

CREATIVE COMPARISONS BETWEEN WOMEN MANAGERS
IN BUSINESS/INDUSTRY VERSUS EDUCATION

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CHAPTER I

INTRODUCTION

Since affirmative action legislation was enacted in the 1970s, women have become a more visible component of management ranks at all levels in most fields. If an increase in the number of women managers was a purpose of such legislation, then it should be judged successful, albeit not so dramatically as might have been hoped by some. The proportion of women managers is apparently still badly skewed by most measures.

Further, there has been very little objective data gathered about women who have risen to management positions. This seems somewhat paradoxical since this group is a significant minority whose ranks are likely to grow as everincreasing numbers of women are in the promotion queue.

It would seem appropriate, therefore, to attempt to define some characteristic(s) of those women who have succeeded in management for the benefit of those who follow. The present study will compare the creativity of women administrators in education with women supervisors in business/industry. Resulting data could (a) provide students with guidance as to curriculum emphasis, (b) provide women already in the workplace with insight into their preparedness for assuming managerial duties, and (c) provide employers with a tool for use in the selection/promotion process.

Finally, any employees with frustrated, misguided, or non-mentored careers contributes significantly to societal, familial, and workplace tensions. Women workers are no exception and any research that may provide objective counseling tools should be considered a positive contribution. This study was initiated to provide such a tool.

Background of Study

For this study, the researcher set out to identify a previously validated test that included some measure of likelihood of managerial success. The Cree Questionnaire (1980) was selected as the survey instrument of choice following an in-depth search of the Buros Book of Mental Measurement 1985 and the Book of Tests 1983, both of which were located at the Tulsa City-County Library, Central Branch. Special permission to use the Cree Questionnaire for this study was granted the researcher by London House Press, 1550 North Northwest Highway, Park Ridge, Illinois, 60068 on January 7, 1986 (See Appendix A).

The stated purpose of the Cree Questionnaire is to measure an individual's overall creative potential by comparing the extent to which his or her behavior resembles that of identified creative individuals on 13 dimensions of the creative personality. The creators of the questionnaire, Thurston and Guilford (1980), describe creativity in terms of personality and behavior.

Further research by Baehr (1980) found that creative potential is an important component in sales and managerial success. These findings were reinforced by Goddard (1980) who showed that the Cree behavior dimensions were among the best predictors of salary in a test battery administered to a national sample. Higher salaries tend to be

linked to organizational worth and therefore to managerial positions in typical workplace hierarchies.

Significance of Study

This study is significant for the following reasons:

1. Little is known of the characteristics of women in management positions. This study adds to that body of knowledge.

2. Almost nothing is known of the differences, if any, between the characteristics of women supervisors in business/industry and those of administrators in education. This study eliminates that apparent void for the area of creativity.

3. Few quantifiable tools are available for counseling women, particularly those who have management aspirations. This study contributes one such tool.

Statement of the Problem

The problem for this study is the lack of knowledge of the creativity of women administrators in education and women supervisors in business/industry.

Purpose

The purpose of this study was to compare the creativity of women administrators in education with the creativity of women supervisors in business/industry and with the results of that comparison, will provide a psychometric counseling tool for use in those fields.

Research Questions

To accomplish this purpose, the following research questions were investigated. These are also referred to as hypotheses and as factors throughout the study.

1. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of dominance versus submission as measured in the social areas of the Cree Questionnaire?

2. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of involved versus indifferent as measured in the social area of the Cree Questionnaire?

3. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of conforming versus independent as measured in the social area of the Cree Questionnaire?

4. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of structured versus unstructured as measured in the work area of the Cree Questionnaire?

5. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of prescribed versus selective activity as measured in the work area of the Cree Questionnaire?

6. What was the relationship between women supervisors in business/industry and women administrators in education in the

characteristic of detached versus work involved as measured in the work area of the Cree Questionnaire?

7. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of relaxed versus pressured as measured in the work area of the Cree Questionnaire?

8. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of low versus high energy level as measured in the internal area of the Cree Questionnaire?

9. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of slow versus fast reaction time as measured in the internal area of the Cree Questionnaire?

10. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of high versus low ideation rate as measured in the internal area of the Cree Questionnaire?

11. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of low versus high theoretical interest as measured in the interests areas of the Cree Questionnaire?

12. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of low versus high artistic interest as measured in the interests area of the Cree Questionnaire?

13. What was the relationship between women supervisors in

business/industry and women administrators in education in the characteristic of low versus high mechanical interest as measured in the interests area of the Cree Questionnaire?

14. What was the relationship between women supervisors in business/industry and women administrators in education in the characteristic of overall creative potential as measured by the Cree Questionnaire?

Hypotheses

To test the research questions, the following specific null hypotheses were developed.

Ho₁: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of dominance versus submission as measured in the social area of the Cree Questionnaire.

Ho₂: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of involved versus indifferent as measured in the social area of the Cree Questionnaire.

Ho₃: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of conforming versus independent as measured in the social area of the Cree Questionnaire.

Ho₄: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of structured versus unstructured as measured in the work area of the Cree Questionnaire.

Ho₅: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of prescribed versus selective activity as measured in the work area of the Cree Questionnaire.

Ho₆: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of detached versus work involved as measured in the work area of the Cree Questionnaire?

Ho₇: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of relaxed versus pressured as measured in the work area of the Cree Questionnaire.

Ho₈: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of low versus high energy level as measured in the internal area of the Cree Questionnaire.

Ho₉: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of slow versus fast reaction time as measured in the internal area of the Cree Questionnaire.

Ho₁₀: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of high versus low ideation rate as measured in the internal area of the Cree Questionnaire.

Ho₁₁: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of low versus high artistic interest as measured in

the interests area of the Cree Questionnaire.

Ho₁₂: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of low versus high artistic interest as measured in the interests area of the Cree Questionnaire.

Ho₁₃: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of low versus high mechanical interest as measured in the interests area of the Cree Questionnaire.

Ho₁₄: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of overall creative potential as measured by the Cree Questionnaire.

Assumptions

The following assumptions were accepted by the investigator.

1. The Cree Questionnaire has a high degree of reliability as a measure of creativity.
2. Creativity is linked in a positive way with the likelihood of success in management.
3. The Cree Questionnaire scores follow a normal distribution in the general population of the United States.
4. The sampled population used in this study follows the normal distribution of the general population of the United States.

Scope and Limitations

For the purposes of this study, the Cree Questionnaire was used to determine whether there is any relationship in the area of creativity between women administrators in education and women supervisors in business/industry relative to the 13 dimensions of the creative personality and overall creative potential. Correlation of data obtained here with data previously obtained from identified creative individuals or from other occupations, or with other measures, is beyond the scope of this study.

However, this limitation does not preclude the validity of using the psychometric baseline compiled separately in this study for each group, that is, women administrators in education and women supervisors in business/industry, for career counseling or selection/promotion purposes in either setting, as appropriate. Also, the unavailability of directly related literature made it necessary to use indirectly related but pertinent limitations to the practical and theoretical reasoning of the study.

Definition of Terms

The definitions that follow are provided solely to aid in the understanding of particular terms used in this paper. They are not necessarily generalized for other usage.

Administrator: A commonly used term in education to describe a person responsible for overseeing functions and staff of a school or discipline. The counterpart to supervisor in business/industry.

Artistic Interest, High: A high score on the continuum of factor

12 of the Cree Questionnaire. Low scoring individuals have low interest and/or aptitude in the humanities (Cree Manual, 1980).

Conformity: A low score on the continuum of factor three of the Cree Questionnaire. A pattern of dependence and social conformity coupled with a frivolous outlook, a feeling of being "one of the crowd" while remaining oblivious of personal shortcomings (Cree Manual, 1980).

Creativity: The ability to produce along new or unconventional lines rather than to imitate or assemble.

Detached Attitude: A low score on the continuum of factor six of the Cree Questionnaire. A persistent pattern of working behavior characterized by lack of involvement with the job in progress and an inclination to make quick decisions (Cree Manual, 1980).

Dominance: A high score on the continuum of factor one of the Cree Questionnaire. A pattern of social behavior with three main dimensions. The first is social leadership--a tendency to seek out and enjoy contact of either structured and formal or less structured and informal group situations. The second is liking to communicate with others, generally as the presiding and principle speaker in structured and formal circumstances. The third is self-confidence and liking to entertain others (Cree Manual, 1980).

Energy Level, High: A high score on the continuum of factor eight of the Cree Questionnaire. A pattern of hyperactive behavior characterized by an abundance of energy, general haste, and impatience, and a tendency to use profanity.

Energy Level, Low: A low score on the continuum of factor eight of the Cree Questionnaire. A pattern of hypoactive behavior characterized by apparent lack of energy and by having patience (Cree Manual, 1980).

Factor: Any one of the 13 underlying dimensions of the creative personality as defined by the Cree Questionnaire. High scores on these factors continues tend to describe the creative personality.

Ideation Spontaneity, High: A high score on the continuum of factor ten of the Cree Questionnaire. The tendency to produce ideas easily, rapidly, and almost compulsively at all times and under all circumstances (Cree Manual, 1980).

Ideation Spontaneity, Low: A low score on the continuum of factor ten of the Cree Questionnaire. The tendency to have difficulty producing ideas easily under any circumstances.

Independence: A high score on the continuum of factor three of the Cree Questionnaire. A pattern of independence and lack of social conformity coupled with a serious outlook, a feeling of being "different" and a critical awareness of personal shortcomings. (Cree Manual, 1980).

Indifference: A high score on the continuum of factor two of the Cree Questionnaire. A pattern of marked social behavior characterized by lack of involvement with others, avoidance of sports and dislike of exercise or physical work as leisure time activities. (Cree Manual, 1980).

Interests and Skills: One of the four broad categories of the Cree Questionnaire for determining overall creative potential. The category includes three factors, 11 through 13, relating to theoretical, artistic, and mechanical curiosity and/or aptitude (Cree Manual, 1980).

Internal Functioning: One of the four broad categories of the Cree Questionnaire for determining overall creative potential. The category includes three factors, eight through ten, relating to energy level, reaction time, and ideation rate (Cree Manual, 1980).

Involved Attitude: A high score on the continuum of factor six

of the Cree Questionnaire. A persistent pattern of working behavior characterized by deep involvement with the job in progress, seriousness, and a disinclination to make quick decisions (Cree Manual, 1980).

Involvement: A low score on the continuum of factor two of the Cree Questionnaire. A pattern of marked social behavior characterized by involvement with others, pursuit of sports and the lack of exercise or physical work as leisure time activities.

Manager: A person responsible for overseeing in whole or in part the affairs of a business, industry, enterprise, institution, etc.

Mechanical Interest, High: A high score on the continuum of factor 13 of the Cree Questionnaire. These individuals have high interest in and/or aptitude for things mechanical (Cree Manual, 1980).

Mechanical Interest, Low: A low score on the continuum of factor 13 of the Cree Questionnaire. These individuals have low interest in and/or aptitude for things mechanical (Cree Manual, 1980).

Overall Creative Potential: A measure of the creative personality based on all 13 factors of the Cree Questionnaire. This is the fourteenth factor (Cree Manual, 1980).

Prescribed Activity: A low score on the continuum of factor five of the Cree Questionnaire. A preference for a committee approach to work marked by group-directed, systematic work habits coupled with a high level of activity (Cree Manual, 1980).

Pressured: A high score on the continuum of factor seven of the Cree Questionnaire. The ability to produce the best ideas most readily under pressure (Cree Manual, 1980).

Psychometric: A mental test or psychological method whose results are expressed quantitatively rather than qualitatively (Cree Manual, 1980).

Reaction, Fast: A high score on the continuum of factor nine of the Cree Questionnaire. A pattern of decisive, quick thinking but relaxed and easy-going behavior (Cree Manual, 1980).

Reaction, Slow: A low score on the continuum of factor nine of the Cree Questionnaire. A pattern of indecisive, slow thinking coupled with tense behavior (Cree Manual, 1980).

Relaxed: A low score on the continuum of factor seven of the Cree Questionnaire. The inability to produce good ideas readily under pressure (Cree Manual, 1980).

Selective Activity: A high score on the continuum of factor five of the Cree Questionnaire. A preference for an individualistic approach to work, marked by self-directed, unsystematic work habits coupled with a low level of activity (Cree Manual, 1980).

Social Orientation: One of the four broad categories of the Cree Questionnaire for determining overall creative potential. The category includes three factors, one through three, relating to an individual's interactions with others (Cree Manual, 1980).

Structured Situation: A low score on the continuum of factor four of the Cree Questionnaire. A preference by an individual for routine and structured work situations that provide no opportunity for autonomous action or non-conforming behavior. This individual's approach to problem-solving includes careful accumulation of information (Cree Manual, 1980).

Submission: A low score on the continuum of factor one of the Cree Questionnaire. A pattern of social behavior with three main dimensions that are the opposite of dominance; the individual (a) avoids group situations, (b) communicates poorly, and (c) lacks self-confidence.

(Cree Manual, 1980).

Supervisor: A commonly used term in business/industry to describe a person who has responsibility for the functions and staff of an operating unit. The counterpart to an administrator in education.

Theoretical Interest, High: A high score on the continuum of factor 11 of the Cree Questionnaire. Individuals having significant curiosity about the theories behind the practical (Cree Manual, 1980).

Theoretical Interest, Low: A low score on the continuum of factor 11 of the Cree Questionnaire. Individuals having little curiosity about theories behind the practical and exhibiting trial-and-error behavior (Cree Manual, 1980).

Unstructured Situation: A high score on the continuum of factor four of the Cree Questionnaire. A preference by an individual for non-routine and unstructured work situations that provide scope for autonomous action and independent, non-conforming behavior. This individual's approach to problem-solving minimizes careful accumulation of information and conscious control of direction of thought (Cree Manual, 1980).

Work Orientation: One of four broad categories of the Cree Questionnaire for determining overall creative potential. The category includes four factors, four through seven, relating to an individual's preference for type of workplace environment, and his involvement with or detachment from his work.

Organization of Study

Chapter I introduces the study, explains its background, and presents the problem of the study along with the purpose, research

questions, and hypotheses investigated. It also presents assumptions, scope and limitations, and definition of terms. Chapter II includes a review of literature concerning women in management. Chapter III reports the nature of the sample, additional information about the Cree Questionnaire, the data collection procedures, and a description of the statistical analysis. Chapter IV discusses the findings of each research question. Chapter V includes a summary of the study, conclusions, and recommendations for possible future studies involving creativity of women in the workplace.

CHAPTER II

REVIEW OF LITERATURE

Introduction

This review presents information on issues which have been identified as affecting the preparation of women for managerial careers. However, due to the unavailability of directly related literature, indirectly related but pertinent literature was researched. The literature is divided for presentation into eight categories of information related to the central theme of the study. These categories are: (1) The History of Women in Management, (2) Preparation of Women for Professional and Managerial Careers, (3) Research Studies and Information Designed to Improve Women Managers Through Vocational Education, (4) Techniques for Managerial Success, such as Women Role Models and "Good Old Girl" Networks, (5) Assessment Skills for Women, (6) Research Information and Studies on Women in Business Management, (7) Research Studies and Information for Women in Higher Education and Educational Administration, and (8) Research Studies and Information on Creativity and Managerial Abilities.

The History of Women in Management

Hisrich and Brush (1986) reported that women's roles have been changing in the work force for the past 45 years. In the 1940's,

American women were employed as nurses, secretaries, and teachers. Although World War II forced women into the work force, women's roles were still considered to be mothers and wives. In the past 25 years, however, changes in the social, political, and economic areas have helped move women into the business arena.

Loring (1979) stated that women fulfilling managerial and professional roles is not a new idea. During the 1960's, women had proven they could fulfill management positions, including positions of newspaper editors, and college presidents. Hisrich and Brush (1986) said that the 1960's and 1970's also brought about "women's liberation" and legislation to help prevent sex discrimination. Today, reflecting social trends, women seem to have more independence and confidence in their abilities. This might lead us to believe they have more confidence in their managerial skills as well. Loring (1979) said newspapers report daily that more women are finding satisfying occupations in managerial and professional positions with equal pay for equal work and equal employment opportunities required by legislation.

Preparation of Women for Professional and Managerial Careers

Loring (1979) felt that the reports on the issues and ways of preparing women for management and professional positions would be of great magnitude by indicating progress for women in these areas. Unfortunately, her expectations have not been fulfilled. According to Loring the research and literature do not show great progress of women in management.

One area that has received attention is that of self-concept.

Terborg (1976) concluded that self-concepts of women choosing management careers should be researched. He felt that those who develop a gender-free self-concept are more likely to choose careers in management.

As an additional benefit to having a good self-concept, we find that men may choose non-traditional occupations. One might hope from this study that occupational sex-typing will become less predominant as both men and women improve their self-concepts.

McClure and McClure (1977) suggested that women's studies should encourage both males and females to respond to situations that contribute to a good self-concept. They further concluded that sex role standards have been a limitation to both sexes.

In addition to improved self-concept, LaRoche and Scott (1977) suggested that career preparation for women is essential if they are to succeed in organizations. Identification of career goals and career planning are necessities for women desiring to enter or move up in management (Hyatt, 1980). Yet, Hennig and Jardim (1977) found that most women give little thought to career planning. Instead, they concentrate on developing technical and specialized skills and are often unaware that management responsibilities require completely different kinds of expertise.

Some of the women interviewed by Hennig and Jardim (1977) had ambitions to advance in the organization but did not know how to go about it. They discussed their goals in terms of a specific desired job or salary level that was attractive to them. None had broadly defined goals. When asked what would be critical in achieving their goals, women listed things they thought they could control. They usually mentioned hard work, further training, and development of

self-improved skills such as self-confidence. Only a few mentioned the importance of selecting a qualified person to take over their jobs as they moved up in the organization. Not one women interviewed mentioned office politics or the need for visibility as factors that could help them advance (Hennig and Jardim, 1977).

Career planning requires conscious effort. Loring (1976a) felt that areas for consideration when preparing women to reach management goals are: (1) educational programs, (2) support systems, and counseling. It takes all three to make major changes in the future. There needs to be a strong commitment to education, along with the support of legal action and legislation to help women attain managerial positions. Counseling has been documented as the key to wise decision-making. The ability to recognize goals, identify one's strengths and weaknesses, and to gain knowledge of alternative careers is available through counseling. The field of counseling is better organized, provides more publications, and has one of the largest professional associations for assistance. The American Personnel Guidance Association and its sub-groups have been an invaluable resource in providing better preparation for women.

In the literature available concerning the preparation of women for careers, Loring (1979) stated that the greatest amount of research is devoted to counseling. Inevitably, every program for women begins with the recognition of the need for assistance in covering areas where there are the following gaps:

Informational--regarding the resources available for assistance in choosing a career field or in locating appropriate additional education;

Analytical--regarding personal capabilities, aptitudes, and interests;

Psychological--regarding feelings of worthiness, success or relationships with family, associates, and/or friends;

Societal--regarding women's roles and reactions, along with society's impact on these reactions (p. 9).

Loring (1979) also reported that one's feelings of success and worthiness depend upon the ability to use information. It also seems to be important to be able to self-analyze one's aptitudes and capabilities. The counselor can try to assist those needing to access their own skills and help them use the information they have.

Bardwick and Douvan (1976) theorized that counselors trained to work both with men and women in specific behavioral and technical skills are helping to provide women in training for the occupational positions they are seeking. Counseling helps people become more open to change and to the need for training for those changes.

One way to assist in change is through educational leadership. Dias (1976) reported that a number of factors have contributed to shortages of women in educational leadership roles. An important factor appears to be that some women in education have not seen themselves as leaders. Career planning has not been available to these women. Therefore, fewer women than men teachers aspire to administrative positions and, unfortunately, these women have not academically prepared themselves for administrative positions to the same degree as have men teachers.

Another way to make changes is to be able to list priorities. Women in the American Economy (1976) reported that as more women enter the work force there needs to be an established list of priorities. Their concern for the establishment of these priorities prompted the following recommendations.

1. Greater recognition of the interrelationships of forces which contribute to the preparation of women is needed. Political, economic, and social actions by government and other groups are directly responsible for the degree and types of systems and resources available to women.

2. Realities of daily decision-making, pragmatic power alignments, established patterns of organizations, and the history of women's attempts to produce change all need further data collection and analysis.

3. Since the preparation of women to participate in professional and managerial positions implies greater participation by women in the world of work, research is needed in multiple ways to see this goal to accomplishment (p. 37).

Research Studies and Information Designed to Improve Vocational Education

Category three further documents information that would help women prepare for managerial and professional careers. The researcher felt that vocational education was so important to this goal that it warranted a categorical section of its own. Discussed under this category is the role of vocational counseling in entering career choice and preparedness.

Bregman (1978) documented the activities and outcomes of the Women Entrepreneurs Project (WE) which was conducted at the University of California at Los Angeles Extension Program, through the Division of Vocational Education, for the period of February 1977 through January 1978. The purpose of this research program was to show that information and products were being specifically designed to improve vocational education so that it would more adequately serve specific populations. Neely (1978) summarized the goals of the Project:

The potential role vocational education can play in preparing women for these career options is significant. It requires, however, increased programming for women and the development of appropriate curriculum materials and teaching strategies to use with this specific group. In order for vocational education to play this role there may need to be a re-education of vocational education leaders and instructors to be sensitive to the changing roles of men and women in our society. The WE Project represents one attempt to meet this new challenge (p. 3).

The idea of providing vocational education to teach entrepreneurship was a challenge to vocational educators. The challenge also was to assist adults with those skills needed to become entrepreneurs and to assist them with their goal of self-employment. Bregman designed the Women Entrepreneurs Project to increase the awareness of the vocational counselors and utilize to the fullest extent the services available for adult females. Patterson and Sells (1973) felt that vocational counselors have had little influence on the lives of women for a variety of reasons. The counselors lack accurate information on social changes and they usually do not prepare young women to face job discrimination. Patterson and Sells thought that by the time the student is of high school age, it was too late to begin vocational counseling since most young women had become oriented to sex-stereotyped roles by this time. In conclusion, they believed that more effective counseling should commence in earlier grades so that it would foster the development of prosocial aggression and predispose girls to think in career terms.

Neely (1978) felt that traditional fields such as secretarial sciences and home economics were the "appropriate" vocational programs offered to women in the present. Women were trained for low-level positions in non-traditional fields in only a few of the vocational programs. This information shows the importance of well-informed

vocational counselors who will help those who wish to make self-confident career choices.

In Steel's (1974) Report on Women for Project Baseline, she too felt young women were being prepared for stereotypical roles instead of for a wide range of occupations. She also felt that vocational programs for women should prepare them for more career options in the work force and help women consider the fields of entrepreneurship and/or small business ownership.

Vocational education could expand its programming into areas that address the needs of women making career decisions (Bregman, 1978). Vocational education has the potential to play a leadership role by providing programs for women in nontraditional career fields. In order to train the instructors, we need to develop curriculum and materials that would help women in their career decisions. This should be a priority at both the federal and state levels. In order to accomplish this, we need both legislative action and funding from both the federal and state government.

Bryant (1983) reported that between 1979 and 1982 the difference in median income between women and men narrowed by three percentage points. She felt that some women, for whatever reason, chose traditional careers. The women who make this decision must assess realistically the tradeoff between the opportunity for career advancement and their lifestyle wishes. Bryant said that:

The gap between men's and women's wages will shrink further, but it is not likely to disappear. Some trends work to close the gap, others widen it. Upwardly mobile young women, with a college education and career ambitions, could become a powerful force pushing up women's median wages. And wages will rise as more women select higher-paying occupations--

telephone lineman instead of telephone operator, engineer rather than elementary school teacher (p. 3).

Today women have a choice and it is hoped that vocational education can help women make those choices that will best fit their lifestyles. The researcher feels that vocational counseling for women can be a vital tool in the decision-making process.

Techniques for Managerial Success Such as Women Role Models and "Good Old Girl" Networks

The history of women managers, their preparation for managerial careers, and their vocational education, may be tied to the occurrence of women role models, "Good Old Girl" or support systems and networks and mentors. These are discussed below.

Role Models

Loring (1976) noted the historical absence of successful women role models who made themselves available to advise other women who sought advancement to a career in management.

Aside from the movie role models of the past (example, Joan Crawford, Rosalind Russell, whose success in business inevitably was accompanied by personal and social disasters as mandated by Hollywood's strict adherence to male/female role stereotypes), there has existed almost no visibility for high status women executives after whom a working women could pattern her aspirations. Some successful daughters or wives of tycoons inherited the manels [sic] of success along with their relative's business empires. But they were rare and few (p. 19).

Connecticut's first women governonr, Ella Grasso, reflected on this (scarcity of role models) when she stated, The fate of other women is riding with me so I'm even more determined to do the best I can"

(Kaye cited in Loring, 1979, p. 20). Other women leaders also said they made an extra effort to be available to women who might follow their leadership (Kaye cited in Loring, 1979). According to the women interviewed by Kaye, they believed they were the best available alternative to traditional counselors. These women role models could be a great resource because they have the experience and are able and willing to advise and counsel other women.

Support Systems and Networks

Hisrich and Brush (1986) documented the importance to success of establishing support systems. A strong moral support system of family and friends, in conjunction with one of clients and business associates, can help women managers or entrepreneurs through some extremely difficult times. Hennig and Jardim (1977) said women should begin by listing the names of people they know who might be able to guide and help them. Women managers who develop a rapport with a support group can use them as a sounding board and/or cheering squad. In doing so, a manager has taken a major step in getting the support she needs, hopefully to be successful. In addition, Hisrich and Brush stated that networking can be another good source of support because business acquaintances seem to have more understanding than those not involved in business of the problems others may encounter in their careers and their business endeavors.

Loring (1979) reiterated the importance of support system by stating:

That with all the counseling and preparation available, many women still cannot perform functions of professional work without the necessary support systems. The life

styles of professional women will continue to perform the traditional women's roles . . . and have inevitably led to the recognition that additional support is needed if women are to have equality as they enter the work force. As part of the network of constant nation-wide information conduits, women--particularly those already situated in influential positions--may use their newly-emerging strength to establish support (p. 32).

Hisrich and Brush (1986) said that the start-up process of a business for women entrepreneurs is different from that of males, especially in terms of support systems, sources of funds, or problems. They reported that:

Support groups provide a contrast between men and women. Men usually have outside advisors as their most important supporters with the spouse being secondary. Women consider their spouses to be their most important advisors, close friends next most important, and business associates third (p. 16).

Women most often rely heavily on a variety of sources for support and information. For example, trade associations and women's groups, while men are not as likely to seek as many outside supporters. Loring (1979) felt, however, that there was a problem with women providing support systems to others because some of the working women had conflicting feelings about their own managerial skills.

Upwardly mobile women may have difficulty obtaining support because of the problems with the economy (Loring, 1976). Government grants are more difficult to obtain when the economy is not stable. It seems to be easier for underprivileged and low income women to gain many kinds of support that middle class women are apparently denied. Even the current laws are geared toward loans, grants, and scholarships for people in the lower income range. Women in the American Economy (1976) stated the importance of building community awareness to help with the professional development of women. It would be a loss

to everyone if we did not utilize their experience and their talents.

Mentors

Loring and Lenz (1979) have agreed in substance that, for a women, finding a mentor is of primary importance. Merkin (1979) emphasized that it is crucial that the mentor have the self-confidence to relinquish all or part of the authority to the protege. A mentor serves as a "translator," or someone who can interpret what a high level person is "really" saying (e.g., by the use of body language). A mentor expects a dividend on this investment, maybe by knowing that the flow of leadership in the organization is assured, or by seeing a person advance in a career of her choice. If there is a doubt on the part of the mentor as to a woman's commitment to a career, that person is not likely to spend a great deal of time attempting to teach her. The mentor would not likely consider her as someone who eventually will become the mentor's successor.

Merkin (1977) believed that the mentor/protege relationship must change or end eventually. Typically, this relationship is an important one for both the mentor and the protege. Hopefully, a successful protege of the future will become independent of the mentor and work with the person as an equal. Hennig and Jardim (1977) interviewed 25 women who "made it to the top." These successful women reported that those proteges who continued to depend upon their mentors did not move above middle management, and eventually they were dropped by their mentors. Therefore, a successful relationship usually ended with the two as equals which is the hope of most mentors and protege.

Assessment Skills for Women

Assessment, as it relates to career development, must cover three areas: work opportunities, training, and personal qualifications. Each of these is discussed below.

Career planning should begin with a realistic assessment of existing work opportunities. This includes paying specific attention to work in various geographic locations, types of available positions, etc. Promotion potential should not be overlooked in this phase of the assessment. Greco (1975) believed that if promotions were not available it would cause people to make a decision in regards to changing jobs. Loring (1979) reported that planning for and preparation of women has consisted most often of counseling that assesses current work opportunities and conditions.

Training is a second important area to assess. Hegyi (1978) reported that when assessing costs versus benefits you need to counsel those who are looking at educational programs as a means of achieving a place at the top to "cost out" the experience as if it were a business. The counselee would also need to analyze the expected costs in terms of living expenses, tuition and lost earnings. On the opposite side are the expected returns such as promotions, salaries, and greater responsibility.

One area of particular concern for women in training is math and science. Tobias (1978) reported that women are not socialized to study math. He also said this avoidance of math--often with the support of the counselor-- is sometimes the filter through which many women assess their capabilities in higher paying positions and upper

level career options. Women are effectively removed from competition for employment in entire work areas, including the sciences, research, engineering, and other math-related careers because of math avoidance.

Lenz (1976) felt that those women who are assessing the work of higher level positions could look toward the traditional jobs as a starting point. She said that once women get their "foot in the door", they should take the time to learn all they can about the company. Enrolling in managerial courses should also help them to up-grade their skills.

And, finally, individual assessment of one's own capabilities and options should be a lifelong process. Loring (1976a) reported on the assessment of upward mobility by stating she

found there are more women today than a decade ago in middle management who will soon be prepared by experience, education, and social attitude to take on more complicated tasks in their professions. For those already in mid-career, one problem is when to seek a promotion (p. 18).

Loring (1976a) thought that when deciding upon making a request for a promotion one should have knowledge of the job market, the income information, and the qualifications needed. Loring stated that "a woman's readiness to assume new responsibilities and the organization's capacity for promotion are crucial" (p. 18). Moving up, on, or out may be the choices a woman may have to make.

Loring (1979) also said that the ability to assimilate information depends largely upon one's own feelings of success and worthiness. The ability to self-analyze one's personal capabilities and aptitudes meshes with the recognition of the complexity of counseling processes. Women have rarely dealt with some of these concepts (e.g., the assessment of the actual cost versus the perceived benefits in managerial as

well as professional positions. An example of failure to engage in adequate cost benefit assessment is perhaps best summed up by the sociologist Etzioni (1972),

Who asked whether women all end up dashing to work in a competitive world, seeking some elusive status and measuring their success against their takehome pay, to finally collapse at the end of the day in a neurotic exhaustion, using liquor and the television set as psychiatric first aid for winding down (p. 44)?

Research Information and Studies on
Women in Business Management

The literature used in vocational education for women is of benefit and usefulness not only in that field, but also is of use and importance to women in business and industry management. Bakke and Edson's (1977) research indicated that women dream about advancing in management, although statistics confirm that this rarely occurs, even in traditionally female professions such as social work. The Wisconsin Division of Family Services conducted an inhouse personnel study in 1974. They found that over 50 percent of their women employees were qualified to advance to management positions but only 21 percent of the management positions were held by women. As a result, they adopted affirmative action goals to fill 50 percent of their vacancies with women and minority groups. This section describes some of the information on education and technical assistance available to women such as these employees of the Wisconsin Division of Family Service.

One way to prevent being trapped in lower or middle management is for women to use education to provide access from one position to another. Loring (1976b) noted that "Americans have long held the belief

that education is the best resource for solving problems" (p. 23).

Baron (1976) believed that women are being educated to fill more varied roles in the work force. Loring (1976b) devoted a chapter to continuing education as the entree to widening the range of options for women. From Loring's account,

Continuing one's education makes it possible to challenge circumstances brought about by being underprepared, undereducated, and underexperienced. It also helps people to change careers, work to improve the community and the environment, and to deal with their everyday personal and family problems (p. 24).

Endicott (1977), Fowler (1977), and Williams (1975) found that women who choose to advance professionally frequently conclude that the appropriate educational credentials are essential. For several reasons, it is generally believed that the Masters of Business Administration (MBA) degree is the best preparation for a successful management career (Endicott, 1977). These reasons include (a) the shortage of women in managerial positions, (b) the special difficulties women face in management, and (c) the competition in the managerial job market. That women really need the additional qualifications which the MBA can give them is reflected in the fact that approximately 25 percent of those currently pursuing this master's degree are women (Grant, 1977; Robertson, 1978). Grant (1977) and Robertson (1978) felt the demand was currently high for women with MBA's.

Aplander and Gutmann (1976) thought that it was not possible at the present time to assess the success of current educational opportunities for women, especially regarding the number of managers and professionals that have been aided in their preparations. Gordon and Strober (1979) documented that there is uncertainty about the ability

to create new female managers, although educational activities in this direction have served several functions; including meeting the affirmative action requirements in both business and universities, providing a healthy environment for learning, and demonstrating information that is helpful for management of professional careers in conjunction with personal lives.

The Banking Magazine (cited in Loring, 1979) reported that the path upward has been only slightly easier for women bankers than professionals in other fields. Banking Magazine reported that according to the American Bankers Association, women make up 62 percent of the work force in the 49 top banks but hold only 26 percent of the management posts. Men make up 38 percent of the work force and hold 74 percent of the managerial posts. Many women get locked into middle and lower management.

Echtermacht and Hussein (1974) found skepticism among women students about their prospective programs. Among the 10,515 women registering for the Admission Test of Graduate Study in Business, 50 percent felt that women were counseled into fields that are "suitable for women," 71 percent expected to find very few women faculty members, and 73 percent supported the observation that there are not many women administrators in business schools. Most of the women perceived graduate schools to be structured for men and by men, and they expected to be discouraged in their pursuit of higher education.

Bengelsdorf (1974) felt that one of the most frequently recurring problems for women is financing their education. Women are financially vulnerable and in need of additional scholarships. "For women already employed, many businesses and industries include some form of assistance

in education in their benefits" (Loring, 1976b, p. 30). There are some businesses that pay the total costs for job-related courses and some that pay various percentages of these costs. Special courses are designed by several educational institutions for various industries if there is a sufficient demand. In-service, as well as on-the-job training programs, are of benefit not only to the employer, but to the employee as well. According to a survey by the Bureau of Labor Statistics (1974), the electric power and telephone companies not only planned but provided a great number of training programs for women. Many of their instructors are the company's own employees.

Brown and Perkin (1985) reported an example of employer-provided training at Mrs. Field's Cookies, Incorporated. One of the advantages of being a multistore manager for the company is the change to go to "Cookie College." A company representative reported that, "we have lots of management because I am paranoid. We spend lots of money on people because I believe we have to maintain quality at all points" (Brown and Perkin, 1985, p. 58).

We should remember that education is only one vehicle for advancement. Society continues to recommend education as a way to enter or move up in most managerial positions in the work force. Sometimes, however, other vehicles (e.g., legislation) may be more effective in solving various social problems.

Bregman discovered through information obtained from the Small Business Administration (SBA) that one of the minority groups in the area of ownership of small business is women. When President Nixon, in 1971, established the Office of Minority Business Enterprises (OMBE), the definition of minority that was used is racial/ethnic in nature and

excludes women, with loans to establish businesses and for long-term capital needs, as well as with technical assistance in both areas. This exclusion of women as a minority from several special governmental policies has assisted other minorities in small business ventures.

In Bregman's (1978) summary, he

documents the need for programs for women interested in small business ownership. By providing background information about small business ownership in the United States, women entrepreneurs, and the role vocational education has traditionally played in serving the needs of women (p. 2).

At that time the SBA was reporting that there is a new tendency in attitudes toward women's business ownership. Legislation against sex discrimination along with the women's movement in several areas (social, educational, political, as well as economic) had resulted in more focus on women business owners' needs by agencies of the local, state, and federal governments along with educational institutions that were working to provide resources and programs to small business owners. By order of the Federal Credit Act of 1975, it was made possible for women to establish their own businesses. The SBA set aside a percentage of its loan monies during 1978 to be used by women. Some of the offices of the Office of Minority Business Enterprises were making strides toward serving the needs of women regardless of their ethnic/racial backgrounds. Finally, President Carter and Secretary of Commerce Kreps (1971) called for a special interagency task force to examine women business owners and their needs.

The failure rate of small businesses in the United States provides yet another reason why new programs and resources need to be developed and made available to small business owners of both sexes to better prepare them for a successful business future. Eight out of ten

businesses are not successful in their first five years of operation, per Dunn and Bradstreet (1977), the SBA (cited by Bregman, 1978), and various other authorities in the small business management field. An estimated 90 percent of these failures in business are attributed to lack of good managerial skills, such as inadequate methods of accounting, lack of foresight in planning, substandard knowledge about financial statements, insufficient working capital, and inability to locate, understand, and/or accept advice when needed.

The primary resources (materials and programs) that have existed for persons wishing to establish small businesses through ownership were designed almost exclusively for white males. The main reason for this is that in the past this was almost exclusively the only group to establish small businesses.

One of the ways to avoid problems with small business ownership, including the problem of poor management, is to use support systems successfully. Support systems are important keys to success in business, industry, and education.

Kanter and Wheatley (1976) concluded that women should have both formal and informal supports in order to be a success. Women need jobs providing chances to develop additional skills and strive toward new challenges and take advantage of opportunities for expansion. According to Kanter and Wheatley (1976)

[Women] develop best, as men do, when their positions are empowering, giving them the chance to create or innovate, to become visible and recognized, and to demonstrate their capacity to solve problems critical to the institution. Informal relationships are also important: personal support systems close to home (as opposed to distant networks), more senior people willing to sponsor or endorse them, colleague acceptance, connections that give them access to information or the chance to trade favors (p. 4).

Research Studies and Information for Women
in Higher Education and Educational
Administration

Rudd (1981) discovered that the three most important qualifications for educational administrators, as identified in Women Educators in the State of Washington, were:

(1) the ability to create a positive environment for staff; (2) the ability to assist teachers in improving instruction; and (3) the willingness to confront and resolve difficult situations. The least important qualifications for administrative personnel were the ability to develop a master schedule, the ability to schedule students, and handling of building maintenance (p. 4).

Thus, those qualifications deemed most important involve human relationship skills, while those qualifications deemed least important involve technical skills.

The women educators evaluated women's greatest strengths as lying in those same areas ranked by all respondents as the most important qualifications:

the ability to create a positive environment for staff, the ability to assist teachers in improving instruction, and the willingness to confront and resolve difficult situations. The administrators in the study assigned the same strength evaluation to women as the women assigned to themselves with these exceptions: women believed themselves stronger in handling student discipline and in the ability to resolve conflicts (p. 4).

The study also listed the following additional qualifications for administrators: the ability to organize and follow through on tasks; communication skills; willingness to take independent action when necessary; the ability to effect change; represent the needs of the staff, and utilize specialized personnel; knowledge of school law, budget planning, and preparation; and contributions at the district level.

Rudd (1981) found that women educators were more interested in: (1) challenge and responsibility, (2) concern for making changes in school environments, (3) professional advancement, and (4) personal and family expectations. Women educators seemed to be less affected by (1) salary and security, (2) sex discrimination, or (3) staff expectations. Models and mentors, family, and furthering their education had the greatest influence on their professional direction. They were least influenced by professional associations.

The commitment to a professional career and the value of "doing one's own thing" greatly influence the decision of women to enter administration (Rudd, 1981). However, Dias (1976) documented that other factors are used often to identify those women who will advance professionally, including: recommendations by others, leadership abilities, teacher performance, degrees earned, and advancement studies.

Fishel and Pottker (1975) stated:

Those women administrators who have developed positive attitudes toward their own abilities and have reconciled the conflicts between personal and professional roles are the ones who are succeeding in educational administration. If the leader in education is a woman who has overcome timidity and yet has preserved her instincts of empathy and nurturing, she can become the best in her chosen profession. She can be an educator in the keenest sense of the term; disciplined yet creative, logical yet empathetic, directive yet supportive. Women are taught to be good listeners (p. 112).

The recommendations based upon the conclusions and findings of the Washington Study included the following: women educators hoping to become administrators should try to understand and develop the qualifications for successful administrative positions, broaden experiences, pursue advanced professional studies and degrees, and finally, make

their wishes known (Rudd, 1981). They further concluded that:

- (a) school boards, district administrators, and professional educational associations should identify women educators with leadership potential and encourage them to prepare for an educational administration career;
- (b) school districts should recruit, hire, and provide more visible leadership training opportunities for women who are qualified to hold administrative positions;
- (c) women administrators and educational leaders should provide mentorship and encouragement to help convince qualified women that they can go beyond traditional stereotyped roles; and
- (d) schools of education should encourage competent women students to pursue careers in educational leadership.

Kalvelage (1978) felt that education needs the resources of the total population, both male and female. When the talents of women are used to their fullest potential, then the availability of human resources to fill administrative positions will have been greatly multiplied.

Rosow (1979) felt that although there has been much written in the 1970's about women in higher education, little information was produced to suggest what higher educators should do to prepare women to advance in the ranks of administration and continue to do so. The recent rapid expansion of literature about the administrative opportunities in education and employment, in conjunction with the lack of positive action demonstrated by educational institutions, and the shortage of female role models for women setting career standards have been some of the major problems women have faced. Women in higher education administration should begin to provide opportunities for other women and recommend capable women whenever possible.

Rosow (1979) thought that women in administration should begin to provide opportunities for others of the same sex. It is their duty to recommend and recruit qualified women whenever their input is solicited, and to voice their opinions when it is not.

Furthermore, women administrators on university campuses should serve as mentors to others in order to be assured that opportunities for other women's advancement to higher positions become equitable, fair, and open. They should be adamant about women's rights to obtain administrative positions on campuses, and they should be willing to assist others with knowledge about the experiences of women in administration so prospective administrators might have a better chance at being successful (Rosow, 1979).

Due to several historical factors, survival strategies for women administrators in the 1980's seem to be an important issue. First, the "baby boom" in the 1940's along with growth in educational opportunities, produced an excessive number of professionals with managerial skills (Rosow, 1979). Second, in the 1950's, women in positions of administration in higher education institutions faced a new challenge to their survival, due in part, to economists' predictions of slow economic growth, continued high inflation, and low funding levels for institutions of higher education. Third, Goodlad (1978), Kanter (1979), and Rosow (1979) agreed that women trying to survive administration in the 1980's may encounter discriminatory practices. All of these factors probably cause women to have limited opportunities to advance to positions of administration through professional growth. As Downey and Howard (1980) stated:

No matter how effective women today are in administrative positions in institutions of higher education, prospects for the 1980's indicate that there will be a limited number of leadership positions available for men and women. Therefore, women will be faced with both the lack of jobs and discrimination (p. 141).

There are several steps women can take to improve their situation:

- (a) they should share in the responsibility for making decisions.
- (b) they should create an informal network with women in similar positions in higher education institutions. The purpose of this network is to exchange ideas, strategies, and information.
- (c) female administrators should organize and enroll in campus assertiveness training programs with other faculty women.
- (d) women should maintain their membership in professional organizations, publish articles, be active committee members, and be presentors at professional meetings.
- (e) women should be cognizant of possible discriminatory practices.

Kanter (1979) thought that advancement of women in higher educational institutions in the 1980's is possible if women will examine their educational experience and their academic professional preparation for positions in higher education. It is extremely important to be knowledgeable in these areas if one is to become an effective educational leader.

Dias (1976) stated from her research that only a few organizations have been established to encourage women to seek the training and experience necessary to qualify them as educational administrators. Some are the National Association for Women Deans, Administrators, and Counselors; Delta Kappa Gamma Society International; National Association of Secondary School Principals; and the National Council of Administrative Women in Education. Networks can provide information about

administrative openings and generally can provide support.

Kanter and Wheatley (1976), reporting on a project which explored career development of women in academic administration, found the role and value of the training women received varied with the needs of the target group. They found that senior women benefited from sharing training programs in which prestigious top officials participated. The entering women seemed to benefit more from internships which provided invaluable opportunities to gain job experience.

Schetlin (1975) noted that, "women in administration, like men in administration, need administrative skills; planning, organizing, staffing, scheduling, coordinating, directing, supervising, reporting, and budgeting" (p. 104). Developing skills in areas like interpersonal relations, group dynamics, leadership, organizational theory, communication, negotiation, and management is helpful. Once prepared with appropriate skills, competent women administrators are fortunate to work with competent and prepared men administrators.

Women are more likely to disappear down the Rabbit Hole or behind the Looking Glass, like Alice, into administrative world of unreason in which prescribed sex roles, myth, stereotype, and unexamined assumptions predominate (Schetlin, 1975, p. 104).

Schetlin went on to note that "in spite of the Wonderland/Looking Glass administrative experiences of many women, we should encourage women to become administrators" (p. 104). Educational institutions should be the most active place to educate students to appreciate the best capacities of all the different groups in our society. McCarthy and Webb (1977) wrote:

An appropriate starting place would be the dissemination of existing empirical data which shatter the myth of female inferiority. Also, the elimination of sex bias

from courses, the evaluation of research efforts of women to their proper status in the curricula, and the active recruitment of women for prestigious fellowships are areas which need immediate attention (p. 57).

The most comprehensive strategy for correcting all the factors related to the underrepresentation of women in educational administration, according to Rosow (1979), was the implementation of Executive Order 11246 which requires plans for affirmative action.

McCarthy and Webb (1977, p. 56) said, "undeniably, women still face obstacles in their efforts to become successful school administrators." One disturbing factor is that several women educators feel comfortable in lagging behind social change. There seems to be no reasons to waste half of the available talent in a profession where competent leadership is essential.

Loring (1976b) thought women were being subjected to taking the defensive role in selecting work that would result in the balancing of human and technological studies along with how they may be the most productive. Assuming that the women considering a managerial career has the necessary skills, abilities, experience, and attitudes, the choice of where to invest her talents ultimately rests with her alone.

Many of the authors, including Rosow (1979), Kanter (1979), and Downey and Howard (1980), indicated that women may have to struggle to obtain positions and survive in them. Being a part of the decision making process, using networks, and being members of professional organizations are some of the ways women can survive.

The following information shows that creative and inventive talent have long been regarded as important in all forms of human endeavor states Thurston and Millinger (1980).

Research Studies and Information on Creativity
and Managerial Abilities

Thurston (195) observed that in all fields of life, talent is necessary and that creative talent was in demand in science, the fine arts, industry, and the professions. He concluded that not much had been done to learn about it, in comparison with the importance of the kind of talent. Guilford (1950) also made reference to the neglect of the study of creativity. However, in 1964, Guilford was able to report on an increasing interest in creativity because there were more publications in that decade as compared with earlier decades.

While there are several different definitions of creativity, Both Guilford and Thurston have related their definitions to personality. Guilford (1950) stated that "the psychologist's problem is that of creative personality," and proposed that creative personality is "a matter of those patterns and traits that are characteristic of creative persons" (p. 24). Creative talent is defined by Thurston (1950) as "the intellectual and temperament traits that characterize people who are able to formulate problems and find original solutions" (p. 30). The theory which underlies the construction of the Cree Questionnaire is this relationship between personality and creativity.

The Cree Questionnaire was developed in 1954 under the guidance of Thurston and Mellinger (1980) at the Psychometric Laboratory of the University of North Carolina under a grant from the General Motors Corporation to measure overall creative potential and behavior across 13 dimensions for use in a variety of occupational and institutional settings. One of the theories underlying the construction of the

questionnaire was that creative and innovative behavior was important in wide areas of human endeavor and that certain behavior characteristics were common in creative people regardless of their occupation. In investigating the validity of the Cree Questionnaire scores, a number of approaches were taken in its application to managers.

The Cree results indicate that creative, innovative behavior is an important ingredient for success of both line managers and the managers of professions. These findings are supported by another study (Goddard, 1980), in which an attempt was made to predict the salaries of the members of each hierarchy from the scores on the Cree dimensions. Taking inflation into account, salary data for the members of the two hierarchies were collected for the years 1975 through 1979. If salary is accepted as one measure of the individual's performance and value to the organization, then these surprisingly high correlations signify the importance of creativity for managerial success.

Criterion validation studies were used together with Cree Questionnaire scores in the second approach taken to investigating the importance of creativity for successful job performance. One such study, undertaken for a large railroad organization (University of Chicago, Industrial Relations Center, Manpower Research and Development Division, 1971) included a group of 33 high-level executives and a group of 192 mechanical and engineering personnel. The Cree contributed to the predictor equation for each of the three criterion measures used in the study, although it was only one of 15 tests in the battery. These were a supervisory paired-comparison rating of overall performance, tenure and salary.

Therefore, in light of the above literature review, the following

study was conducted to compare the creativity of women administrators in education with the creativity of women supervisors in business/industry and with the results of that comparison will provide a psychometric counseling tool for use in those fields.

CHAPTER III

METHODS AND PROCEDURES

The purpose of this study was to compare the creativity of women administrators in education with the creativity of women supervisors in business/industry and with the results of that comparison, will provide a psychometric counseling tool for use in those fields.

The purpose of this chapter, using the descriptive research method, is to explain the methods and procedures used to determine if a relationship exists between the creativity of women administrators in education and women supervisors in business/industry. The chapter will cover the following areas: (1) Nature of Sample, (2) The Cree Questionnaire, (3) Data Collection, (4) Procedures, and (5) Description fo Statistical Analysis.

Nature of Sample

In order to identify a population from which to extract random samples using a table of random numbers from Nie (1975) of women managers from the fields to be studied, that is, education and business/industry, the researcher surveyed numerous publications for persons living in Oklahoma, Texas, Arkansas, and Louisiana with feminine-sounding names whose titles suggested management positions. Typical titles sought included supervisor, manager, and vice president in business/industry, and administrator, principal, and superintendent in education.

Specifically, for women supervisors in business/industry, Standard and Poor's Directory of Corporations and current rosters of the Business and Professional Women's organization were searched. This search produced 99 names and addresses. Each name so obtained was assigned a number from one to 99. A table of random numbers was then used to extract a sample of 60 names of women supervisors in business/industry for use in this study.

For women administrators in education, the four geographically applicable sections of the Directory of American Education (Patterson, 1985) and the current rosters of Oklahoma Women in Education Administration and the Independent Schools Association of the Southwest were searched. This search produced 104 names and addresses. Each name so obtained was assigned a number from one to 104. A table of random numbers was then used to extract a sample of 60 names of women administrators in education for use in this study.

Description of Statistical Analysis

To determine whether there was any relationship between the creativity of women administrators in education and that of women supervisors in business/industry, it was necessary to determine whether there was any difference between the mean scores of the two groups on each of the 13 factors and overall creative potential of the Cree Questionnaire.

The statistical test best suited for this purpose was the One-Way Analysis of Variance (ANOVA). The subprogram ONEWAY of the Statistical Package for the Social Sciences (SPSS) computer program was run on the selected data.

The ANOVA was used in this study because (1) of the homogeneity of variances, (2) the normal distribution of scores, and (3) random sampling. The study met the criteria needed to use the ANOVA; therefore, the ANOVA was chosen as the statistical test for this study.

The Cree Questionnaire

The Cree Questionnaire was developed to measure overall creative potential and behavior across 13 empirically-determined factors that represent the underlying dimensions of the creative personality (See Appendix A). Thurston (1950) defined creativity as the "intellectual and temperament traits that characterize people who are able to formulate problems and find original solutions" (p. 33). This relationship between behavior (or personality) and creativity is the theory which underlies the construction of the Cree Questionnaire.

According to the Cree Questionnaire Interpretation and Research Manual, there is not a one-to-one correspondence between the magnitude of the factor scores and the overall level of creative potential for two major reasons. The overall creative potential score is separately determined and based on all 145 questions of the Cree Questionnaire whereas the factor scores are based on variable numbers of questions. Secondly, the factors show varying correlations with the overall score. With these restrictions in mind, an identification of high factor scores in the profile indicates the extent to which the individual's behavior resembles that of a creative personality.

The Cree Questionnaire was the instrument used in this study to determine the creativity of the individuals in the random samples of administrators in education and supervisors in business/industry. The

145 questions were to be answered "yes", "?", or "no".

Thirty-five questions (1-34 and 138) related to Factor 1 (dominant vs. submissive) of the creative personality. Eight questions (15, 16, 18-21, 132, and 139) relate to Factor 2 (involved vs. indifferent) of the creative personality. Twelve questions (23-25, 27-29, 31-33, 134, 135, and 138) relate to Factor 3 (conforming vs. independent). Factors 1-3 are in the social area of the Questionnaire.

Ten questions (35-37, 39-41, 134, 135, 137, and 140) relate to Factor 4 (structured vs. unstructured); ten questions (44, 46, 48, 50, 52, 54, 56, 140, 144, and 145) relate to Factor 5 (prescribed vs. selective activity); ten questions (58, 60, 63, 135-137, 142, 143, and 145) relate to Factor 6 (detached vs. work-involved), and five questions (65, 67, 133, 141, and 143) relate to Factor 7 (relaxed vs. pressure). Factors 4-7 are in the work area of the Cree Questionnaire.

Ten questions (69, 71, 73, 75, 77, 79, 81, 142, 144, and 145) relate to Factor 8 (low vs. high energy level); eight questions (86, 88, 90, 93, 126, 142, and 145) relate to Factor 9 (slow vs. fast reaction), and nine questions (95, 97, 100, 102, 104, 136, 142, 144, and 145) relate to Factor 10 (low vs. high ideation rate). Factors 8-10 are in the internal area of the Cree Questionnaire.

Nine questions (107, 108, 110-112, 115, 117, and 118) relate to Factor 11 (low vs. high theoretical); six questions (119, 121, 122, and 124-126) relate to Factor 12 (low vs. high artistic), and five questions (127, 138, 130, 131, and 132) relate to Factor 13 (low vs. high mechanical). Factors 11-13 are in the interests area of the Cree Questionnaire.

TABLE 1

IT. NO.	FACTOR NO.			OV.
	1	2	3	
1				Y
2				X
3	X	X	X	?
4	X	X	X	X
5	X	X	X	X
6	X	X	X	X
7	X	X	X	?
8	X	X	X	X
9				X
10	X	X	X	X
11	Y			Y
12	X	X	X	X
13	X	X	X	X
14	X	X	X	X
15	X	X	X	N
16	X	X	X	?
17	X	X	X	X
18	X	X	X	N
19	X	X	X	N
20	X	X	X	N
21	X	X	X	N
22	X	X	X	X
23	X	X	X	X
24	X	X	X	X
25	X	X	X	Y
26	X	X	X	N
27	X	X	X	X
28	X	X	X	X
29	X	X	X	X
30	X	X	X	X
31	X	X	X	X
32	Y	Y	Y	Y
33	Y	Y	Y	Y
34	X	X	X	N
SCRS	8	5	5	
OVERALL SCORE	20			

TABLE 2

IT. NO.	FACTOR NO.				OV.
	4	5	6	7	
35	X	X	X	X	X
36	X	X	X	X	X
37	X	X	X	X	X
38	X	X	X	X	X
39	X	X	X	X	X
40	X	X	X	X	X
41	N	?			N
42	X	X	X	X	Y
43	X	X	X	X	Y
44	X	X	X	X	Y
45	X	X	X	X	Y
46	X	X	X	X	N
47	X	X	X	X	Y
48	X	X	X	X	Y
49	X	X	X	X	Y
50	X	X	X	X	Y
51	X	X	X	X	Y
52	X	X	X	X	Y
53	X	X	X	X	N
54	X	X	X	X	Y
55	X	X	X	X	Y
56	X	X	X	X	X
57	X	X	X	X	X
58	X	X	X	X	N
59	X	X	X	X	N
60	X	X	X	X	N
61	X	X	X	X	N
62	X	X	X	X	N
63	X	X	X	X	Y
64	X	X	X	X	Y
65	X	X	X	X	X
66	X	X	X	X	X
67	X	X	X	X	X
68	X	X	X	X	X
69	X	X	X	X	?
SCRS	5	2	2		
OVERALL SCORE	27				

TABLE 3

IT. NO.	FACTOR NO.				OV.
	8	9	10		
69	X	X	X	X	?
70	X	X	X	X	?
71	X	X	X	X	X
72	X	X	X	X	X
73	Y				Y
74	X	X	X	X	Y
75	Y				Y
76	X	X	X	X	N
77	X	X	X	X	?
78	X	X	X	X	Y
79	X	X	X	X	Y
80	X	X	X	X	Y
81	X	X	X	X	X
82	X	X	X	X	X
83	X	X	X	X	X
84	X	X	X	X	X
85	X	X	X	X	X
86	X	X	X	X	Y
87	X	X	X	X	Y
88	X	X	X	X	N
89	X	X	X	X	X
90	X	X	X	X	N
91	X	X	X	X	Y
92	X	X	X	X	Y
93	X	X	X	X	X
94	X	X	X	X	X
95	X	X	X	X	Y
96	X	X	X	X	Y
97	X	X	X	X	X
98	X	X	X	X	N
99	X	X	X	X	X
100	X	X	X	X	X
101	X	X	X	X	Y
102	X	X	X	X	Y
103	X	X	X	X	Y
104	X	X	X	X	X
SCRS	5	2	3		
OVERALL SCORE	20				

TABLE 4

IT. NO.	FACTOR NO.			OV.
	11	12	13	
105	X	X	X	X
106	X	X	X	X
107	X	X	X	X
108	X	X	X	X
109	X	X	X	N
110	X	X	X	X
111	Y			Y
112	Y			Y
113	X	X	X	X
114	X	X	X	Y
115	Y			Y
116	X	X	X	Y
117	X	X	X	Y
118	X	X	X	Y
119	X	X	X	Y
120	X	X	X	X
121	Y			Y
122	Y			Y
123	X	X	X	X
124	X	X	X	X
125	X	X	X	X
126	Y			Y
127	X	X	X	Y
128	X	X	X	Y
129	X	X	X	X
130	X	X	X	Y
131	X	X	X	Y
SCRS	5	3	0	
OVERALL SCORE	15			

TABLE 5

IT. NO.	FACTOR NO.													OV.	
	1	2	3	4	5	6	7	8	9	10	11	12	13		
132	X	X	X	X	X	X	X	X	X	X	X	X	X	Y	X
133	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
134	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
135	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
136	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
137	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
138	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
139	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
140	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
141	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
142	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
143	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
144	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
145	X	X	X	X	X	X	X	X	X	X	X	X	X	X	N
SCRS	1	2	3	3	1	2	2	2	4	0	-	-	0	7	
SCORES TABLE 1-4	8	5	5	5	2	1	2	5	2	3	5	3	0	7	6
RAW SCORES	9	7	8	8	3	3	4	7	6	3	5	3	0	8	5
NSS	54	67	60	63	48	42	58	56	59	43	52	50	33	60	
TOTALS															60

SCORE SHEET A

Figure 1. Typical Completed Cree Questionnaire Score Sheet

It can be seen in Table Five of the Cree Questionnaire Score Sheet (Figure 1) that questions 132-135 relate to more than one of the 13 factors in addition to overall creative potential. Not all questions relate to any of the 13 factors; in fact, 53 of the 145 questions relate only to overall creative potential.

Data Collection

The researcher obtained 175 Cree Questionnaires and Score Sheets by mail order from London House Press (See Appendix A).

Explanatory cover letters (See Appendix B) and self-addressed stamped envelopes accompanied a first-class mailing of 120 Cree Questionnaires to the two random samples of women managers in education and business/industry on January 30, 1986. Response was requested by March 12, 1986. By that deadline, 78 women had responded with completed Cree Questionnaires, 44 educators and 34 in business/industry (See Table I).

An identical follow-up mailing was made to those 42 who had not responded to the first mailing with the deadline extended to April 15, 1986. Only two additional educators and four additional business women responded with completed Cree Questionnaires (See Table II).

Therefore, a total of 84 women managers responded in time to be included in the study. Forty-six (76.6 percent) of the random sample of 60 administrators in education responded and 38 (63.3 percent) of the random sample of 60 supervisors in business/industry responded. Seven additional responses were received after the final deadline and were not included in the study (See Table II).

To assure anonymity, upon receipt, each questionnaire was keyed

TABLE I
NUMBER OF PARTICIPANT RETURNS ON CORRESPONDENCE I

Groups	Number Sent	Total Response
Women Educators	60	44
Women in Business/Industry	60	34
total	120	78

TABLE II
NUMBER OF PARTICIPANT RETURNS ON CORRESPONDENCE II

Groups	Number Sent	Total Response	Total Percent
Women Educators	16	2	76.6
Women in Business/Industry	26	4	63.3
Total From Table I	120	78	
total	162	84	

(alpha for educators, numeric for business/industry) and the name of the respondent was obliterated.

Procedures

Extraction of Data

The procedures followed to analyze the Cree Questionnaire data collected for this study consisted of many steps. As a preliminary to actual scoring, each Score Sheet was annotated with the same key assigned to its corresponding Cree Questionnaire. The first step was the hand scoring of all 84 completed Cree Questionnaires included in the study. Figure 1 is a typical hand-scored Score Sheet.

Then, the respondent's answers were transferred to Tables 1 through 5 of the Cree Score Sheet. Answers to Questions 1-34 were transferred to Table 1, those for Questions 35-68 to Table 2, those for Questions 69-104 to Table 3, those for Questions 105-131 to Table 4, and those for Questions 132-145 to Table 5.

For example, taking Table 1 of the Score Sheets, if the respondent answered "yes" to Question 7, a mark to that effect was placed in the box to the immediate right of the Number 7 in the "Item Number" column. However, because the respondent did not answer "?" to Question 7, no mark was placed in the box in the "OV" column opposite 7 in the "Item Number" column.

Taking Table 2 of the Score Sheet as another example, if the respondent answered "no" or "?" to Question 54, a mark to that effect was made in the Factor "5" column opposite 54 but no mark was made in the "OV" column.

Each of the Questions 1-145 was transferred similarly. Next, the marks in each column were added down to the boxes labeled "SCRS" and/or "Over-all Score". Then, the 13 factor scores from Tables 1-4 were transferred to the appropriate box in the "Scores - Tables 1-4" row of Table 5. The number placed in the farthest right box of that row was the sum of the "OV" columns of Tables 1-4.

Finally, the two numbers in the "SCRS" and "Scores - Tables 1-4" rows of Table 5 were summed downward in column pairs and entered in the "Raw Scores" row for all of Factors 1-13 and overall creative potential. The scoring procedure to this point required approximately 30 minutes per respondent.

The final step in the scoring procedure was the conversion of each respondent's raw scores for Factors 1-13 and overall creative potential to normalized standard scores. This was accomplished by reference to conversion tables on pages 46-48 of the Cree Questionnaire Interpretation and Research Manual (1980). Each respondent's normalized standard scores were entered in the "NSS" row of Table 5 of her individual score sheet.

Preparation of Data

All normalized standard scores for Factors 1-13 and overall creative potential of the Cree Score Sheets, along with their corresponding alpha and numeric keys, were transcribed to tables for use of input to the computer. The 46 administrators in education were segregated in one table, a portion of which is shown in Appendix C. The 38 supervisors in business/industry were segregated in a second table, a portion of which is shown in Appendix C.

CHAPTER IV

ANALYSIS OF THE DATA

This chapter is included as the vehicle through which the data are analyzed. The ANOVA statistical test was used to determine if there was a significant difference between the mean factor and overall creative potential scores for the two groups of women administrators in education and women supervisors in business/industry. Each of the 14 research questions was tested to the .05 level of significance.

Results

Table III is a tabular presentation of the results of the ONEWAY subprogram applied to the Cree Questionnaire data gathered in this study. Column one lists the 13 Cree Questionnaire factors or research questions or hypotheses and overall creative potential (OCP). Column two lists the mean scores of women supervisors in business/industry on each of the factors and overall creative potential. Column three lists the mean scores of women administrators in education on each of the factors and overall creative potential. Column four notes the significant difference, if any, between the mean scores in columns two and three. Figure 2 is the same data presented in graph form. The narrative that follows in this section references these illustrations (See Table IV for all factors or hypotheses).

TABLE III

MEAN RESULTS OF FACTORS ONE THROUGH FOURTEEN

Hypotheses or Factor:	Mean		Significant Difference
	Women Super. in Business/Industry	Women Admin. in Education	
1	44.76	50.39	$p < .05$
2	52.15	52.19	NS($p < .05$)
3	53.28	51.15	NS($p < .05$)
4	46.63	51.52	$p < .05$
5	50.84	45.56	$p < .05$
6	47.02	45.39	NS($p < .05$)
7	51.31	39.34	NS($p < .05$)
8	51.60	52.00	NS($p < .05$)
9	51.89	54.93	NS($p < .05$)
10	46.52	48.43	NS($p < .05$)
11	42.89	48.04	$p < .05$
12	52.15	54.26	NS($p < .05$)
13	44.36	42.60	NS($p < .05$)
14	49.97	52.41	NS($p < .05$)

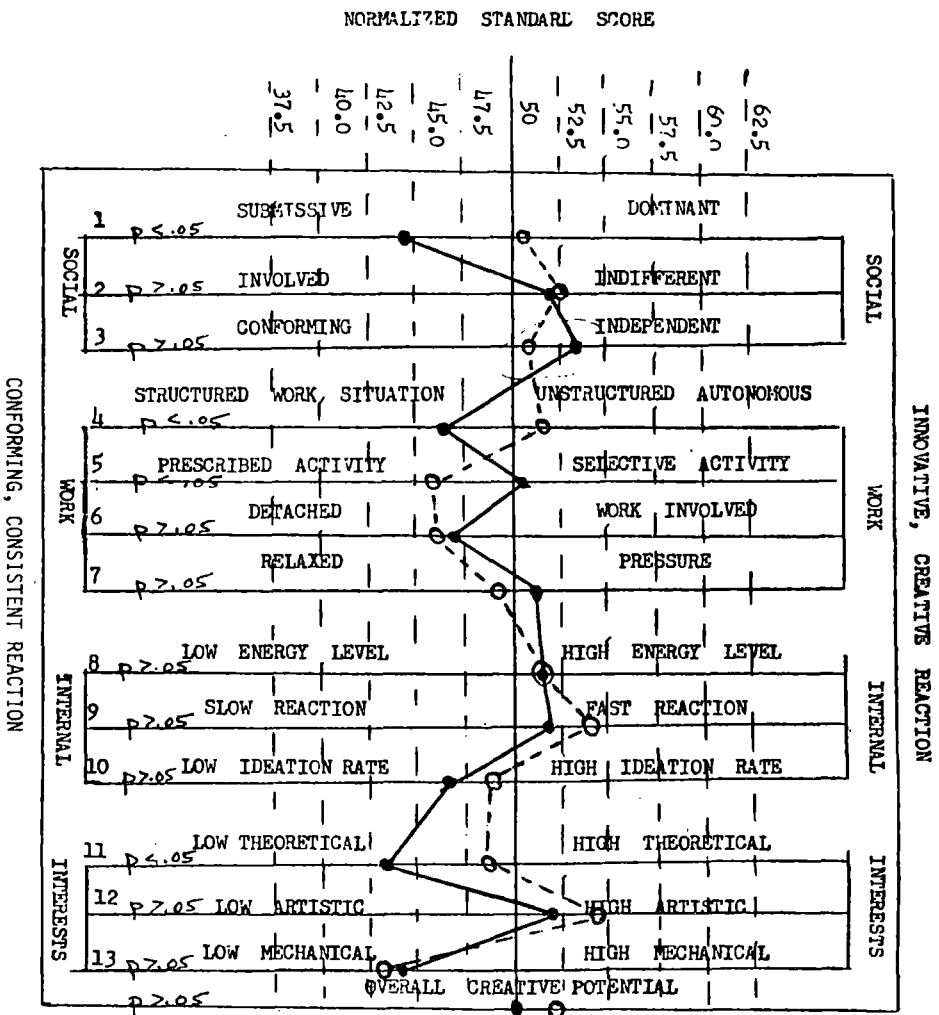


Figure 2. Cree Questionnaire Score Sheet in Graphic Form

TABLE IV
 MEAN COMPARISON AND ANOVA TABLE OF FACTORS ONE THROUGH FOURTEEN

Factors	Business Women \bar{X}	Women Educators \bar{X}	Between Groups F Ratio	Groups F Prob
Submissive Social 1 vs. Dominant	44.763	50.391	14.300	0.0003
Involved Social 2 vs. Indifferent	52.158	52.196	0.001	0.9813
Conforming Social 3 vs. Independent	53.289	51.152	0.649	0.4226
Structured Work Situations 4 vs. Unstructured Autonomous	46.632	51.522	4.555	0.0358
Prescribed Activity Work 5 vs. Selectivity	50.842	45.565	6.518	0.0125
Detached Work 6 vs. Work Involved	47.026	45.391	0.568	0.4532
Relaxed Work 7 vs. Pressure	51.316	59.348	1.060	0.3062
Low Energy Level Inter- nal 8 vs. High Energy Level	51.605	52.000	0.037	0.8485
Slow Reaction Internal 9 vs. Fast Reaction	51.895	54.935	2.102	0.1510
Low Ideation Rate Internal 10 vs. High Ideation Rate	46.526	48.435	0.721	0.3982
Low Theoretical Interests 11 vs. High Theoretical	42.895	48.043	5.037	0.0275
Low Artistic Interests 12 vs. High Artistic	52.158	54.261	1.315	0.2548
Low Mechanical Interest 13 vs. High Mechanical	44.368	42.609	0.770	0.3827
Variable Overall Creativity	49.974	52.413	1.060	0.3063

Factor 1: Dominant vs. Submissive

Significant difference ($p < .05$) was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 1 of the Cree Questionnaire. Their mean normalized standard scores were 50.39 and 44.76, respectively (Thurston and Mellinger, 1980). Therefore, the null hypothesis H_{01} was rejected. Women administrators in Education are more dominant.

Factor 2: Involved vs. Indifferent

No significant difference was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 2 of the Cree Questionnaire. Their mean normalized standard scores were 52.19 and 52.15, respectively. Therefore, the null hypothesis H_{02} failed to be rejected.

Factor 3: Conforming vs. Independent

No significant difference was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 3 of the Cree Questionnaire. Their mean normalized standard scores were 51.15 and 53.28, respectively. Therefore, the null hypothesis H_{03} failed to be rejected.

Factor 4: Structured vs. Unstructured

Work Situation

Significant difference ($p < .05$) was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 4 of the Cree Questionnaire. Their mean normalized

standard scores were 51.52 and 46.63, respectively. Therefore, the null hypothesis H_{0_4} was rejected. Women in Education are unstructured.

Factor 5: Prescribed vs. Selective Activity

Significant difference ($p < .05$) was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 5 of the Cree Questionnaire. Their mean normalized standard scores were 45.56 and 50.84, respectively. Therefore, the null hypothesis H_{0_5} was rejected. Women supervisors in business/industry are more selective.

Factor 6: Detached vs. Work-Oriented

No significant difference was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 6 of the Cree Questionnaire. Their mean normalized standard scores were 45.39 and 47.02, respectively. Therefore, the null hypothesis H_{0_6} failed to be rejected.

Factor 7: Relaxed vs. Pressure

No significant difference was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 7 of the Cree Questionnaire. Their mean normalized standard scores were 49.34 and 51.34, respectively. Therefore, the null hypothesis H_{0_7} failed to be rejected.

Factor 8: Low vs. High Energy Level

No significant difference was found between the mean scores of

women administrators in education and women supervisors in business/industry on Factor 8 of the Cree Questionnaire. Their mean normalized standard scores were 52.00 and 51.60, respectively. Therefore, the null hypothesis H_{o_8} failed to be rejected.

Factor 9: Slow vs. Fast Reaction

No significant difference was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 9 of the Cree Questionnaire. Their mean normalized standard scores were 54.93 and 51.89, respectively. Therefore, the null hypothesis H_{o_9} failed to be rejected.

Factor 10: Low vs. High Ideation Rate

No significant difference was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 10 of the Cree Questionnaire. Their mean normalized standard scores were 48.43 and 46.52, respectively. Therefore, the null hypothesis $H_{o_{10}}$ failed to be rejected.

Factor 11: Low vs. High Theoretical Interest

Significant difference ($p < .05$) was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 11 of the Cree Questionnaire. Their mean normalized standard scores were 48.04 and 43.89, respectively. Therefore, the null hypothesis $H_{o_{11}}$ was rejected.

Factor 12: Low vs. High Artistic Interest

No significant difference was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 12 of the Cree Questionnaire. Their mean normalized standard scores were 54.26 and 52.15, respectively. Therefore, the null hypothesis Ho_{12} failed to be rejected.

Factor 13: Low vs. High Mechanical Interest

No significant difference was found between the mean scores of women administrators in education and women supervisors in business/industry on Factor 13 of the Cree Questionnaire. Their mean normalized standard scores were 42.60 and 44.36, respectively. Therefore, the null hypothesis Ho_{13} failed to be rejected.

Overall Creative Potential

No significant difference was found between the mean scores of women administrators in education and women supervisors in business/industry on Overall Creative Potential of the Cree Questionnaire. Their mean normalized standard scores were 52.14 and 49.97, respectively. Therefore, the null hypothesis Ho_{14} failed to be rejected.

Summary

Research questions two, three, six, seven, eight, nine, ten, 12, 13, and 14 resulted in non-significant relationships, consequently, the associated null hypotheses Ho_2 , Ho_3 , Ho_6 , Ho_7 , Ho_8 , Ho_9 , Ho_{10} , Ho_{11} , Ho_{12} , Ho_{13} , and Ho_{14} failed to be rejected.

Research questions one, four, five, and 11 resulted in significant relationships. Therefore, the associated null hypotheses H_{01} , H_{04} , H_{05} , and H_{011} were rejected.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter will summarize the study, state the conclusions reached, and recommend the direction further creativity studies should take. The chapter is divided into the following sections: (1) Summary, (2) Conclusions, and (3) Recommendations for Further Studies. Several hypothesis were examined, these included:

Ho₁: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of dominance versus submission as measured in the social area of the Cree Questionnaire.

Ho₂: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of involved versus indifferent as measured in the social area of the Cree Questionnaire.

Ho₃: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of conforming versus independent as measured in the social area of the Cree Questionnaire.

Ho₄: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of structured versus unstructured as measured in the work area of the Cree Questionnaire.

Ho₅: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of prescribed versus selective activity as measured in the work area of the Cree Questionnaire.

Ho₆: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of detached versus work involved as measured in the work area of the Cree Questionnaire.

Ho₇: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of relaxed versus pressured as measured in the work area of the Cree Questionnaire.

Ho₈: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of low versus high energy level as measured in the internal area of the Cree Questionnaire.

Ho₉: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of slow versus fast reaction time as measured in the internal area of the Cree Questionnaire.

Ho₁₀: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of low versus high theoretical interest as measured in the interest area of the Cree Questionnaire.

Ho₁₁: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of low versus high theoretical interest as measured in

the interests area of the Cree Questionnaire.

Ho₁₂: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of low versus high artistic interest as measured in the interests area of the Cree Questionnaire.

Ho₁₃: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of low versus high mechanical interest as measured in the interests area of the Cree Questionnaire.

Ho₁₄: There is no significant difference between women supervisors in business/industry and women administrators in education in the characteristic of overall creative potential as measured by the Cree Questionnaire.

Summary

The literature search conducted by the researcher substantiated the existence of the problem postulated as a primary rationale for this study, that is, that there is a lack of knowledge about the creativity of women managers, specifically administrators in education and supervisors in business/industry. Data concerning differences between these two groups, if any, are apparently non-existent. Therefore, the purpose of this study was to compare the two groups of women and hopefully provide a psychometric counseling tool for use in those areas.

The study designed to address the problem incorporated the Cree Questionnaire, a previously validated instrument for measuring creativity, to construct personality/behavioral profiles of the two occupational groups for the purpose of comparing them by an inferential

statistical method. The statistical method used to determine significance at the .05 level was a one-way analysis of variance, specifically the ONEWAY subprogram of the Statistical Program for the Social Sciences.

Random samples of 60 individuals in each group were constructed using accepted techniques. Data were collected by mail. Eight-four individuals responded with complete Cree Questionnaires by the final deadline. Forty-six were administrators in education and 38 were supervisors in business/industry.

The completed Cree Questionnaires were hand scored to publisher-supplied score sheets and the results tabularized separately for the two groups for each of computer input.

Findings

This study resulted in the following findings:

1. No relationship was found between women administrators in education and women supervisors in business/industry on Factors, 2, 3, 6, 7, 8, 9, 10, 12, or 13 or overall creative potential as measured by the Cree Questionnaire.

2. A significant relationship was found between women administrators in education and women supervisors in business/industry on Factor 1 (dominance versus submission) of the Cree Questionnaire with educators scoring higher. The indicators are that women administrators in education are more dominant and according to the Cree Manual is an indication of better management ability in this area.

3. A significant relationship was found between women administrators in education and women supervisors in business/industry on

Factor 4 (structured versus unstructured situation) of the Cree Questionnaire with education scoring higher. The indicators are that women administrators in education are unstructured and therefore, this is an indication of their better management ability in this area.

4. A significant relationship in education and women supervisors in business/industry on Factor 5 (prescribed versus selective activity) of the Cree Questionnaire with business/industry women scoring higher. The indicators are that women supervisors in business/industry are more selective and therefore they have better management ability in this area.

5. A significant relationship was found between women administrators in education and women supervisors in business/industry on Factor 11 (high versus low theoretical) of the Cree Questionnaire with educators scoring higher. The indicators are that women administrators in education score higher theoretically and therefore are better managers in this area.

6. The psychometric baselines constructed from Cree Questionnaire data obtained in this study for the two groups of women administrators in education and women administrators in business/industry have utility as counseling and selection/placement tools.

Conclusions

Following are conclusions derived from the study.

Women educators compared to women in business/industry have a more outgoing personality and exhibit a tendency to seek out social leadership positions.

Both women in business/industry and education scored in ...

indifferent range which indicates a lack of involvement with others. They tend to make choices based on their own opinions instead of being heavily influenced by the opinions of others.

Managers seems to be independent instead of highly conforming. Women in education compared to women in industry have a tendency toward unstructured work activity; therefore, they are likely to be more capable of making decisions in unpredictable management situations.

Women in business/industry are significantly more selective and therefore are able to be more successful in management situations where there are no directives to guide them.

Both women in education and women in business/industry were detached as opposed to being work involved. This detachment or lack of involvement with the job does not appear to be a sign of good management skills in either group.

Women educators are slightly more relaxed than women in business/industry and this information indicates a tendency of women educators to be unable to produce good ideas as readily under pressure as women in business/industry.

Women in management positions tend to have high energy levels and to react rapidly to situations. Both women in education and business/industry tend to have a low ideation rate.

Women educators have a higher theoretical interest than women in business/industry. Because of this interest in the theories behind the practical, these women have the tendency to think about what causes some of the problems that managers face and solve them more efficiently.

Both women in education and business/industry tend to have high

artistic abilities and low mechanical abilities. It appears that low mechanical interests is not a deterrent to good managerial skills.

Both women in education and business/industry tend to have average creative abilities.

Recommendations

Based on the experience of this study, three recommendations are offered as to the direction of further studies of creativity as follows:

1. A similar study of creativity of women managers to include hierarchical and age parameters should be designed and undertaken in order to obtain a more robust counseling/selection/placement tool.

2. A comparative study of creativity between women and men managers including hierarchical and age parameters should be made.

3. Further investigation of the Cree Questionnaire should be conducted to determine whether there is an upper limit to the favorable influence of creativity on management potential or a lower limit below which an individual should be eliminated from consideration for management duties.

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APPENDIXES

APPENDIX A
CORRESPONDENCE



January 7, 1986

Miss Karen Dawson
Counselor
Tulsa Public School
165 E. 29th Place
Tulsa, Oklahoma 74114

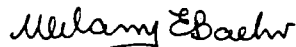
Dear Miss Dawson:

You have been certified to use the tests in the London House catalog while working under the supervision of Dr. Harold Polk.

You state on your Application Form that you will be administering tests by mail. Will you please make every effort to have all test booklets returned to you regardless of whether or not they have been completed.

Finally, I wish you all success with your study and would appreciate it if you would send us a copy of the results. We often include the results of such studies, with acknowledgement of course, in the Interpretation and Research Manual for the test concerned.

Yours Sincerely,



Melany E. Baehr, Ph.D.
Psychological Research Consultant

MEB/cjh

London House, Inc.
1550 Northwest Highway
Park Ridge, Illinois 60068
312-298-7311

TO: Women Manager Participants
C.R.E.E. Survey

DATE: January 30, 1986

FROM: Karen J. Dawson
165 East 29 Place
Tulsa, OK 74114

I am a doctoral candidate at Oklahoma State University and would like to request your help.

Results of the enclosed survey are necessary for me to complete the research for my dissertation.

I am distributing the survey to women managers in business and in the field of education.

If possible, I would appreciate your returning the completed survey to me by March 12, 1986. I have enclosed a stamped, self-addressed envelope for your convenience. For statistical purposes, my research requires that I account for all survey instruments. Therefore, if for some reason you desire not to participate, I request that you return the survey.

Thank you in advance for your time and assistance. Your input will be greatly appreciated.

APPENDIX B

INSTRUMENT

DO NOT WRITE Wait for Instructions

CREE QUESTIONNAIRE (FORM A)	Please fill in:
	Name: _____
	GP No.: _____ ID No.: _____
	Age: _____ Sex: _____ Date: _____
	Occupation: _____

Developed by: Thelma Gwinn Thurstone, Ph.D., and John Mellinger, Ph.D.
Psychometric Laboratory, The University of North Carolina

DUAL
TPVR 106A-RI
10-1-1000



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Revised 1981
Human Resources Center · The University of Chicago · 1225 East 60th Street · Chicago, Illinois 60637

DIRECTIONS FOR USE OF SEPARATE ANSWER SHEET

Do not make any marks on the booklet. It is reusable. On the separate answer sheet fill in your name and the other information called for in the left-hand corner. Use a #2 pencil, not a pen. Do not fold or crease the answer sheet.

This booklet contains a list of questions about likes and dislikes, preferences and habits in everyday life. There are no right or wrong answers to these questions because one answer is not necessarily better than some other answer.

On the answer sheet there is a tall box to correspond with each page of the booklet. Each tall box is numbered with the same numbers as the questions on one of the pages of the booklet. Line up the left edge of the booklet against the right edge of the appropriate page box on the answer sheet. As you proceed, fold back the pages of the booklet so that the item numbers in the booklet always appear between the booklet and the tall box on the answer sheet.

SAMPLE:

For each question in the booklet, blacken the answer on the answer sheet which fits you best. Three possible answers are provided for each statement on the answer sheet as follows:

Answer Sheet	Edge of Booklet
Y ? N	
0. <input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>	0. Do you often hum or sing?

If your answer is "No," completely blacken the circle under "N" on the answer sheet as shown above. If your answer is "Yes," blacken the circle under "Y." If you cannot decide whether to answer a question "Yes" or "No" blacken the circle under the question mark.

There is no time limit. However, it is best to record your first, immediate reaction to each question. Do not omit any questions.

As soon as you are sure you understand the instructions, turn to page 5 of the booklet and start marking your answers on the answer sheet.

This is part of an integrated set of test materials to be used only by qualified persons. Accordingly, it may not be used, loaned, adapted, excerpted, recorded, or translated into another language without the written authorization of the publisher.

DIRECTIONS FOR WRITING ANSWERS IN BOOKLET:

--Fill in the information requested in the upper right hand corner of the cover.

This booklet contains a list of questions about likes and dislikes, preferences and habits in everyday life. There are no right or wrong answers to these questions because one answer is not necessarily better than some other answer.

SAMPLE:

For each question, circle the answer that fits you best. Three possible answers have been placed beside each statement as follows:

	Yes	Undecided	No
Do you often hum or sing?	Y	?	N

If your answer is "No," circle the letter "N" thus:

Do you often hum or sing?	Y	?	(N)
---------------------------	---	---	------------

If your answer is "Yes," circle the letter "Y." If you cannot decide whether to answer a question "Yes" or "No," circle the question mark.

There is no time limit. However, it is best to record your first, immediate reaction to each question. Do not omit any questions.

As soon as you are sure you understand the instructions, turn to page 5 of this booklet and start marking your answers to the questions.

This is part of an integrated set of test materials to be used only by qualified persons. Accordingly, it may not be used, loaned, adapted, excerpted, recorded, or translated into another language without the written authorization of the publisher.

<u>QUESTIONS</u>	<u>ANSWERS</u>
1. Do you feel different from most groups in which you find yourself?	Y ? N
2. Do you find it difficult to speak before an audience?	Y ? N
3. Do you like to introduce the speaker at a meeting?	Y ? N
4. Do you enjoy being the host at a party?	Y ? N
5. Do you often try to persuade others to your point of view?	Y ? N
6. Do you enjoy presenting a new project before a group?	Y ? N
7. Would you enjoy being the toastmaster at a banquet?	Y ? N
8. Do you often tell stories to entertain others?	Y ? N
9. In doing work planned by others do you often think of ways in which the work layout could be improved?	Y ? N
10. Do you like to be the chairman of a meeting?	Y ? N
11. Do you like work that requires much talking?	Y ? N
12. Do you avoid public speaking?	Y ? N
13. Do you have confidence in yourself?	Y ? N
14. Do you enjoy introducing people?	Y ? N
15. Do you remember people's birthdays and anniversaries?	Y ? N
16. Do you often participate in physical sports?	Y ? N
17. Do you think thorough study of the literature in a field is essential to the generation of new ideas?	Y ? N
18. Do you spend many evenings with friends?	Y ? N
19. Do you spend much of your leisure time out-of-doors?	Y ? N
20. Do you remember the names of people you meet?	Y ? N
21. Do you feel sentimental about anniversaries and birthdays?	Y ? N
22. When attacking a problem do you form a working hypothesis early in the process?	Y ? N
23. Are you considered unconventional?	Y ? N
24. Are you quick at spotting the flaws in people's ideas?	Y ? N
25. At a lecture, do you occasionally have so many ideas of your own that you have trouble listening to the lecturer?	Y ? N

GO ON TO NEXT PAGE

<u>QUESTIONS</u>	<u>ANSWERS</u>
26. Do you get acquainted with your neighbors?	Y ? N
27. Are you sometimes considered to be cold and unsympathetic?	Y ? N
28. If you have a hobby, do you enjoy ignoring instructions and striking off on your own?	Y ? N
29. Are you usually cool and composed in a dangerous situation?	Y ? N
30. Do you sometimes get new ideas about work if you are in a different place for a time?	Y ? N
31. Do you stick to pet schemes and ideas even though other people think you're wrong?	Y ? N
32. Are you often bored with people?	Y ? N
33. As a child, were you inclined to take life seriously?	Y ? N
34. In general, have you been deeply interested in those problems to which you have found an answer?	Y ? N
35. Do you prefer specific instructions to those which leave many details optional?	Y ? N
36. Do you gather a great deal of information on a problem before you make a guess about its solution?	Y ? N
37. In solving problems, do you think it is important to control the direction of thought?	Y ? N
38. Do you have a vivid imagination?	Y ? N
39. Do you often feel anxious about the success of your efforts?	Y ? N
40. Do you like work that must be very systematic and orderly?	Y ? N
41. Should one compromise one's own views in order to insure group harmony?	Y ? N
42. Do you like work involving competition?	Y ? N
43. Does it take a long time in the morning before you are fully awake?	Y ? N
44. Do you often get behind in your work?	Y ? N
45. In doing routine chores, do you often find yourself thinking about unsolved problems?	Y ? N
46. Do you ordinarily work quickly and energetically?	Y ? N
47. When working with theoretical ideas do you think of concrete examples?	Y ? N
48. Do you often fret about the daily chores?	Y ? N
49. When you have a hunch, do you have a good idea of what suggested it?	Y ? N
50. As a student did you let some courses slide and thereby gain time to work on more interesting courses?	Y ? N

GO ON TO NEXT PAGE

<u>QUESTIONS</u>	<u>ANSWERS</u>
51. Do you usually keep your thoughts to yourself?	Y ? N
52. Do you often work slowly and leisurely?	Y ? N
53. Do you like work in which you must influence others?	Y ? N
54. In the morning do you usually bound out of bed energetically?	Y ? N
55. Are you likely to give up a plan if others disagree with it?	Y ? N
56. Do you frequently daydream?	Y ? N
57. Do you get many creative ideas when you are happy?	Y ? N
58. Is it easy to leave your work at bedtime?	Y ? N
59. Do you sometimes have vivid images or dreams which become the basis of a new idea?	Y ? N
60. Are you fundamentally a contented person?	Y ? N
61. Can you stay with your work long hours without feeling tired?	Y ? N
62. When you go home do you leave your work behind?	Y ? N
63. Are you usually ready to stop work at mealtime?	Y ? N
64. Are you trying to become a person who knows a lot about a lot of things?	Y ? N
65. Are you likely to find the answer to a problem when your back is to the wall?	Y ? N
66. Can you keep several assistants busy?	Y ? N
67. Do your best hunches come during intensive work?	Y ? N
68. Do you have a large and sprawling handwriting?	Y ? N
69. Would you like to drive a car rather fast if there were no speed limit?	Y ? N
70. When you have an important problem, do you prefer to think it through alone?	Y ? N
71. Are you often in a hurry?	Y ? N
72. Do you assume responsibilities without much hesitation?	Y ? N
73. Do you swear often?	Y ? N
74. Are your hunches often right?	Y ? N
75. Are you more restless and fidgety than most people?	Y ? N

GO ON TO NEXT PAGE

<u>QUESTIONS</u>	<u>ANSWERS</u>
76. Do you write down a new idea for fear you may forget it?	Y ? N
77. Do you often feel impatient?	Y ? N
78. Do you like work in which you must change often from one task to another?	Y ? N
79. Do you generally walk faster than most people?	Y ? N
80. Do you use any deliberate means to create favorable conditions for getting new ideas?	Y ? N
81. Is your handwriting rather fast?	Y ? N
82. Were you in the top fourth of your college class?	Y ? N
83. Do people often discuss new problems with you?	Y ? N
84. Do you often see many ways to tackle a problem?	Y ? N
85. Does the solution to a problem often seem to come suddenly?	Y ? N
86. Are you pretty good at thinking of alibis on the spur of the moment?	Y ? N
87. Are you likely to take charge in case of an accident?	Y ? N
88. Are you frequently considered to be happy-go-lucky?	Y ? N
89. Does working under pressure bother you?	Y ? N
90. Do you like to sleep over an unsolved problem?	Y ? N
91. Does a new idea excite you?	Y ? N
92. Are you considered to be absent-minded?	Y ? N
93. Do you usually have a "ready answer?"	Y ? N
94. Do you like work that puts you in contact with a lot of people?	Y ? N
95. Do hunches sometimes come to you just before going to sleep?	Y ? N
96. Do you talk more slowly than most people?	Y ? N
97. Do good ideas seem to come to you unexpectedly?	Y ? N
98. Do you believe in a life hereafter?	Y ? N
99. Do you get many new ideas while teaching?	Y ? N
100. Can you think of more problems than you would ever have time to work out?	Y ? N

GO ON TO NEXT PAGE

<u>QUESTIONS</u>	<u>ANSWERS</u>
101. Do you like to explain things to other people?	Y ? N
102. Do you get new ideas when you are confined to bed by illness?	Y ? N
103. Do you like to work late at night?	Y ? N
104. Do you sometimes get new ideas about work while on a vacation?	Y ? N
105. Do you enjoy promoting a new project?	Y ? N
106. Do you like work in which there are many problems to be solved?	Y ? N
107. As an adolescent were you interested in philosophical problems?	Y ? N
108. Do you try to keep abreast of a wide range of professional literature?	Y ? N
109. Do you easily win the friendship of strangers?	Y ? N
110. Do you like to work with theoretical ideas?	Y ? N
111. Do you like work that requires scientific precision?	Y ? N
112. Do you like work that requires much reading?	Y ? N
113. Do you like work that has a lot of excitement?	Y ? N
114. Are the arts more important to you than the sciences?	Y ? N
115. Would you be willing to sacrifice a great deal for scientific achievement?	Y ? N
116. Do you have a wide range of interests?	Y ? N
117. Would you be interested in administering a large scientific laboratory?	Y ? N
118. Do you enjoy formulating new problems?	Y ? N
119. Have you had the opportunity to work or study with teachers who were creative?	Y ? N
120. Is it easy for you to express yourself in conversation?	Y ? N
121. Have you ever thought you might compose music?	Y ? N
122. Are you moderately skilled in any of the arts?	Y ? N
123. Do you have a strong motivation to be outstandingly successful?	Y ? N
124. Are you interested in some form of art?	Y ? N
125. Are you creative in more than one field?	Y ? N

GO ON TO NEXT PAGE

<u>QUESTIONS</u>	<u>ANSWERS</u>
126. Have some of your relatives been highly gifted?	Y ? N
127. As a child were you greatly interested in mechanical things?	Y ? N
128. Are you handy with tools?	Y ? N
129. Do people think you are too interested in your work?	Y ? N
130. Are you resourceful in fixing mechanical things about the house?	Y ? N
131. Do you enjoy working with tools?	Y ? N
132. Do you enjoy spending leisure time on physical work?	Y ? N
133. Do you get your best ideas when you are relaxed?	Y ? N
134. Do you usually agree with the group about how things should be done?	Y ? N
135. Are your ideas similar to those of most of your acquaintances?	Y ? N
136. Do you make up your mind easily?	Y ? N
137. Do you like work that has regular hours?	Y ? N
138. Do you have more self-confidence than most people?	Y ? N
139. Does vigorous exercise often help you get new hunches in solving problems?	Y ? N
140. Do you have systematic work habits?	Y ? N
141. Do you get your best ideas while working under pressure?	Y ? N
142. Do you usually make up your mind quickly?	Y ? N
143. Is a certain amount of leisure necessary for you to do your best thinking?	Y ? N
144. Do you usually work fast?	Y ? N
145. Do you have an easygoing attitude toward life?	Y ? N

CREE QUESTIONNAIRE SCORE SHEET A

NAME: _____ AGE: _____ SEX: _____ DATE: _____
OCCUPATION: _____ COMPANY: _____

TO BE USED ONLY FOR SCORING CREE QUESTIONNAIRE (FORM A)

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Human Resources Center · The University of Chicago
1225 East 60th Street · Chicago, Illinois 60637

TPVF-706-A
4-1-1000

TABLE 1

IT. NO.	FACTOR NO.			OV.
	1	2	3	
1				Y
2	N ?			N
3	Y			?
4	Y			Y
5				Y
6	Y			Y
7	Y			?
8				Y
9				Y
10	Y			Y
11	Y			Y
12	N ?			N
13				Y
14	Y			Y
15		N ?		N
16		N ?		?
17				N
18		N ?		N
19		N ?		N
20		N ?		N
21		N ?		N
22				Y
23			Y	Y
24			Y	Y
25			Y	Y
26				N
27			Y	?
28			Y	Y
29			Y	Y
30				Y
31			Y	Y
32			Y	Y
33			Y	Y
34				N
SCRS				
OVERALL SCORE				

TABLE 2

IT. NO.	FACTOR NO.				OV.
	4	5	6	7	
35	N ?				N
36	N ?				N
37	N ?				N
38					Y
39	N ?				N
40	N ?				N
41	N ?				N
42					Y
43					Y
44		Y			Y
45					Y
46		N ?			Y
47					Y
48		Y			Y
49					Y
50		Y			Y
51					N
52		Y			N
53					N
54		N ?			Y
55					?
56		Y			Y
57					Y
58			N ?		N
59					Y
60			N ?		N
61					Y
62			N ?		N
63			N ?		N
64					Y
65				Y	Y
66					Y
67				Y	Y
68					?
SCRS					
OVERALL SCORE					

TABLE 3

IT. NO.	FACTOR NO.			OV.
	8	9	10	
69	Y			?
70				?
71	Y			Y
72				Y
73	Y			Y
74				Y
75	Y			Y
76				N
77	Y			?
78				Y
79	Y			Y
80				Y
81	Y			Y
82				Y
83				Y
84				Y
85				Y
86		Y		Y
87				Y
88		Y		N
89				N
90		N ?		Y
91				Y
92				Y
93		Y		Y
94				Y
95			Y	Y
96				N
97			Y	Y
98				N
99				Y
100			Y	Y
101				Y
102			Y	Y
103				Y
104			Y	Y
SCRS				
OVERALL SCORE				

TABLE 4

IT. NO.	FACTOR NO:			OV.
	11	12	13	
105				Y
106				Y
107	Y			Y
108	Y			Y
109				N
110	Y			Y
111	Y			Y
112	Y			Y
113				Y
114	N ?			Y
115	Y			Y
116				Y
117	Y			Y
118	Y			Y
119		Y		Y
120				Y
121		Y		Y
122		Y		Y
123				Y
124	Y			Y
125	Y			Y
126	Y			?
127			Y	Y
128			Y	Y
129				Y
130			Y	Y
131			Y	Y
SCRS				
OVERALL SCORE				

TABLE 5

IT. NO.	FACTOR NO:													OV.
	1	2	3	4	5	6	7	8	9	10	11	12	13	
132		N ?											Y	N
133							N ?			Y				N
134			N ?	N ?										N
135			N ?	N ?			N ?							N
136							N ?			Y				Y
137					N ?		N ?							N
138	Y		Y											Y
139		N ?										Y		N
140			N ?	N ?										N
141							Y					N ?		Y
142							N ?		Y	Y				Y
143							N ?	N ?						N
144					N ?				Y	Y				Y
145					Y	N ?			N ?	Y				N
SCRS														
SCORES TABLES 1-4														
RAW SCORES														
NSS														
TOTALS														

SCORE SHEET A

APPENDIX C

PARTIAL TABULATION OF CREE QUESTIONNAIRE
NORMALIZED STANDARD SCORES

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1	49	43	64	68	57	51	52	61	51	55	47	61	70	51
2	47	30	56	50	43	42	33	47	59	65	60	61	76	57
3	27	37	44	32	52	59	58	47	35	48	38	46	59	33
4	40	52	67	54	68	68	66	56	28	48	60	50	59	57
5	57	52	56	46	37	33	58	61	71	48	51	55	59	62
6	42	48	67	50	57	50	47	47	59	43	25	55	59	53
7	40	52	48	46	52	23	41	47	45	48	38	61	74	45
8	51	37	44	32	42	33	47	47	54	53	38	68	59	48
9	54	67	60	63	48	42	52	56	59	44	52	50	33	60
10	47	62	64	58	37	54	47	51	45	43	47	61	43	62
11	54	43	40	46	37	42	47	47	54	53	33	50	70	44
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B	45	57	40	46	64	26	47	61	71	59	43	55	44	47
C	47	43	60	41	37	42	41	39	45	48	47	50	59	43
D	45	62	22	37	52	32	52	44	59	48	56	55	46	51
E	45	52	28	54	43	37	47	39	54	37	42	50	40	35
F	57	67	52	76	43	54	52	56	59	43	60	61	33	59
G	57	37	40	32	43	46	41	61	64	72	43	61	40	53
H	51	43	44	41	64	42	41	44	50	72	60	61	59	56
I	42	62	52	46	43	63	41	47	50	53	43	40	40	35
J	54	48	48	54	37	50	58	56	50	53	56	55	59	69
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L	57	52	44	41	43	37	66	51	50	37	47	46	33	49

VITA²

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