women's colleges were found to have twice the achievement output when compared to graduates in the coeducational institutions. The advancement of women is largely attributed to certain characteristics unique to the women's college environment where female role models are present. The majority of women with Ph.D.'s and the majority of women holding top level positions in higher education are graduates of women's colleges. Most of the colleges are private and are located in the East (Tessler, 1976; McCorkle, 1974; Tidball, 1973).

Psychological, Personality, and Leadership

Characteristics of Women Administrators

Several researchers studied the psychological and personality characteristics of women administrators and found that women are regarded as responsible, efficient, intelligent, strong, alert, well-informed, and competent (Tessler, 1976; Stevenson, 1973; Walsh, 1975; Loyd, 1976). Despite these leadership qualities as indicated above, women are still faced with barriers that limit their potential (Kanter, 1977). Historically, women have always been conditioned to be inferior (Epstein, 1971). Once aware of the sexist nature of the culture, women can begin to confront the obstacles.

Personality characteristics of women educators studied by Loyd (1976) indicated that the administrator group was outgoing, emotionally stable, dominant, serious, conscientious, venturesome, trusting, imaginative, shrewd, self-assured, self-sufficient, controlled, and relaxed. Her findings lent support to an earlier study in which Patrick (1973) identified psychological factors that contributed to a woman's choice to enter a top-level position. Patrick concluded that the professional career choices of women were associated with their childhood experiences. If the individual experienced independence and achievement as a child, she was likely to choose to enter a top-level position.

Other studies examined leadership traits and found women administrators to be strong in leadership, highly introspective, assertive, comparatively unsympathetic, self-actualizing, and to have high self-regard (Henschel, 1964; Loyd, 1976; Goerss, 1975).

McCorkle's study (1974) focused on the managerial style of the women as well as geography and institutional type. McCorkle analyzed managerial style of the women using McGregor's (McGregor, 1960) theoretical constructs of motivation. Briefly, McGregor's Theory X assumes that the average human being has an inherent dislike for work and will avoid it if possible. Individuals who fall into this category prefer to be directed, will avoid responsibility, have little ambition, and want, above all, security. According to McGregor, the most effective management style of Theory X individuals is authoritarian.

McGregor's Theory Y assumes that the expenditure of human energy for work is as natural as the expenditure of energy for play. Theory Y individuals do not dislike work and, in fact, receive satisfaction from

work. Those individuals use self-control and self-direction in completing tasks to which they are committed. These individuals will also accept responsibility.

McCorkle (1974) found that women preferred the Theory Y management style and concluded that top level women administrators may be more directed toward organizational objectives and human development than toward an authoritarian style of leadership.

In the same study, women administrators were asked for advice for those women desiring careers in higher education administration. The incumbent women administrators recommended academic preparation and career experience. They also recommended studying theories of administration, negotiation, law, and research techniques. The administrators further advised women to accept challenges, work hard, have high standards, and retain their identities and beliefs in themselves as women.

White (1976) also studied managerial style and found that when managerial style-perceptions between female administrators and their subordinates and male administrators and their subordinates were compared, there were no differences in the self-perception of male and female college administrators, but there was a difference in the way their style was perceived by others. For example, women viewed female administrators as less capable.

As more women prepare for leadership positions in higher education administration, there is an increasing need to study factors relating to their employment. Such a study was conducted by Florence Stevenson (1973) of women administrators in the Big Ten universities with respect to environmental support, personal, psychological, and educational variables.

She looked for causes for the small representation of women in higher level positions. In a group of 327 women administrators, she found their titles and levels of positions indicated limited professional support, unclear job responsibility, and a lack of confidence in women's abilities as administrators. The largest group of women, 34 years of age or younger, had the greatest proportion of doctoral degrees and the greatest percentage of married women with no children. Most of the women in this age group were in middle level positions. Women in higher level positions were ten to fifteen years older than those in middle level positions.

Eighty-four percent of the women in the Stevenson study (1973) were in the field of work of their most recent degree, and eighty-nine percent had held administrative positions in the same institution before their present appointment at that institution. The women in this study identified discrimination as the major factor in lack of career advancement. They also attributed the socialization process and the absence of a support system as being responsible for their low status.

When managerial styles of male and female college administrators were examined, no differences in style of male and female administrators were found (White, 1976). Women administrators tended not to fit the stereotypes of weak female, masculine leader, or militant feminist. Instead, women were viewed as responsible, realistic and efficient, with plenty of energy and strength to accomplish the hard task of a manager (Tessler, 1976; Gasser, 1975; O'Leary, 1974, 1975).

Geography and Women in Administration

Although data are available on the numbers of women in education administration, few attempts have been made to determine the extent to which geography and institutional type are related to the status of the women in administration. Bernard (1964) suggested that in addition to training, personal preferences, and functions of the institution, geography also acts as a variable influencing the institutional distribution of women.

McCorkle's (1974) survey of women administrators in top level positions in education determined that there were differences among the geographical regions studied. McCorkle (1974) studied 166 women administrators in 605 institutions of higher education who held positions of President, Chief Academic Officer, and Academic Dean in three Federal regions of the United States. Those regions were:

Region I: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont (110 women in administration)

Region VI: Arkansas, Louisiana, New Mexico, Oklahoma and Texas (36 women in administration)

Region X: Idaho, Oregon and Washington (20 women in administration)

According to McCorkle (1974), employment opportunities for women in higher education administration appear to be best in Region I and worst in Region VI. Women comprised 12 percent of the top level administrators in Region I, five percent in Region X, and three percent in Region VI.

Women and Top Administrative Positions

Ruth Oltman (1970) conducted a survey of 750 college and university association members of the American Association of University Women and reported that there were few women in top administrative positions. Those who held administrative positions were either in small colleges or women's colleges and often held sex-stereotyped positions such as Dean of Nursing, Dean of Social Work, or Dean of Women. Her study showed males greatly out-numbered women as administrators in both coeducational schools and in women's colleges. The male-female ratio reported in this study was:

<u>Position</u>	<u>Female</u>	<u>Male</u>
President, Coeducational Schools	5%	95%
President, Women's Colleges	50%	50%
Vice-President Coeducational Schools	3%	97%
Vice-President, Women's Colleges	31%	69%
Academic Dean, Coeducational Schools	24%	76%
Academic Dean, Women's Colleges	59%	41%

The only positions where women were found in the highest percentage was Academic Dean in women's colleges. Women were often found in positions which had a minor relationship to decision making and thus tended to be in middle management positions of stereotypical nature. Even in women's colleges where administrative opportunities for women should be both expected and found, there was a higher percentage of men in policy-making positions. Oltman (1970) attributed the scarcity of women to the lack of research about women who are incumbent administrators.

The National Education Association (1973) surveyed four-year institutions in 1971-72 and reported that 32 of the 950 presidents were women,

13 of the 464 vice presidents were women, and 22 of the 366 academic deans were women. Eight women were presidents of non-church related schools at that time. The ACE Office of Women in Higher Education (1976) reported the gender of college presidents to be 182 females and 2,318 males. Of the women presidents, only two were black. Thus, black women, like white women, were under-represented in the position of college or university president.

Margaret Arter (1972) studied 146 chief officers of institutions who held membership in the National Association of State Universities and Land Grant Colleges and found that over one-half of the institutions (N = 118 - 81 percent) had no women in top level administrative positions and more than one-third of them had not considered a woman for an administrative post in the five years prior to the study. Those women who held positions reported they had been recently appointed to their respective positions.

Bernice Sandler (1971), in her work with the Project on the Status of Education of Women, pointed out that only four public institutions with enrollment over 10,000 had women presidents, and no private universities of that size were headed by a woman.

However, in private higher education, the proportion of women administrators was somewhat higher: 21% compared to 12% in public colleges. Of the key administrative positions in 1,037 institutions, 16% were headed by a woman, and 56% of the women were found in private women's colleges (Van Alstyne et al., 1977). The Taylor and Shavlik study (1977) supported these findings. They surveyed 2,926 institutions the same year and the survey revealed 154, or fewer than 5%, of the institu-

tions were headed by a woman. Sixty-nine percent of these were church related and 64% had fewer than 1,000 students. There were only 16 women presidents of public coeducational institutions.

The latest survey reported by Taylor (1980) revealed that four-year private colleges with religious affiliation had 82 women chief executive officers, and non-church related private colleges had 38. Sixty-four of these headed a women's college and 56 a coeducational institution. A majority (64) were in schools with 1,000 or less student population, and only five were in schools of over 3,000.

Four-year public institutions had 14 women chief executive officers. One headed a women's college with an enrollment of less than 1,500, and 13 headed coeducational institutions. Eight were in schools with enrollments less than 10,000, three in schools with enrollments between 10,000 and 20,000, and two in schools with enrollments of 20,000 or more.

Summary

The status of women in higher education administration has not changed to any great extent since 1970 when institutions and researchers began collecting data on the status of women. According to the data, the number of degrees earned by women continued to increase, but women still occupied almost the same positions in higher education and accounted for approximately the same percentage of total positions as in 1970 (Sandler, 1971; Harris, 1970; ACE, 1973. Reasons given for the under-representation of women were sex role socialization, discriminatory practices, and a lack of support women receive when they pursue male-dominated positions (Super, 1957; Horner, 1969; Pfiffner, 1975,

1976; Bernard, 1964). According to Harris (1970), the limited extent to which women are found in top level administrative positions is attributed primarily to sex discrimination.

According to several researchers, attitudes hinder the advancement of women (Epstein, 1971). Women grow up with certain beliefs and expectations about the relationship between gender and occupation, and those beliefs are major obstacles to entering the professional work force. According to O'Leary (1974), women are therefore blocked from developing their full potential by those barriers. She referred to them as internal barriers.

External barriers, according to O'Leary, are the environment and educational experiences. Roe (1956) and Holland (1976) claim that those two -- environment and education -- are major predictors of career development. This claim reinforces the finding that women's colleges have a positive influence on the development of women administrators. This finding alone has important implications for the professional future of women (Super, 1957; Pfiffner, 1975, 1976; Hennig, 1970; Tenzer, 1977).

Economic circumstances have an important impact on careers. The women in numerous studies were from middle class backgrounds with a religious upbringing and were educated in private women's colleges in the East. A majority of the women sampled had earned Ph.D.'s in social science. Most of them taught before being appointed to their present positions (Pfiffner, 1975, 1976).

The average length of time the women spent in top level positions was six years, after which most of them returned to teach with a faculty rank of full professor. They tended to have been appointed from a lower

position in their own institution rather than having been recruited from another university (Goerss, 1975; Gasser, 1975; Tessler, 1976).

Marital status does not seem to hinder advancement. The number of married women administrators was equal to the number of single women. Those who were married did so later in life and had fewer children than other women in middle management positions. Women ranged from five to ten years older than male administrators. Those in the highest level positions averaged about 53.51 years of age (Tessler, 1976; Walsh, 1975; Goerss, 1975; Benedetti, 1975).

With personal, educational, and professional backgrounds equal to those of men, women are still not receiving appointments to top level positions in education administration as often as their male counterparts.

The Bernard (1964) and McCorkle (1974) research indicated that there are geographical factors which are related to the employment of women as administrators. Women are most likely to be found in institutions located in the East than other regions of the country.

As indicated earlier, the purpose of the present study was to look at characteristics of educational institutions that do and do not employ women in higher level administrative positions. Some personal characteristics of these women administrators were also considered.

CHAPTER III. METHODOLOGY

This study identified those four-year public and private institutions of higher education which did and did not employ women in the highest levels of educational administration. A comparison was made of the characteristics of those institutions employing women in high levels of administration and those which did not. Also examined were some of the personal characteristics of those women employed in top level positions in 1978-79.

Source of Data

For this study, institutions were selected from existing governmental documents reported by the National Center for Education Statistics and published in the Education Directory: Colleges and Universities for the years 1969-70, 1974-75, and 1978-79.

The personal data were collected from the Public Information Offices of the institutions where women were identified as holding a top level position of President, Vice President, Dean and/or Chief Officer in 1978-79.

Collection of Data

Computer tapes with the appropriate data were purchased from the National Center for Education Statistics, Data Systems Branch, for the years 1969-70, 1974-75, and 1978-79. Those tapes were processed by the Iowa State University Computer Center using the Statistical Analysis System (Barr and Goodnight, 1972) to eliminate all schools that were not four-year public and private institutions of higher education. All

names preceded by "Mr." were eliminated from the original data.

Once those institutions and names were eliminated, the top level women administrators were identified by scanning the individual university staff listings for a first name used primarily to identify women. When the name was not clearly female, the name was included and later eliminated if the school responded that the name belonged to a man. In some instances initials were used and later eliminated by the school. The prefixes "Miss," "Ms.," and "Sister" were helpful in identifying female administrators.

Only those names identified by a title of President, Vice President, Dean or Chief Divisional Officer by the National Center for Education Statistics were used in this study. In cases where the title was different, the code was used to specify the function.

A computer program was developed to identify each woman with her employing institution and the position held. A resume was requested from the Public Information Office of the employing institution for each woman identified as a top level administrator. Of the 2,442 institutions in the study, 821 had 1276 women administrators who fit the criteria.

Sending a questionnaire to the women was considered, but it was decided that an experimental approach would be used to gather the data without contacting each woman. To our knowledge, this technique has not been used before, and without a follow-up, the return rate was 35 percent.

Statistical Procedure

The institutional data were tabulated from the computer tapes purchased from the National Center for Educational Statistics. Frequency

distributions of institutional characteristics were compiled. Comparisons were made between institutions that did and did not employ women in top level positions of administration and between the three years studied, 1969-70, 1974-75 and 1978-79. The statistical significance of the comparisons was tested by chi square where possible.

Selected personal, educational and professional characteristics of the women administrators were hand-tabulated from information obtained from the individual resumes and a frequency distribution compiled. Resumes were obtained for 443 women out of a total of 1,276 identified and sought, for a return rate of 35 percent.

Names that were not clearly identified as male or female were included in this study, and, therefore, it is speculated that the total number is inflated.

CHAPTER IV. RESEARCH FINDINGS AND ANALYSES

Introduction

This research was designed to investigate the characteristics of institutions employing women in top level administrative positions and of the top level women administrators themselves. This study covers three time periods, 1969-70, 1974-75 and 1978-79, and is limited to four-year public and private institutions of higher education registered in the Education Directory: Colleges and Universities for those periods. The majority of the institutional data for 1969-70 was missing from the National Center for Educational Statistics computer tapes and, therefore, most of the time comparisons are based only on the 1974-75 and 1978-79 data.

The women administrators studied were those who held positions of President, Vice President, Dean or Chief Officer as listed in the 1978-79 Education Directory.

This chapter is divided into two sections: the first presents descriptive information relative to four-year public and private institutions of higher education employing women in top level administrative positions. Several variables are discussed including date of establishment, type of control, geographic region, size of institution, student body mix, and highest degree granted by the institutions. Where possible, comparisons are made across the three time periods.

The second section of this chapter will discuss the educational and professional backgrounds of the women identified in upper level positions

of administration in higher education, the types of positions the women held before obtaining their present positions, the proportion of women who received degrees from the institution where they are presently employed, and the number of years of experience in teaching and administration. In addition, the marital status and family size of those women with families will be assessed.

Institutional Data

1. Is there a relationship between the date of establishment of the institution and the number of women administrators employed in top level administrative positions?

Institutions in this study were categorized into one of five different time periods reflecting the year when they were established: 1879 or earlier, 1880-1919, 1920-1949, 1950-1969, and 1970 or later. In addition to those categories, the data were crosstabulated on the source of control and whether there were no women or some women in top level administration. The date of establishment of the institution was the year the institution came into existence or was chartered. There were 2,961 institutions included in the 1969-70 data; 2,491 institutions included in the 1974-75 data; and 2,442 institutions included in the 1978-79 data tapes.

As the following table will show, institutions established during the 1880-1919 period had the highest percent of women administrators. Forty-one percent of the institutions established in that time period had women in top level administration. Forty-six percent of public institutions and 38 percent of private institutions had women administrators.

Institutions established in the 1920-1949 period reflect the next highest proportion of women top level administrators (38 percent). Of the public institutions established during that time, 42 percent had women administrators compared to 36 percent of private institutions in the same period.

The institutions established during the "1970 or later" period had the third highest proportion of women administrators (34 percent). Of the five time periods studied, this was the only one in which the proportion of private institutions with women exceeded the proportion of public institutions. There were 64 private institutions established between 1970 and 1979, and 36 percent had women administrators compared to 30 public institutions with only 27 percent with women administrators.

The institutions established in the 1950-1969 time period ranked fourth in proportion of women with 32 percent. Thirty-four percent of the public institutions had women in high levels of administration, and 30 percent of the private institutions employed women in top level administration.

The largest number of institutions were established in the "1879 and earlier" time period, and they ranked fifth in proportion of women administrators (29 percent). Of the public institutions, 31 percent employed women in top level administrative positions whereas only 20 percent of the private institutions did.

The percent of institutions with women in high level administrative positions had almost doubled in the ten-year period from 1969 to 1979. The largest increase occurred in the public sector with 17.5 percent of

Table 1. The relationship of year of establishment of public and private institutions to the number and percent* of women in top level administration in 1978-1979

Year of establishment	Number women	Percent women	Public inst.	Number women	Percent women	Private inst.	Total women	Per-cent	Total inst.	Per-cent
1879 or earlier	106	31	344	174	29	617	280	29	961	39.3
1880 - 1919	93	46	204	164	38	432	257	41	636	26.0
1920 - 1949	32	42	77	107	36	295	139	38	372	15.2
1950 - 1969	47	34	139	73	30	240	120	32	379	15.5
1970 - later	8	27	30	23	36	64	31	34	94	4.0
Total	286		794	541		1648	827		2442	100.0

* Both row and column percentages are presented.

Table 2. The number and percent of public and private institutions with women top level administrators, 1969-70, 1974-75 and 1978-79

	1969-70			1974-75			1978-79		
	Number women	Percent women	Total inst.	Number women	Percent women	Total inst.	Number women	Percent women	Total inst.
Public	... ^a	-- ^a	... ^a	203	24.2	837	286	37.5	794
Private	... ^a	-- ^a	... ^a	431	26.0	1,654	535	32.5	1,648
Total	519	17.5	2,961	634	25.4	2,491	821	33.6	2,442

^aData missing.

all four-year institutions employing at least one woman in 1969 to 34.5 percent employing a woman in 1979.

2. Is there a relationship between the affiliation of institutions and the number of women administrators in top level positions?

The proportion of institutions employing women administrators increased from 25.4 percent in 1974 to 33.6 percent in 1978-79. In that increase, the public institutions increased proportionately from 24.2 percent to 37.5 percent, a gain of 13.3 percent. In contrast, the private institutions increased from 26 percent to 32.5 percent, a gain of 6.5 percent. Thus during the four-year interval, the public institutions caught up with and exceeded the private institutions in the proportion of those employing women top level administrators. This may be related to the fact that many of the private colleges are church-related.

3. Has the number of women employed in top level administrative positions changed over the ten-year period studied?

To determine the number of women administrators in institutions of higher education over the two time periods, the institutions were divided into categories according to the number of top level women administrators employed in each institution. There were four categories ranging from "no women" to "three or more women." The categories were further divided into public and private institutions.

A majority of institutions had no women employed in both 1974-75 and 1978-79. Seventy-four point six percent had no women administrators in

1974-75, and 66.1 percent had no women in 1978-79. Of those institutions that had women, a majority had only one. Sixteen point one percent in 1974-75 had one woman compared to 20.6 percent in 1978-79. The percentage of private institutions was much higher than the percentage of public, 38 compared to 62 percent in 1974-75 and 36 compared to 64 in 1978-79.

Of the private institutions with two women, there was a slight decrease over the time period. Five point two percent of the institutions in 1974-75 had two women compared to 8 percent in 1978-79 with the greatest proportion in the private sector. Public institutions gained from 32 to 39 percent while the private institutions decreased from 68 to 61 percent in the two-women category.

Fewer institutions had three or more women-- Four point one in 1974-75 compared to 5.3 in 1978-79. Public institutions increased from 8 to 22 percent, and private institutions decreased from 92 to 78 percent in 1978-79.

Overall, there was an increase in the number of institutions with one, two, three and more women with the greatest increase in the category of one woman administrator.

4. Is there a relationship between the number of women employed and the highest degree offered by the institution?

To determine the relationship between the highest degree offered and the number of women in top level administration, the institutions were categorized based on the highest degree offered to students. In both periods studied, a majority of the institutions offered the bachelors

Table 3. The number and percent* of institutions with women administrators by number of women administrators, 1974-75 and 1978-79

Number of women administrators	<u>Public institutions</u>				<u>Private institutions</u>				<u>Totals</u>			
	<u>Percent & number by years</u>				<u>Percent & number by years</u>							
	<u>1974-75**</u>		<u>1978-79***</u>		<u>1974-75**</u>		<u>1978-79***</u>		<u>1974-75**</u>		<u>1978-79***</u>	
0	634	34.1	508	31.0	1223	65.9	1107	69.0	1857	74.6	1615	66.1
1	153	38.0	181	36.0	250	62.0	321	64.0	403	16.1	502	20.6
2	42	32.0	77	39.0	88	68.0	119	61.0	130	5.2	196	8.0
3+	8	8.0	28	22.0	93	92.0	101	78.0	101	4.1	129	5.3
	837		794		1654		1648		2491		2442	100.0

* Both row and column percentages are presented.

** Chi square 35.162; DF = 3; Prob. = 0.0001.

*** Chi square 13.063; DF = 3; Prob. = 0.0045.

degree as the highest degree. When the percentage differences were compared over the period, 40.7 percent of the institutions offered the bachelors degree as the highest, 31.3 the masters, 23.2 the doctorate and 4.8 the professional degree. By contrast, the institutions reporting for 1978-79 show 32.1 percent of the institutions offered the masters as the highest, 31.1 percent offered the bachelors as the highest degree, 24.5 the doctorate, and 5.3 the professional degree.

The employment of women administrators was concentrated primarily in those institutions offering the doctoral degree as the highest. In 1974-75, 33.8 percent of the institutions offering the doctorate as the highest degree employed women in top level administration compared to 43.9 percent in 1978-79. For those offering the masters as the highest degree, the percentage increase was equal. In 1974-75, 28.2 percent of the institutions offering the masters degree as the highest degree had women administrators in top level positions compared to 38.3 percent in 1978-79.

Based upon the data presented in Table 4, a greater percentage of institutions offering degrees on each level (bachelors, masters, doctorate and professional) had women administrators in top level administrative positions than the previous time period studied.

The institutions that employ women administrators were further assessed based on the number of women in top level positions and the level of highest degree offered. The degree categories were bachelors, masters, doctorate and professional.

As the 1974-75 Table 5 data will show, 40.5 percent of the institutions offered the bachelors degree as the highest, 30.7 the masters, 27.3

Table 4. The number and percent* of institutions with women administrators in top level positions by highest degree offered, 1974-75 and 1978-79

	1974-75		Total	Per- cent	1978-79		Total	Per- cent	4-year percent increase
	Inst. with women	Percent women			Inst. with women	Percent women			
Bachelors	243	28.7	847	40.7	280	36.0	776	38.1	7.3
Masters	184	28.2	652	31.3	251	38.3	654	32.1	10.1
Doctorate	164	33.8	485	23.2	218	43.9	497	24.5	10.1
Professional	9	9.2	98	4.8	16	14.8	108	5.3	5.6
	-----		-----	-----	-----		-----	-----	
	600		2,082	100.0	765		2,035	100.0	
Missing Data	34		409		62		407		
			-----				-----		
Total			2,491				2,442		

* Both row and column percentages are presented.

Table 5. The number and percent of institutions employing one, two, three, or more women in top level administration by highest degree offered

Highest degree	One woman		Two women		Three or more women		Total inst. with women by degrees offered	
	1975-75/1978-79	1978-79	1974-75/1978-79	1978-79	1974-75/1978-79	1978-79	1974-75/1978-79	1978-79
Bachelors	138 57.0	164 58.6	45 18.4	60 21.4	60 24.6	56 20.0	243 40.5	280 36.7
Masters	115 62.5	148 59.0	39 21.2	58 23.1	30 16.3	45 17.9	184 30.7	251 32.8
Doctorate	116 70.8	134 61.5	38 23.2	62 28.5	10 6.0	22 10.0	164 27.3	218 28.4
Professional	6 66.6	12 75.0	2 22.2	2 12.5	1 11.2	2 12.5	9 1.5	16 2.1
Total institutions by number women	375	458	124	182	101	125	600	765
Missing data	28	44	6	14	0	4		

the doctorate and 1.5 the professional degree. The time period studied showed an increase in each area except those institutions offering the bachelors degree which decreased from 40.5 to 36.7 percent in 1978-79. Thirty-two point eight percent offered the masters, 28.4 percent the doctorate and 2.1 percent the professional degree.

The greatest increase, 5.2 percent, occurred in those institutions offering the doctorate with two women administrators. The greatest decrease occurred in those institutions offering the professional degree and having two women. Proportionately, more institutions offering the bachelors degree as the highest have women administrators. The institutions are likely to have only one woman administrator.

5. Is there a relationship between the size of the institution and the number of top level women administrators in four-year public and private institutions?

In order to determine if the size of the institution was related to the number of women employed in top level administration, the institutions with and without women administrators were categorized by student body enrollment and control. The enrollment populations were grouped into six different sizes ranging from "under 1,000" to "20,000 or more" for 1974-75 and 1978-79. The institutions were further categorized according to public and private control.

As can be discerned from Tables 6 and 7, the majority, 56.5 percent, of the institutions in 1974-75 had a student body population below 1,000; this percentage decreased to 52.1 percent in 1978-79. However, a greater

Table 6. Number and percent* of institutions with women administrators by size of student body enrollment, 1974-75

1974-75	Public			Private			Total	Total	Percent
	Number w/women	Percent women	Total	Number w/women	Percent women	Total			
Below 1,000	16	5.3	301	239	21.5	1107	1408	56.5	
1,000 - 4,999	66	27.0	243	141	31.0	462	705	28.3	
5,000 - 9,999	45	34.6	130	31	54.0	57	187	7.5	
10,000 - 14,999	26	41.2	63	8	47.0	17	80	3.2	
15,000 - 19,999	17	51.5	33	1	50.0	2	35	1.4	
20,000 or more	38	56.7	67	6	67.0	9	76	3.1	
	<u>203</u>		<u>837</u>	<u>426</u>		<u>1654</u>	<u>2491</u>	<u>100.0</u>	

Table 7. Number and percent* of institutions with women administrators by size of student body enrollment, 1978-79

1978-79	Public			Private			Total	Total	Percent
	Number w/women	Percent women	Total	Number w/women	Percent women	Total			
Below 1,000	13	6.0	228	283	27.0	1046	1274	52.1	
1,000 - 4,999	92	36.8	250	198	39.0	507	757	31.0	
5,000 - 9,999	76	52.7	144	32	49.0	65	209	8.6	
10,000 - 14,999	35	50.7	69	11	64.7	17	86	3.6	
15,000 - 19,999	21	61.7	34	4	80.0	5	39	1.6	
20,000 or more	49	71.0	69	7	88.0	8	77	3.1	
	<u>286</u>		<u>794</u>	<u>535</u>		<u>1648</u>	<u>2442</u>	<u>100.0</u>	

* Both row and column percentages are presented.

proportion of the institutions in each time period and with women administrators were private with a student body enrollment of 20,000 or more. Eighty-eight percent of the private institutions in the 20,000 or more category and 71 percent of the public institutions had women administrators.

The next highest percent of institutions with women administrators was in the size category of 15,000 to 19,999. In 1974-75, the public institutions had 51.5 percent and private had 50 percent compared to the 1978-79 figures that show 61.7 percent of the public and 80 percent of the private institutions in the size category of 15,000 - 19,999 with women administrators.

The number of institutions with women administrators tended to increase proportionately to the size of the institution with the larger institutions having significantly more women.

6. Is there a relationship between the region of the country where the institution is located and the number of women administrators employed in top level positions?

This analysis attempted further to determine in which region of the country the greatest number of women are employed in top level administration in higher education and to identify the change that occurred over a four-year period from 1974-75 to 1978-79.

The classifications were determined by the data in the Education Directory as listed for those years. Table 8 shows the institutions by regions and the states in which those institutions are located.

Table 8. Distribution of institutions by state and region, 1974-75 and 1978-79

	<u>No. in 1974-75</u>	<u>No. in 1978-79</u>
<u>Region 1--New England</u>	207	201
Connecticut Massachusetts Rhode Island New Hampshire Maine Vermont		
<u>Region 2--Atlantic</u>	519	501
Delaware Pennsylvania Dist. of Columbia Maryland New Jersey New York		
<u>Region 3--East and North Central</u>	441	405
Illinois Michigan Indiana Wisconsin Ohio		
<u>Region 4--West North Central</u>	266	261
Nebraska Minnesota North Dakota South Dakota Missouri Iowa Kansas		
<u>Region 5--South Central</u>	497	504
Alabama Arkansas Mississippi South Carolina Louisiana North Carolina Virginia Florida Kentucky Georgia		
<u>Region 6--West South Central</u>	159	160
Oklahoma New Mexico Texas Arizona		
<u>Region 7--Mountain</u>	66	66
Wyoming Idaho Colorado Montana Utah		
<u>Region 8--Pacific</u>	240	262
Alaska California Washington Nevada Oregon		
<u>Region 9--U.S. Territories</u>	24	30
Virgin Islands Canal Zone Trust Territory/Pacific Islands Guam Puerto Rico		
<u>Region 0--U.S. Service Schools</u>	14	10

In 1974-75, the highest percent of institutions with women administrators were located in Region 5, South Central, with 45.5 percent of all the institutions reporting in that region. Of the 203 public institutions with women, 28 percent were in Region 5, 16 percent in Region 3, and 15.8 percent in Region 2. Of the 427 private institutions reporting women administrators in top level positions, 26.5 percent were in Region 2, 17.5 percent in Region 5, and 14 and 13.9 percent in Regions 1 and 3 respectively. Region 5, however, had the overall highest percent, both public and private, of institutions with women administrators.

In 1978-79, a similar pattern emerged. The highest percent of institutions with women administrators was located in Region 5. Of the 47.4 percent in Region 5, 27.6 were public and 19.8 were private institutions. The next highest percent of the 535 institutions with women administrators was located in Region 2. Seventeen point five percent of the public institutions in Region 2 had women, and 23.7 percent of the private institutions had women. There were proportionately more public institutions with women than private and a higher percent in Region 5.

Further comparisons were made to determine where the greatest change occurred over the four-year time period with regard to employment of women in top level positions of administration. The results are shown in Table 11 which revealed the greatest increase occurred in public institutions in Region 8. Region 8 had a 3.4 percent increase in the number of public institutions employing women, and Region 2 had the second highest increase--2 percent. The greatest decrease, 2.4 percent, occurred in public institutions in Region 3.

Table 9. Distribution of institutions with women administrators by type of institution and region, 1974-75^a

	Region										Total number women	Total inst.
	0	1	2	3	4	5	6	7	8	9		
Public No. inst. w/women	0	18	32	33	20	57	16	10	13	4	203	837
% w/women		8.9	15.8	16.0	10.0	28.0	8.0	5.0	6.4	1.9	24.2	33.6
Private No. inst. w/women	0	60	113	59	43	75	14	3	54	6	427	1,654
% w/women		14.0	26.5	13.9	10.0	17.5	3.3	.7	12.7	1.4	26.8	66.4
	0	78	145	92	63	132	30	13	67	10	630	2,491
% of inst. by region	0	(12.3)	(23.0)	(14.6)	(10.0)	(21.0)	(4.8)	(2.1)	(10.6)	(1.6)		100.0
		Chi square 36.656			DF = 9			Prob. = 0.0001				

^a Both row and column percentages are presented.

Table 10. Distribution of institutions with women administrators by type of institution and region, 1978-79^a

	Region										Total number women	Total inst.
	0	1	2	3	4	5	6	7	8	9		
<u>Public</u>												
No. inst. w/women	1	19	50	39	26	79	25	13	28	6	286	794
% w/women	.3	6.7	17.5	13.6	9.1	27.6	8.8	4.6	9.8	2.0	36.0	32.5
<u>Private</u>												
No. inst. w/women	0	60	127	90	45	105	16	7	80	6	535	1648
% w/women	0	11.2	23.7	15.7	8.4	19.8	2.9	1.3	14.9	1.1	32.4	67.5
<u>Total</u>	1	79	177	129	71	184	41	20	108	12	821	2442
% of inst. by region	(.0)	(9.6)	(21.6)	(15.7)	(8.6)	(22.4)	(5.0)	(2.4)	(13.2)	(1.5)		100.0
	Chi square 25.264					DF = 9		Prob. = 0.0027				

^a Both row and column percentages are presented.

Table 11. Percentage of increase/decrease in the number of institutions employing women in top level administrative positions by type of institution and region over the four-year period

	Region									
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>Public</u>										
1978 - 79	0	6.7	17.5	13.6	9.1	27.6	8.8	4.6	9.8	2.0
1974 - 75	0	8.9	15.8	16.0	10.0	28.0	8.0	5.0	6.4	1.9
Total increase/decrease	0	-2.2	1.7	-2.4	-.9	-.4	.8	-.4	3.4	.1
<u>Private</u>										
1978 - 79	0	11.2	23.7	16.7	8.4	19.8	2.9	1.3	14.9	1.1
1974 - 75	0	14.0	26.5	13.9	10.0	17.5	3.3	.7	12.7	1.4
Total increase/decrease	0	-2.8	-2.8	2.8	-1.6	2.3	-.4	.6	2.2	-.3

The percentage of private institutions reporting the employment of women administrators in top level positions exceeded that of public institutions. Private institutions in Region 3 increased 2.8 percent, Region 5 increased 2.3, and Region 8 increased 2.2 percent.

When public and private institutions are combined, the greatest decrease was in Region 1 with the greatest increase in Region 8.

7. Is there a relationship between the number of women and the student body mix?

The student body mix was determined to be a factor when comparisons were made between male, female, coeducational and coordinate institutions. When those factors were analyzed, it was discovered that a considerably high percentage of the institutions were coeducational.

Of those institutions reporting women in top level administrative positions in 1974-75, 99 percent were coeducational public compared to 83 percent private. Unlike what might be expected, only 84.5 percent of the 123 private female institutions had women in top level administration. Of the 125 male private institutions, .7 percent had women in top level positions.

In the 1978-79 data, more institutions were reported to have women administrators than in the previous period studied. The percent of public coeducational institutions increased from 24.5 to 36.8 percent, and private coeducational institutions increased from 24.1 percent to 33.3 percent.

Table 12. Student body mix of public institutions employing women in top level administrative positions in 1974-75 and 1978-79

Type of institution	1974-75		Total	Per-cent	1978-79		Total	Per-cent
	Number women	Percent women			Number women	Percent women		
Male	0	0	6	.7	0	0	1	0
Female	2	1.0	2	.3	1	.3	1	.3
Coed	201	99.0	822	99.0	285	99.7	774	99.7
Coord	0	0	0	0	0	0	0	0
	203	100.0	830	100.0	286	100.0	776	100.0
Missing data			77				18	

Table 13. Student body mix of private institutions employing women in top level administrative positions in 1974-75 and 1978-79

Type of institution	1974-75		Total	Per-cent	1978-79		Total	Per-cent
	Number women	Percent women			Number women	Percent women		
Male	3	.7	125	8.0	2	.3	110	7.0
Female	104	24.4	123	8.0	86	16.1	102	6.5
Coed	309	72.5	1281	83.0	441	82.4	1326	85.5
Coord	10	2.4	16	1.0	6	1.2	14	1.0
	426	100.0	1545	100.0	535	100.0	1552	100.0
Missing data	5		34				96	

Women Administrators Data

The primary purpose of this part of the study was to provide a profile of women who held top level administrative positions in four-year public and private institutions in 1978-79.

There were 10,974 possible positions in the 2,442 public and private four-year institutions studied, and 1,276 women were identified as holding a key administrative position in 821 institutions. Out of 1,276 requests for resumes, 443 usable ones were received and used in this analysis. There was a return rate of 35 percent without a follow-up.

Several individuals responded that they did not wish to participate in the survey, and several individuals were identified as male administrators. Other resumes were eliminated when it was discovered that the persons were first level administrators such as coordinator, associate, assistant or director of a unit. When women were serving in an acting position, they were included.

The survey focused on the following concerns:

1. the educational and professional backgrounds of the women administrators;
2. the types of positions the women held before obtaining their present positions;
3. the proportion of women who received a degree from the institution where they are presently employed;
4. the number of years of experience of the women in teaching and administration; and
5. the marital status of the women administrators and size of

family of those with families.

8. What top level administrative titles are women most likely to hold in higher education?

Table 14 shows the number of women identified in 1978-79 as holding positions in each of the position categories studied. Top level administrative positions were grouped by public and private control with respect to the area of responsibilities. The institutions employing the majority of women in top level administration were private. Of the 1,276 positions, 68 percent were in private institutions. Eighty-seven point six percent of the women holding positions of President/Chancellor and 84 percent of those holding positions of Vice President were in private institutions. In the Academic Deans category, a majority (63 percent) were in public institutions.

There were slightly more women in the position of Academic Dean than in any of the other positions studied. Of all Academic Deans positions, 14.3 percent were held by women. It should be noted, however, that positions of Dean of Nursing, Dean of Home Economics and Dean of Social Work are included in that category of strictly collegiate academic positions. In this instance, 42.5 percent of the 442 positions were Dean of Nursing, 11.4 percent were Dean of Home Economics and 5.4 percent were Dean of Social Work which are traditionally female positions and expected to influence the percentage in that category.

Women made up 12.6 percent of all the positions with the title of Vice President and Chief. This title includes Vice President or Chief

Table 14. Number of women identified as holding a top level administrative position in higher education in 1978-79 by position title

<u>Title</u>	<u>Public</u>	<u>Private</u>	<u>Total</u>
President/Chancellor	19 (13.2%)	125 (86.8%)	144
Vice President/Chief			
Administrative Affairs	5	23	28
Academic Affairs	30	178	208
Institutional Research	0	1	1
Business	12	123	135
Personnel Services	2	0	2
Public Relations	2	2	4
Development	4	25	29
Student Affairs	45	211	256
Planning	10	17	27
	<u>110</u> (15.9%)	<u>580</u> (84.1%)	<u>690</u>
Academic Dean			
Arts and Sciences/ Humanities	30	25	55
Business	15	9	24
Education	22	16	38
Fine Arts	8	6	16
Graduate School	20	20	40
Home Economics	47	4	51
Law	0	3	3
Medicine	1	1	2
Nursing	124	65	189
Social Work	12	12	24
	<u>279</u> (63.0%)	<u>163</u> (37.0%)	<u>442</u>
Total	408	868	1276

Table 15. Number and percent of top level women administrators by level of position, 1978-79

<u>Position Title</u>	<u>Four-year institutions</u>	<u>Number women identified</u>	<u>Percent</u>
President/Chancellor	2,442	144	5.9
Vice President/Chief	5,441	690	12.6
Academic Dean	3,088	442	14.3
Total	10,974	1,276	11.6

Officer, such as chief of academic, business, development, student affairs and administrative services positions, and other administrative categories that are preceded by the title of Vice President.

The most frequent title in that category was that of Chief/Vice President of Student Affairs which made up 37.1 percent of the Vice President category.

Women occupied 144 of the positions of President/Chancellor which represent only 5.9 percent of the total 2,442 possible positions in four-year public and private institutions.

According to these data, women are most likely to have the title of Academic Dean than President or Vice President. Overall, women hold only 11.6 percent of three categories of top level administrative positions in higher education.

9. What is the educational background of the women who hold top level administrative positions?

If an advanced degree is a criterion for selection to top level ad-

ministration, the women in this study were found to meet the criterion. The findings support earlier studies that found fifty to seventy-five percent of the women in higher education held a doctorate degree, for a majority of the women in this study also held advanced degrees. Of the 443 subjects reporting degrees earned, 70 percent of the women held a doctorate, 24 percent held a master's degree, four percent held a bachelor's degree, and two percent held a professional degree in law, medicine or divinity as the highest degree earned.

Table 16. Number and percent of women in top level administration by highest degree earned

<u>Degree</u>	<u>Number of women</u>	<u>Percent</u>
Bachelors	17	4
Masters	105	24
Doctorate	305	70
Professional	8	2
Total	435	100
Missing data ^a	8	
	443	

^a Included those who did not indicate degree(s) earned.

Most resumes indicated the highest degrees received but often did not list the dates and field of degrees. For those women administrators with the years of degrees recorded, 43.2 percent received a bachelor's degree between 1951-60, 39 percent received a master's degree between 1961-70, and 50 percent received the doctorate degree between 1961-70. In fact,

Table 17. Number and type of degree awarded women in top level administration by year earned

	Bachelors		Masters		Doctorates		Professional	
	Number women	Percent women	Number women	Percent women	Number women	Percent women	Number women	Percent women
1930 or earlier	1	.2	0	0	0	0	0	0
1931 - 1940	17	4.6	7	2.0	0	0	1	14.0
1941 - 1950	84	23.0	35	10.0	5	1.8	2	29.0
1951 - 1960	158	43.2	128	38.0	36	14.0	2	29.0
1961 - 1970	72	25.1	131	39.0	136	50.0	1	14.0
1971 - 1980	14	3.9	38	11.0	93	34.2	1	14.0
Total	366	100.0	339	100.0	270	100.0	7	100.0
Missing data ^a	77		104		173			
	443		443		443			

^a Included those who did not indicate year of degree.

34.2 percent received the doctorate within the last ten years. A majority of the women administrators, 98.2 percent doctoral and 88 percent masters, received degrees in the last twenty years. The missing data in Table 17 reflects those women without the particular degree as well as those for whom no data were given.

To determine if the fields of study of women in top level administrative positions were similar, each degree level and field of study was compared. A difference was observed when compared to other findings.

Of those women receiving a bachelor's degree, 28.6 percent majored in the humanities, 20.9 percent majored in nursing, and 11.7 percent majored in education. The social sciences followed with 9.8 percent.

Of the women administrators who were granted a master's degree, 26.6 percent majored in education; 22 percent majored in humanities, and 17 percent majored in nursing. The fourth highest field of study was social sciences with 8.3 percent.

Education was the most frequent field of study for those women who received doctorate degrees with 40 percent having majored in education. The next highest was 20 percent who majored in the humanities and 13.1 percent in social sciences. Considering undergraduate and graduate degrees overall, the major fields ranked in order of education first, humanities second, and nursing third. Social sciences ranked only fourth as a major field of study.

There is a prevalent stereotypic image of women who hold decision-making positions that they get the jobs by chance (Gasser, 1975). According to the present data, the trend in career patterns for the subjects in

Table 18. Number and percent of women by field of study and level of degree, 1978-79

Field of degree	Bachelors		Masters		Doctorate		Professional	
	Number women	Percent women	Number women	Percent women	Number women	Percent women	Number women	Percent women
Biological Sciences	12	2.8	9	2.3	5	1.6	0	0
Business Admin.	25	6.5	14	3.5	3	1.0	0	0
Education	48	11.7	105	26.6	122	40.0	0	0
Fine Arts	9	2.0	6	1.4	1	.5	0	0
Humanities	117	28.6	85	22.0	60	20.0	0	0
Home Economics	23	5.6	22	5.5	16	5.2	0	0
Law	0	0	1	.2	0	0	7	78
Medicine	0	0	0	0	0	0	1	11
Nursing	85	20.9	66	17.0	15	5.0	0	0
Physical Sci/Math	33	8.0	25	6.3	17	5.6	0	0
Psychology	11	2.6	23	5.8	20	6.5	0	0
Public Admin.	3	.6	2	.5	1	.5	0	0
Social Sciences	40	9.8	33	8.3	40	13.1	0	0
Theology	4	1.0	3	.6	3	1.0	1	11
Total	410	100.0	394	100.0	305	100.0	9	100.0
Missing Data	33		49		138		434	
	443		443		443		443	

Table 19. Number and percent of top level administrators appointed by year of appointment

<u>Year of appointment</u>	<u>Number women</u>	<u>Percent women</u>	<u>Year of appointment</u>	<u>Number women</u>	<u>Percent women</u>
1958 - 1959	3	.7	1970 - 1971	14	3.2
1960 - 1961	3	.7	1972 - 1973	57	13.5
1962 - 1963	3	.7	1974 - 1975	87	20.7
1964 - 1965	7	1.7	1976 - 1977	93	22.0
1966 - 1967	12	2.8	1978 - 1979	125	29.8
1968 - 1969	16	3.7	1980	2	.5
			Total	422	100.0
			Missing data	21	

this study do not support that image. This investigation focused on the length of time in the present position, the preceding position, and the previous experiences at the present institution. There are some strong similarities in the career patterns that suggest women do not become top level administrators by chance. When the year of appointment was analyzed to determine its relationship to position, it was revealed that 72 percent of the women administrators were appointed to their present position during the last five years. Almost thirty percent were appointed to their present position in 1978-79; 22 percent were appointed in 1976-77; and 20.7 percent were appointed in 1974-75.

Few women were appointed to top level administrative positions before 1974. The greatest number were appointed in 1978-79.

10. What is the work experience of the women in top level administrative positions?

Women administrators did not have a large number of years in administration in their current institutions. The majority, 53.7 percent, had been employed at the present institution for six years or less. Of that group, 25 percent had between one and three years of experience; 21 percent had four to six years, and 13.2 percent had been employed at the current institution for ten to twelve years.

Table 20. Number of years top level women administrators were employed at the current institution

<u>Years at current institution</u>	<u>Number women</u>	<u>Percent women</u>
Less than 1 year	34	7.7
1 - 3 years	111	25.0
4 - 6 years	93	21.0
7 - 9 years	48	10.8
10 - 12 years	58	13.2
13 - 15 years	39	8.9
16 - 18 years	17	3.9
19 - 21 years	19	4.4
22 or more years	22	5.1
	441	100.0
Total		
Missing data	2	

The belief that women administrators must prove themselves in the institution before being appointed to a top level position did not appear to hold true, although a high percent of these women moved to their

present positions from within the institution. To move up in the institution is one way of proving competence, and having earned a degree from the institution is another way to be recognized as competent.

Several of these women received one or more degrees from the institution where they were currently employed. Twenty percent of the women received a bachelor's degree, 8.8 percent received a master's, and 2.9 percent received a doctorate degree from the institution where they presently hold a top level administration position.

Table 21. Number and percent of women administrators who earned a degree from the institution where they presently hold a top level position

<u>Degree</u>	<u>Number women</u>	<u>Percent women</u>
Bachelors	89	20.0
Masters	39	8.8
Doctorate	13	2.9
Professional	3	.7
Total	144	

N = 443

The types of positions previously held by the women administrators tended to support the idea of upward mobility in the university setting. In looking at the data, very few of the subjects came to the present position from outside of the academic community. Eighty-three percent came from the university community, although it is not clear if all of them came from within their current institutions rather than from outside. An unexpectedly high number, 22.7 percent, moved upward from an associate,

assistant, or acting position within their current institution.

The highest number, 36.6 percent, previously held an administrative position, and 26.0 percent were in teaching on the university level before being appointed to their present administrative positions.

Table 22. Previous positions held by top level women administrators

<u>Previous position</u>	<u>Number women</u>	<u>Percent women</u>
University administration	153	36.6
University teaching	109	26.0
Associate, assistant, acting	95	22.7
Community agency	30	7.2
Government	12	2.8
University research	7	1.7
Business	3	.7
Other (counseling)	10	2.3
Total	419	100.0
Missing data	24	

It should be noted that several subjects had an overlap of teaching and administrative experience. In cases where it was not clear if the administrative duty included teaching, and if the title included "Professor of...", and Dean of...", the years of teaching and administration were both counted. Thus, years of actual teaching experience may be a bit inflated.

The pattern for most of the women administrators was to have less than ten years of teaching or administrative experience. Forty-six percent of the women had between one and nine years of teaching experience

Table 23. Years in administration and teaching at the university level

Years	Teaching		Administration	
	Number women	Percent women	Number women	Percent women
1 - 3	50	15.3	58	15.1
4 - 6	55	16.8	97	25.3
7 - 9	44	13.5	86	22.4
10 - 12	49	15.0	58	15.1
13 - 15	57	17.5	42	11.0
16 - 18	31	9.5	22	5.7
19 - 21	18	5.5	14	3.6
22 and over	23	6.9	7	1.8
	<u>327</u>	<u>100.0</u>	<u>384</u>	<u>100.0</u>
	Missing 116		Missing 59	

while 63 percent of the women had from one to nine years of administrative experience. It appears that the women administrators had relatively more administrative experience than they did teaching experience. The highest percentage of women with teaching experience had between thirteen and fifteen years of teaching. The percentage of women with various years in administration decreased slightly after three years and continued as the years increased, whereas the percentage of women with teaching experience did not differ more than two percent from one year to fifteen years of experience.

11. What is the marital and family status of women in top level administrative positions in higher education?

Women are said to suffer severely from sexism in the labor market and have historically labored under the occupational stereotypes that a

Table 24. Status of top level women administrators in higher education by marital status and family size in 1978-79

	<u>Number of women responding</u>	<u>Percent</u>
<u>Marital Status</u>		
Married	118	72.0
Single	30	18.3
Divorced	9	5.4
Widowed	<u>7</u>	4.3
Total	164	
<u>Number of Children</u>		
1	29	28.7
2	43	42.5
3	20	19.8
4	<u>9</u>	9.0
Total	101	

family life cannot be combined with a career. Although the data on marital and family status were incomplete, the responses indicated that some women have been able to combine their careers with marriage and children. The large amount of missing data allows for no further meaningful inferences. Perhaps those women who successfully combined careers and families wanted that fact to be known and thus included the information in their resumes.

Of the resumes which indicated marital status of the women, 72 percent were married, 18.3 percent were single, 5.4 percent were divorced, and 4.3 percent were widowed. The number of children was also incomplete-

ly reported. However, of the individuals who reported children, 28.7 percent had one child, 42.5 percent had two, 19.8 percent had three, and 9 percent had four children.

CHAPTER V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this chapter is to present a summary of the findings, draw conclusions, and make recommendations for future research. In addition to reviewing the purpose of the study and summarizing the procedures, this chapter will also discuss the relationship of these data to other data studied on the characteristics of institutions and women administrators in higher education.

The major focus of the study was to compare the characteristics of four-year public and private institutions over three time periods, 1969-70, 1974-75, and 1978-79, relative to whether or not the institutions did or did not employ women in top level positions of administration. To the extent possible, the characteristics and career patterns of women employed in top level positions in those institutions was determined.

The institutional data were tabulated from computer tapes purchased from the National Center of Educational Statistics. Frequency distributions of institutional characteristics were compiled and analyzed. A resume was requested from the Public Relations Office of the employing institution for each woman identified as being a top level administrator in 1978-79.

Summary and Conclusions

Numerous studies have addressed the under-representation of women in administrative positions in higher education and the extent to which the under-representation is the result of sex discrimination. A variety of

factors surfaced including the lack of educational preparation, limited educational experiences, geographic location and personal characteristics of women. Those factors and others were discussed in this study. The focus, however, was three-fold: 1) to discuss the characteristics of institutions employing women in top level administration over a ten-year period; 2) to determine the number of women represented in top level administrative positions and the type of position held; and 3) to develop a profile of the educational, professional and personal background of women who manage to reach a top level position in higher education administration.

In seeking to determine the characteristics of the institutions in this study, several components were studied which included the date of establishment, control, size, student body mix, geographic region and the highest degree granted by the institution.

The institutional findings, derived from analyzing several components, tended to indicate the number of four-year public and private institutions employing women in top level administration has increased over the ten-year period studied. The greatest increase was in the public institutions. Of all the institutions reporting in 1969-70, 17.5 percent had at least one woman in top level administration. The next period studied, 1974-75, showed 25.4 percent of four-year public and private institutions had a woman administrator, and in 1978-79, the percentage reached 33.6 percent. Public institutions had a greater increase and a larger percentage (37.5 percent) of institutions with women than the private institutions had (32.5 percent).

The percent of institutions with women in high level positions has almost doubled in the last ten years since Harris (1970) documented the problem of sex discrimination in higher education. The employment pattern reflected in this data indicates a more positive move to eliminate the under-representation of women in the education system. However, if the present projections are correct, student enrollment will peak in 1980, the number of small private liberal arts institutions will decrease and will, no doubt, have an effect on the employment patterns of women entering the higher education job market.

While the overall number of institutions with women administrators has increased, further analysis was necessary to determine other characteristics of those institutions that intentionally or unintentionally sought women for employment. Thus, the date of establishment of the institution was assessed. A majority of the institutions with women administrators were those established during the 1880 to 1919 period. Forty-one percent of those institutions established during that period had women in top level administration. There appears to be a relationship between the date of the establishment of the majority of institutions with women administrators and the date of the establishment of women's institutions. The early prestigious women's colleges were established during the 1850 to 1920 period. In addition, the Smith-Hughes Act of 1917 was passed to encourage home economics education for women (Brubacker and Willis, 1968). It is assumed that both the establishment of women's colleges and the passage of the Smith-Hughes Act had an influence on the number of institutions with women administrators for that period.

The institutions with the second highest percent (38) of women administrators were established between 1920 and 1949. Forty-two percent of the public and 36 percent of the private institutions had women. That period was also a time when the second generation of prestigious women's colleges was founded.

Institutions established during the "1970 or later" period had the third highest proportion of women administrators, 34 percent. Of the five time periods, this was the only one where private institutions with women exceeded the proportion of public institutions with women. Thirty-six percent of the private institutions had women administrators compared to 27 percent of the public institutions.

Institutions established in the 1950 - 1969 period ranked fourth in the proportion of women (32 percent). The largest number of institutions were established in the 1879 and earlier period and ranked last in the proportion of women administrators with 29 percent. Institutions established during that time were affiliated with churches, missionary societies and private individuals. Although a few women were allowed access in those early institutions, their roles as students were limited.

The second highest percent (38.2 percent) of institutions with women administrators were those offering a master's degree as the highest degree. Twenty-two point six percent of those institutions had one woman administrator, 8.8 percent had two, and 6.8 percent had three or more. The highest percent of institutions with three or more women were those offering a bachelor's degree as the highest degree. The most significant change over the period studied was the decrease in the number of institu-

tions with no women administrators, a decrease of 13 percent in the public area and 8 percent in the private sector.

Other factors that tend to influence the number of institutions employing women administrators are the size and composition of the student body. As the size of the student body increased, so did the percentage of institutions with women administrators. Although 63.4 percent of the institutions have a student body population below 1,000, institutions in the size category of 20,000 or more students increased from 56.7 to 71.0 percent in the public sector and 67 to 88 percent in the private sector over a five-year period.

A higher proportion of coed institutions reported having women administrators than any other category. Coed student body institutions made up 99 percent of all public institutions studied and 99.7 percent of all private institutions in 1974-75. Private institutions were 83 percent and public 85.5 percent of all institutions in those categories in 1978-79. The percentage of women in female institutions remained constant over the period studied but did not exceed 84.5 percent.

When the institutions were analyzed by geographical regions, there appeared to be a strong relationship between the size of the region and the number of institutions with women administrators. Region 5 had more institutions (504) and also had the highest percent of institutions with women administrators in both 1974-75 and 1978-79. Region 2 ranked second highest in the number of institutions with women administrators. In both periods, public institutions had proportionately more institutions with women.

This finding supports an earlier study (McCorkle, 1974) that found the

largest percentage of women administrators in public institutions with a student body enrollment below 10,000. McCorkle further found a majority of women in top level administration in higher education were in institutions with a student body of 3,500 or less and located in Region 1.

In summary, the largest percentage of women in 1978-79 were in Region 5, employed at a private coeducational institution of higher education with a student body of 10,000 or less. A majority of the institutions with women administrators offered the bachelor's degree as the highest.

To determine a profile of the women, an assessment was made of each woman identified as holding a top level administrative position and whose institution forwarded a resume from which the data was collected. The following conclusions were drawn from the data.

When looking at the year of establishment of the institution as a controlling factor, proportionately more top level women administrators are found in public institutions established between 1880 and 1919. Those women administrators are likely to be the only women in top level administration at coeducational institutions with student body populations of 20,000 or more. The institution is most likely to be located in Region 5 which is the South Central Region of the country.

Of the 10,975 possible positions in four-year public and private institutions, women hold only 11.6 percent of the top level administrative positions. Of the three categories studied, women made up 5.9 percent of the 2,442 President/Chancellor positions, 12.6 percent of the Vice President positions, and 14.3 percent of the Academic Dean positions. Included in the Academic Dean category were positions of Dean of Nursing,

Dean of Home Economics, and Dean of Social Work which are traditionally female positions and, if eliminated from the total, would reflect an even smaller representative group of women in top level decision making positions.

Significant among the analyses of the job titles was the fact that more women held the title of Dean/Vice President of Student Affairs than any other title. This might be due to the socialization of men and women who believe women are best suited for service careers. This finding is also supported by Walsh (1975) who found in her study of women administrators in higher education in California that a majority of the women held middle management and service type positions. It is, therefore, concluded that when women are found in top level positions of administration, they are more likely to be a Dean of Nursing, Home Economics, Social Work, or Student Affairs. When women hold the title of Vice President, the majority of times it is in Student Affairs. Women are, therefore, grossly under-represented in the positions of President, Vice President, and Academic Dean of non-traditional areas.

An earlier study (Gardner, 1966) reported only 17 percent of the women administrators held a doctorate degree. A more recent study showed 50 percent of upper level administrators held the doctorate (Gasser, 1975). Doctorate degrees awarded to women continued to increase and reflects one of several possible reasons for the increase, which might be a change in attitudes toward women seeking advanced degrees, the aspirations of women, and/or less discrimination against women in higher education.

This study revealed 70 percent of the women held doctorate degrees and 50 percent received the degree between 1961 and 1970. Education was the most frequent (40 percent) field of study for women who held doctorates and were employed in a top level position of administration. The NCES (1979) study supports this finding. However, another study (Tessler, 1976) found women in higher education administration majored in the social sciences. The present study found social sciences ranked third or fourth when looking at degrees awarded on all levels.

These data failed to show a strong relationship between degree awarded from the same institution where currently employed. Of the 32.5 percent who received a degree from the institution where they are employed, 62 percent received a bachelors and 27 percent received a masters. It was not documented that individuals received more than one degree from the same institution, therefore, it is concluded that there does not appear to be a relationship between a degree being granted and getting an appointment to a top level administrative position at the same institution.

Half of the women in this study were appointed to their present position between 1976 and 1979 and have been at the current institution less than six years. The Goerss (1975) findings supported these results. Goerss determined that women in upper-echelon positions in higher education administration held their current position for only 5.65 years and 50 percent held their positions less than three years.

The pattern for most of the women was to have six years of experience in their present position and were previously employed in university

administration or teaching on the university level. Twenty-two percent of the women came from an associate, assistant or acting position. Very few of the women's resumes reflected experience outside of the academic setting prior to the last appointment.

Forty-five percent of the women had less than ten years of teaching experience compared to 62.8 percent of the women with administrative experience. This finding suggests not all administrators have teaching experience. In fact, many Vice Presidents of Student Affairs had no teaching experience.

Several researchers have studied the relationship of marital status, family size and background to career advancement and have arrived at a similar finding. Although the data were incomplete, the results of this study were similar to earlier studies. Of 164 respondents, more women indicated they were married than single. Those who were married indicated they had between one and four children with the majority (42.5 percent) having two children and 20 percent having one child.

It would appear, based on this investigation, that the typical profile of women administrators in higher education could be described as:

- she holds a position in a private institution with a coeducational student body size of 10,000 or less;
- she is located in Region 5, South Central;
- she is likely to be employed at a private institution offering the bachelor's degree as the highest degree or a public institution established between 1880 and 1919;
- she is likely to have the title of Vice President of Student

Affairs;

- she was appointed to the present position since 1974;
- she holds a doctorate as the highest earned degree;
- she received the highest degree in the area of education;
- her previous job was in education administration or teaching in a university setting;
- she has served in her current position less than six years;
- she has less than ten years of experience in university teaching or administration.

Recommendations

In view of the findings of this study, several recommendations seem appropriate. They are:

1. That further studies be conducted to determine the future employment of women in institutions of higher education. More specifically, a longitudinal study every four years to further explore the increase/decrease in the number of women in top level positions.
2. To determine if the characteristics of men in similar positions of higher education are similar to those of women in equal positions.
3. That further studies of a sample of women drawn from each Region of the country be conducted to compare their perceptions of why they were appointed to their present positions.
4. To measure the participation of women in feminist activities and determine if they perceive those activities as beneficial in

their appointment.

5. To conduct a comparative study of job responsibilities and advancements of women and men who hold "Assistant to" titles.
6. To study the number of institutions with women as related to race, region of the country, size of institution and control.

BIBLIOGRAPHY

- American Council of Education. U.S. Bureau of the Census, P-20, #278. Washington, D.C.: U.S. American Council of Education, 1973.
- American Council of Education. Women in education. Washington, D.C.: ACE, 1976.
- Arter, Margaret Helen. The role of women in state universities and land-grant colleges. Unpublished doctoral dissertation, Arizona State University, 1972.
- Association of American Colleges, Project on the status and education of women. Washington, D.C.: Association of American Colleges, Winter 1979.
- Astin, H. The woman doctorate in America. New York: Russell Sage Foundation, 1969.
- Astin, J.S. Career profiles of women doctorates. In A. S. Rossi and A. Caldwell (eds.), Academic women on the move. New York: Russell Sage Foundation, 1973.
- Benedetti, C. R. Similarities and differences in the leadership styles and personal characteristics of women in educational administration and women in business administration. Unpublished doctoral dissertation, Western Michigan University, 1975.
- Bennett, L. J. Before the Mayflower: A history of the Negro in America, 1619-1964. Baltimore: Penguin Books, 1969.
- Bernard, Jessie. Academe women. University Park, Pennsylvania: Pennsylvania State University Press, 1964.
- Brown, Edwina M. Delphi study to determine factors which relate to decisions of women to seek positions in educational administration in selected cities in Texas. Unpublished doctoral dissertation, East Texas State University, 1977.
- Brown, George H. Degree awards to women: An update. National Center for Educational Statistics, January, 1979.
- Brubacker, John, and Willis, Rudy. Higher education in transition, an American history 1636-1956. New York: Harper and Row Publishing Company, 1968.
- Campus resources of higher education in the United States of America: A taxonomy of types and geographical distribution. Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1976.

Carnegie Commission on Higher Education. Opportunities for women in higher education: Their current participation, prospects for the future, and recommendations for action. New York: McGraw-Hill, 1973.

Centra, J. A. Women, marriage and the doctorate. Findings, 1975, 11 (4), 1-5.

Change Magazine, April 4, 1972, 60-61.

Chronicle of Higher Education. Washington, D. C.: August 5, 1975.

Chronicle of Higher Education. Washington, C. C.: January 12, 1976.

Comment. Washington, D. C.: Spring, 1977.

Comment. Washington, D. C.: Fall, 1976.

Douvan, E, and Adelson, Joseph. The adolescent experience. New York: John Wiley and Sons, Inc., 1966.

Epstein, D. Women's place. Berkeley: University of California Press, 1971.

Faunce, Patricia S. Psychological barriers to occupational success for women. Journal of the NAWDAC, Summer, 1977, 40 (4), 140.

Fenn, Margaret. Making it in management. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1978.

Fletcher, R. A history of Oberlin College. Vol. II. Oberlin, Ohio: Oberlin College, 1943.

Furniss, W. Todd, and Graham, Patricia A. (eds.). Women in higher education. Washington, D.C.: American Council on Education, 1974.

Gardner, M. H. Women administrators in higher education in Illinois: A study of current career patterns. Unpublished doctoral dissertation, Indiana University, 1966.

Gasser, Mary Helen. Career patterns of women administrators in higher education: Barriers and constraints. Unpublished doctoral dissertation, Southern Illinois University, 1975.

Goerss, Katherine Van Wessem. A study of personality factors of selected women administrators in higher education. Unpublished doctoral dissertation, University of Southern Mississippi, 1975.

- Graham, Patricia. Status transitions for women students, faculty and administrators. In Alice S. Rossi (Ed.), Academic women on the move. New York: Russell Sage Foundation, 1973.
- Harris, Ann Southerland. The second sex in academe. AAUP Bulletin, September 1970, 56, 283-295.
- Hennig, Margaret. Career development for women executives. Unpublished doctoral dissertation, Harvard University, Graduate School of Business Administration, 1970.
- Hennig, Margaret, and Jardim, Anne. The managerial woman. New York: Anchor Press, 1977.
- Henschel, Beverly Jean Smith. A comparison of the personality variables of women administrators and women teachers in education. Unpublished doctoral dissertation, University of Utah, 1964.
- Hoffman, L. W. Early childhood experiences and women's achievement motives. In M. Meldnick, S. Tagri, and L. Hoffman, (Eds.), Women and achievement. New York: John Wiley and Sons, Inc., 1975.
- Holland, J. L., and Gottfredson, Gary D. Using a typology of persons and environments to explain careers: Some extensions and clarifications. Journal of Counseling Psychology, 1976, 6 (3), 32-38.
- Horner, Matina S. Sex differences in achievement motivation and performance in competitive and non-competitive situations. Unpublished doctoral dissertation, University of Michigan, 1968.
- Horner, Matina S. Woman's will to fail. Psychology Today, November 1969, 3, 36-38, 62.
- Horner, Matina. Femininity and successful achievement: A basic inconsistency. In J. M. Bradwich, E. Douvan, M. S. Horner and D. Gutmann (Eds.), Feminine personality and conflict. Belmont, California: Brooks/Cole, 1970.
- Horner, Matina S. Toward an understanding of achievement-related conflicts in women. Journal of Social Issues, 1972, 28, 157-176.
- Jencks, Christopher, and Riesman, David. The academic revolution. Garden City, New York: Doubleday, 1969.
- Kanter, Rosabeth Moss. Men and women of the corporation. New York: Basic, 1977.
- Kanter, Rosabeth Moss. Changing the shape of work: reform in academe. Current Issues in Higher Education. Washington, D.C.: American Association of Higher Education, 1979.

- Kanter, Rosabeth Moss, and Wheatley, Margaret J. Career development for women in academic administration: The role of training. Report of the Carnegie Corporation of New York. Cambridge, Mass.: Goodmeasure, 1978.
- Kaufman, Helen M. The status of women in administration in selected institutions of higher education in the United States. Unpublished doctoral dissertation, New York University, 1961.
- Kirkpatrick, Wynona Jeanneret. The emerging role of women in institutions of higher education in the United States. Unpublished doctoral dissertation, University of Arkansas, 1965.
- Kronholz, J. Though more women work, job equality fails to materialize. The Wall Street Journal, July 6, 1978, 56 (185), 1-16.
- Krumboltz, J. D. A social learning theory of career selection. The Counseling Psychologist, 1976, 6 (1), 71-81.
- Loyd, LaVera L. Personality characteristics of selected women educators. Unpublished doctoral dissertation, University of Northern Colorado, 1976.
- Mattfeld, Jacquelyn. Many are called, but few are chosen. In Women in Higher Education. Washington, D.C.: American Council on Education, 1974.
- Maxwell, P., Rosenfield, L., and Spileman, C. Chronicle of Higher Education, October 11, 1979.
- McCarthy, Patricia. A new perspective on women's colleges. Journal of NAWDAC, Winter 1977, 4 (2), 65-67.
- McCorkle, Elizabeth M. Top-level women administrators in higher education: A study of women presidents, chief academic officers, and academic deans in Federal regions I, VI, and X. Unpublished doctoral dissertation, Oklahoma University, 1974.
- McGregor, Douglas. The human side of enterprise. New York: McGraw-Hill Co., Inc., 1960.
- National Association of State University and Land Grant Colleges. The role of women in administration in state universities and land-grant colleges in 1970-71. Washington, D.C.: NASULGC, 1971.
- National Association of State Universities and Land-Grant Colleges. Circular #182. Washington, D.C.: NASULGC, June 29, 1973.

- National Association of State Universities and Land-Grant Colleges. Women in administration. Washington, D.C.: NASULGC, 1973.
- National Association of State University and Land Grant Colleges. Women in administration. Washington, D.C.: NASULGC, 1978.
- National Association of State Universities and Land-Grant Colleges. Women in administration. Washington, D.C.: NASULGC, 1973.
- National Education Association Survey. National Education Association Research Memo, 1971-72. Washington, D.C.: NEA, 1973.
- National Education Association. The status of women faculty and administration in higher education institutions, 1972-73. National Education Association Research Memo 1973-74. Washington, D. C.: NEA, 1973.
- O'Conner, E. Myrtilla Miner: A memoir. Miami: MNEMOSYNE Publishing Co., Inc., 1969.
- O'Leary, Virginia E. Some attitudinal barriers to occupational aspirations in women. Psychological Bulletin, 1974, 81, 809-826.
- O'Leary, Virginia E., and Hammack, B. Sex-role orientation and achievement context as determinants of the motive to avoid success. Sex Roles: A Journal of Research, 1975, 1 (3), 225-234.
- Oltman, Ruth M. Campus 1970: Where do women stand? Research report of a survey on women in academe. AAUW Journal, November 1970, 64, 14-15.
- Oltman, Ruth M. Women in higher education. In New Teaching: New Learning. National Conference on Higher Education, Proceedings. San Francisco: Jossey-Bass, 1971.
- Patrick, Theodora Anne. Personality and family background characteristics of women who enter male-dominated professions. Unpublished doctoral dissertation, Columbia University, 1973.
- Pfiffner, Virginia. Factors associated with women in major administrative positions in California community colleges. Unpublished doctoral dissertation, University of Southern California, 1973.
- Pfiffner, Virginia. Composite profile of a top-level California community college woman administrator. Women in Higher Education Administration. NAWDAC, 1976.
- Pfiffner, Virginia. Women as leaders in higher education in these changing times. The Delta Kappa Gamma Bulletin, 1975, 41 (3). 5-10.

- President's Task Force on Women's Rights and Responsibilities. A Matter of simple justice. Washington, D. C.: U. S. Government Printing Office, 1970.
- Roe, Anne. The Psychology of occupations. New York: Wiley, 1956.
- Roe, Anne. Reactions to Krumboltz and critics. The Counseling Psychologist, 1976, 6 (3), 33-36.
- Rossi, Alice. Equality between the sexes. The women in America. Boston: Houghton-Mifflin, 1964.
- Sandler, Bernice. A feminist approach to the women's college. Paper presented at the 55th Annual Meeting of the American Council on Education, November 1971.
- Stevenson, Florence Byrd. Women administrators in Big Ten universities. Unpublished doctoral dissertation, Michigan State University, 1973.
- Super, D. E. The psychology of careers. New York: Harper, 1957.
- Super, D.E., Stausheusky, R., Matlin, N., and Jordaan, J. P. Career development: Self-concept theory. Princeton, New York: College Entrance Examination Board, 1963.
- Tangri, S. S. Determinants of occupational role innovation among college women. Journal of Social Issues, 1972, 28, 177-199.
- Taylor, Emily. Quarterly Report, Office of Women in Higher Education. National Identification Program Activities, November 1, 1979 to February 29, 1980. Washington, D. C.: ACE, 1980.
- Taylor, Emily, and Shavlik, Donna. To advance women: A national identification program. Educational Record, Winter 1977, 93-99.
- Taylor, Suzanne S. Educational leadership: A male domain? Phi Delta Kappan, October 1973, 55, 124-128.
- Tenzer, Amy. Parental influences on the occupational choice of career women in male-dominated and traditional occupations. Unpublished doctoral dissertation, Columbia University, 1977.
- Tessler, Sharlene E. Profile of selected women college presidents reflecting the emerging role of women in higher education. Unpublished doctoral dissertation, Boston College, 1976.
- Tidball, M. Elizabeth. Perspective on academic women and affirmative action. Educational Record, Spring 1973, 54, 13-35.

- Tiedeman, D. V., and O'Hara, R. P. Career development, choice and adjustment. New York: College Entrance Examination Board, 1963.
- Tompkins, Pauline. What future for the women's college? Liberal Education #58, May 1972.
- U.S. Department of Commerce, Bureau of the Census. Statistical abstract of the United States: 1978. Washington, D. C.: U.S. Government Printing Office, 1978.
- U.S. Department of Commerce, Bureau of the Census. Update on the status of women. Washington, D.C.: U.S. Government Printing Office, 1979.
- U.S. Department of Health, Education and Welfare. Education directory: Colleges and universities, 1969-70. Washington, D.C.: U.S. Government Printing Office, 1970.
- U.S. Department of Health, Education and Welfare. Education directory: Colleges and universities, 1974-75. Washington, D.C.: U.S. Government Printing Office, 1975.
- U.S. Department of Health, Education and Welfare. Education directory: Colleges and Universities, 1978-79. Washington, D. C.: U.S. Government Printing Office, 1979.
- Van Alstyne, C., Mensel, R. F., Withers, J. S., and Malott, F. S. Women and minorities in administration of higher education institutions. Washington, D.C.: College and University Personnel Administration, 1977.
- Walsh, Patricia A. Career patterns of women administrators in higher education institutions in California. Unpublished doctoral dissertation, University of California, Los Angeles, 1975.
- White, Bonnie Yvonne. Superordinate and subordinate perceptions of managerial styles of selected male and female college administrators. Unpublished doctoral dissertation, Brigham Young University, 1976.
- Woodring, Paul. The higher learning in America: A reassessment. New York: McGraw-Hill, 1968.

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APPENDIX A, LETTER

Iowa State University *of Science and Technology* Ames, Iowa 50011



Office of Student Life
206 Student Health Service Building
Telephone 515-294-1020

January 31, 1980

Dear Director:

I have identified for study a group of women administrators who hold positions titled President, Vice President, or Dean, or whose position title reflects a top administrative position such as Chief Academic Officer or Chief Administrator of an academic unit such as a college or school.

This study is designed to learn more about women administrators holding top level administrative positions in higher education and determine to what extent these women share similar background and personality characteristics. Results of this investigation will have important implications for guidance, education and career development of women students, faculty, and administrators.

Your cooperation in providing public information from your files will alleviate the necessity of bothering our busy subjects with interviews and questionnaires. Therefore, will you please forward to me the most current vita sheet on the person(s) listed below?

I appreciate your assistance in this important research.

Sincerely,

Handwritten signature of Augustine B. Wright.

Augustine B. Wright
Assistant Dean of Student Life

Dr. Sue Gemmell, Dean of University College

APPENDIX B, 1974 - 1975 DATA

Representation of women by type of institution

	<u>Public</u>	<u>Private</u>	<u>Total</u>
No women (Percentage)	634 (25.4)	1223 (49.1)	1857 (74.5)
Some women (Percentage)	203 (8.1)	431 (17.3)	634 (25.4)
Total (Percentage)	837 (34.0)	1654 (66.0)	2491

Number of women by type of institution

<u>Number of women</u>	<u>Public</u>	<u>Private</u>	<u>Total</u>
No women (Percentage)	634 (25.5)	1223 (49.2)	1857 (74.7)
One woman (Percentage)	153 (6.1)	250 (10.1)	403 (16.2)
Two women (Percentage)	42 (1.6)	88 (3.5)	130 (5.1)
Three or more women (Percentage)	8 (0.3)	93 (3.7)	101 (4.0)
Total	837	1654	2491

Chi-square 35.162

DF = 3 Prob = 0.0001

1974 - 1975 DATAHighest degree offered by institution and percentage of women

<u>Highest degree</u>	<u>No women</u>	<u>One woman</u>	<u>Two women</u>	<u>3+ women</u>	<u>Total</u>
Bachelor's (Percentage)	604 (29.0)	138 (6.6)	45 (2.2)	60 (2.9)	847 (40.7)
Master's (Percentage)	468 (22.5)	115 (5.5)	39 (1.8)	30 (1.4)	652 (31.3)
Doctorate (Percentage)	321 (15.4)	116 (5.6)	38 (1.8)	10 (0.5)	485 (23.3)
Professional (Percentage)	89 (4.3)	6 (0.3)	2 (0.1)	1 (0.1)	98 (4.7)
Total (Percentage)	1482 (71.2)	375 (18.0)	124 (5.9)	101 (4.9)	2082 (100.0)
Missing data	375	28	6	0	409

<u>Highest degree</u>	<u>No women</u>	<u>Some women</u>	<u>Total</u>
Bachelor's (Percentage)	604 (29.0)	243 (11.7)	847 (40.7)
Master's (Percentage)	468 (22.5)	184 (8.8)	652 (31.3)
Doctorate (Percentage)	321 (15.4)	164 (7.9)	485 (23.3)
Professional (Percentage)	89 (4.3)	9 (0.4)	98 (4.7)
Total (Percentage)	1482 (71.2)	600 (28.8)	2082 (100.0)
Missing data	375	34	409

1974 - 1975 DATA

Type of institution and student body size and mix

	<u>Under</u> <u>1,000</u>	<u>1,000-</u> <u>4,999</u>	<u>5,000-</u> <u>9,999</u>	<u>10,000-</u> <u>14,999</u>	<u>15,000-</u> <u>19,999</u>	<u>Over</u> <u>20,000</u>	<u>Total</u>
<u>Public--no women</u>							
Male	1	5	0	0	0	0	6
Female	0	0	0	0	0	0	0
Coed	282	172	85	37	16	29	621
Coordinate	0	0	0	0	0	0	0
Total	283	177	85	37	16	29	627
Missing data							7
							<u>634</u>
<u>Public--some women</u>							
Male	0	0	0	0	0	0	0
Female	0	1	1	0	0	0	2
Coed	11	65	44	26	17	38	201
Coordinate	0	0	0	0	0	0	0
Total	11	66	45	26	17	38	203
<u>Private--no women</u>							
Male	118	4	0	0	0	0	122
Female	17	2	0	0	0	0	19
Coed	621	312	26	9	1	3	972
Coordinate	3	3	0	0	0	0	6
Total	759	321	26	9	1	3	1119
Missing data							109
							<u>1228</u>
<u>Private--some women</u>							
Male	2	1	0	0	0	0	3
Female	79	25	0	0	0	0	104
Coed	152	111	31	8	1	6	309
Coordinate	6	4	0	0	0	0	19
Total	239	141	31	8	1	6	426
Public--no women							634
Public--some women							203
Private--no women							1228
Private--some women							<u>426</u>

2491 institutions represented

1974 - 1975 DATA

Institutions employing some women by region

<u>Region</u>	<u>Public</u>	<u>Private</u>	<u>Total</u>	<u>Missing Data</u>
0	0	0	0	
1 (Percentage)	18 (2.9)	60 (9.5)	78 (12.4)	
2 (Percentage)	32 (5.1)	113 (18.0)	145 (23.0)	
3 (Percentage)	33 (5.3)	59 (9.3)	92 (14.6)	
4 (Percentage)	20 (3.2)	43 (6.8)	63 (10.0)	
5 (Percentage)	57 (9.0)	74 (11.8)	131 (20.8)	1
6 (Percentage)	16 (2.6)	14 (2.2)	30 (4.8)	
7 (Percentage)	10 (1.6)	3 (0.5)	13 (2.1)	
8 (Percentage)	13 (2.0)	54 (8.6)	67 (10.6)	
9 (Percentage)	4 (0.6)	6 (1.0)	10 (1.6)	
				4
Total (Percentage)	203 (32.3)	426 (67.6)	629 (100.0)	5

1974 - 1975 DATA

Institutions employing no women by region

<u>Region</u>	<u>Public</u>	<u>Private</u>	<u>Total</u>	<u>Missing Data</u>
0 (Percentage)	7 (0.4)	0	7 (0.4)	7
1 (Percentage)	33 (1.8)	96 (5.4)	129 (7.2)	
2 (Percentage)	87 (4.9)	287 (16.0)	374 (20.9)	
3 (Percentage)	114 (6.4)	235 (13.1)	349 (19.5)	
4 (Percentage)	68 (3.8)	134 (7.6)	202 (11.4)	1
5 (Percentage)	164 (9.1)	199 (11.2)	363 (20.3)	2
6 (Percentage)	69 (3.9)	60 (3.3)	129 (7.2)	
7 (Percentage)	26 (1.5)	27 (1.5)	53 (3.0)	
8 (Percentage)	57 (3.2)	115 (6.5)	172 (9.7)	1
9 (Percentage)	9 (0.5)	5 (0.3)	14 (0.8)	
				54
Total (Percentage)	634 (35.1)	1158 (64.9)	1792 (100.0)	65

1974 - 1975 DATA

Representation of women by region

<u>Region</u>	<u>No women</u>	<u>Some women</u>	<u>Total</u>
0 (Percentage)	14 (0.6)	0	14 (0.6)
1 (Percentage)	129 (5.3)	78 (3.2)	207 (8.5)
2 (Percentage)	374 (15.4)	145 (6.0)	519 (21.4)
3 (Percentage)	349 (14.3)	92 (3.8)	441 (18.1)
4 (Percentage)	203 (8.3)	63 (2.6)	266 (10.9)
5 (Percentage)	365 (15.0)	132 (5.5)	497 (20.5)
6 (Percentage)	129 (5.3)	30 (1.2)	159 (6.5)
7 (Percentage)	53 (2.2)	13 (0.5)	66 (2.7)
8 (Percentage)	173 (7.1)	67 (2.8)	240 (9.9)
9 (Percentage)	14 (0.5)	10 (0.4)	24 (1.0)
Total (Percentage)	1803 (74.1)	630 (25.9)	2433 (100.0)
Missing data	54	4	58
			2491

APPENDIX C, 1978 - 1979 DATA

Representation of women by institution type and date of establishment

	<u>Public</u>	<u>Private</u>	<u>Total</u>
<u>1879 or earlier</u>			
No women (Percentage)	238 (24.8)	443 (46.1)	681 (70.9)
Some women (Percentage)	106 (11.0)	174 (18.1)	280 (29.1)
Total (Percentage)	344 (35.8)	617 (64.2)	961 (100.0)
<u>1880 - 1919</u>			
No women (Percentage)	111 (17.5)	268 (42.1)	379 (59.6)
Some women (Percentage)	93 (14.6)	164 (25.8)	257 (40.4)
Total (Percentage)	204 (32.0)	432 (68.0)	636 (100.0)
<u>1920 - 1949</u>			
No women (Percentage)	45 (12.1)	188 (50.5)	233 (62.6)
Some women (Percentage)	32 (8.6)	107 (28.7)	139 (37.3)
Total (Percentage)	77 (20.7)	295 (79.3)	372 (100.0)
<u>1950 - 1969</u>			
No women (Percentage)	92 (24.2)	167 (44.1)	259 (68.3)
Some women (Percentage)	47 (12.4)	73 (19.2)	120 (31.6)
Total (Percentage)	139 (36.7)	240 (63.3)	379 (100.0)

1978 - 1979 DATA

Representation of women by institution type and date of establishment
(continued)

	<u>Public</u>	<u>Private</u>	<u>Total</u>
<u>1970 or later</u>			
No women (Percentage)	22 (23.4)	41 (43.6)	63 (67.0)
Some women (Percentage)	8 (8.5)	23 (24.4)	31 (32.9)
Total (Percentage)	30 (31.9)	64 (68.1)	94 (100.0)

Number of women by type of institution

<u>Number of women</u>	<u>Public</u>	<u>Private</u>	<u>Total</u>
No women (Percentage)	508 (20.8)	1107 (45.3)	1615 (65.1)
One woman (Percentage)	181 (7.4)	321 (13.2)	502 (21.1)
Two women (Percentage)	77 (3.2)	119 (4.8)	196 (8.2)
Three or more women (Percentage)	28 (1.2)	101 (4.1)	129 (5.4)
Total (Percentage)	794 (32.5)	1648 (67.5)	2442 (100.0)

Chi-square 13.063

DF = 3 Prob = 0.0045

1978 - 1979 DATA

Highest degree offered by institution and percentage of women

<u>Highest degree</u>	<u>No women</u>	<u>One woman</u>	<u>Two women</u>	<u>3+ women</u>	<u>Total</u>
Bachelor's (Percentage)	496 (24.4)	164 (8.0)	60 (3.0)	56 (2.8)	776 (38.1)
Master's (Percentage)	403 (19.8)	148 (7.3)	58 (2.9)	45 (2.2)	654 (32.1)
Doctorate (Percentage)	279 (13.7)	134 (6.6)	62 (3.1)	22 (1.0)	497 (24.4)
Professional (Percentage)	92 (4.5)	12 (0.6)	2 (0.1)	2 (0.1)	108 (5.3)
Total (Percentage)	1270 (62.4)	458 (22.5)	182 (9.0)	125 (6.1)	2035 (100.0)
Missing data	345	44	14	4	407

<u>Highest degree</u>	<u>No women</u>	<u>Some women</u>	<u>Total</u>
Bachelor's (Percentage)	496 (24.3)	280 (13.8)	776 (38.1)
Master's (Percentage)	403 (19.8)	251 (12.3)	654 (32.1)
Doctorate (Percentage)	279 (13.7)	218 (10.7)	497 (24.4)
Professional (Percentage)	92 (4.5)	16 (0.8)	108 (5.3)
Total (Percentage)	1270 (62.4)	765 (37.6)	2035 (100.0)
Missing data	345	62	407

1978 - 1979 DATA

Type of institution and student body size and mix

	<u>Under 1,000</u>	<u>1,000- 4,999</u>	<u>5,000- 9,999</u>	<u>10,000- 14,999</u>	<u>15,000- 19,999</u>	<u>Over 20,000</u>	<u>Total</u>
<u>Public--no women</u>							
Male	3	0	0	0	0	0	3
Female	0	1	0	0	0	0	1
Coed	197	157	68	34	13	20	489
Coordinate	0	0	0	0	0	0	0
Total	200	158	68	34	13	20	493
(Percentage)	(40.6)	(32.0)	(13.8)	(6.9)	(2.4)	(4.0)	(100.0)
Missing data	15						15
<u>Public--some women</u>							
Male	0	0	0	0	0	0	0
Female	0	1	0	0	0	0	1
Coed	13	91	76	35	21	49	285
Coordinate	0	0	0	0	0	0	0
Total	13	92	76	35	21	49	286
(Percentage)	(4.6)	(32.1)	(26.6)	(12.3)	(7.3)	(17.1)	(100.0)
<u>Private--no women</u>							
Male	105	3	0	0	0	0	108
Female	16	0	0	0	0	0	16
Coed	542	302	33	6	1	1	885
Coordinate	4	4	0	0	0	0	8
Total	672	309	33	6	1	1	1017
(Percentage)	(66.1)	(30.1)	(3.3)	(0.3)	(0.1)	(0.1)	
Missing data							96
<u>Public--some women</u>							
Male	2	0	0	0	0	0	2
Female	55	31	0	0	0	0	86
Coed	222	165	32	11	4	7	441
Coordinate	4	2	0	0	0	0	6
Total	283	198	32	11	4	7	535
(Percentage)	(52.9)	(37.0)	(6.0)	(2.0)	(0.8)	(1.3)	(100.0)

Total number of institutions - 2442

1978 - 1979 DATA

Institutions employing no women by region

<u>Region</u>	<u>Public</u>	<u>Private</u>	<u>Total</u>	<u>Missing Data</u>
0 (Percentage)	7 (0.4)	0	7 (0.4)	2
1 (Percentage)	29 (1.9)	89 (5.8)	118 (7.7)	4
2 (Percentage)	68 (4.5)	252 (16.5)	320 (21.0)	4
3 (Percentage)	92 (6.0)	181 (11.8)	273 (17.8)	2
4 (Percentage)	57 (3.7)	126 (8.2)	183 (11.9)	7
5 (Percentage)	124 (8.1)	191 (12.5)	315 (20.6)	4
6 (Percentage)	58 (3.8)	54 (3.5)	112 (7.3)	6
7 (Percentage)	23 (1.5)	19 (1.2)	42 (2.7)	4
8 (Percentage)	43 (2.8)	102 (6.6)	145 (9.4)	7
9 (Percentage)	7 (0.5)	10 (0.7)	17 (1.2)	1
				42
Total (Percentage)	508 (33.2)	1024 (66.8)	1532 (100.0)	83

1978 - 1979 DATA

Institutions employing some women by region

<u>Region</u>	<u>Public</u>	<u>Private</u>	<u>Total</u>	<u>Missing Data</u>
0 (Percentage)	1 (0.1)	0	1 (0.1)	
1 (Percentage)	19 (2.3)	60 (7.3)	79 (9.6)	
2 (Percentage)	50 (6.1)	127 (15.5)	177 (21.6)	
3 (Percentage)	39 (4.8)	89 (10.9)	128 (15.7)	1
4 (Percentage)	26 (3.2)	45 (5.5)	71 (8.7)	
5 (Percentage)	79 (9.6)	106 (12.9)	185 (22.5)	
6 (Percentage)	25 (3.0)	16 (1.9)	41 (4.9)	
7 (Percentage)	13 (1.6)	7 (0.9)	20 (2.5)	
8 (Percentage)	28 (3.4)	80 (9.7)	108 (13.1)	
9 (Percentage)	6 (0.7)	5 (0.6)	11 (1.3)	1
				4
Total (Percentage)	286 (34.8)	535 (65.2)	821 (100.0)	6

1978 - 1979 DATA

Representation of women by region

<u>Region</u>	<u>No women</u>	<u>Some women</u>	<u>Total</u>
0 (Percentage)	9 (0.4)	1 (0.0)	10 (0.4)
1 (Percentage)	122 (5.1)	79 (3.3)	201 (8.4)
2 (Percentage)	324 (13.5)	177 (7.4)	501 (20.9)
3 (Percentage)	275 (11.5)	129 (5.4)	404 (16.9)
4 (Percentage)	190 (7.9)	71 (3.0)	261 (10.9)
5 (Percentage)	319 (13.3)	185 (7.8)	504 (21.1)
6 (Percentage)	118 (4.9)	41 (1.7)	159 (6.6)
7 (Percentage)	46 (1.9)	20 (0.8)	66 (2.7)
8 (Percentage)	152 (6.3)	108 (4.5)	260 (10.8)
9 (Percentage)	18 (0.8)	12 (0.5)	30 (1.3)
Total (Percentage)	1573 (65.6)	823 (34.4)	2396 (100.0)
Missing data	42	4	46

Chi-square 25.264

DF = 9 Prob = 0.0027