Women and Leadership: The Effect of Gender, Gender-Role Orientation, Socioeconomic Status, and Parental Influence on Women’s Aspirations to Leader Roles

Barbara Katherine Kreuzer
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WOMEN AND LEADERSHIP: THE EFFECT OF GENDER, GENDER-ROLE ORIENTATION, SOCIOECONOMIC STATUS, AND PARENTAL INFLUENCE ON WOMEN'S ASPIRATIONS TO LEADER ROLES

by

Barbara Katherine Kreuzer

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Education
Department of Educational Leadership

Western Michigan University
Kalamazoo, Michigan
December 1992
WOMEN AND LEADERSHIP: THE EFFECT OF GENDER, GENDER-ROLE ORIENTATION, SOCIOECONOMIC STATUS, AND PARENTAL INFLUENCE ON WOMEN'S ASPIRATIONS TO LEADER ROLES

Barbara Katherine Kreuzer, Ed.D
Western Michigan University, 1992

The objective of this study was to determine which factor or combination of factors are related to the degree to which university women aspire to leadership positions. A random sample of university seniors (N=311) from the business, teacher education, and political science curricula were surveyed by mail. The study attempted to answer the following seven research questions: (1) Are there gender differences among university seniors' aspirations to leader positions, (2) are there differences among university seniors' aspirations to leadership based upon curriculum, (3) are there gender differences among university seniors in their projections of classmates into career roles, (4) are there gender differences among university seniors' projections for their own career roles, (5) does gender-role orientation affect university seniors' aspirations to leadership and their projection of classmates into future career roles, (6) are there gender differences in the influence of specific sociological factors (socioeconomic status, mothers' obtained occupation, and mothers' level of education) upon university seniors' aspirations to leader roles, and (7) are there gender differences in the impact of parental influence upon university seniors' leadership aspirations? This research demonstrates that (a) women have lower aspiration to leader roles than men; (b) business and public administration seniors have higher aspirations to leader roles than education seniors; (c) both women and men have lower career projections for females than they do for males; (d) women hope for less in their ca-
reers than do men; (e) it is inconclusive whether gender-role orientation is or is not a 
mitigating factor in the aspiration to leadership; (f) socioeconomic status and the level 
of the mother's education are related to the degree to which women aspire to leader-
ship (the results were inconclusive as to whether these same factors are related to the 
aspirations of men to leader roles), while occupational attainment of mothers and its 
relationship to students' ambition to leader roles was inconclusive for both women 
and men; and (g) parental encouragement is related to women's aspiration to leader 
roles, while its relationship to the aspirations of men was inconclusive.
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Kreuzer, Barbara Katherine, Ed.D.
Western Michigan University, 1992

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A project such as this is never done alone. Many people contribute to the final product, either by actual assistance, or by offering moral support. My committee was comprised of three people who perhaps by chance rather than design, brought to the task three different areas of expertise. My chairperson has a global view of ideas and encouraged me to think of the implications and applications of the research results; another committee member made sure the statistical interpretations were correct and appropriately stated, and the third committee member has a vast knowledge of sociology that helped me ground the research within the existing literature.

Special appreciation is given to my husband, Otto, for his support and encouragement; to my sons, Matthew and Andrew, for their love and pride; and finally to my other family members and friends who have never failed to support me in this undertaking.

This research is dedicated to the memory of my mother and father for instilling in me the notion that I could do anything. I know they would be filled with pride at this accomplishment.

Barbara Katherine Kreuzer
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CHAPTER I

INTRODUCTION

During the 1970s and 1980s women's performances in organizations were examined with considerable scrutiny. Although recent research indicates women perform as capably as men in leadership positions in education (Fishel & Pottker, 1975; Frasher & Frasher, 1979) and in business (Bedeian, Armenakis, & Kemp, 1976; Day & Stogdill, 1972; Osborn & Vicars, 1976; Rizzo & Mendez, 1988; Wexley & Hunt, 1974), there is a disproportionately low number of women in leadership positions in these areas. There are numerous research and opinion articles that speculate as to the reasons women are not represented in leader roles in organizations (Chance, 1988; Cleveland, 1989; Feuer, 1988; Frasher, & Frasher, 1979; Gross & Trask, 1976; Kanter, 1979; Loden, 1985; Lynch, 1990; Marshall, 1979; Solomon, 1990), yet little if any empirical research pertains to the extent to which women actively aspire to leader positions.

Aspiration to occupations among young women and men has been the subject of considerable research, much of which identifies several sociological factors that influence their selection of careers. Early social training, social origin, and parental expectation are some of the factors identified as contributing to a young person's ambition to various occupations.

The type of social training children are exposed to in early childhood, particularly gender role training, has also been shown to affect the career choices they make later in life (Danziger, 1983; Garrett, Ein, & Tremaine, 1977; Hoffman, 1972, Horner, 1972; Loden, 1986; Michigan Department of Education, 1990; Rosen &
Aneshensel, 1978;). Results of other studies show that females in particular are affected by their social origin or socioeconomic background as they aspire to specific occupations (Alexander & Ecklund, 1974; Danziger, 1983; Haller & Portes, 1973, Hout & Morgan, 1975; Rosen & Aneshensel, 1978, Sewell & Shah, 1967, 1968). The role of the parents has also been recognized as a factor that influences females and males, as they aspire to specific careers (Danziger, 1983; Disabatino, 1976).

Prior research has concentrated on identifying the sociological factors that influence young women in their aspirations to careers and occupations. Little is known, however, about whether these same sociological factors influence young women's ambitions for leader positions in organizations.

Statement of the Problem

The purpose of this study was to examine the extent to which women in universities aspire to leadership roles and to determine if there is a relationship between aspiration and selected sociological factors. This study attempted to answer the following seven research questions: (1) Are there gender differences among university seniors' aspirations to leader positions, (2) are there differences among university seniors' aspirations to leadership based upon curriculum, (3) are there gender differences among university seniors in their projection of classmates into career roles, (4) are there gender differences among university seniors' projections for their own career roles, (5) does gender-role orientation affect university seniors' aspirations to leadership and their projection of classmates into future career roles, (6) are there gender differences in the influence of specific sociological factors upon university seniors' aspirations to leader roles, and (7) are there gender differences in the impact of parental influence upon university seniors' leadership aspirations?
For the purpose of this research, leader and leadership roles and leader and leadership positions are interchangeable terms; they specifically refer to any and all roles and positions that require direction and influence over a group's actions and behaviors. Examples of these roles and positions are managers (sales managers, district managers, advertising managers, government officials, etc.), administrators (principals, supervisors, deans, directors, elected officials, etc.), and heads of organizations (presidents, superintendents, chief executive officers, legislative chairpersons, etc.). This definition makes a clear distinction between a role of directing and influencing one's peers and a position of task management.

Background of the Problem

Although women are well represented in the workplace, there are few if any occupations in which women are the predominant leaders. Even in the field of education, where the presence of women is extensive, the persons who most often assume the leadership roles are men. In a recent report from the Michigan Department of Education (1990), well over half (64.2%) of the 98,335 professional personnel in the state public school systems are women, yet less than one-third of the administrative positions (31%) are held by females, and only 20 (3.6%) of the 557 superintendents in the state of Michigan are women.

In private industry, according to a report from the U.S. Equal Employment Opportunity Commission (EEOC, 1989a), men comprise 54% of the total employees, but account for 72.6% of the officials and managers.

In state and local governments, another EEOC (1990) document describes the distribution of officials/administrators as 70.9% male and 29.1% female. In Michigan state government, according to the EEOC (1989b), 73.5% of the full-time employees, who are officials/administrators are male, and 26.5% are female. A similar report
from 1985 lists the male officials/administrators at 78.8%, and the females at 21.2%; a 5% gain for women in 4 years.

It is clear that women are present in sizable numbers in education, business and industry, and government, and that they are represented at a disproportionately low level in these organizations in administrative or leadership positions (Powell, 1988; Solomon, 1990). The obvious question is why aren't there more women in positions of power and leadership? What explanations satisfy this debate about who is qualified to lead?

Women and Leadership

Leaders have been the subject of many discussions, in one form or another, for many years. Through the hundreds of studies of personality traits of leaders, a clear picture of the personality of the leader has not emerged. While a specific set of characteristics associated with attainment of leadership positions has been difficult to isolate, the concept has persisted that leadership requires a force of character and a certain set of personality characteristics which are traditionally perceived as masculine (Friesen, 1983).

The research written during the 1970s and 1980s evaluated the differences between women and men leaders. There are many articles that focus on the differing leadership styles exhibited by women and men (Catalyst, 1987; Friesen, 1983; Loden, 1985; Powell, 1988; Rizzo & Mendez, 1988; Vinnicombe, 1987).

The androgyny of leaders became a popular topic for many studies in which the specific qualities women and men bring to leader roles were examined. The results of these investigations proclaimed that androgynous leaders, those who display both feminine and masculine qualities, are perceived as the most effective leaders (Bern, 1974, 1975; Sargent, 1981; Schein, 1973; Spillman, Spillman, & Reinking, 1981).
In the 1980s different research questions were being posed. They may have been inadvertently triggered by Burns (1978) when he eloquently wrote about the moral, transactional, and transformational leaders, for out of that discussion of engagement and empowerment, emerged the ideas for leaders of the 1990s (Bennis & Nanus, 1985). A new interactive or participative leadership, born of the transformational concept, is now being advocated (Loden, 1986; Rosener, 1990), as well as a feminine style of leadership, which embodies traditionally feminine qualities (Banning, 1989; Helgesen, 1990; Loden, 1986).

Following the studies that investigated the style and effectiveness differences in women and men leaders were those that offered explanations for women’s lack of advancement in organizations. The "glass ceiling" and the "glass wall" are phrases that were coined to illustrate the obstacles that hinder upward mobility or lateral movement of women in the work place (Chance, 1988; Kellogg, 1991; Solomon, 1990). Many articles offer explanations for the disproportionately low number of women in leader positions, all of which focus on barriers that keep women from rising in corporations. These barriers, lack of opportunity for promotion (Fishel & Pottker, 1975; Frasher & Frasher, 1979), the male dominance in organizations (Kellogg, 1991; Lee, 1986b), and discrimination that is based on gender (Feuer, 1988a; Landau, 1990; Lynch, 1990), all systematically exclude women from upper-level management and leader positions.

Invisible barriers called glass ceiling were viewed as an obstacle facing women trying to climb the corporate ladder, but new information has emerged that indicates that the problem starts before that, with glass walls that keep women from moving laterally. Lack of lateral movement deprives women of the experience, especially in line supervision, that they need to advance vertically. Women tend to be placed in staff or support positions in areas such as public relations and human resources and
are often steered away from jobs in core areas such as marketing, production, and sales. Women get trapped in these kinds of jobs because of unintentional stereotyping that labels them as people who can provide support. Women account for as many as half of the professional employees in the largest industrial and service companies, yet they hold fewer than 5% of the senior management positions. Sixty percent of human resources managers who participated in a study reported that putting women in line jobs is perceived as risky. As companies pare layers of specialized management, it has become more critical than ever to gain broader management expertise (Lopez, 1992).

Feuer (1988a) suggested that women sabotage themselves in the workplace; he described personality characteristics, traditionally considered feminine qualities, that become barriers to high-level positions in corporations. An example of these feminine traits are passive communication style, emotionality, nurturing behaviors, nonassertiveness, and submission for the sake of harmony and teamwork.

Yet another set of barriers that may prohibit women from advancing to the leadership roles in organizations come from our culture. They are very subtle, pervasive, and have to do with false perceptions and myths—myths that are founded in early childhood. The source of these barriers to leader roles for women can be traced to the socialization process where gender roles are learned. This gender role stereotyping can manifest itself in women in the passive pursuit of leadership positions, selection of roles and occupations appropriate for their gender, and lowered expectations and aspirations in their careers (Gross & Trask, 1976; Hennig & Jardim, 1977; Kanter, 1979; Savery, 1990; Whitaker & Lane, 1990).

There will always be a few women who succeed and rise to the top, but as a group, women are underrepresented in the policy-making groups in this country, or around the world. When women make up a majority of the adult population and can-
not or do not become part of the group of decision-makers, then it is perhaps neces­
sary to examine the process that produces the societal values that dictates who is
deemed appropriate to assume leader roles. The theoretical base of this investigation
is that differences in aspiration to leadership roles are largely determined by the differ­
ences in gender-role socialization and related sociological factors.

Significance of the Problem

Leadership has become a popular topic of research and opinion papers. Whether
traits, behaviors, styles, or the orientation of leaders are examined, the objective
seems to be the need to understand what makes a great leader, or what makes a leader
great. Much of the recent discussion focuses on the need for a new style of leadership
for the 1990s to take the place of the traditional, hierarchical management style. The
interactive leadership styles being recommended for future leaders are those that
women naturally bring to leader roles (Helgesen, 1990; Loden, 1985). Most studies
show women, as a group, are more likely to display the behaviors and qualities neces­
sary for this interactive leadership style than men (Loden, 1986). Rizzo and Mendez
(1988) reviewed leadership studies from 1972 to 1988 and found that among the more
methodologically sound research studies, no substantial differences were found
between female and male leader effectiveness.

There is evidence that the few women in education who have been able to achieve
administrative positions have performed as capably as their male counterparts, if not
more capably (Fishel & Pottker, 1975). In fact, in studies of the last two decades, in
nearly every comparison of actual administrative performance in education, there have
been either no sex differences or women have received higher ratings than men
(Frasher & Frasher, 1979). Clearly the disproportionately low number of women
administrators or leaders is not based upon competence or effectiveness. And yet,
data show that gender more than age, experience, background, or competence determines the role an individual will hold in education (Whitaker & Lane, 1990).

In the business arena, one recent survey reports that 70% of the women surveyed equated the word leadership with men (Geber, 1987). Given this perception, it does not seem likely that these same women will seek positions of leadership, or support other women who pursue leader roles.

Times have changed and many stereotypes have faded, but female lawmakers say they still lag behind their male counterparts in winning positions of power. They still struggle with trying to penetrate the male-dominated leadership. There are 22 women serving in the Michigan Legislature, more than double the number 20 years ago. But women legislators have hit a glass ceiling that keeps them from ascending to leadership posts and boosting their numbers. One legislator mused that there is still resistance to women holding powerful leadership positions, she added that women have reached a plateau in terms of gaining power. Electing more women to office is the key to moving women into leadership posts. Part of the blame lies with women themselves—they have to push themselves into leadership. Pushing themselves into power has been difficult for some women were brought up to keep their own counsel and not offend men. They've been told not to be confrontational. Nationally, the number of women legislators has risen about 1% in each recent election year, with 18% of all seats in state legislatures held by women (Kellogg, 1991).

Hopefully, this research will be useful to sociologists, educators, and leaders of organizations. The social scientists will be interested in socialization and gender-typing as it relates to the future plans of females; educators will be interested in the impact they have as socializers of our young children; and organizational leaders will be better able to utilize their resources if they understand the implications of gender-typing work and discontinue the policy of linking ability with gender.
Statements of Hypotheses

Research indicates that gender-role beliefs rooted in socialization, social origin, or socioeconomic background, and parental involvement are factors that influence career aspiration in young people. It is conjectured that these same factors will prove to be contributors to leader aspiration. The hypotheses in this study have been formulated according to the following categories: (a) leader roles, b) gender role orientation, c) socioeconomic background, and (d) parental influence.

Leader Roles

Hypothesis 1: There is a gender difference in the aspirations to leader roles among university seniors.

This hypothesis reflects the theoretical assumption that gender is a major factor in aspiration to leader roles. Influences of early socialization are expected to be in evidence among female university seniors who will have lower aspirations to leadership positions than their male classmates.

Hypothesis 2: There is a difference in the aspirations to leader roles among university seniors based upon the curriculum in which they are enrolled.

The assumption behind this hypothesis is that the career choices within a curriculum, influenced by early socialization, are gender-typed. Further, it is assumed that students with lower aspirations for leader roles will gravitate toward the more traditional female occupations in education rather than in the traditionally male occupations in business and government. Students enrolled in the business and public administration curricula will demonstrate higher aspirations to leader roles than those enrolled in the education curriculum.
Hypothesis 3: Career projections of women into high-level, responsible positions are lower than the career projections of men among university seniors.

Hypothesis 3A: Women are projected into high-level, responsible positions in their future careers at a lower rate than men among university women.

Hypothesis 3B: Women are projected into high-level, responsible positions in their future careers at a lower rate than men among university men.

The theoretical basis of these hypotheses is that early social training influences the way leadership is perceived, to the extent that both genders find men more suitable for leader roles and influential positions. When asked to project classmates into future career roles, university seniors are more likely to see men in higher positions than women. It is not a case of gender preference where men see men and women see women in positions of power. The effects of gender-typing are present in both genders, the evidence of which can be seen when both women and men in their final undergraduate year view males in higher, more responsible positions than females.

Hypothesis 4: There is a gender difference in students' projections of themselves into high-level positions of responsibility in future careers.

As is true for the previous hypothesis, this hypothesis is also rooted in the theory that early social training largely dictates our perception of leadership. When seniors are asked what they envision for themselves in terms of career position and responsibility, women will place themselves in lower-level careers positions than men.

Gender-Role Beliefs

Hypothesis 5: There is a relationship between gender-role orientation and the level of aspiration to leader roles among university seniors.

Hypothesis 5A: Contemporary university women have higher aspirations to leader roles than traditional university women.
Hypothesis 5B: Contemporary university men have different aspirations to leader roles than traditional university men.

The theory-base of these hypotheses is that early socialization and subsequent gender-role beliefs affect the perception university students have of leadership, to the extent that the traditionally oriented student is more likely to have different aspirations to leader roles than contemporary students. The contemporary students are less likely to have this same gender-bias of leader roles. Among women, the association between leader aspiration and gender-role beliefs will be a positive one, where the ambition to leader roles will be directly related to a contemporary gender-role orientation. The degree of influence of the early social training will be demonstrated when university women with contemporary gender-role beliefs have higher ambitions for leadership than female university seniors with traditional gender-role beliefs. Among men, the ambition for leader roles will be different for the traditional and contemporary university student.

Hypothesis 6: There is a relationship between gender-role orientation, gender, and the projection of classmates into future career positions among university seniors.

Hypothesis 6A: There is a relationship between traditional gender-role beliefs among students and their projections of women and men in future career positions.

Hypothesis 6B: There is a relationship between contemporary gender-role beliefs among students and their projections of women and men in future career positions.

Hypothesis 6C: There is a relationship between traditional gender-role beliefs among students and their projections of women in future career positions.

Hypothesis 6D: There is a relationship between gender-role beliefs among women and their projections of women in future career positions.

Hypothesis 6E: There is a relationship between gender-role beliefs among women and their projections of men in future career positions.
These hypotheses are also rooted in the theory that early socialization results in gender-role beliefs that influence the manner in which leadership is perceived. The relationship between gender-role orientation and the projection of career progress will be demonstrated when (a) traditionally oriented seniors have greater projections of men's careers than of women's careers, (b) contemporaneous students have dissimilar career projections for women and men, (c) traditional women have different career projections than traditional men for females, (d) contemporaneous women place females in higher career roles than the traditional women, and (e) traditional women have higher career projections for males than contemporary women.

Socioeconomic Background

Hypothesis 7: There is a relationship between the level of aspiration to leader roles and socio-economic status among university seniors.

Hypothesis 7A: There is a relationship between the level of aspiration to leader roles and the socio-economic status among university women.

Hypothesis 7B: There is a relationship between the level of aspiration to leader roles and the socio-economic status among university men.

The theoretical assumption for these hypotheses is that factors indicative of socioeconomic status may influence the aspiration of young adults to leadership within their professions. Evidence of this influence is expected among female university seniors of higher socioeconomic status who will have higher aspirations to leader roles than females of lower social origin. It is also presumed that socioeconomic status has less impact upon the level of aspiration to leader roles in male university seniors.

Hypothesis 8: There is a relationship between university seniors' level of aspiration to leader roles and their mothers' occupational attainment.
**Hypothesis 8A:** There is a relationship between leadership aspiration and the mothers' occupational level among university women.

**Hypothesis 8B:** There is a relationship between leadership aspiration and the mothers' occupational level among university men.

The basis for these hypotheses rests in the theory that young people's ambition for leadership is influenced by the socialization they receive as children. Further, that aspirations of young women is cultivated by the gender-role beliefs and experiences of their mothers, and that a mother with a high occupational attainment will influence the ambition of her daughter. The relationship between the two constructs will be positive and direct—the higher the mother's career accomplishments, the more the daughter will aspire to leadership opportunities. It is assumed that the mothers' occupations have less impact upon leadership aspiration among the men.

**Hypothesis 9:** There is a relationship between university seniors' level of aspiration to leader roles and their mothers' educational attainment.

**Hypothesis 9A:** There is a relationship between leadership aspiration and the mothers' educational level among university women.

**Hypothesis 9B:** There is a relationship between leadership aspiration and the mothers' educational level among university men.

These statements reflect the same theory as the previous hypothesis, in that young adults' ambition for leadership is nurtured by their mothers' gender-role belief system and experience, as represented by their educational attainments. A positive and direct relationship between the two variables is expected, the higher the level of education a mother has, the higher the daughter's ambition will be for leadership roles in her professional life. As in the previous hypothesis, there is a presumption that the mothers' levels of education have less impact upon leadership aspiration among the men.
Parental Influence

**Hypothesis 10:** There is a relationship between university seniors' level of aspiration to leader roles and the parental support they perceive.

**Hypothesis 10A:** There is a relationship between female seniors' level of aspiration to leader roles and the parental support they perceive.

**Hypothesis 10B:** There is a relationship between male seniors' level of aspiration to leader roles and the parental support they perceive.

This final group of hypotheses assumes that the students' perception of their parents' support is an important component in the development of their aspiration to roles of leadership. The influence will be evidenced by a positive and direct relationship between leader aspiration and parental encouragement among females. Women will demonstrate a higher degree of ambition to leadership when they perceive encouragement from their parents. The ambition for leader roles that men report will be independent of their parents' encouragement.

These research hypotheses are designed to reveal gender differences in university seniors' (a) aspirations to leader roles, (b) career projections of classmates, and (c) career aspirations. In addition, there are hypotheses designed to determine gender differences in the impact of (d) gender-role orientation, (e) socioeconomic status, (f) mothers' occupation, (g) mothers' education, and (h) parental influence upon the aspiration to leadership of university seniors. Another hypothesis is designed to determine the differences of the career projection of women and men based upon the students' gender-role orientation. Lastly, one hypothesis is designed to reveal differences in students' curricula and their aspiration to leadership.
Organization of the Study

Chapter I provides an introduction to the study; it offers a problem statement, the background and significance of the problem, and the research hypotheses.

Chapter II presents a review of literature relative to the variables in the study—leadership, socialization, social origin, gender-role orientation, and parental influence.

Chapter III describes the methods of the study and includes discussion of the population and sample, the survey instrument, the research design, the hypotheses tests and indices composition, and the methods of analyses.

Chapter IV presents an analysis of the findings according to the specific variables of the study and the results of the hypotheses tests.

Chapter V summarizes the research questions, discusses the limitations of the study, includes the implications of the research findings within the context of the workplace, and offers recommendations for use of the study results.
CHAPTER II

REVIEW OF LITERATURE

The theoretical framework needed to look at the relationship between gender and aspiration to leadership consists of an examination of (a) the process of socialization, during which the gender identity is developed; (b) the sociological factors that influence the formation of aspirations; and (c) the background of women and leadership.

Socialization

Socialization is a process by which people learn attitudes, motivations, and behaviors appropriate to their social positions and statuses (Davidson & Gordon, 1979). As human beings, individuals occupy statuses in all societies. Each youngster has several statuses—the status of a child, a girl or boy, daughter or son, sister or brother, and so forth. With each of these statuses are ensuing roles. Early socialization teaches children what their statuses are and how to perform the roles attached to these statuses so that they will know how to behave in ways that will gain social approval, and will enable them to participate as an effective member of groups and in society (Duberman, 1975).

Gender is one of the more obvious ways that people differ. Along with the physical differences of gender are social norms that specify normative behavior for women and men, which are gender roles. It is during the early part of socialization, that children receive information about both genders, the specific roles identified with the genders, and the subsequent stereotypes that accompany each gender (Davidson & Gordon, 1979).
Gender Roles

The formulation of one's gender identity, the sense that physically an individual is a female or male, occurs during socialization. As roles are attached to all statuses, a social role is attached to one's gender—this is the gender role. "A gender role is a set of behaviors, attitudes, and motivations culturally associated with each sex" (Davidson & Gordon, 1979, p. 2). Gender-role knowledge develops with age, and at an early age children become aware that they are girls or boys. The goal of socialization is to instill gender-appropriate characteristics in members of each sex so that they may be capable of executing successfully the gender roles society has assigned them (Spence & Helmreich, 1978).

Gender training, teaching each child how to be a female or a male, occurs during the socialization process. These gender roles, defined by our culture, are some of the strongest social norms in our society (Stangor & Ruble, 1987). Beginning in infancy, and throughout childhood, the way parents relate to female and male children appears to be the major socializing factor that leads to the internalization of sex and gender identity which occurs in the first 2 years of life (Bell, 1978).

The distinction between female and male is the basis for organizing every human culture. Not only are girls and boys taught sex-specific skills, they are also expected to acquire sex-specific self-concepts and personality attributes, in other words, to be feminine or masculine as defined by that particular culture (Bern, 1981).

Cognitive psychologists believe that knowledge about gender roles and gender stereotypes accumulates as children develop (Stangor & Ruble, 1987). They believe that a gender role, femininity and masculinity, is a learned pattern of behaviors that differentiates women from men in a society. As children are learning the role attached
to their sex, they learn appropriate attitudes, values, behaviors, and goals associated with their sex status (Duberman, 1975).

Kagan (1964) demonstrated that cultural definitions of femininity and masculinity are internalized by children as young as 3 years. By that age, they know that daddies should be aggressive, big, and strong; and that mommies should be pretty, little, and cuddly. They also understand that little girls are expected to be more dependent and conforming than little boys and may become upset if their peers violate these behaviors. Other researchers indicate that it is between the ages of 5 and 7 that children insist on the correctness of gender-typical behavior (Damon, 1977; Turiel, 1978). Kohlberg (1966) suggests that between the ages of 3 and 7, children begin to believe that typical role behavior is morally correct and that nontraditional behaviors are wrong.

Bem (1981) proposed a gender schema theory to explain how children form concepts about gender. She combined aspects of both social learning and cognitive-developmental theories to describe the process children use to encode and organize information relating to cultural definitions of feminine and masculine. A schema is a cognitive structure, a network of associations that organizes and guides the way people perceive the world around them. Information is processed through the schema by sorting it into categories on the basis of a particular dimension. The gender schema theory proposes that information is processed on the basis of sex-linked associations. As children learn the contents of society's gender schema, they learn which attributes are to be linked with their own sex and with themselves.

Bem (1981) further theorized that children learn to choose only those dimensions of human personality that are applicable to their own sex. Thus their self-concepts become gender-typed. Thereafter, the children monitor their behavior so that it conforms to the definitions of femaleness and maleness of their culture. It is because of
this process of gender-typing behavior that cultural myths become self-fulfilling prophecies. Our society insists that an individual's gender makes a difference in virtually every domain of human existence.

Children may learn to be assertive or dependent as a result of parental reinforcement; they are responded to on the basis of expectations based upon how girls and boys are supposed to behave (Loden, 1985). Behavior that may be rewarded in boys, may be a reason for punishment in girls, and vice versa. If feminine behavior is defined as dependent, girls act and feel dependent, and feminine; if masculine behavior is defined as strong and aggressive, boys act and feel in ways that prove that this is true. Not only do girls and boys act and feel feminine and masculine, but they are treated accordingly. This differential treatment leads to the development of psychological and personality differences in females and males.

The value of gender differentiation may have negative and positive consequences. Kagan (1964) described the development of femininity and masculinity as normal, healthy, functional, and a process that should be encouraged. This is reflected in the use of the term gender-appropriate to describe traditional behaviors and materials. Fagot (1977) and Fagot and Patterson (1969) have demonstrated that preschoolers reinforce one another for sex-appropriate activities and punish one another for sex-inappropriate acts. The dysfunctional consequences of acquiring traditional gender roles emerge when certain behaviors are sex-typed. Klein (1985) found that feminine traits are associated with low self-esteem, high anxiety, low social acceptance, and traditional career choices, which are themselves lower in earning power, status, and prestige. Negative consequences of gender typing for males manifests itself in difficulties in school adjustment and dysfunctions with respect to self-expression and interpersonal relationships (Locksley & Douvan, 1979). The current belief in gender role socialization is that psychologically healthy people will be flexible in their atti-
tudes and behaviors, and will be able to cross the traditional gender lines with ease (Liben & Bigler, 1987).

In addition to gender-roles, there are sets of traits that differentially describe women and men, which are gender stereotypes (Stangor & Ruble, 1987). Gender stereotypes are different expectations about the ways typical women and men behave. Positively sanctioned behaviors for members of one sex are ignored or negatively sanctioned for members of the other. Typical characterizations of the sexes are that women are dominated by their emotions and a desire to nurture others, while men are independent, self-assertive, and rational. Individuals often use appropriate role behaviors to respond in line with their value system about correct sex role behavior. Men may suppress certain types of emotional expression for fear of negative reactions, while women may consciously or unconsciously conceal their competence, assertiveness, and other masculine characteristics to get help by feigning to be a helpless female (Spence & Helmreich, 1978).

Children learn about gender and societal gender roles from a variety of socialization agents, primarily parents, but also other family members, peers, media, teachers, and other adults. Children become socialized by other human beings during interactions in social settings (Katz, 1979). Childhood is the most intensive period of socialization, although people continue to be socialized during their lives as they assume new and different roles as they change and grow. People learn the requirements and responsibilities of the roles of being a spouse, a parent, and even learn new work-related roles (Davidson & Gordon, 1979).

In a study examining the impact of early gender-role socialization on the older woman, Bell (1978) made the statement that one of the major components of the traditional female gender role in American society, and perhaps the major component of the female stereotype, is dependence. She further suggested that because females
are socialized to be dependent, access to independent positions and behaviors are closed or severely limited. Often having limited opportunity for independence and few rewards for learning nondependent ways, young females behave in ways that characterize the stereotype. This dependent behavior contributes to the myths and misconceptions about women’s abilities.

Sociological Factors Influencing Aspiration

It is the tradition in our culture that the male is expected to become financially independent and self-supporting, the female is expected to marry and be the primary care-giver for subsequent children. A career for a woman is more often than not secondary to the role of homemaker and mother. These societal expectations are changing somewhat, but there is continuing social pressure for women to assume the traditional roles, and a lesser social pressure for them to achieve outside the home.

Gender-Typing of Occupations

A fundamental assumption of behavioral research is that behavior depends, in part, upon role perception. In keeping with this, studies indicate that young females tend to develop self-concepts, achievement motivation, and aspirations in keeping with role expectations rather than in keeping with their abilities. Role expectations can originate from the stereotypes that are applied to gender. As with the gender-appropriate behavior that children often insist upon, so is there a similar perception of appropriate occupations among youngsters.

Theorists generally agree that career development begins in childhood, and gender-typing of jobs begins early in life and persists through adulthood. An examination of the chronology of occupational stereotyping and career aspirations indicates that from preschool to adulthood, the majority of females gender-type occupations and
aspire only to those traditionally female professions. One study suggests different findings, among a sample of 10 year old females, the majority (68%) expressed an interest in nontraditional careers (Archer, 1984).

Children tend to give highly sex-stereotyped responses when asked about future vocational preferences. There is a tendency for girls and young women to limit their choices to a narrow range of occupations. A number of studies show that girls aspire to a small number of jobs that are gender-appropriate (e.g., nurse, teacher, secretary, mother/housewife), while boys select from a wider range of active, exciting, and varied occupations (Douvan & Adelson, 1966; Marini & Greenberger, 1978; Sewell & Orenstein, 1964). A recent 3 year survey of 3,748 students from 27 schools in 15 Michigan school districts was conducted by the State Board of Education's Office for Sex Equity in Education. Ninety-one percent of the students surveyed believe that jobs are related to gender. The number and variety of jobs and roles open to men as listed by the students were far greater than those open to females. Jobs ranging from lawyer, news anchor, and President were associated with men, while the fewer, more narrow range of jobs open to females included waitress, maid, elementary teacher, and First Lady (Walters, 1992).

Children realize at a very early age at least some aspect of what society deems acceptable behavior for each of the sexes. Research indicates that children as young as 4 years demonstrate occupational preferences that are highly gender-specific (Garrett, et al., 1977; Papalia & Tennent, 1975). Gender-typing of occupations is also pronounced among 5, 6, and 7 year old children (Hewitt, 1975; Siegel, 1973). Archer (1984) found that kindergarten children held very rigid occupational stereotypes; they categorized 43 of 44 occupations as appropriate for only one gender, and most had highly stereotyped job aspirations for themselves.
Adolescent women in high school responded in a gender-specific manner to the occupational roles of women (Dunne, 1980; Frye & Dietz, 1973); and Archer (1984) found only 16% of the adolescent females were interested in nontraditional professions, overall secretarial work remains the most popular occupational choice among these females. College campuses are well-documented examples of occupational gender bias, and the vast majority of women aged 14 to 24 see themselves in feminine jobs at age 35 (Brito & Jusenius, 1978; Schoen & Winocur, 1988).

The gender-based stereotypes continue to influence behavior as evidenced by high school and college students' enrollment patterns, which show gender stratification. The expectation that students will work in gender-appropriate jobs appears to influence their course selection. It has been shown that students select their high school courses based on their relevance to their future goals, which tend to be shaped by sex stereotypes of adult roles in the workplace and family (Eccles & Hoffman, 1984; Farmer & Sidney, 1985).

The impact of the gender stereotypes can account, in part, for lower occupational aspirations and attainments in females. There is another factor that may keep young women from aspiring to both nontraditional careers, and high positions within a chosen profession, and that is the realization that their job opportunities are more limited than their male classmates. Perhaps that is why girls generally tend to persuade themselves that high career aspirations are unrealistic and unattainable. In a study designed to determine whether career maturity, occupational aspirations, and occupational expectations were related to the race and gender of high school students, McNair and Brown (1983) found that females had higher occupational aspirations and expectations. They attributed the high aspirations to a greater career maturity demonstrated by these young women.
The conclusion drawn from research conducted by the Michigan Department of Education's Office of Sex Equity (1990) can be applied to the vast majority of studies done on gender-role socialization and its impact upon occupational aspiration:

The conclusion is unmistakable. Both girls and boys believe that gender, rather than skills, attitude, interests, aptitude, etc., determines their activities, their behavior, their achievements, their treatment from others and, therefore, their futures. The data forcefully demonstrate the impact of gender-role socialization. Gender-role socialization is a significant and influential part of human development. It shapes our perceptions, beliefs, expectations, and choices for ourselves and for those whose worlds we touch, limiting rather than expanding opportunities. (p. 11)

Women and men select occupations and positions that reflect the acceptable characteristics of their gender, as defined by society (Duberman, 1975). These career choices are based upon deeply rooted cultural values, which prescribe "proper" feminine and masculine role behaviors. Large numbers of women aspire to gender-appropriate jobs which effectively means that they are restricted in their choices to a few specific jobs, that generally are not well rewarded financially (Kenkel & Gage, 1983). Even among adults, one study found 60% to 75% who responded that certain jobs were suitable for men only and others were suitable for only women (Albrecht, Bahr, & Chadwick, 1977).

An assumption underlying occupational aspirations of young people is that attitudes toward work and work roles are learned through socialization. To understand the aspirations toward work roles, one can investigate the socialization these women have received. The present study employed several measures of socialization: (a) parent's education, (b) parent's occupation, (c) parent's yearly income, and (d) parent's encouragement in the pursuit of academic and leadership roles.
Gender-Role Orientation

There is some evidence that sex-role ideology may play a role in influencing levels of career ambition among women. Girls who see themselves as traditionally feminine tend to aspire to occupations that are stereotypic of their sex, while women with a feminine orientation perceive a different set of career opportunities and life choices than women with a traditional orientation (Liben & Bigler, 1987).

In a study examining achievement motivation in preschool children and its relationship to sex role training, Carr and Mednick (1988) found that traditional sex role socialization is conducive to the development of achievement motivation in boys, but has a negative effect upon the development of such motivation in girls.

Lyson and Brown (1982) examined the relationship among sex-role attitudes, curriculum choice, and levels of educational and occupational aspirations and expectations in college students. They found that sex-role ideology is related to career ambition for women in sex-typical and sex-atypical areas of study. A further conclusion was that since sex-role ideology influences the educational and occupational expectations of young women, regardless of social background, at least some sex segregation within all career lines may be due to the sex-role values women bring into the labor market.

After studying conceptual models of the causal relationship between social origin, mental ability, and aspirations, Danziger (1983) concluded that people develop and adjust their aspirations based upon the feedback from teachers, peers and primarily parents, and with their assessment of their own ability based on academic performance.

The attitudes of men cannot be ignored, even though this study seeks to explain the occupational choices and roles of women. The attitudes of men, or the gate-
keepers as Almquist (1977) dubbed them, are important because of their impact on women's attitudes. Young women can be influenced by their mothers' perceptions of the conservative stance men take toward the roles women should have in the work world. The daughters, if they receive any encouragement to excel at all, most likely will be discouraged from aspiring to nontraditional roles. The end result may be that they are socialized into thinking that the way to get along with men is to choose the traditional gender roles (Kenkel & Gage, 1983).

There may be some progress in this area; Ditkoff (1979) found that contemporary adolescents showed less agreement with gender-specific statements concerning women's occupational roles than did a comparable sample of adolescents studied 5 years earlier.

**Socioeconomic Background**

In addition to the influence of gender stereotypes and gender-role ideology, social origin appears to contribute to the development of aspirations in young people. Research indicates that children define gender roles differently depending upon the social class from which they come. Children from lower socioeconomic classes are more traditional when they define feminine and masculine characteristics (Duberman, 1975).

Danziger (1983) explored the sex-related differences in the aspirations of high school students and found that females are more influenced by their social origins than by mental ability; the reverse is true for males. She further indicated that females' perception of what they can attain depends mainly on socioeconomic status (SES), and that males, too, are more optimistic about occupation opportunities when their socioeconomic status is high.
In a study designed to predict the occupational aspirations and expectations, and career maturity of 10th graders, McNair and Brown (1983) reported that socio-economic background has a positive impact on the aspirations of females and a negative impact on males. However, Katz (1969) and Berman (1972) demonstrated that SES is positively related to career aspirations for males too.

Social class differences in gender-typing occupations have been found in which the higher the social class or educational level the less the gender-typing of occupations; and the higher the status of young people, the lower is their tendency to gender-type occupations (Albrecht et al., 1977; Dunne, 1980).

In a study of occupational aspirations of low-income high school aged women, Kenkel and Gage (1983) found strong evidence that females aspire to traditionally feminine occupations. Low-income young women are probably not exposed to a wide range of female role models in occupational careers. Low-income subcultures generally have conservative values, including traditional attitudes towards women's employment (Dunne, Elliott, Bent, & McGivern, 1978; Larson, 1978). Dunne (1980) found that the lower the occupational level, the greater the tendency to gender-type occupations.

Rotberg, Brown, and Ware (1987) found that race and SES were positively correlated in a study of career options among undergraduates. The effects of SES on choice and self-efficacy in high school seniors were examined by Hannah and Kahn (1989), who found SES associated with prestige level of preferred job, with a SES and gender interaction. High SES girls were more likely than low SES girls to consider male-dominated occupations and less likely than low SES girls to consider female-dominated occupations.
Parental Influence

A final contributor to the development of aspiration in young people is the influence of their parents. Perceived parental support has a greater impact on the aspirations of 10th grade males and is the primary significant predictor of occupational expectations for both genders, according to McNair and Brown (1983).

It has been suggested by Smith and Self (1980) that the influence of maternal attitudes on daughters' sex-role attitudes is a better predictor of daughters' attitudes than such demographic variables as mothers' age, marital status, education, or even occupational status. A study by Weeks, Wise, and Duncan (1984) measured the relationship between high school females and their mothers with regard to the daughter's career plans, and their mother's and grandmother's career statuses. The overall pattern that emerged is that part-time employed homemakers have sex-role attitudes that are significantly more feminist and contemporary than do women who are full-time homemakers, full-time employed homemakers, or career women.

Research has generally reported a positive relationship between the encouragement given to children by their parents and the children's educational and occupational aspirations (Alexander, Eckland, & Griffin, 1975; Hauser, 1972; Hout & Morgan, 1975; Kandel & Lesser, 1972; Wilson & Portes, 1975). There is some evidence that boys receive more parental encouragement than girls and that it is more effective for boys than girls (Boocock, 1972; Hout & Morgan, 1975; Marini, 1978).

Women and Leadership

The early research on women and leadership focused on two questions: (1) Why are there so few women in positions of leadership, and (2) what is the source of personal and organizational gender differences in accessing leadership roles? The first
question was addressed in studies that focused on differences in the traits and leadership styles of women and men, and on the gender-stereotyped expectations of women's leadership ability. The outcome of these studies is that: (a) There are no consistent gender differences in the personality traits of leaders (Nieva & Gutek, 1981), and (b) there are no consistent gender differences in the overall effectiveness of leaders (Morrison, White, & Van Velsor, 1987). In spite of the latter outcome, men are expected and selected to be our leaders. The second question addressed research that examined the various barriers to leadership that women encounter, and the particularly feminine qualities that inhibit women from being accepted in the upper levels of organizations (Astin & Leland, 1991).

In his review of empirical literature, Brown (1979) concluded that women are stereotyped as ineffective leaders, and are therefore given differential treatment in management. He found that the trait studies consistently supported the traditional attitude that women lack adequate leadership characteristics. Those studies using students revealed more stereotyped beliefs about women's leadership style and effectiveness than research involving managers.

Nieva and Gutek (1981) stated that traditionally, women are regarded as lacking the necessary attributes for leadership; they are seen as being compliant, submissive, and emotional; and moreover, they are judged as having great difficulty in making choices. Gender does not make women more emotional, more suggestible, less decisive, or less objective than male leaders. Perhaps, as Nieva and Gutek suggested, reported differences among women and men leaders reflect the perceptions of gender-role behavior, rather than the actual leader behavior. For when behavior typifies gender-role expectations, it is more likely to be evaluated positively, than behavior that is atypical of the gender-role expectations. For example, considerate behavior is valued more in females than in males, and initiating behavior is rated more highly in
males than in females. There appears to be some indications that things might be changing. Guido-DiBrito, Carpenter and DiBrito (1985) suggested that the stereotypically female behaviors that were once rejected in women, are now considered to be appropriate management styles. The other side of the coin reveals that women are rated more favorably for participative and democratic styles when judged by their subordinates than their male counterparts. Other recent research indicates that employers have begun responding more favorably to women and men exhibiting atypical behavior, particularly to women who display the male structuring behavior, and to men who exhibit the female consideration behaviors (Astin & Leland, 1991).

Research indicates several reasons that women remain underrepresented in elective and appointive positions in government. Family responsibilities, women's own attitudes, discriminatory attitudes of male political leaders, difficulty in raising money, and having to run against incumbents interact in ways that inhibit many potential women candidates from striving for political offices (Kellerman, 1984).

The next step in the evolution of inquiry is to examine leadership in terms of the larger society and its structure of opportunity; one that questions the social system and its institutions to determine what exactly prevents women from assuming leadership positions in proportion to the number of women available.

Being born female or male is associated with opportunities and limitations, especially regarding occupational choices and subsequent rewards of prestige, wealth, and power (Davidson & Gordon, 1979). Not only do women select gender-appropriate occupations, but as a group, they demonstrate a lower level of career aspiration for themselves within their chosen profession than men (Savery, 1990).

Research has shown that women pursue leader positions less than men and generally have lower expectations for their career. This may not be a situation germane only to American workplaces. In a study conducted in Western Australia
that was designed to look at the differences between women and men in their desires for and perceptions of what they receive from their job, Savery (1990) found several gender differences. Men prefer more responsibility than women, they seem to desire promotion, leadership, responsibility and status more than their female colleague. Women did not see themselves getting promoted; and that while they want challenging work as much as males, they have reduced desires for high position and demonstrate lowered expectations for promotion.

In an article discussing the roadblocks in the career paths of ambitious women, Feuer (1988a) described external obstacles that exist within organizations that prevent the upward mobility of women. The traditional female positions, lack of mentors and role-models, low expectation of women's abilities, and discrimination in a traditionally male dominated system are examples of the barriers to advancement.

In their review of research on the differential socialization of girls and boys, E. E. Maccoby and Jacklin (1974) concluded that "there is nothing inevitable about male achievement of all available leadership positions" (p. 370). The leadership roles should become more equitably distributed as women acquire competencies, and these competencies become known to themselves and others. They further stated that based on their review of literature, "where leadership is achieved and held through skill in setting achievable goals, in planning, organizing, persuading, conciliating, and conveying enthusiasms" (p. 370), there is no reason for a sex bias.

Summary

The roles that women play in society changed significantly in the 1970s and 1980s. More than half of all women work outside the home, and traditionally male professions have been infiltrated with a small portion of women (National Center for Education Statistics, 1984). In recent years it has become clear that organizations
must tap the resources and abilities of women to accommodate the changing workplace of the 1990s (Loden, 1985, 1986; M. Maccoby, 1979; M. Morris, 1990).

If, as social learning theorists believe, gender role attitudes and behavior are learned, it follows that children's gender role attitudes would change to mirror the social changes in the workplace. That does not appear to be the case. The societal changes in occupational patterns can be documented with labor statistics, thereby giving us a baseline against which to compare any changes in the gender role socialization. In a study of occupational stereotypes and preferences, Archer (1984) found that only 16% of the high school females expressed an interest in nontraditional occupations. It appears that in spite of the changes in the roles females and males play in society in the 1990s, the changes in the way children perceive the gender roles and the subsequent gender-typing are minimal. The failure of this change in gender role socialization may be due to the fact that while there have been social changes, equity is far from being achieved.

In the environment in which children spend most of their time, the school, they see a disproportionately low number of women administrators, and biased curriculum materials still in use (Meece, 1987). The media, particularly television, presents continuing affirmation of the traditional gender roles (Calvert & Huston, 1987). Adults in both of these environments continue to hold stereotypes about gender roles and pass them on to children, whether intentionally or unintentionally, the message is relayed. As these youngsters approach womanhood, unless and until the cycle is broken, they will confront a future in which expectations and opportunities will continue to be limited by the prevailing gender stereotypes.

It is clear that there is an influence of gender, gender role orientation, social origin, and the parents' role in influencing career development. The question is whether these factors contribute to the development of leadership aspiration.
CHAPTER III

METHODS

This research involved Western Michigan University students whose enrollments were in curricula that would place them in jobs in business, education, and/or government. The purpose was to examine the extent to which women aspire to leadership roles, and to determine if there is a relationship between this aspiration and (a) gender-role orientation, (b) socioeconomic background, and (c) parental influence. This chapter includes a description of the population and sample, the survey instrument, the design and procedures, the hypotheses tests and indices composition, and the methods of analysis.

Population and Sample

The population for this research was students in their final undergraduate year at Western Michigan University, Kalamazoo. The sample of female and male seniors was selected from the business, teacher education, and political science curricula. The determination of these specific curricula ensured a sample of young people who were intending to enter the professional fields of business, education, and government.

A stratified random sample was employed, using the three curricula as the strata. This sampling method was used in order to: (a) produce a more precise estimate of the population characteristics, (b) permit a smaller sample size, and (c) allow separate estimates of the individual stratum parameters so that inferences could be made to each stratum, as well as to the whole population.
A sample size of 403 students was randomly selected from the registrar's list of 3,250 enrolled seniors in each of the three curricula. The sample was identified so as to represent the curricula proportionately; the methods employed will be detailed later in this chapter.

Survey Instrument

The instrument needed for this research assessed the respondents': (a) aspiration to leader roles, (b) vision of their classmates in future roles, (c) attitude toward gender-roles, (d) own career progress, (e) socioeconomic status, and (f) parental influence. Of particular concern was the fact that a review of literature did not produce questionnaire items that would measure several of the constructs of interest in this study. The concept of leader aspiration is absent in the literature, hence there are no accepted measurements for this construct. In addition, although the subject of gender-role orientation is prevalent in the literature, the assessment of the concept is not. Parental influence is also a familiar research topic; however, assessing its association to leader aspiration and gender-role orientation is not. Therefore, an instrument was designed to measure attitudes specific to these constructs. The rationale and validity of the questionnaire items are discussed in later sections of this chapter.

The questionnaire used for this research was composed of several sections. The first part asked the respondents to speculate about the career they envision for themselves and their classmates, specifically focusing on (a) whether the respondents see themselves and their classmates in positions of responsibility within their career in 5 years, (b) where the respondents think they and their classmates will be in the organizational hierarchy of their job 5 years from now, and (c) how much money the respondents think they and their classmates will be earning in 1997.
Part 2 of the instrument is an attitude scale, in which the respondents were asked their opinion about the various roles women and men perform in society.

The next section of the questionnaire posed several questions about specific leader behaviors and roles, and also asked each respondent to list past leadership experiences.

The fourth section of the questionnaire focused on the respondents' family background. Educational and occupational attainment of both the mother and the father were obtained, as well as the annual income of the respondent's household. Also included in this section are items that indicated the respondents' perceptions of the amount of encouragement they received from their parents.

The final part of the instrument requested the age, gender, and grade point average of each respondent.

Two forms of the questionnaire were used. One questionnaire was specific to education students, using language appropriate to the educational system; and the second questionnaire employed parallel items, but used language more appropriate to the career positions in business and government (see Appendix A).

Variables

The variables employed in this study were gender, leader aspiration, gender-role orientation, socioeconomic status, and parental influence. Their definition, operationalization, and measurement are described below and are detailed in Table 1.

Gender

Gender is defined as the sex of the respondent; it is operationalized as female or male. A single item on the questionnaire addressed this variable. Although easily
Table 1
Variables--Definition, Operationalization, and Measurement

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Operationalization</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Sex</td>
<td>Female and male</td>
<td>Questionnaire item #46</td>
</tr>
<tr>
<td>Leadership aspiration</td>
<td>Ambition to leader roles</td>
<td>Career plans, traits and experience</td>
<td>Leadership aspiration index</td>
</tr>
<tr>
<td>Gender-role orientation</td>
<td>Gender-role attitudes</td>
<td>Traditional or contemporary</td>
<td>Gender-role orientation index</td>
</tr>
<tr>
<td>Socioeconomic status</td>
<td>Place in the social-economic hierarchy</td>
<td>Parent’s education, occupation and household income</td>
<td>Socio-economic status index</td>
</tr>
<tr>
<td>Parental influence</td>
<td>Parental support</td>
<td>Parental encouragement</td>
<td>Parental influence index</td>
</tr>
</tbody>
</table>

measured, this is an important variable, as so many of the hypotheses and subsequent analyses were based upon gender differences.

Leadership Aspiration

Leader aspiration is defined as an ambition for leader roles; it is operationalized as the career plans the respondents have for themselves, coupled with the presence of personality characteristics that are associated with leaders, and finally the evidence of past leadership experience.

This variable was measured by creating a leadership aspiration (LA) index from the responses to the nine questionnaire items relating to leadership. The first two questionnaire items asked the respondents to describe their future professional life in
terms of the number of people for whom they might be responsible, and their status within the hierarchy of that organization. The purpose of these items was to assess whether the respondents could see themselves in positions of authority and responsibility and in leadership roles. The rationale was that if they envisioned themselves in these positions, there would be an accompanying level of aspiration for those roles. Another questionnaire item gathered information about the students' projected salary goals. The logic here is the same as above, higher-paying jobs will inherently involve a greater level of authority, responsibility, and a greater possibility of leadership than lower-paying positions. Nathanson (1981) used salary goals to measure career aspirations in a study comparing women's and men's aspirations in business, and thus salary goals were used here to measure the aspiration to leadership.

The remaining items on this instrument that combine to measure leadership aspiration were based upon the characteristics and attitudes of leaders selected from a compilation of leadership measures by Clark and Clark (1990). These items asked the respondents (a) to report on their ability to influence peers, (b) whether they envision themselves seeking challenging opportunities in the future, (c) if they prefer being in charge in a group situation, and (d) if they are comfortable being followers.

The response categories for each of the nine items were scored to reflect the degree to which the respondents aspire to leader roles, possess leadership traits, and describe themselves as having been leaders in the past. For example, one item asked respondents about the influence they have among their peers. The item, response categories and scoring are below:

I ________ seem to have the ability to influence my peers.

<table>
<thead>
<tr>
<th></th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usually</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seldom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The item received the score that corresponds to the response, an always received a 5 and a seldom was scored with a 2. For each item, the highest score was given to the answer that reflects the greatest ambition for leader roles, or as in this item, the response that indicates the greatest incidence of a leadership characteristic. The possible score of six of the items, as in the above example, is from 1 to 5, one of the items has a range of 1 to 8, while two items are scored as 0 or 5. The possible range of the LA index was from 7 (all lowest responses) to 48 (all highest responses); where a lower index indicates a lower ambition, and perhaps a lower predisposition to leader roles, while a higher index indicates a greater ambition for leader roles, and perhaps a personality that is more inclined toward leadership.

All of the questionnaire items that measured leadership aspiration produced a score that when combined became the leadership aspiration index.

**Gender-Role Orientation**

Gender-role orientation is defined as the attitude toward gender-roles, specifically the gender-appropriateness of certain behaviors; it is operationalized as traditional or contemporary.

This variable was assessed by creating a gender-role orientation (GRO) index from the 10 items on the instrument that addressed gender roles in society. The items asked the respondents their opinion about the roles women and men play at work and in the family. Specifically, (a) whether men are better leaders than women, (b) if women are too emotional to be good leaders, (c) whether there are some leader positions that are not suitable for women, and (d) if women should participate in solving the intellectual and social problems of society. The second set of items asked the respondents about (e) the importance of career preparation for women, (f) whether it would be difficult to work for a woman, and (g) their attitude about women being
paid the same as men for equal work. The last set of items measuring gender-role beliefs asked the respondents (h) if it is acceptable for women to be the breadwinners in relationships, (i) if husbands and wives should be equal partners, and (j) the extent to which a woman's fulfillment comes from being a wife and mother. The purpose of these items was to assess the respondents' attitudes relating to the roles women play in the workplace, in the home, and in society. The rationale is that if they believe it is acceptable for women to perform the traditionally masculine roles, such as boss, leader, and breadwinner, they will have a contemporary gender-role orientation.

Items for this section of the instrument were based upon the research of Lyson and Brown (1982) who used sex-role scales in a study examining sex-role attitudes and career ambition in college majors, and Bell (1978), who employed a feminist scale in her research of early gender-role socialization and its impact on older women.

In the measurement of gender-role orientation, the gender-belief system was scaled between extremes characterized as "traditional" or "contemporary," as the respondent rated the acceptability of various behaviors. The response categories for each of the 10 items were scored to reflect the degree to which the respondent reflected a traditional or a contemporary gender-role orientation. For example, one item asked respondents about leaders. The item, response categories, and scoring are below:

When the work is essentially equal, it is _______ wrong for women to receive less pay than men.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

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The item received the score corresponding to the response. A response of always was given a score of 5, while a sometimes received a 3. Always indicates a more contemporary view of gender-roles than the more traditional attitude that it is never wrong for women to be paid less than men for equal work. For each item, the highest score was given to the answer that reflects the most contemporary attitude about gender-roles. Each item has a possible range of scores of 1 to 5. The possible range of the GRO index was from 10 to 50 points; a lower index indicates a more traditional gender-role orientation, and a higher index indicates a more contemporary gender-role belief system. Therefore, the low scorer would have attitudes about the roles women and men play that reflect a more traditional position, whereas the high scorer would allow that women and men can cross over many of the established lines of gender-appropriate behavior.

All of the questionnaire items that measured gender-role orientation produced a score that when combined became the gender-role orientation index.

Socioeconomic Status (SES)

Socioeconomic status is defined as the placement of the respondent in the social and economic hierarchy; it is operationalized as a combination of the educational and occupational attainment of one parent and the annual household income.

This variable was measured by creating a socioeconomic status (SES) index from the three items relating to social stratification.

It is acknowledged that the construction of an index that describes a person's class, status, and/or prestige is a complex matter. The best index available in the literature is the one constructed by Duncan (1961) that combines income, education, and occupational prestige into one number, based on previously analyzed relationships among these three variables.
Since education is the necessary preparation for most occupations, and income comes from an occupation, it is customary to use these three dimensions to compute social and economic status (Duncan, 1961). Generally, researchers use only the education and occupation of one person per household to compute SES rankings, and that is usually the male head of the household. This study, because of its emphasis upon a more contemporary gender-role philosophy, used the parent (mother or father) who had the highest occupational score. This decision was based upon the belief that the parent whose occupation had the highest occupational score would most likely contribute the greatest amount to the household income. This parent became the "chief provider," whose occupational score was then combined with her or his educational attainment score, and the household income score to produce the SES index. The following three elements were used to compute the SES index: (1) the educational attainment of the chief provider (mother or father), (2) the occupation of the chief provider (mother or father), and (3) the approximate annual income level of the household in which the respondent was raised. The respondents were asked to describe both their mothers' and their fathers' educational attainment level, using the following response categories:

1  □  did not complete high school
2  □  has high school diploma, or equivalent
3  □  attended some college or trade school
4  □  has college degree
5  □  has post graduate degree
0  □  don't know

The higher the educational level attained by each parent, the higher the score each answer received.
The respondents were also asked to describe both their mothers' and their fathers' occupations. These items requesting information about the occupations of the parents were open-ended questions that asked the respondents to describe what their mothers and fathers do. Based upon the narrative given, the occupations were then classified according to major occupational groups as listed below.

**Professionals**
- Public school teachers
- Doctors
- Computer systems analysts
- Registered nurses
- Librarians
- Engineers

**Managers and Administrators**
- Sales managers
- Bar managers
- Corporate executives
- Proprietors of small retail establishments

**Technicians** (often classified with professionals)
- Laboratory technicians
- Draftsmen
- Computer programmers

**Sales workers**
- Retail-store clerks
- Insurance agents
- Manufacturers' sales representatives
Clerical workers
   Bank tellers
   Bookkeepers
   Secretaries
   Cashiers

Craft, precision production, and repair workers
   Carpenters
   Foremen in construction or manufacturing
   Machinists
   Telephone repair workers
   Auto mechanics

Operatives
   Assembly line workers in manufacturing
   Butchers
   Truck drivers

Service workers
   Waiters and waitresses
   Police and firefighters
   Janitors
   Hairdressers

Laborers (excludes farm)
   Unskilled construction workers
   Freight and stock handlers
   Garbage collectors
Farm workers

Farmers (owner-operator)

Migrant farm laborers


Based upon the occupational grouping, the parents’ occupations were awarded a score as illustrated in Table 2. The items received the score corresponding to the occupational group. The occupations are rated by prestige, thus the higher the prestige or status of the occupation, the higher the score it received.

Table 2

<table>
<thead>
<tr>
<th>Occupational Group</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionals and technicians</td>
<td>8</td>
</tr>
<tr>
<td>Executives, administrators, and managers</td>
<td>7</td>
</tr>
<tr>
<td>Sales and clerical workers</td>
<td>6</td>
</tr>
<tr>
<td>Craftsmen</td>
<td>5</td>
</tr>
<tr>
<td>Operatives</td>
<td>4</td>
</tr>
<tr>
<td>Service workers</td>
<td>3</td>
</tr>
<tr>
<td>Laborers, except farm</td>
<td>2</td>
</tr>
<tr>
<td>Farmers and farm laborers</td>
<td>1</td>
</tr>
</tbody>
</table>

Finally the respondents were asked to describe the approximate annual income of the household in which they were raised, using the following response categories:
The item was scored according to the given response. The higher the estimated annual income, the higher the score the answer received.

For all the items measuring SES, the highest score was given to the answer that reflected a higher social and economic standing.

Based upon the scoring of the socio-economic items described above, an SES index was computed using the formula shown below:

\[
SES = 6 \cdot \text{Occupation} + 4 \cdot \text{Education} + 2 \cdot \text{Income}
\]

where SES = socioeconomic status; Occupation = the occupational prestige score of the chief provider; Education = the educational attainment score of the chief provider; and Income = the approximate annual household income score. The weighting of the individual scores was based upon the theory that education is twice as important as income, and occupation is 3 times as important as income in determining a standing that combines the social and economic dimensions (Van Valey, 1969).

An example of the determination of the SES components follows: If a mother's occupational score was 8 and the father's occupational score was 7, the mother became the chief provider. If her educational attainment score was 4, and the household income score was 4, the respondent was assigned an SES index of 72. The computation of this index is shown below.
SES Index = 6 (Occupation) + 4 (Education) + 2 (Income)

\[ \text{SES Index} = 6 \times 8 + 4 \times 4 + 2 \times 4 \]

\[ \text{SES Index} = 48 + 16 + 8 \]

\[ \text{SESI} = 72 \]

The higher the SES index, the higher the respondent's socioeconomic status. The possible range of the index is from a low of 12 to a high of 78. A respondent with a higher index has a higher placement in the social and economic hierarchy than a respondent with a lower SES ranking.

This method of indicating socioeconomic status employing the above dimensions has been used by a variety of researchers. The Kercher Center for Social Research at Western Michigan University utilizes education, occupation, and household income in the above formula to compute an SES rating. The U.S. Bureau of the Census (cited in Duncan, 1961) developed a measure of socioeconomic status (SES) that was based on occupation, educational attainment, and family income. Duncan (1961) used income and education to produce the socioeconomic index (SEI, or SES). An index of social position (ISP) utilized ecological area of residence, occupation, and education to determine an individual's class status (Hollingshead & Redlich, 1967). A similar technique of indexing the parent's educational and occupation attainment to measure socioeconomic background has been used by Danziger (1983).

**Parental Influence**

Parental influence is defined as the support the parents provide to the respondents; it is operationalized as the amount of encouragement the parents give to the respondents in attending and completing college, pursuing a career, having children, and accepting leadership roles.
This variable was measured by creating a parental influence (PAR) index from the 12 items on the questionnaire that addressed parental encouragement. The questionnaire items asked the students the degree to which their mothers and fathers encourage them in academic, career, and personal activities. Specifically, the items asked whether the mothers and fathers encouraged the respondents to enter and complete college, if this encouragement continues for the completion of their bachelor’s degree, whether there has been encouragement from each of them to accept leadership positions, and finally whether the respondents are encouraged to have children. The purpose of these items was to assess whether the parents influenced their children’s attitudes about certain behaviors. The rationale being that children respond to the influence of their parents, and often espouse values similar to those of their parents. The expectation was that the extent of encouragement perceived by the students would indicate the parents’ attitudes about gender-roles, and that these viewpoints would influence the attitudes of their children. Strong encouragement for a daughter to achieve in academics and in a career indicates a contemporary gender-role orientation, an attitude that would perhaps support her in making choices that require her to cross established gender lines.

McNair and Brown (1983) used a parental encouragement index in a study predicting occupational aspirations, occupational expectations, and career maturity of 10th graders; and Crites (1969) used a similar index in a study of vocational behavior and development.

The response categories for each of the 12 items were scored to reflect the degree to which the respondents perceived encouragement from both their mothers and fathers. For example, one item inquired about the pursuit of careers. The item, response categories, and scoring are below:
My mother encourages me to pursue a career.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Somewhat</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

The item received the score that corresponds to the response, a yes was given a 3 and a no was given a 1. The higher the score, the higher the parental support. The range of scores for each item was from 1 to 3. The possible range of the index was from 12 to 36.

For the purpose of this research, those items that reflect a more contemporary gender-role orientation are the answers that were scored the highest. For example, parental encouragement of acceptance of leadership roles received three points, while parental encouragement of having children, a more traditional attitude, received only one point. A lower score indicates a lower level of parental encouragement, while a higher score indicates a higher level of parental encouragement and expectations of the student.

All of the questionnaire items that measured parental influence produced a score that when combined became the parental influence (PAR) index.

Design and Procedures

Pilot Test

A pilot test was conducted in the Fall semester, 1991. The Registrar's Office provided a list of students who had accumulated 88 credit hours or more from the College of Business or the College of Education. Thirty students (N=30), classified as seniors, were selected from the registration list; 16 students were from the business administration curriculum and 14 students were from the elementary education
curriculum. A letter (see Appendix B), questionnaire (see Appendix C), and a stamped envelope for returning the completed questionnaire was mailed to the sample. One week later a postcard (see Appendix D) was mailed as a reminder to return the questionnaire. Three weeks after the initial mailing a follow-up letter (see Appendix E) requesting the return of the completed questionnaire was sent to nonrespondents. Included in this mailing was a questionnaire and another stamped envelope for returning the questionnaire.

Several changes were made in the data collection process during the pilot test. Specifically, Western Michigan University letterhead was used for the follow-up letter, which was personalized with a mail merge software program, rather than the generic greeting used on the original letter. The return envelope included in the second mailing was addressed to the university, which was a change from the initial mailing. It was hoped that these alterations would give the products a more professional appearance and would produce a higher level of participation. There were also several changes made to the survey instrument before the second mailing. The actual size of the questionnaire was reduced and was printed on colored paper, blue for business students and yellow for education students. These changes increased the response rate of the pilot test, which is illustrated in Table 3.

Item Analysis

The results of the pilot test raised doubts relative to the efficacy of the gender-role orientation items to accurately measure the gender-role beliefs of the respondents. To assess whether the instrument accurately measured attitudes relating to gender roles, an item analysis was performed on the 10 items designed to measure this concept.
Table 3
Pilot Test Response Rates

<table>
<thead>
<tr>
<th></th>
<th>Business curriculum</th>
<th>Education curriculum</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mailed questionnaires</td>
<td>16</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>Nondelivered questionnaires</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sample size</td>
<td>15</td>
<td>13</td>
<td>N=28</td>
</tr>
<tr>
<td>Valid questionnaires</td>
<td>10</td>
<td>11</td>
<td>n=21</td>
</tr>
<tr>
<td>Response Rate</td>
<td>66.6%</td>
<td>84.6%</td>
<td>75%</td>
</tr>
</tbody>
</table>

In order to assess the discriminating power of each of the items, it was necessary to administer the items to people with characteristics similar to the sample, but whose beliefs about gender roles would differ as widely as possible. The Office of Student Life on Western Michigan University's campus publishes a student organization/agency directory that lists student groups, with an accompanying statement of their purpose. Using the purpose statement as a guide, two groups were selected in the hope that they would have opposite attitudes about gender roles. The advisors for both groups were contacted to assure that the student groups would likely have differing views on the roles that women and men play in society. Both advisors confirmed the disposition of their students and agreed to administer the questions (see Appendix F) containing the 10 gender-role orientation items to their respective groups. The students whose views were expected to reflect a contemporary belief system about gender-roles were those in a graduate class in the business department; the group whose attitudes were expected to be more traditional was comprised of students.
attending a campus church with a fundamental and evangelical philosophy. The instructions to both of the advisors can be found in Appendix G.

The discriminating power of each of the 10 gender-role items was estimated by compiling an index of discriminating power. The procedure used for this process is outlined by Gronlund (1982) in Constructing Achievement Tests. The first step in the item analysis was to score the questions on the basis of the number of correct answers. For the purpose of this research, the correct answer for all of the items is the one that reflects the most contemporary gender-role orientation. An example of this scoring is illustrated below:

It is more important for a man to prepare for a career than a woman.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Never is the correct answer, indicating that it is the most contemporary of the available responses, while always reflects the most traditional response. In scoring the item, it received the number score that corresponds with the answer given; for example, usually received 2 points and sometimes was given 3 points. This score combined with the points given for the remaining nine items produced the score that was used for the analysis of the gender-role orientation items. The range of possible points for the 10 questions was from 10 to 50.

There were 30 useable sets of questions with scores ranging from 30 to 49; they were arranged in order from the highest score to the lowest score. One-third of the question sets with the highest scores were selected and called the upper group (10 sets

---

1 This procedure should not be interpreted as a bias on the part of the researcher; it was merely a scoring device to enable the use of Gronlund’s procedure.
of questions), and one-third of the question sets with the lowest scores were selected and designated as the lower group (10 sets of questions). The remaining 10 sets of questions were discarded. As expected, the upper group consisted of sets of questions that had been completed by the students in the business class, of whom a contemporary viewpoint was predicted. The composition of the lower group was not totally expected, however. Eight of the question sets in the lower group were from the students in the church group, of whom a more traditional attitude was predicted, but two of the question sets in this group were from the students in the business class. The possible consequences of this occurrence on the ability of the items to measure gender-role orientation are discussed in greater detail in a later chapter.

For each item, the number of students in the upper group who selected each response was counted. The same procedure was followed for the students in the lower group. The count for the sample item is recorded as shown in Table 4.

Table 4

<table>
<thead>
<tr>
<th>Item Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 3. Alternatives</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Upper 10</td>
</tr>
<tr>
<td>Lower 10</td>
</tr>
</tbody>
</table>

$a$ correct answer

The ability of the item to discriminate between contemporary and traditional gender roles was estimated by comparing the number of students in the upper and lower groups who answered the item correctly. In the sample item above, nine
students in the upper group and two students in the lower group selected the correct answer. An index of discrimination can be computed using the following formula:

\[ D = \frac{R_u - R_l}{1/2T} \]

where \( D \) = the index of discriminating power; \( R_u = \) the number in the upper group who answered the item correctly; \( R_l = \) the number in the lower group who answered the item correctly; and \( 1/2T = \) one half of the total number of students included in the item analysis.

Using the formula described above, the computation for the sample item is as follows:

Index of Item Discriminating Power \((D) = \frac{9 - 2}{10} = .70\)

Any positive index demonstrates that students with high scores on the questions (the upper group) answered the item correctly more frequently than students with low scores on the questions (the lower group). A larger index indicates a more discriminative item. Maximum positive discriminating power is indicated by an index of 1.00 and occurs when all students in the upper group answer correctly to an item and no one in the lower group gives the correct answer. Zero discriminating power (.00) is obtained when an equal number of students in each group answers the item correctly. Negative discriminating power is obtained when more students in the lower group than in the upper group answer correctly.

The item analyses resulted in an estimated positive discriminating power with indices ranging from 0.10 to 1.00 for the 10 items. On the basis of the item analyses, modifications were made to all of the gender-role items, either to make them more
discerning or more easily understood. The questions as they appeared, their indices
of discriminating power, and the modified items are listed in Appendix H.

Modifications were made to the remaining items on the survey instrument, and
for ease of analysis, the response categories were standardized throughout the
questionnaire.

Procedures

At the beginning of the Winter semester, 1992, a listing of students classified as
seniors (88 credit hours or more) was obtained from the Registrar's Office. These
students were registered in the College of Business, the College of Education, and the
College of Arts and Sciences. The business students were from the business adminis-
tration and prebusiness administration curricula. The education students were from the elementary education, elementary music, preeducation, secondary education,
physical education, orthopedically impaired, emotionally impaired, and mentally
impaired curricula. The arts and science students were from the public administration
curriculum.

A population of 3,250 students was identified. With a population of 3,500,
Krejcie and Morgan (1970) recommend a sample of 346 subjects so that the sample
proportion p will be within + or - .05 of the population proportion P with a 95% level
of confidence. It was determined that a sample size of 400 students would meet the
criterion of this research. Table 5 describes the population and the determination of
the stratified sample for this research.

For ease of identification the questionnaires were color coded; the business ques-
tionnaire was blue, the education questionnaire was yellow, and the public administra-
tion questionnaire was pink. The questionnaires were mailed on January 13, 1992,
with a cover letter (see Appendix I) explaining the research, and with a preaddressed
Table 5
Stratified Sample From the Selected Curricula

<table>
<thead>
<tr>
<th>College</th>
<th>Enrollment</th>
<th>Percent of subpopulation</th>
<th>Percent of sample</th>
<th>Intended sample size</th>
<th>Actual sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>1,795</td>
<td>12</td>
<td>53</td>
<td>211</td>
<td>211</td>
</tr>
<tr>
<td>Education</td>
<td>1,432</td>
<td>12</td>
<td>42</td>
<td>166</td>
<td>168</td>
</tr>
<tr>
<td>Arts &amp; Science</td>
<td>23</td>
<td>100</td>
<td>6</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,250</strong></td>
<td></td>
<td></td>
<td><strong>400</strong></td>
<td><strong>403</strong></td>
</tr>
</tbody>
</table>

*a* When the random sample was drawn, the computer generated 403 names.

*b* Since all of the students from the College of Arts & Sciences were from the Public Administration Curriculum, henceforth they will be identified as public administration students.

and stamped return envelope. Following the procedure used in the final stage of the pilot test, the letters were personalized and printed on university letterhead.

On January 22, 1992, eight days later, a color-coded postcard was mailed to those students who had not returned their questionnaire. The business students received a blue card, the education students received a yellow card, and the public administration students received a pink card (see Appendix J). On February 5, 1992, three weeks after the initial mailing, a second letter (see Appendix K), a questionnaire, and return envelope was mailed to nonrespondents. Table 6 illustrates the final response rates for this research.
### Table 6

Research Response Rates

<table>
<thead>
<tr>
<th></th>
<th>Business curriculum</th>
<th>Education curriculum</th>
<th>Arts &amp; science curriculum</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mailed questionnaires</td>
<td>211</td>
<td>168</td>
<td>24</td>
<td>403</td>
</tr>
<tr>
<td>Nondelivered questionnaires</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Sample size</td>
<td>207</td>
<td>162</td>
<td>24</td>
<td>393</td>
</tr>
<tr>
<td>Valid questionnaires</td>
<td>157</td>
<td>134</td>
<td>20</td>
<td>311</td>
</tr>
<tr>
<td>Response rate</td>
<td>75.8%</td>
<td>82.7%</td>
<td>83.3%</td>
<td>79.1%</td>
</tr>
</tbody>
</table>

**Coding of the Data**

For all the items, each response had a corresponding number score that was entered into the computer. All of the data entry and coding of data was done by the researcher. The raw data were examined for inconsistencies, any that were found were corrected to correspond with the information on the matching questionnaire. A visual examination exposed invalid scores, and appropriate corrections were made; an example of this was the appearance of a 6 where only scores of 1 to 5 were valid. A variety of computer runs (i.e., frequency distributions, selected cross tabulations, and variable lists) were also completed to detect errors in the raw data. This scrutiny of the data accomplished two things. First, the output from the above computer programs located missing values so that subsequent analyses would accurately utilize only valid values; and secondly, these computer runs yielded the computation of the
indices used in this research. A random check of several individuals' indices confirmed that the computer calculation of the indices was correct. This random checking was done on all the indices used in this research: the leadership aspiration (LA) index, the gender-role orientation (GRO) index, the socioeconomic status (SES) index, the parental influence (PAR) index, the female career (FC) index, the male career (MC) index, and the self-career (SC) index.

A description of the methods in which the scores and indices were compiled for all of the variables follows.

Leadership Aspiration

Aspiration to leadership was measured with nine items on the questionnaire (see Appendix A). Each response was translated into a score, which when combined with all the scores from the responses to the leadership items produced a leadership aspiration (LA) index for each respondent. The LA index could range from a low of 7 to a high of 48; the lower index indicates less ambition for possible leadership roles, and the higher index indicates a greater ambition toward possible leadership roles. The questionnaire items used to measure leadership aspiration and the scoring is shown in Table 7.

One response category for Question 1 was scored differently than the other items; other was an open-ended response, for those respondents whose career plans were different from the options identified on the questionnaire. This response was included to provide an alternative answer for respondents, and the individual responses were not intended to be analyzed separately. Instead the 25 students who selected other were given a score for that response equal to the mean of their answers on the remaining eight items on the questionnaire measuring leader aspiration, listed above. For instance, one respondent listed physical therapist as her future career role. In order
Table 7
Leadership Aspiration Index Items

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Paraphrased content</th>
<th>Possible score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1</td>
<td>Projection of self in career</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 4</td>
<td>Projection of career progress</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 7</td>
<td>Salary goals</td>
<td>1 - 8</td>
</tr>
<tr>
<td>Question 21</td>
<td>High school leadership</td>
<td>0 or 5</td>
</tr>
<tr>
<td>Question 23</td>
<td>College leadership</td>
<td>0 or 5</td>
</tr>
<tr>
<td>Question 24</td>
<td>Seeking opportunities</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 25</td>
<td>Influence peers</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 26</td>
<td>Prefer to be in charge</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 27</td>
<td>Comfortable being a follower</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>

For this response to receive some weight in the calculation of her LA index, the average score of her remaining leadership aspiration items was added to her total score. She received a subtotal of 34 points for the eight other items in this section, the mean of 34 is 4.25; therefore she was given 4.25 for her other response, which brought her total index to 38.25. In this way she and all others who responded similarly were given credit for a response equitable to their other responses.

Question 21 and 23 are open-ended items that asked the respondents to describe their high school and college leadership roles, respectively. The responses were coded as 0 or 5 depending upon the narrative given by the respondent. A score of 0 was given if there was no answer, or if the response did not reflect leadership activity. The determination of leadership activity was based upon the description provided by the respondent; a list of club or sports activities was not considered leadership, only
those activities that described leader roles were coded with a 5. Leader roles were
given a score of 5 to equal the highest score available on the other leadership items.

One respondent did not provide an answer on two of the leadership aspiration
items; as that left responses for 78% of the items in this section, the procedure
described above for the other responses was used. The respondent received scores
equal to the mean of the remaining seven leadership items, thereby giving these items
scores equitable to the balance of the responses.

All of the respondents (n = 311) were given leadership aspiration indices; there
were no cases where a record had to be deleted because of invalid responses.

Gender-Role Orientation

Gender-role orientation was measured with 10 items on the questionnaire (see
Appendix A). Each response has a numeric value, that when combined with the other
items measuring gender-role orientation, produced a gender-role orientation (GRO)
index for each respondent. The GRO index could range from a low of 10 to a high of
50; a lower index indicates a stronger identification with the traditional gender roles,
and a higher index indicates an identification with a more contemporary gender-role
belief system. The questionnaire items measuring gender-role orientation and the
scoring are shown in Table 8.

There were 14 cases where there were missing data on the gender-role orientation
items. One respondent did not answer any of these items, and another provided
answers for only four of the items; these two cases were deleted from the gender-role
orientation data file. The remaining 12 individuals had two or less items with missing
data, and they were treated in the same manner described in the previous section;
these cases were given scores on the items equal to the average of the remaining
gender-role orientation items in the compilation of their GRO index.
Table 8
Gender-Role Orientation Items

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Paraphrased content</th>
<th>Possible score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 10</td>
<td>Men as leaders</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 11</td>
<td>Career preparation</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 12</td>
<td>Women taking an active role</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 13</td>
<td>Working for a woman</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 14</td>
<td>Women as emotional leaders</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 15</td>
<td>Equal pay for equal work</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 16</td>
<td>Women and powerful jobs</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 17</td>
<td>Women as breadwinners</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 18</td>
<td>Equal partners in marriage</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 19</td>
<td>Women's fulfillment</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>

Although there were 309 cases with GRO indices that were valid, not all of them were used in the analyses. It has been hypothesized that a relationship exists between gender-role orientation and several of the variables in this study; namely, leader aspiration, the projection of women's careers, and the projection of men's careers. This relationship cannot be a linear one, however. For example, in analyzing the relationship between gender-role orientation and men's future careers, respondents with high GRO values, or contemporary beliefs, would not necessarily be associated with high MC values, the projection of men into high career positions. Similarly, students with low GRO indices, or traditional beliefs, would not be expected to have low MC values, which place men in positions of little career responsibility. Respondents with a high GRO index, who have contemporary attitudes about gender roles, would be
expected to place their classmates on merit, not gender; however, respondents with a low GRO index, who have traditional gender-role attitudes would more likely envision men in high positions in their job.

A preliminary computer run was performed to substantiate this theory. A correlation procedure was executed on all the appropriate variables to discern if a linear relationship with gender-role orientation was detected. All of the procedures generated correlation coefficients that indicate negative associations (GRO and LA, GRO and FC, and GRO and MC).

In all the analyses in this research involving gender-role orientation, the respondents were partitioned according to their GRO index. Those students whose GRO index was one standard deviation below the mean were designated as "traditional," and those students whose GRO index was one standard deviation above the mean were designated as "contemporary." There were 58 traditional students, and 47 contemporary students, so although there were 309 respondents with valid GRO indices, only 105 were used for analyses.

**Socioeconomic Status**

There are three items on the questionnaire used to measure socioeconomic status (see Appendix A). Each response was given a score using the process described earlier in this chapter; the scores of the chief provider were used to compute the socioeconomic status (SES) index for each respondent. The parent with the highest occupational score from Question 30 or 31 became the chief provider; that parent's occupational and educational scores were then used in combination with the score for household income to compute the SES index.

The SES index could range from a low of 12 to a high of 78; the lower index indicating a lower socioeconomic status, and a higher index indicating a higher socio-
economic status. The items measuring socioeconomic status and the scoring are shown in Table 9.

Table 9
Socioeconomic Status Items

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Paraphrased content</th>
<th>Possible score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 28</td>
<td>Mother's education</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Question 29</td>
<td>Father's education</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Question 30</td>
<td>Mother's occupation</td>
<td>0 - 8</td>
</tr>
<tr>
<td>Question 31</td>
<td>Father’s occupation</td>
<td>0 - 8</td>
</tr>
<tr>
<td>Question 32</td>
<td>Household income</td>
<td>0 - 5</td>
</tr>
</tbody>
</table>

The compilation of this index required that each respondent provide answers to all three items in this section, therefore any case that was missing data on any of the items was deleted from the socioeconomic status data file. There were 48 such deletions, leaving 263 cases for all analyses using the SES index.

Parental Influence

Parental influence was measured with 12 items on the questionnaire (see Appendix A). Each response was given a score, that when combined with the other parental items, produced a parental influence (PAR) index for each respondent. The possible range of the PAR index was from 12 to 36; a lower index indicates less perceived parental support of the student, and a higher index indicates a greater perception of parental support by the student. The questionnaire items measuring parental influence and the scoring are shown in Table 10.
<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Paraphrased content</th>
<th>Possible score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 33</td>
<td>Mother encouraging college</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Question 34</td>
<td>Mother encouraging completing degree</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Question 35</td>
<td>Mother encouraging graduate school</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Question 36</td>
<td>Mother encouraging pursuit of a career</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Question 37</td>
<td>Mother encouraging children</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Question 38</td>
<td>Mother encouraging leadership roles</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Question 39</td>
<td>Father encouraging college</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Question 40</td>
<td>Father encouraging completing degree</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Question 41</td>
<td>Father encouraging graduate school</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Question 42</td>
<td>Father encouraging pursuit of a career</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Question 43</td>
<td>Father encouraging children</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Question 44</td>
<td>Father encouraging leadership roles</td>
<td>1 - 3</td>
</tr>
</tbody>
</table>

There were 24 cases with missing data on the parental support items. Thirteen cases had four or more items without answers; these were deleted from the parental support data file. The remaining 11 cases had three or fewer items with missing data, and they were treated as described in the previous sections, by replacing the missing data with the mean of the remainder of the parental support items. Two hundred ninety-eight (n=298) cases received a PAR index for use in subsequent analyses.

The survey instrument, as described in detail above, was designed in part to assess future career roles of the respondents. Also of importance in this research was the assessment of the respondents' intuitions about the roles their classmates might
play in their future careers. There are three areas on the questionnaire that ask the respondents to speculate about their own future, the future of their female classmates, and the future of their male classmates. Specifically they were asked about (a) career responsibilities, (b) placement in the organizational hierarchy, and (c) salaries.

Do young adults on the brink of entering the world of work see their classmates achieving more or less than they hope to achieve themselves? Do university seniors see different opportunities for their classmates based upon gender? To answer these questions and to test specified hypotheses described in the next section, three additional indices were compiled.

Projection of Careers for Females

To measure the opportunities the respondents envision for their female classmates, three questionnaire items were used (see Appendix A). Each response was given a score, which when combined with the other items measuring career opportunities for women, produced a female career (FC) index, for each respondent. This index was created to demonstrate the extent to which women were viewed in high positions in their future careers. The possible range of this index was from 2 to 18; a lower index indicates that the respondent did not envision career opportunities for women in high positions, and a higher index indicates that the respondent did envision opportunities for women in their future careers. The items measuring career possibilities of the female classmates and the scoring is shown in Table 11.

One response category for question 2 was scored differently than the other items; other was an open-ended response, for those respondents who envisioned career plans for their female classmates that were different from the options identified on the questionnaire. This response was included to provide an alternative answer for
Table 11
Female Career Items

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Paraphrased content</th>
<th>Possible score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 2</td>
<td>Projection of women in careers</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Question 5</td>
<td>Projection of women's career progress</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 8</td>
<td>Projection of women's salary</td>
<td>1 - 8</td>
</tr>
</tbody>
</table>

respondents, and was not intended to be coded separately. Instead the 18 students who selected other were given a score for that response equal to the mean of their answers on the remaining two items of the questionnaire measuring career opportunities for women, listed above. In this way, respondents were given credit for a response equitable to their other answers.

There were 10 cases with missing data that were deleted from the female career data file, leaving 301 cases for all analyses involving this variable.

Projection of Careers for Males

Items similar to the female career items were used to measure career opportunities the respondents envision for their male classmates (see Appendix A). These three items were given a numeric value and combined with the remaining items measuring career opportunities for men, to produce a male career (MC) index for each respondent. The possible range of the index was from a low of 2 to a high of 18; a lower index suggests that the respondents did not envision opportunities for men in their careers, and a higher index suggests that the respondents did envision career opportunities for men in the future. The questionnaire items measuring future career possibilities for male classmates and the scoring is shown in Table 12.
Table 12
Male Career Items

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Paraphrased content</th>
<th>Possible score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 3</td>
<td>Projection of men in careers</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Question 6</td>
<td>Projection of men's career progress</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 9</td>
<td>Projection of men's salary</td>
<td>1 - 8</td>
</tr>
</tbody>
</table>

One response category for question 3 was scored differently than the other items; other was an open-ended response, for those respondents who envisioned career plans for their male classmates' that were different from the options identified on the questionnaire. This response was included to provide an alternative answer for respondents, and was not intended to be coded separately from the available responses. Instead the 14 students who selected other were given a score for that response equal to the mean of their answers on the remaining two items of the questionnaire measuring career opportunities for men, listed above. In this way, respondents were given a score equitable to the other responses comprising this index.

There were 10 cases with missing data that were deleted from the male career data base. There were 301 valid cases that were used in analyses involving this variable.

Projection of Own Career

To measure the career opportunities the respondents envision for themselves in the future, three questionnaire items were used (see Appendix A). Each response was given a score, which when combined with the other items measuring projection of their own careers, produced a self-career (SC) index, for each respondent. This index was created to demonstrate the extent to which the respondents viewed themselves in
high positions in their careers. The possible range of this index was from 2 to 18; a lower index indicates that the respondents did not envision themselves in high positions, and a higher index indicates that the respondents did envision themselves in high positions in their future careers. The items measuring the respondents' career possibilities and the scoring is shown in Table 13.

Table 13
Self-Career Items

<table>
<thead>
<tr>
<th>Questionnaire item</th>
<th>Paraphrased content</th>
<th>Possible score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1</td>
<td>Projection of self in careers</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Question 4</td>
<td>Projection of own career progress</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Question 7</td>
<td>Projection of own salary</td>
<td>1 - 8</td>
</tr>
</tbody>
</table>

One response category for Question 1 was scored differently than the other items; other was an open-ended response, for those respondents who envisioned career plans for themselves that were different from the options identified on the questionnaire. This response was included to provide an alternative answer for respondents, and was not intended to be coded separately. Instead the 25 students who selected other were given a score for that response equal to the mean of their answers on the remaining two items of the questionnaire measuring the respondents' careers, listed above. In this way, respondents were given credit for a response equitable to their other answers.

There were two cases with missing data that were deleted from the self-career data file, leaving 309 cases for all analyses using this variable.
Hypothesis Testing and Indices Composition

Each of the 10 hypotheses and their subhypotheses were tested through the use of a combination of items from the questionnaire. The hypotheses and the items used in the testing follows.

**Leader Roles**

**Hypothesis 1:** There is a gender difference in the aspiration to leader roles among university seniors.

The numeric scores from the following items produced the index that was used in the testing of this hypothesis and other analyses relating to this hypothesis.

<table>
<thead>
<tr>
<th>Location on questionnaire</th>
<th>Paraphrased content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1</td>
<td>Projection of self in career (LA index)²</td>
</tr>
<tr>
<td>Question 4</td>
<td>Projection of career progress (LA index)</td>
</tr>
<tr>
<td>Question 7</td>
<td>Salary goals (LA index)</td>
</tr>
<tr>
<td>Questions 21 and 23</td>
<td>Leadership experience (LA index)</td>
</tr>
<tr>
<td>Questions 24-27</td>
<td>Leadership traits and attitudes (LA index)</td>
</tr>
<tr>
<td>Question 46</td>
<td>Gender</td>
</tr>
</tbody>
</table>

**Hypothesis 2:** There is a difference in the aspiration to leader roles among university seniors, based upon the curriculum in which they are enrolled.

The numeric scores from the following items were combined to produce the index used in the hypothesis testing and other related analyses.

² Leader aspiration index
Hypothesis 3: Career projections of women into high-level, responsible positions are lower than the career projections of men, among university seniors.

The numeric scores from the items below were combined to produce the indices used in testing this hypothesis and other related analyses.

Hypothesis 4: There is a gender difference in students' projection of themselves into high-level positions of responsibility in future careers.

---

3 Female career index
4 Male career index
The numeric scores from the following items were combined to produce the index used in the hypothesis testing and other related analyses.

<table>
<thead>
<tr>
<th>Location on questionnaire</th>
<th>Paraphrased content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1</td>
<td>Projection of self in career (SC index)²</td>
</tr>
<tr>
<td>Question 4</td>
<td>Projection of career progress (SC index)</td>
</tr>
<tr>
<td>Question 7</td>
<td>Salary goals (SC index)</td>
</tr>
<tr>
<td>Question 46</td>
<td>Gender</td>
</tr>
</tbody>
</table>

**Gender-Role Orientation**

**Hypothesis 5:** There is a relationship between gender-role orientation and the level of aspiration to leader roles among university seniors.

The numeric scores from the following items were combined to produce the indices used in testing this hypothesis and other related analyses.

<table>
<thead>
<tr>
<th>Location on questionnaire</th>
<th>Paraphrased content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1</td>
<td>Projection of self in career (LA index)</td>
</tr>
<tr>
<td>Question 4</td>
<td>Projection of career progress (LA index)</td>
</tr>
<tr>
<td>Question 7</td>
<td>Salary goals (LA index)</td>
</tr>
<tr>
<td>Questions 21 and 23</td>
<td>Leadership experience (LA index)</td>
</tr>
<tr>
<td>Questions 24-27</td>
<td>Leadership traits and attitudes (LA index)</td>
</tr>
<tr>
<td>Questions 10-19</td>
<td>Gender-role beliefs (GRO index)⁶</td>
</tr>
<tr>
<td>Question 46</td>
<td>Gender</td>
</tr>
</tbody>
</table>

---

² Self-career index
⁶ Gender-role orientation index
**Hypothesis 6:** There is a relationship between gender-role orientation, gender, and the projection of classmates into future career positions among university seniors.

The numeric scores from the items below were combined to produce the indices used to test this hypothesis, and other related analyses.

<table>
<thead>
<tr>
<th>Location on questionnaire</th>
<th>Paraphrased content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 2</td>
<td>Projection of women in careers (FC index)</td>
</tr>
<tr>
<td>Question 3</td>
<td>Projection of men in careers (MC index)</td>
</tr>
<tr>
<td>Question 5</td>
<td>Projection of women's career progress (FC index)</td>
</tr>
<tr>
<td>Question 6</td>
<td>Projection of men's career progress (MC index)</td>
</tr>
<tr>
<td>Question 8</td>
<td>Projection of women's salary (FC index)</td>
</tr>
<tr>
<td>Question 9</td>
<td>Projection of men's salary (MC index)</td>
</tr>
<tr>
<td>Questions 10-19</td>
<td>Gender-role beliefs (GRO index)</td>
</tr>
<tr>
<td>Question 46</td>
<td>Gender</td>
</tr>
</tbody>
</table>

**Socioeconomic Status**

**Hypothesis 7:** There is a relationship between the level of aspiration to leader roles and socioeconomic status among university seniors.

The numeric scores from the following items were combined to produce the indices used to test this hypothesis and other related analyses.

<table>
<thead>
<tr>
<th>Location on questionnaire</th>
<th>Paraphrased content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1</td>
<td>Projection of self in career (LA index)</td>
</tr>
<tr>
<td>Question 4</td>
<td>Projection of career progress (LA index)</td>
</tr>
<tr>
<td>Question 7</td>
<td>Salary goals (LA index)</td>
</tr>
<tr>
<td>Questions 21 and 23</td>
<td>Leadership experience (LA index)</td>
</tr>
<tr>
<td>Questions 24-27</td>
<td>Leadership traits and attitudes (LA index)</td>
</tr>
</tbody>
</table>
Hypothesis 8: There is a relationship between university seniors' level of aspiration to leader roles and their mothers' occupational attainment.

The numeric scores from the items listed below were combined to produce the index used to test this hypothesis and other related analyses.

<table>
<thead>
<tr>
<th>Location on questionnaire</th>
<th>Paraphrased content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 28</td>
<td>Mother's educational attainment (SES index)(^7)</td>
</tr>
<tr>
<td>Question 29</td>
<td>Father's educational attainment (SES index)</td>
</tr>
<tr>
<td>Question 30</td>
<td>Mother's occupation (SES index)</td>
</tr>
<tr>
<td>Question 31</td>
<td>Father's occupations (SES index)</td>
</tr>
<tr>
<td>Question 32</td>
<td>Household income (SES index)</td>
</tr>
<tr>
<td>Question 46</td>
<td>Gender</td>
</tr>
</tbody>
</table>

Hypothesis 9: There is a relationship between university seniors' level of aspiration to leader roles and their mothers' educational attainment.

The numeric scores from the items below were combined to produce the index used to test the hypothesis and related analyses.

<table>
<thead>
<tr>
<th>Location on questionnaire</th>
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<tbody>
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</tr>
<tr>
<td>Questions 21 and 23</td>
<td>Leadership experience (LA index)</td>
</tr>
<tr>
<td>Questions 24-27</td>
<td>Leadership traits and attitudes (LA index)</td>
</tr>
<tr>
<td>Question 30</td>
<td>Mother's occupation (SES index)</td>
</tr>
<tr>
<td>Question 46</td>
<td>Gender</td>
</tr>
</tbody>
</table>

\(^7\) Socioeconomic status index
Parental Influence

**Hypothesis 10**: There is a relationship between university seniors' level of aspiration to leader roles and the parental support they perceive.

The numeric scores from the following items were combined to produce the scores used to test this hypothesis and other related analyses.

<table>
<thead>
<tr>
<th>Location on questionnaire</th>
<th>Paraphrased content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1</td>
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<tr>
<td>Question 4</td>
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<td>Question 28</td>
<td>Mother's educational attainment (SES index)</td>
</tr>
<tr>
<td>Question 46</td>
<td>Gender</td>
</tr>
</tbody>
</table>

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8 Parental influence index
Methods of Analysis

The data were analyzed using the SPSS (Norusis, 1990) statistical programs through the computer facilities of Western Michigan University. Due to the exploratory nature of this research, all null hypotheses was tested at the .10 alpha level.

Leader Roles

**Hypothesis 1**: There is a gender difference in the aspiration to leader roles among university seniors.

This hypothesis states that women and men have differing levels of aspiration to leader roles. It was expected that the mean LA index for women would be lower than the mean LA index for men. A \( t \) test for independent means was used to detect the difference between the mean LA index of females and of males. The alpha level was set at .10 for this one-tailed test.

The assumptions of the \( t \) test were satisfied: (a) the dependent variable, leadership aspiration is measured on an interval scale; (b) a frequency distribution of the variables are symmetrical for each group; (c) the data are from independent samples; and (d) although there is a difference between the sample variances, the exact probability is low and coupled with the robustness of the \( t \) test for independent means, the importance of this assumption is diminished.

**Hypothesis 2**: There is a difference in the aspiration to leader roles among university seniors, based upon the curriculum in which they are enrolled.

This hypothesis states that there are differing levels of leadership ambition among business, education, and public administration students. It was anticipated that the mean LA index of business and public administration students would be higher than the mean LA index of education students. A one-way analysis of variance was used
to test the differences in the means between the LA Indices of the students enrolled in the three curricula. The alpha level was set at .10.

The assumptions for the one-way analysis of variance were met: (a) the dependent variable, leadership aspiration, is measured on an interval scale; (b) the distribution of the variable being compared is symmetrical for each group; (c) the data are from independent samples; and d) although there is a difference between the sample variances, the exact probability is low and coupled with the robustness of the ANOVA the importance of this assumption is diminished.

With a significant $F$ ratio indicating that at least two population means are unequal, a post-hoc procedure was employed to determine which population means were different. With unequal sample sizes for the three curricula, the appropriate post-hoc procedure is the Least Squares Difference (LSD). An alpha level of .10 was set for this procedure.

**Hypothesis 3:** Career projections of women into high-level, responsible positions are lower than the career projections of men, among university seniors.

This hypothesis states that the progress of women's and men's careers are seen differently, specifically that women are seen in lower-level positions with less responsibility. The expected outcome was that the mean FC index would be lower than the mean MC index among women and men. A $t$ test for dependent means was used to test the difference between the mean scores for females and males. The alpha level was set at .10 for this one-tailed test.

The assumptions of the $t$ test were satisfied: (a) the FC index data are paired with MC index data, (b) the distributions of variables are symmetrical, and (c) the samples were randomly selected from the population.

**Hypothesis 4:** There is a gender difference in students' projection of themselves into high-level positions of responsibility in future careers.
This hypothesis states that women have lower career aspirations than men. It was anticipated that the mean SC index of women would be lower than the mean SC index of men. A $t$ test for independent means was used to test the difference between the mean scores of females and males. The alpha level was set at .10 for this one-tailed test.

The assumptions of the $t$ test were satisfied: (a) the dependent variable, self-career, is measured on an interval scale; (b) the distribution of the variable being compared is symmetrical for each group; (c) the data are from independent samples; and (d) although there is a difference between the sample variances, the exact probability is low, and coupled with the robustness of the $t$ test for independent means the importance of this assumption is diminished.

**Gender-Role Orientation**

**Hypothesis 5:** There is a relationship between gender-role orientation and the level of aspiration to leader roles among university seniors.

This hypothesis presumes that leader aspiration is dependent upon the gender-role orientation of the student. Contemporary women have higher aspirations to leadership than their traditional counterparts. It was expected that (a) the mean LA index of contemporary women would be higher than the mean LA index of traditional women, and (b) the mean LA index of traditional men would be different than the mean LA index of contemporary men. The $t$ test for independent means was used to determine the difference between gender-role belief and leadership aspiration of traditional and contemporary students. The alpha level was set at .10 for both the one- and two-tailed tests.

The assumptions of the $t$ test were satisfied: (a) the dependent variable, leadership aspiration, is measured on an interval scale; (b) the distributions of the variables
being compared are symmetrical for each group; (c) the data are from independent samples; and (d) although there is a difference between the sample variances, the sample sizes are not dramatically different and the robustness of the \( t \) test for independent means diminishes the importance of this assumption.

**Hypothesis 6**: There is a relationship between gender-role orientation, gender, and the projection of classmates into future career roles among university seniors.

The hypothesis presumes that when predicting future career roles, the roles envisioned by students differ depending upon their gender-role orientation. Students with both contemporary and traditional gender-role attitudes project their female classmates in lower career roles, with less responsibility than male classmates. It was expected that (a) the mean FC index would be different than the mean MC index for contemporary students, and (b) that the mean FC index would be lower than the mean MC index for traditional students. The \( t \) test for dependent means was employed to test the differences between the female and male career indices. The alpha level was set at .10 for both the one- and two-tailed tests.

The assumptions of the \( t \) test were satisfied: (a) the FC index data are paired with MC index data, (b) the distribution of the variable is symmetrical, and (c) the samples were randomly selected from the population.

Next, it was predicted that when women project the career progress of their female and male classmates, the varying roles seen are also dependent upon the gender-role belief system. The more contemporaneous women will place females in higher career roles than the more traditionally oriented women, and the two groups of women will differ in their projections of career roles for men. It was expected that (a) the mean FC index of contemporary women would be higher than the mean FC index of traditional women, and (b) that the mean MC index of contemporary women would be different than the mean MC index of traditional women. The \( t \) test for independent
means was employed to test the differences between the female and male career scores. The alpha level was set at .10 for both the one- and two-tailed tests.

Finally, it was expected that among traditionally oriented students, there might be gender differences in their projection of women in future career roles. It was predicted that the mean FC index of traditional women would be different than the mean FC index of traditional men. A \( t \) test for independent means was used to test the difference between the female career scores. The alpha level was set at .10 for this two-tailed test.

The assumptions of the \( t \) test were satisfied: (a) the dependent variables are measured on an interval scale, (b) the frequency distribution of the variable is symmetrical for each group, (c) the data are from independent samples, and (d) although there is a difference between the sample variances, the sample sizes are not dramatically different and the robustness of the \( t \) test for independent means diminishes the importance of this assumption.

**Socioeconomic Status**

**Hypothesis 7**: There is a relationship between the level of aspiration to leader roles and socioeconomic status among university seniors.

This hypothesis states that socioeconomic status is positively related to student's ambition to leadership. The expected outcome was a positive correlation coefficient of the LA index and SES index of students. Further, it was anticipated that the correlational coefficient of SES and LA of women and of men would be different from zero. A correlation procedure was employed to determine the relationship between socioeconomic status and leader aspiration among women and men. The alpha level was set at .10 for these one-tailed tests.
The assumptions for the correlation procedure were met: (a) the LA index and the SES index have an interval scale, and (b) both variables have symmetrical distributions.

**Hypothesis 8:** There is a relationship between university seniors' level of aspiration to leader roles and their mothers' occupational attainment.

This hypothesis presumes that ambition to leader roles is associated with the occupation of the respondents' mothers. It is expected that a students' ambition to leadership is related to their mothers' occupations, particularly for women. A correlational coefficient of the LA index and the mother's occupational score different from zero was expected for both women and men. A correlation procedure was used to determine the relationship between leadership aspiration and mothers' occupations. The alpha level for these one-tailed tests was set at .10.

The assumptions for the correlation procedure were met: (a) the LA index and the mothers' occupational score have interval scales, and (b) both variables have symmetrical distributions.

**Hypothesis 9:** There is a relationship between university seniors' level of aspiration to leader roles and their mothers' educational attainment.

This hypothesis presumes an association between ambition to leader roles and the educational level of the respondents' mothers. It is expected that students' leadership aspiration and their mothers' educational attainment are positively related, especially for women. The expected outcome was that a correlational coefficient of students' LA index and their mothers' educational scores would be different from zero for both women and men. A correlation procedure was used to test the relationship between leader ambitions and mothers' education. The alpha level set for these one-tailed tests was .10.
The assumptions for the correlation procedure were met: (a) the LA index and the mothers' educational score have interval scales, and (b) both variables have symmetrical distributions.

Parental Influence

Hypothesis 10: There is a relationship between university seniors' level of aspiration to leader roles and the parental support they perceive.

This hypothesis states that students' ambition to leadership is related to the perceived parental support. The expected outcome was a positive correlation of the LA index and the PAR index. It was also presumed that the correlational coefficient of LA and PAR would be different than zero among women and men. A correlation procedure was employed to test the relationship between leadership aspiration and parental support, among female and male students. The alpha level was set at .10 for these one-tailed tests.

The assumptions for the correlation procedure were met: (a) the LA index and the PAR index have interval scales, and (b) both variables have symmetrical distributions.
CHAPTER IV

ANALYSIS OF FINDINGS

In this chapter the study results are presented and described. The composition of the sample is presented first. As the hypotheses focus upon (a) leadership aspiration; (b) self, female, and male career projections; (c) gender-role orientation; and (d) parental influence, a summary of the results of the specific questionnaire items designed for their measurement are also presented. Finally, the results of the hypotheses tests are submitted.

Description of the Sample

The sample was composed primarily of students who are from 20 to 24 years of age, the remaining 22% of the sample are 25 years or older. The frequency and percentage of the respondents by age categories are shown in Table 14.

Women represent 63% of the sample. The business and public administration curricula are composed almost equally of women and men; however, the education curriculum is skewed in favor of women, who comprise 84% of that stratum. The distribution of the respondents by curriculum and gender are shown in Table 15.

Based upon the scoring of the gender-role orientation items, as described in Chapter III, respondents were categorized as having contemporary or traditional gender-role beliefs. Those students with GRO indices one standard deviation or more above the mean were classified as having contemporary gender-role beliefs, and those with GRO Indices one standard deviation or more below the mean were classified as
Table 14
Age of Respondents
(N = 310)

<table>
<thead>
<tr>
<th>Age</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-24</td>
<td>243</td>
<td>78</td>
</tr>
<tr>
<td>25-30</td>
<td>35</td>
<td>11</td>
</tr>
<tr>
<td>31-35</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>36-40</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Over 40</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>310</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 15
Gender and Curriculum of Respondents

<table>
<thead>
<tr>
<th>Curriculum</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>73</td>
<td>84</td>
<td>157</td>
</tr>
<tr>
<td>Education</td>
<td>113</td>
<td>21</td>
<td>134</td>
</tr>
<tr>
<td>Public Administration</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>196</strong></td>
<td><strong>115</strong></td>
<td><strong>311</strong></td>
</tr>
</tbody>
</table>

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having traditional gender-role beliefs. Of the 300 respondents with valid GRO Indices, 105 fit the criteria for the contemporary/traditional designation. As is evident in Table 16, women are predominantly (40 versus 7) in the contemporary category, while far more men (39 versus 19) express traditional beliefs.

Table 16
Distribution of Respondents by Gender-Role Orientation and Gender

<table>
<thead>
<tr>
<th>Gender-role orientation</th>
<th>Women</th>
<th></th>
<th></th>
<th></th>
<th>Men</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td></td>
<td></td>
<td>n</td>
<td>%</td>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Contemporary</td>
<td>40</td>
<td>68</td>
<td></td>
<td></td>
<td>7</td>
<td>15</td>
<td></td>
<td>47</td>
</tr>
<tr>
<td>Traditional</td>
<td>19</td>
<td>32</td>
<td></td>
<td></td>
<td>39</td>
<td>85</td>
<td></td>
<td>58</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>100</td>
<td>46</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td>105</td>
</tr>
</tbody>
</table>

Measurement of Variables

In order to further understand the differing attitudes the students embrace, it is beneficial to look at the responses to the specific questionnaire items. A description of the data for each of the variables is presented here, and the accompanying statistics for each item appear in the appendices. This information is used in Chapter V to clarify and enhance the results of the hypotheses tests.

Leadership Aspiration

The measurement of leader aspiration is composed of three elements, the respondents’ (1) career goals and ambitions, (2) leadership experiences, and (3) posses-
sion of specific leader qualities. The three items that follow address career goals and ambitions.

**Question 1:** "Which of the following best describes the role you see yourself in, five years from now?"

For this question, the response categories on the questionnaires were different for education students to reflect the different positions in academia. Table 17 lists the responses used for the business and public administration questionnaires and the corresponding responses for the education questionnaire.

<table>
<thead>
<tr>
<th>Business and public administration</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed, responsible for 1-3 persons' work</td>
<td>Classroom teacher</td>
</tr>
<tr>
<td>Employed, responsible for 4-10 persons' work</td>
<td>Specialist (art, music, etc.)</td>
</tr>
<tr>
<td>Employed, responsible for 11-25 persons' work</td>
<td>Principal</td>
</tr>
<tr>
<td>Employed, responsible for 26-50 persons' work</td>
<td>Administrator</td>
</tr>
<tr>
<td>Employed, responsible for more than 50 persons</td>
<td>Superintendent</td>
</tr>
</tbody>
</table>

There is a big difference in the way women and men in the sample see their future careers. In response to this question asking respondents to speculate about their future careers, only 13.8% of the women (n = 27) think they will be principals or have administrative responsibility for 11 or more persons in their jobs, while 35.6% of the men (n = 41) see themselves in similar roles. The majority of the business (74%) and public administration (80%) respondents see themselves in administration
positions, whereas the majority of the education respondents think they will be in the classroom in 5 years. Eighty percent of the education respondents (n = 107) selected classroom teacher as the role they envision for themselves in 1997. Only two future educators selected principal, another two chose administrator, and none of the education respondents selected the highest category of superintendent for this item. In contrast, the business and public administration respondents indicate higher ambitions for themselves in terms of the number of employees for which they think they will be responsible in 5 years. Their modal response was employed, responsible for 4-10 persons' work, with 37.1% of the business (n = 58) and 50% of the public administration (n = 10) respondents making this selection.9

**Question 4:** "When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for yourself five years from now?"

In response to this question, 96% of the sample think they will be in the middle, upper half, but not the top 10%, or top 10% of all employees in 5 years. Almost half of all respondents think they will be in the upper half, but not the top 10% of all employees. Between women and men, the responses are relatively even, with men making slightly higher selections. Of the women respondents, 69.7% (n = 134) think they will be in the upper half or top 10% of all employees, and 73% of the men (n = 84) think they too will be in these upper two categories of employees within the organization. Despite the fact that the education respondents, as on the previous item, do not express high ambitions in terms of the positions they envision for themselves, on this item 65.9% (n = 87) of the education respondents see themselves in the upper

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9 The breakdown of the responses to this item and all other leadership aspiration items, by gender and curriculum, can be found in Appendix L.
echelons of the organization. Or do they? This questionnaire item was specifically worded so that respondents would rate their place in the organizational hierarchy; however, it may be that instead the education students rated their performance relative to other teachers, rather than rating their position in the organization. Forty-nine percent of the education respondents think they will be in the upper half, but not the top 10% of all employees, a larger proportion than either the business (47%) or the public administration (42%) seniors.

Question 7: "How much money do you think you will be earning five years from now?"

There is a big discrepancy in the way women and men respondents answered this item. Women selected only the bottom five of the eight income categories offered, none chose an income of more than $70,000. Male responses, on the other hand, ran the gamut of the categories from less than $10,000/year to over $100,000/year. Approximately half of the women (n = 109) and men (n = 62) respondents think they will be earning between $25,000 and $39,999 annually in 1997. Only 19.4% of the women (n = 38) think they will earn $40,000 or more, while over one-third (36.6%) of the male respondents (n = 42) envision that they will be making more than $40,000 per year in 1997. Clearly, there is more money to be made in the private sector of business. Ninety-two percent of the education respondents (n = 123) and 74% of the public administration respondents (n = 14) selected annual incomes between $10,000 and $39,999. Eighty-one percent of the business respondents (n = 128) think they will be earning between $25,000 and $54,999 per year 5 years from now.

The next four items address the experience component of the leadership aspiration measurement.
Question 20: "In high school, I ______ had leadership roles in clubs, student
government, or other organizations in which I was a member."

The responses of women and men are comparable on this item, with men indica­
ting slightly more leadership roles in high school. More than half of the women (n = 117) and men (n = 73) respondents indicate leader roles sometimes, usually, or
always in high school. Responses to this item are even across the curricula. More
than half of the business (n = 97), education (n = 82), and public administration (n = 11) respondents report leader roles in high school sometimes, usually, or always.

Question 21: "Please describe those leadership roles, briefly."

The responses to this item were designated as either leader roles or nonleader
roles by the researcher. For example, captain of a sports team, student council offi­
cer, president of a club or organization, and committee chairperson were considered
leadership roles. Those that were not considered leader roles were club memberships,
committee activities, or members of sports teams.

Among the women respondents, 62.5% (n = 120) describe roles that involved
being in charge of a group of people; and among the men respondents, 56.5% (n = 65) describe situations that were considered leadership positions. When these data are
examined by curricula, 64% of the education respondents (n = 87), and 55% of both
business (n = 87) and public administration respondents (n = 11) describe leader roles
in high school.

There is a slight discrepancy in the responses to the two items asking about high
school leadership experience. One would expect that the results of Question 20
(frequency of leader opportunities) and Question 21 (description of leader activities)
would be comparable. A variance would primarily reflect the different interpretation
of leadership by the respondents and the researcher. The results show something else
however. In Question 20, the frequency of women respondents who indicate having leader roles always, usually, or sometimes in high school is less than the actual leader roles they describe in Question 21, whereas the frequency of men respondents who indicate having leader roles always, usually, or sometimes in high school is greater than the actual roles they describe in Question 21. Likewise, the frequency of leader activities in high school of education respondents is less than those they describe in Question 21, and the frequency of leader roles of business respondents is greater than those they later describe. It should be noted that 85% of the education respondents are female. The frequency and description of high school leader activities of public administration respondents is the same for both questions. These data do not suggest a statistical difference, however they do suggest that either (a) women respondents give themselves less credit for real leader activities, while men respondents take credit for nonleader activities; or that (b) women respondents exaggerate their activities when describing them, while men respondents understate their description.

Question 22: "In college, I have ______ had leadership roles in clubs, sororities/fraternities, student government, or other organizations to which I have belonged."

It appears that both women and men in the sample have fewer leader roles in college than in high school, but there is a greater drop for women than men. Only 36.9% of the women (n = 72) indicate that they were sometimes, usually, or always involved in leader activities in college, while 50.4% of the men (n = 58) indicate these same responses. Fifty-five percent of the public administration respondents (n = 11) report leader activities sometimes, usually, or always in college. In contrast, less than half of the business (n = 72) and education (n = 47) respondents selected the same responses. Education respondents indicate the least college activity in leader roles.
**Question 23:** "Please describe these leadership roles, briefly."

These responses were also designated as leader role or nonleader role by the researcher, as described for Question 21. Among the women respondents, 41% (n = 80) describe roles involving leadership, while 49.5% of the men respondents (n = 56) describe leader roles in college. Seventy-three business respondents (46%), 52 education respondents (39%), and 11 public administration respondents (55%) describe leader activities.

The four items that comprise the final component of leadership aspiration address the specific qualities found in leaders.

**Question 24:** "As a professional, I see myself _______ seeking out challenging opportunities which test my skills and abilities."

The responses to this item are relatively equal among the women and men respondents; women think they will push themselves as much as men in their career positions. Among the women respondents, 86.6% (n = 169) think they will seek out challenges usually or always in their career, and 87% of the men respondents (n = 100) selected the same two responses. No one chose never, and only three men in the sample indicate that they seldom see themselves testing their skills and abilities. The responses are even across the curricula. The vast majority of the business respondents (89%), education respondents (84%), and public administration respondents (85%) think they will usually or always seek out opportunities in their professional career.

**Question 25:** "I _______ seem to have the ability to influence my peers."

The responses to this item are almost even among women and men in the sample. Among the women respondents, almost three-quarters (n = 143) think they usually or always can influence their peers, and the same percentage of men respondents (n =
84) think they have influence with their peers usually or always. There is a slight gap in the responses of the business and public administration students' ability to influence their peers. In response to this question, 75.8% of the business respondents (n = 119), 70.9% of the education respondents (n = 95), and 65% of the public administration respondents (n = 13) think they usually or always influence their peers.

**Question 26:** "I ______ prefer to be in charge rather than follow the directions of others."

Women respondents indicate less preference for being in charge than men respondents. Approximately half of the women in the sample (n = 104) usually or always prefer to be in charge, while almost three-quarters of the men (n = 85) selected the same preference for being in charge. The majority of business (69.5%) and public administration (65%) respondents prefer to be in charge, compared to only half of the education respondents (n = 67), of whom 85% are female.

**Question 27:** "I am ______ comfortable being a follower rather than a leader."

Women report being slightly more comfortable being a follower than men, according to these sample data. Approximately half of the women (n = 114) and men (n = 57) respondents like being a follower sometimes. One-third of the women (n = 63) and men respondents (n = 42) are comfortable being a follower seldom or never. The responses are even across the curricula. At least half of the respondents in each curriculum like being a follower sometimes. Forty percent of the public administration respondents (n = 8), 33.7% of the business respondents (n = 53), and 32.9% of the education respondents (n = 44) are comfortable being a follower seldom or never.
Female Career

Several of the hypotheses utilize the three questionnaire items that assess the placement of their female classmates in future career roles. The responses to these items are described by gender and curriculum below.

**Question 2:** "Which of the following best describes the role you see your female classmates in, five years from now?"

The response categories for this item are different for academic and nonacademic positions, as described for Question 1 in the leadership aspiration measurement section.

There is a big discrepancy in the career roles women and men in the sample see for females. Sixty-one percent of the women respondents (n = 118) place their female peers in the classroom or responsible for 1-3 persons, while only 34.8% of the men respondents (n = 40) see the same fate for their female classmates. In this sample, women tend to have lower expectations for females than do men. Only 30.8% of the women respondents (n = 60) expect females to be responsible for 4-25 persons, compared to 52.2% of the men respondents (n = 60) who have the same expectation for females. There are major variances between the responses across the curricula. Most of the business (90.3%) and public administration (90%) respondents expect their female classmates to be responsible for up to 25 persons. Eighty-four percent of the future educators (n = 112) place their female peers in the classroom. Sixty percent of the public administration respondents (n = 12), and 42.3% of the business respondents (n = 66) think their female classmates will be responsible for 4-10 persons.10

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10 The breakdown of the responses to this item and all other female career items, by gender and curriculum, can be found in Appendix M.
Question 5: "When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for your female classmates five years from now?"

There is little variation in the responses to this item. Fifty-four percent of the sample expect that women will be somewhere in the middle of the organizational hierarchy in 1997; approximately half of the women (n = 100) and men respondents (n = 57) selected this response. A similar distribution of responses exists across the curricula, with roughly half of the respondents from each curriculum projecting their female classmates in the middle of the organization.

Question 8: "How much money do you think most of your female classmates will be making five years from now?"

The women in this sample project lower salaries for their female peers, than do the men in the sample. Sixty-five percent of the men respondents (n = 75) think their female classmates will earn between $25,000 - $39,999, while only 56.1% of the women respondents (n = 109) selected that income category. There are differences across the curricula in the way females' earning power is envisioned. Almost two-thirds of the business respondents (n = 101) expect their female peers to make $25,000 - $39,999, while only half of the education (n = 73) and public administration respondents (n = 10) selected the same income category.

Male Career

Several of the hypotheses utilize the three questionnaire items that assess the placement of their male classmates in future career roles. The responses to these items are described by gender and curriculum below.
Question 3: "Which or the following best describes the role you see your male classmates in, five years from now?"

As in the previous section, the response categories are distinct for both academic and nonacademic positions, as described for Question 1 in the leadership aspiration measurement section.

There is a big discrepancy in the career roles women and men in this sample see for males. Fifty-one percent of the women respondents (n = 99) place their male peers as a classroom teacher or responsible for 1-3 persons, while 41% of the men respondents (n = 47) see their male class-mates as specialists or responsible for 4-10 persons. It is not surprising that future educators see their male peers as teachers, 75.9% of the education respondents (n = 101) place their male peers in the classroom. Over half of the public administration respondents (n = 10), and more than one-third of the business respondents (n = 61) think their male classmates will be responsible for 4-10 persons. 11

Question 6: "When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for your male classmates five years from now?"

There is some discrepancy in the responses to this item. While 83.5% of the women respondents (n = 163) think their male peers will be somewhere in the middle or in the upper half, but not the top 10%. 94.7% of the men respondents (n = 109) think their male classmates will be in the same place in the organizational hierarchy in 1997. Twenty-seven women respondents (13.8%) placed their male classmates in the top 10% of all employees. A similar distribution of responses exists across the curric-

11 The breakdown of the responses to this item and all other male career items, by gender and curriculum, can be found in Appendix N.
ula. Ninety-one percent of the business respondents (n = 143), 82.6% of the education respondents (n = 110), and 95% of the public administration respondents (n = 19) rank their male peers somewhere in the middle or in the upper half, but not the top 10%.

**Question 9:** "How much money do you think most of your male classmates will be making five years from now?"

There is a difference in the salaries women and men of this sample project for their male peers. Sixty-six percent of the men respondents (n = 76) think their male classmates will earn between $25,000 - $39,999, while only 53.3% of the women respondents (n = 103) have the same income expectation for their male peers. There are differences across the curricula in the way earning power is envisioned for men. Eighty-two percent of the business respondents (n = 129) and 80% of the public administration respondents (n = 16) think their male peers will earn between $25,000 and $54,999. The education respondents have lower expectations for their male peers, 84.8% (n = 112) envision them earning between $10,000 and $39,999 per year.

**Gender-Role Orientation**

In order to understand the gender-role attitudes of the respondents, it is helpful to look at the collective responses to the specific questionnaire items used for its measurement.

**Question 10:** "Men are _____ better leaders than women."

This item elicited only a slight difference in responses for women and men of the sample. Ninety-two percent of the sample think that men are better leaders than women usually or sometimes, with 89.1% of the women (n = 173) and 96.5% of the
men (n = 110) giving this response. The responses were similar across the curricula; 95% of the public administration respondents (n = 19), 94.9% of the business respondents (n = 149), and 87.7% of the education respondents (n = 115) think men are usually or sometimes better leaders than women. Three women education respondents think women are never better leaders than men.12

**Question 11**: "It is ______ more important for a man to prepare for a career than it is for a woman to prepare for a career."

This item elicited a sizable difference in the responses of women and men. In response to this question, 68.3% of the women respondents (n = 132) think it is seldom or never more important for men to prepare for careers, compared to 45% of the men respondents (n = 51). Education and public administration respondents think preparing for a career is important not only for men. The business respondents reacted evenly to usually, sometimes, seldom, and never; while slightly less than half of the education respondents (n = 60) and public administration respondents (n = 9) think career preparation is never more important for men.

**Question 12**: "Women should _____ take an active role in solving the intellectual and social problems of the day."

There is a slight difference in the way women and men respondents reacted to this item. Ninety-two percent of the women respondents (n = 178) feel that women should usually or always, take an active role in solving intellectual and social problems, while only 77.3% of the men respondents (n = 89) responded similarly. Slightly different responses were given across the curricula. Public administration respondents (65%) and education respondents (68.9%) are more inclined to think that

12 The breakdown of the responses to this item and all other gender-role orientation items, by gender and curriculum, can be found in Appendix O.
women always have an active role to play in solving societal problems, than business respondents (55.4%).

**Question 13:** "It would ____ be difficult to work for a woman."

There is practically no gender difference of the sample in the response to this item. Three-quarters of the sample (n = 241) think it would be difficult to work for a woman sometimes or seldom. Women respondents expect more difficulty with a female supervisor than do men respondents; as 46.3% of the women respondents report that working for a woman would seldom or never be difficult, compared to 52.2% of the men respondents who expect difficulty. The responses were similar across the three curricula, except for three business respondents who think it would always be difficult to work for a woman.

**Question 14:** "Women are ____ too emotional to be effective leaders."

There is a noticeable difference between women's and men's attitudes about this item in the sample. Sixty-six percent of the female respondents (n = 128) feel that women are seldom or never too emotional to be effective leaders. In contrast, 69.4% of the male respondents (n = 79) think women are always, usually, or sometimes too emotional to be effective leaders. Twelve men, 4% of the sample, think that women are always or usually too emotional to be effective in leader roles. Respondents across the curricula have very differing attitudes about whether women are too emotional to be effective leaders. The modal response for public administration students (47.4%) and education students (44.7%) indicates that they think women are seldom too emotional to effectively lead, while the modal response of business students (46.2%) demonstrates that they think women are sometimes too emotional for the role of leader.
**Question 15:** "When the work is essentially equal, it is _____ wrong for women to receive less pay than men."

The majority (88.3%) of the respondents (n = 273) across all curricula think it is **always** wrong for women to get less pay for equal work. There is only a slight difference between the responses of women and men to this item. Of the female respondents, 96.3% (n = 187) indicate that pay discrimination based on gender is **always** wrong, while only 74.8% (n = 86) of the males responded similarly. The responses differ slightly across the curricula, with education respondents reacting with a slightly stronger attitude.

**Question 16:** "Women are _____ unsuited for powerful jobs that require a strong personality."

A slight difference is evident in the responses to this item among women and men in the sample. The modal response for 83 female respondents (42.5%) is that women are **seldom** unsuited for jobs requiring a strong personality, while the modal response for 53 male respondents (46.1%) is that women are **sometimes** unsuitable for these positions. There are small differences across the curricula to this item. Three-quarters of the education respondents (n = 99) report that women are **seldom** or **never** unsuited for powerful jobs.

**Question 17:** "In a relationship, it is _____ acceptable for the woman to be the breadwinner."

A small difference separates the sample responses to this item. The vast majority (90.2%) of the respondents (n = 278) indicate that it is **sometimes, usually, or always** acceptable for women to be breadwinners, across both gender and curricula.
Question 18: "A husband and wife should _____ be equal partners in a marriage."

There is almost no difference between female and male responses to this item in the sample. Eighty-four percent of the sample (n = 260) think husbands and wives should always be equal marriage partners. Five male respondents think that equality in marriage should occur only sometimes. There is a slight variation in the responses across the curricula, with education respondents (89.5%) indicating that equality in a marriage should occur always to a greater degree than public administration respondents (70%). Two business respondents believe this equality should never occur.

Question 19: "Whereas a career is important, a woman's real fulfillment _____ comes from being a wife and mother."

There is almost no difference in the way women and men in the sample answered this item. Three-quarters of the respondents (n = 221) indicate that being a wife and mother is sometimes a woman's real fulfillment. There is a small difference in the attitudes of business and public administration respondents about this item. The public administration respondents (80%) appear to feel more strongly than the other respondents (business--70.1% and education--74%) that a woman's fulfillment sometimes comes from the wife and mother role.

Parental Influence

There are 12 items on the questionnaire intended to measure the degree of parental support the respondents perceived. Responses to these items are examined in the next few pages.

Question 33: "My mother encouraged me to go to college."
Most respondents received maternal encouragement to attend college. Eighty-one percent of the sample (n = 248) indicate that their mother encouraged their going to college, although 23 women report no support from their mother. Men respondents (87.7%, n = 100) report more maternal encouragement than women (76%, n = 148) to attend college; and business respondents (82.1%, n = 128) report more encouragement than, education (78.9%, n = 105) and public administration respondents (78.9%, n = 15) to enroll in college.\(^{13}\)

**Question 34:** "My mother encourages me to complete my bachelor's degree."

In response to this item, the majority (88%) of the sample (n = 273) indicate encouragement from their mothers to finish school. Men respondents (93.9%, n = 107) appear to receive this support to a greater degree than women respondents (84.6%, n = 166). This maternal encouragement to complete their undergraduate degree is consistent across all three curricula in the sample.

**Question 35:** "My mother encourages me to enroll in graduate school."

There is a small difference in the sample in the encouragement women and men get from their mothers for postgraduate work. Women respondents (61.9%, n = 119) receive encouragement for additional schooling to a greater degree than do men respondents (51.3%, n = 57). A larger percentage of men (48.6%, n = 54) than women respondents (38.4%, n = 73) receive no encouragement from their mothers to attend graduate school. The degree of maternal support is similar across the curricula, with public administration respondents (47.4%, n = 9) reporting slightly more encouragement to attend graduate school, and business respondents (21.6%, n = 33) reporting the least.

\(^{13}\) The breakdown of the responses to this item and all other parental influence items, by gender and curriculum, can be found in Appendix P.
Question 36: "My mother encourages me to pursue a career."

Ninety-five percent of the sample report encouragement to some degree from their mothers to pursue a career. There is only a slight variation among women (81.5%, \( n = 115 \)) and men respondents (86.8%, \( n = 99 \)) as to their perception of maternal encouragement to pursue a career. Across the curricula, education respondents (86.5%, \( n = 115 \)) report the most support, then business respondents (81.4%, \( n = 127 \)), and finally public administration respondents (80%, \( n = 16 \)).

Question 37: "My mother encourages me to have children."

There is a noticeable difference in the responses to this item among women and men in the sample. Female respondents (46.9%, \( n = 91 \)) perceive more encouragement from their mothers to have children than male respondents (37.5%, \( n = 42 \)). There is also a wide gap between the responses of the education and public administration students to this item. Half of the education students (\( n = 65 \)) report maternal support, compared to only 25% of public administration students (\( n = 10 \)), who report encouragement from their mothers to have children.

Question 38: "My mother encourages me to accept leadership roles."

Eighty-five percent of the sample perceive maternal encouragement to some degree to accept leader roles. Slightly more than half of the women (\( n = 113 \)) and men respondents (\( n = 61 \)) think their mothers encourage them to accept roles involving leadership. This degree of maternal support is consistent across all three curricula, with slightly over half of each group in the sample reporting encouragement from their mothers.

Question 39: "My father encouraged me to go to college."
Seventy-eight percent of the sample (n = 238) indicate support from their fathers to attend college. There is a small difference between the responses of women and men to this item, with men respondents (80.7%, n = 92) reporting more paternal encouragement to attend college than women respondents (76.4%, n = 146). Business respondents (80.6%, n = 125) report the most paternal encouragement, then educations respondents (76.3%, n = 100), followed by public administration respondents (68.4%, n = 13), who indicate the least support from their fathers to attend college.

**Question 40:** "My father encourages me to complete my bachelor's degree."

Eighty-one percent of those students (n = 242) responding to this question perceive encouragement from their fathers to complete their undergraduate degree. There is a slight variation in the paternal encouragement women (78%, n = 147) and men respondents (84.8%, n = 95) receive to complete college. Paternal support for securing a bachelor's degree among the sample is represented evenly across the curricula.

**Question 41:** "My father encourages me to enroll in graduate school."

Forty-two percent of the sample (n = 123) indicate they receive no paternal support to enter graduate school. There is a small difference in the way women and men respondents answered this item. Male respondents (22.9%, n = 25) are encouraged less by their fathers to attend graduate school than female respondents (33.5%, n = 62). Almost half of the business respondents (n = 72) report that they are not encouraged by their fathers to obtain additional schooling, whereas less than one-quarter of the public administration respondents (n = 4) indicate a similar absence of paternal encouragement.

**Question 42:** "My father encourages me to pursue a career."
Eighty-three percent of the sample perceive paternal support in the pursuit of a career. A slight gender difference is observable in the responses to this item; however, 90.3% of the male respondents (n = 102) and only 79.3% of female respondents (n = 150) report encouragement from their fathers to establish a career. There is no difference in the reactions of respondents from the three curricula, as these students demonstrate paternal support in similar amounts.

**Question 43: "My father encourages me to have children."**

The samples' responses to this item are relatively even across the three response categories. There is a slight difference in the way women and men respondents answered this question. Thirty-five percent of the women respondents (n = 64) receive encouragement from their fathers to have children compared to 25.9% of the men respondents (n = 29). There is a big difference in the reactions of the respondents to this item across the curricula. The public administration respondents (16.7%, n = 3) are encouraged the least by their fathers, and the education respondents (36.5%, n = 46) are encouraged the most by their fathers to have children. Business (40.5%, n = 62) and public administration (55.6%, n = 10) respondents report no paternal support to have children.

**Question 44: "My father encourages me to accept leadership roles."**

The majority (85.3%) of the sample report support from their fathers to some degree to accept leadership roles. Most responses to this question of paternal encouragement are the same for both women and men respondents, although a larger number of women (18.6%, n = 35) are not given support by their fathers to accept leadership positions. There are few differences in the reactions of respondents to this item based on their curriculum. Respondents report similar paternal encouragement for acceptance of leadership roles, across all curricula.
Hypothesis Testing

The purpose of this study was to examine the extent to which women aspire to leadership roles, and to determine if there is a relationship between leader aspiration and several sociological factors. The vehicle by which the various theories are examined is the hypothesis test. The results of the statistical procedures are detailed in this chapter.

Twenty hypotheses were posited to examine the research questions focusing on leader aspiration among university seniors. Each hypothesis is reviewed along with the data and tests used to determine the degree to which it is supported.

**Leader Roles**

**Hypothesis 1:** There is a gender difference in the aspiration to leader roles among university seniors.

\[ H_A: \mu_W < \mu_M \]

Where \( \mu_W \) = mean LA indices of women, and where \( \mu_M \) = mean LA indices of men.

The operationalized hypothesis states that the mean LA indices of women is lower than the mean LA indices of men.

A \( t \) test for independent means was employed to test the difference between the mean LA indices among women and men university seniors. All 311 of the respondents were included in the analysis. There was a mean aspiration differential between female and male university seniors. The mean LA for women (28.5) is less than the mean LA for men (30.5) in the combined scoring of the nine leadership aspiration questionnaire items (see Table 18). The probability that the observed difference
between sample means occurred by chance, if the null is true, is .003, which is less than the alpha level of .10. Therefore, the null hypothesis that the mean LA scores are equal is rejected. These data support the hypothesis that university women seniors have lower aspirations to leader roles than their male counterparts.

Hypothesis 2: There is a difference in the aspiration to leader roles among university seniors, based upon the curriculum in which they are enrolled.

\[ H_A: \mu_B \neq \mu_E, \mu_B \neq \mu_{PA}, \mu_E \neq \mu_{PA} \]

Where \( \mu_B \) = mean LA indices of business seniors, where \( \mu_E \) = mean LA indices of education seniors, and where \( \mu_{PA} \) = mean LA indices of public administration seniors.

The operationalization of this hypothesis is that the mean LA indices of at least one pair of business and education, business and public administration, or education and public administration students are different.

A one-way analysis of variance (ANOVA) was used to test the difference between the mean LA indices of business, education and public administration university seniors. All 311 respondents were included in this analysis. The mean LA for business (30.2) and public administration respondents (30.5) is higher than that of the

Table 18
LA Means for Women and Men

<table>
<thead>
<tr>
<th>Gender</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>28.5</td>
<td>5.61</td>
<td>196</td>
</tr>
<tr>
<td>Male</td>
<td>30.5</td>
<td>6.72</td>
<td>115</td>
</tr>
</tbody>
</table>

Note. \( t = -2.77, p < .003 \). degrees of freedom (df) = 309.
education respondents (27.9). The observed significance level, or probability of .003 is less than the alpha level; therefore, the null hypothesis that the mean LA indices are equal is rejected. The results of the one-way ANOVA are shown in Table 19.

Table 19

<table>
<thead>
<tr>
<th>Curriculum</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>30.2</td>
<td>6.28</td>
<td>157</td>
</tr>
<tr>
<td>Education</td>
<td>27.9</td>
<td>5.41</td>
<td>134</td>
</tr>
<tr>
<td>Public administration</td>
<td>30.5</td>
<td>7.67</td>
<td>20</td>
</tr>
</tbody>
</table>

Note. F = 5.84. p < .003. df = 2, 308.

The LSD Multiple Range procedure indicates a difference in the mean LA indices of the business and education students, and in the mean LA indices of the public administration and education students. This final procedure provides additional support for the premise that students enrolled in the business curriculum and the public administration curriculum have higher aspirations to future leader roles than the students enrolled in the education curriculum.

In order to address the issue of whether there was an interaction between curriculum and gender, an ANOVA was executed. The resultant probability is .223 that a difference in the difference of sample cell means this large or larger occurred by chance, if the simple effects of curriculum are consistent across both levels of gender. This test demonstrates that the interaction between the two variables is not significant at the .10 alpha level.
Hypothesis 3A: Women are projected into high-level, responsible positions in their future careers at a lower rate than men, among university women.

\[ H_A: \mu_{FC} < \mu_{MC} \]

Where \( \mu_{FC} \) = mean FC indices of senior women, and where \( \mu_{MC} \) = mean MC indices of senior women.

The operationalization of this hypothesis states that the mean FC index is less than the mean MC index among women. One hundred eighty-seven (187) students were included in this analysis. A \( t \) test for dependent means was used to detect a difference between the women's mean FC and mean MC indices. The mean FC (7.7) is less than the mean MC (9.0) among women, in the combined scoring of the three female career questionnaire items and the three male career questionnaire items (see Table 20). The probability is almost zero (.000) that a difference in sample means this large or larger occurred by chance; therefore, the null hypothesis that the mean FC and mean MC indices are equal is rejected. This test demonstrates support for the hypothesis that women project females into lower career positions and responsibilities than they do males.

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC</td>
<td>7.7</td>
<td>1.46</td>
<td>187</td>
</tr>
<tr>
<td>MC</td>
<td>9.0</td>
<td>2.02</td>
<td>187</td>
</tr>
</tbody>
</table>

Note. \( t = -10.37. \ p < .000. \ df = 186. \)
Hypothesis 3B: Women are projected into high-level, responsible positions in their future careers at a lower rate than men, among university men.

\[ H_A: \mu_{FC} < \mu_{MC} \]

Where \( \mu_{FC} = \) mean FC indices of senior men, and where \( \mu_{MC} = \) mean MC indices of senior men.

The operationalization of this hypothesis states that the mean FC index is less than the mean MC index among men. The data of 114 respondents was included in this analysis. A \( t \) test for dependent means was used to detect a difference between the men’s mean FC and mean MC indices. The mean FC (8.4) is less than the mean MC (8.9), at the .10 alpha level (see Table 21). The probability is almost zero (.000) that the observed difference in sample means occurred by chance; therefore, the null hypothesis that the mean FC and mean MC indices are equal is rejected. This test provides support for the hypothesis that men, like their female counterparts in this study, project females into lower career positions and responsibilities than they do males.

Table 21

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC</td>
<td>8.4</td>
<td>1.68</td>
<td>114</td>
</tr>
<tr>
<td>MC</td>
<td>8.9</td>
<td>1.62</td>
<td>114</td>
</tr>
</tbody>
</table>

Note. \( t = -4.84, p < .000, df = 113 \).

Hypothesis 4: There is a gender difference in students’ projection of themselves into high-level positions of responsibility in future careers.
HA: $\mu_W < \mu_M$

Where $\mu_W$ = mean SC indices of women, and where $\mu_M$ = mean SC indices of men.

The operationalization of this hypothesis states that the mean SC indices of women is lower than the mean SC indices of men. The data of 309 respondents was included in this analysis. A $t$ test of independent means was used to test the difference between the mean SC indices of women and men. The mean SC (8.5) of women is less than the mean SC (10.1) of men in the combined scoring of the three self-career questionnaire items (see Table 22). The probability is almost zero (.000) that a difference in sample means this large or larger occurred by chance; therefore, the null hypothesis that the mean SC indices of women and men are equal is rejected. These data demonstrate support for the hypothesis that senior women, when asked to project career aspirations for themselves (versus other women), report lower career aspirations than senior men.

Table 22

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>8.5</td>
<td>1.78</td>
<td>194</td>
</tr>
<tr>
<td>Men</td>
<td>10.1</td>
<td>2.85</td>
<td>115</td>
</tr>
</tbody>
</table>

Note. $t_c = -5.93$. $p < .000$. df = 307

A summary of the last two hypotheses illustrates that the mean scores of men are highest for their own career projections (SC), then for their male classmates (MC), and lowest for the career projections of their female classmates (FC). The mean

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scores for women are highest for the career projections of their male peers (MC), then for their own careers (SC), and lowest for the career projections of their female peers (FC). Table 23 illustrates the various mean scores of women and men from this test and the previous two tests.

The next two hypotheses and the various subhypotheses are concerned with the attitudes of the respondents relative to accepted gender roles. As was described in Chapter III, of the 309 respondents with valid GRO indices, only 105 were classified as having either traditional or contemporary gender-role beliefs. Those GRO classifications were made by grouping the students whose scores on the gender-role orientation items were either one standard deviation below or above the mean as traditional or contemporary, respectively. The breakdown of students with these designations, by gender, are shown in Table 16, also in Chapter III. It is this partitioning of women and men by their gender-role assignment that accounts for the small sample sizes in the following section.

Table 23

<table>
<thead>
<tr>
<th>Index</th>
<th>Source (Ranking)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
</tr>
<tr>
<td>FC</td>
<td>7.6551 (3)</td>
</tr>
<tr>
<td>MC</td>
<td>8.9866 (1)</td>
</tr>
<tr>
<td>SC</td>
<td>8.5180 (2)</td>
</tr>
</tbody>
</table>
Gender-Role Orientation

**Hypothesis 5A:** There is a relationship between gender-role orientation and the level of aspiration to leader roles among female university seniors.

\[ H_A: \mu_T < \mu_C \]

Where \( \mu_T \) = mean LA indices of women with traditional GRO values, and where \( \mu_C \) = mean LA indices of women with contemporary GRO values.

The operationalization of this hypothesis states that the mean LA indices of traditional women is lower than the mean LA indices of contemporary women. The data of 59 respondents were included in this analysis. A \( t \) test of independent means was used to test the difference between the mean LA indices of traditional and contemporary women. The mean LA (29.1) of traditional women was not less than the mean LA (29.5) of contemporary women (see Table 24). The probability is .41 that the difference in sample means occurred by chance, if the population means are equal; therefore, the null hypothesis that the mean LA indices of traditional and contemporary women are equal is not rejected when using an alpha level of .10. These data are inconclusive as to whether women with contemporary gender-role beliefs have greater aspirations to leadership than traditional women.

**Table 24**

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>29.1</td>
<td>6.13</td>
<td>19</td>
</tr>
<tr>
<td>Contemporary</td>
<td>29.5</td>
<td>5.82</td>
<td>40</td>
</tr>
</tbody>
</table>

**Note.** \( t = -.23. \ \ p < .41. \ \ df = 57. \)
Hypothesis 5B: There is a relationship between gender-role orientation and the level of aspiration to leader roles among male university seniors.

\[ H_A: \mu_T \neq \mu_C \]

Where \( \mu_T \) = mean LA indices of men with traditional GRO values, and where \( \mu_C \) = mean LA indices of men with contemporary GRO values.

The operationalization of this hypothesis states that the mean LA indices of traditional men is different than the mean LA indices of contemporary men. The data of 46 respondents were included in this analysis. A t test of independent means was utilized to test the difference between the mean LA indices of traditional and contemporary men. The mean LA (30.2) of traditional men was not different from the mean LA (29.7) of contemporary men (see Table 25). The probability is .87 that the difference in sample means occurred by chance, if the population means are equal; therefore, the null hypothesis that the mean LA indices of traditional and contemporary men are equal is not rejected. The possibility of making a Type II error, or retaining a false null is greater than .10. These data are inclusive as to whether there is a difference in leadership aspiration between men with contemporary and traditional gender-role beliefs.

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>30.2</td>
<td>7.16</td>
<td>39</td>
</tr>
<tr>
<td>Contemporary</td>
<td>29.7</td>
<td>6.32</td>
<td>7</td>
</tr>
</tbody>
</table>

Note. \( t = .17. \ p < .87. \ df = 44. \)
It has been discussed in the section on leader roles that both women and men project men into higher career roles. The hypotheses in this section investigated the impact of gender-role orientation upon those same projections of career responsibility, organizational position, and annual salary of classmates.

**Hypothesis 6A**: There is a relationship between traditional gender-role beliefs among students and their projection of women and men in future career positions.

\[ H_A: \mu_{\text{FC}} < \mu_{\text{MC}} \]

Where \( \mu_{\text{FC}} \) = mean FC indices of seniors with traditional GRO values, and where \( \mu_{\text{MC}} \) = mean MC indices of seniors with traditional GRO values.

The operationalization of this hypothesis is that the mean FC indices is lower than the mean MC indices among traditional students. The data of 56 students were included in this analysis. A \( t \) test for dependent means was used to test the difference between the mean FC indices and mean MC indices of traditional students. The mean FC was 8.0, while the mean MC was higher at 9.3, among traditional students (see Table 26). The probability that the observed difference in sample means occurred by chance is almost zero (.000); therefore, the null hypothesis that the mean FC indices and mean MC indices of traditional students are equal is rejected. These data demon-

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC</td>
<td>8.0</td>
<td>1.77</td>
<td>.24</td>
<td>56</td>
</tr>
<tr>
<td>MC</td>
<td>9.3</td>
<td>1.98</td>
<td>.27</td>
<td>56</td>
</tr>
</tbody>
</table>

**Note.** \( t = -5.42. \) \( p < .000. \) df = 55.
strate support for the premise that students with more traditional gender-role beliefs forecast that women will occupy lower career roles than will males.

**Hypothesis 6B:** There is a relationship between contemporary gender-role beliefs among students and their projection of women and men in future career positions.

\[ H_A: \mu_{FC} \neq \mu_{MC} \]

Where \( \mu_{FC} \) = mean FC indices of seniors with contemporary GRO values, and where \( \mu_{MC} \) = mean MC indices of seniors with contemporary GRO values.

The operationalization of this hypothesis is that the mean FC indices is different than the mean MC indices among contemporary students. The data of 45 students was included in this analysis. A \( t \) test for dependent means was used to test the difference between the mean FC indices and mean MC indices of contemporary students. The mean FC (7.6) was less than the mean MC (8.6), among contemporary respondents (see Table 27). The probability that the difference in the sample means occurred by chance is .002, if the null is true; therefore, the null hypothesis that the mean FC and MC indices of contemporary students are equal is rejected. These data demonstrate support for the premise that students with contemporary gender-role beliefs forecast that females will occupy lower career roles than will males.

**Table 27**

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC</td>
<td>7.6</td>
<td>1.63</td>
<td>.24</td>
<td>45</td>
</tr>
<tr>
<td>MC</td>
<td>8.6</td>
<td>2.05</td>
<td>.31</td>
<td>45</td>
</tr>
</tbody>
</table>

*Note. \( t = -3.30. \ p < .002. \ df = 44. \)
Hypothesis 6C: There is a relationship between traditional gender-role beliefs among students and their projection of women in future career positions.

\[ H_A: \mu_W \neq \mu_M \]

Where \( \mu_W \) = mean FC indices of women with traditional GRO values, and where \( \mu_M \) = mean FC indices of men with traditional GRO values.

The operationalization of this hypothesis states that the mean FC indices of traditional women is different than the mean FC indices of traditional men. The data of 56 respondents were included in this analysis. A \( t \) test of independent means was used to test the difference between the mean FC indices of traditional women and men. The mean FC of traditional men was 8.3 compared to the mean FC of traditional women of 7.3 (see Table 28). The observed significance level or probability for this two-tailed test is .03; therefore, the null hypothesis that the mean FC indices of traditional women and men are equal is rejected. These data support the hypothesis that women and men with traditional gender-role beliefs envision different careers roles for females. In this case, men place their female peers in higher career roles than do women.

Table 28

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>7.3</td>
<td>1.36</td>
<td>18</td>
</tr>
<tr>
<td>Men</td>
<td>8.3</td>
<td>1.85</td>
<td>38</td>
</tr>
</tbody>
</table>

Note. \( t = -2.17. \ p < .03. \ df = 54. \)
Hypothesis 6D: There is a relationship between gender-role beliefs among women and their projection of women in future career positions.

$H_A: \mu_T < \mu_C$

Where $\mu_T$ = mean FC indices of women with traditional GRO values, and where $\mu_C$ = mean FC indices of women with contemporary GRO values.

The operationalization of this hypothesis states that the mean FC indices of traditional women is less than the mean FC indices of contemporary women. The data of 56 respondents were included in this analysis. A $t$ test of independent means was used to test the difference between the mean FC indices of traditional and contemporary women. The mean FC (7.3) of traditional women was not less than the mean FC (7.6) of the contemporary women (see Table 29). The probability for this one-tailed test is .24; therefore, the null hypothesis that the mean FC indices of traditional and contemporary women are equal is not rejected. These data are inclusive as to whether traditional women envision lesser careers roles for females, than do contemporary women.

Table 29

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>7.3</td>
<td>1.36</td>
<td>18</td>
</tr>
<tr>
<td>Contemporary</td>
<td>7.6</td>
<td>1.67</td>
<td>38</td>
</tr>
</tbody>
</table>

Note. $t = -.72$, $p < .24$, $df = 54$.

Hypothesis 6E: There is a relationship between gender-role beliefs in women and their projection of men in future career positions.
H_A: \( \mu_T > \mu_C \)

Where \( \mu_T \) = mean MC indices of women with traditional GRO values, and where \( \mu_C \) = mean MC indices of women with contemporary GRO values.

The operationalization of this hypothesis states that the mean MC indices of traditional women is greater than the mean MC indices of contemporary women. The data of 56 respondents were included in this analysis. A \( t \) test of independent means was used to test the difference between the mean MC indices of traditional and contemporary women. The mean MC (9.8) of traditional women was higher than the MC (8.7) of contemporary women (see Table 30). The probability is .05 that the observed difference in sample means occurred by chance, if the population means are equal; therefore, the null hypothesis that the mean MC indices of traditional and contemporary women are equal is rejected. These data demonstrate support for the hypothesis that traditional women place men in higher career roles than contemporary women do.

To summarize the last five hypotheses tests: (a) both traditional and contemporary students envision women in lower career roles than they do for men, (b) tradi-

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>9.8</td>
<td>2.44</td>
<td>18</td>
</tr>
<tr>
<td>Contemporary</td>
<td>8.7</td>
<td>2.14</td>
<td>38</td>
</tr>
</tbody>
</table>

*Note. \( t = 1.67. \ p < .05. \ df = 54. \)
tional women have lower career expectations for females than do traditional men, (c) there is no difference in the expectations for women's career among traditional and contemporary women, and (d) traditional women have higher career expectations for males than do contemporary women.

**Socioeconomic Background**

**Hypothesis 7A:** There is a relationship between the level of aspiration to leader roles and the socioeconomic status among university women.

\[ H_A: \rho_{LA,SES} > 0 \]

Where \( \rho_{LA,SES} \) = the correlation between LA and SES indices of senior women.

This hypothesis operationalized states that the correlation between LA and SES indices of women seniors will be greater than 0.

A correlation procedure was employed to determine whether there is a linear association between leadership aspiration and socioeconomic status among women. The number of respondents included in this analysis was 163. The correlation coefficient is .15 (see Table 31). The probability is .03 that a sample correlation this size was due to sampling error, if the population correlation is zero; therefore, the null hypothesis that there is a positive relationship between LA and SES scores among women is rejected. The possibility of making a Type I error, or rejecting a true null, is less than .10. These data support the hypothesis that women's socioeconomic status is associated with their aspiration to leader roles.

**Hypothesis 7B:** There is a relationship between the level of aspiration to leader roles and the socioeconomic status of university men.

\[ H_A: \rho_{LA,SES} > 0 \]

Where \( \rho_{LA,SES} \) = the correlation between LA and SES indices of senior men.
This hypothesis operationalized states that the correlation between LA and SES indices of men seniors will be greater than 0.

Again, a correlation procedure was employed to determine whether there is a linear association between leadership aspiration and socioeconomic status among men. One hundred men were included in this analysis. The correlation coefficient is -.14 (see Table 31). The exact probability is .92 that the sample correlation occurred by chance, population correlation is zero; therefore, the null hypothesis that there is a positive relationship between LA and SES scores is not rejected. The possibility of making a Type II error is greater than .10. These data are inclusive as to whether men's socioeconomic status is associated with their aspiration to leader roles.

Hypothesis 8A: There is a relationship between women's level of aspiration to leader roles and their mothers' occupational attainment.

$$H_A: \rho_{LA, OCC} > 0$$

Where $\rho_{LA, OCC}$ = the correlation between senior women's LA indices and their mothers' occupations.

<table>
<thead>
<tr>
<th>Source</th>
<th>$\rho$</th>
<th>Decision</th>
<th>n</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>.15</td>
<td>Reject</td>
<td>163</td>
<td>.03</td>
</tr>
<tr>
<td>Men</td>
<td>-.14</td>
<td>No conclusion</td>
<td>100</td>
<td>.92</td>
</tr>
</tbody>
</table>

The operationalization of the hypothesis is that the correlation between women's LA indices and their mothers' occupational ranking is greater than 0.
A correlation procedure was employed to determine whether there is a linear association between leadership aspiration and the occupational ranking of the respondents' mothers. The data of 112 women were included in this analysis. The correlation coefficient is .11 (see Table 32). The exact probability is .13 that a sample correlation this size occurred by chance, if population correlation is zero; therefore, the null hypothesis that there is a positive relationship between a woman's LA index and her mother's occupation is not rejected. The likelihood of making a Type II error, or retaining a false null is greater than .10. These data are inclusive as to whether the occupational attainment of the mother is associated with a woman's aspiration to leader roles.

**Hypothesis 8B:** There is a relationship between men's level of aspiration to leader roles and their mothers' occupational attainment.

\[ H_A: \rho_{LA, OCC} > 0 \]

Where \( \rho_{LA, OCC} \) = the correlation between senior men's LA indices and their mothers' occupations.

The operationalization of the hypothesis is that the correlation between men's LA indices and their mothers' occupational ranking is greater than 0.

A correlation procedure was used to determine whether there is a linear association between leadership aspiration and the occupational ranking of the respondents' mothers. The data of 65 men were included in this analysis. The correlation coefficient is -.20 (see Table 32). The probability is .94 that a sample correlation of this size occurred by chance, if the null is true; therefore, the null hypothesis that there is a positive relationship between women's LA indices and their mothers' occupation is not rejected. These data are inclusive as to whether the occupational attainment of the mother is associated with a man's aspiration to leader roles.
Hypothesis 9A: There is a relationship between leadership aspiration and the mothers' educational attainment among university women.

\[ H_A: \rho_{LA,EDUC} > 0 \]

Where \( \rho_{LA,EDUC} \) = the correlation between senior women's LA indices and their mothers' education.

The operationalization of the hypothesis is that the correlation between women's LA indices and their mothers' educational ranking is greater than 0.

As in the previous hypothesis, a correlation procedure was used to determine whether there is a linear association between leadership aspiration and the educational ranking of the respondents' mothers. One hundred ninety-five women were included in this analysis. The correlation coefficient is .11 (see Table 32). The exact probability is .06 that a sample correlation of this size occurred due to sampling error, if the population correlation is zero. Therefore, the null hypothesis that there is a positive relationship between women's LA indices and their mothers' education is rejected. The possibility of making a Type I error is less than .10. These data demonstrate

Table 32

<table>
<thead>
<tr>
<th>Source</th>
<th>( \rho )</th>
<th>Decision</th>
<th>n</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA &amp; mothers' occupation</td>
<td>.11</td>
<td>No conclusion</td>
<td>112</td>
<td>.13</td>
</tr>
<tr>
<td>LA &amp; mothers' education</td>
<td>.11</td>
<td>Reject</td>
<td>195</td>
<td>.06</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA &amp; mothers' occupation</td>
<td>-.20</td>
<td>No conclusion</td>
<td>65</td>
<td>.94</td>
</tr>
<tr>
<td>LA &amp; mothers' education</td>
<td>-.13</td>
<td>No conclusion</td>
<td>114</td>
<td>.92</td>
</tr>
</tbody>
</table>
support for the hypothesis that the educational attainment of the mother is associated with a woman's aspiration to leader roles.

**Hypothesis 9B:** There is a relationship between leadership aspiration and the mothers' educational attainment among university men.

\[ H_A: \rho_{LA,EDUC} > 0 \]

Where \( \rho_{LA,EDUC} \) = the correlation between senior men's LA indices and their mothers' education.

The operationalization of the hypothesis is that the correlation between men's LA indices and their mothers' educational ranking is greater than 0.

A correlation procedure was used to determine whether there is a linear association between leadership aspiration and the educational ranking of the respondents' mothers. One hundred fourteen men were included in this analysis. The correlation coefficient is -.13 (see Table 32). The exact probability is .92 that a sample correlation of this size occurred due to sampling error, if the population correlation is zero. Therefore, the null hypothesis that there is a positive relationship between men's LA indices and their mothers' education is retained. These data are inclusive as to whether the educational attainment of the mother is associated with a man's aspiration to leader roles.

**Parental Influence**

**Hypothesis 10A:** There is a relationship between female seniors' level of aspiration to leader roles and the parental support they perceive.

\[ H_A: \rho_{LA,PAR} > 0 \]

Where \( \rho_{LA,PAR} \) = the correlation between women's LA and PAR indices.

The operationalization of the hypothesis is that the correlation between LA and PAR indices is greater than 0 among women university seniors.
As in the above hypothesis, a correlation procedure was employed to determine whether there is a linear relationship between leadership aspiration and the perceived parental support the female respondents indicated. One hundred eighty-seven women were included in this analysis. The correlation coefficient is .22 (see Table 33) and the exact probability is .001 for this one-tailed test that a sample correlation of this size would occur by chance. Therefore, the null hypothesis that there is a positive relationship between LA and PAR indices among women is rejected. These data support the hypothesis that parental support is associated with aspiration to leader roles among female seniors.

**Hypothesis 10B:** There is a relationship between male seniors' level of aspiration to leader roles and the parental support they perceive.

\[ H_A: \rho_{LA,PAR} > 0 \]

Where \( \rho_{LA,PAR} \) = the correlation between men's LA and PAR indices.

The operationalization of the hypothesis is that the correlation between LA and PAR indices is greater than 0 among male university seniors.

Again, a correlation procedure was employed to determine whether there is a linear relationship between leadership aspiration and the perceived parental support the men indicated. One hundred eleven men were included in this analysis. The correlation coefficient is .02, which indicates almost no linear relationship between the two variables (see Table 33). The exact probability is .43 for this one-tailed test, that a sample correlation of this size would occur by chance. Therefore, the null hypothesis that there is a positive relationship between LA and PAR indices among men is not rejected. The probability of making a Type II error is greater than .10. These data are inclusive as to whether parental support is associated with aspiration to leader roles among male seniors.
Table 33

Correlation Coefficients of LA and PAR

<table>
<thead>
<tr>
<th>Source</th>
<th>$\rho$</th>
<th>Decision</th>
<th>$n$</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>.22</td>
<td>Reject</td>
<td>187</td>
<td>.001</td>
</tr>
<tr>
<td>Men</td>
<td>.02</td>
<td>No conclusion</td>
<td>111</td>
<td>.433</td>
</tr>
</tbody>
</table>

Table 34 shows a summary of the 10 hypotheses tests, including the appropriate test statistic, degrees of freedom, probability value, and the decision of the tests at the .10 alpha level. A brief interpretation is also provided.

Table 34

Hypotheses Results and Interpretation

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Test statistic/Prob. value</th>
<th>Decision</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: $LA_W &lt; LA_M$</td>
<td>$t = -2.77$ [df = 309] (&lt;.003$</td>
<td>Support</td>
<td>Women aspire to leadership less than men.</td>
</tr>
<tr>
<td>2: $LA_B \neq LA_E$, $LA_B \neq LAP_A$, $LA_E \neq LAP_A$</td>
<td>$F = 5.84$ [df = 2, 308] (&lt;.003$</td>
<td>Support</td>
<td>Business and public administration students aspire to leadership more than education students.</td>
</tr>
<tr>
<td>3A: $FC_W &lt; MC_W$</td>
<td>$t = -10.37$ [df = 186] (&lt;.000$</td>
<td>Support</td>
<td>University women project females into lower positions than they do men.</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>Test statistic/ df</td>
<td>Prob. value</td>
<td>Decision</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>3B: FC&lt;sub&gt;M&lt;/sub&gt; &lt; MC&lt;sub&gt;M&lt;/sub&gt;</td>
<td>t = -4.84, df = 113</td>
<td>&lt;.000</td>
<td>Support</td>
</tr>
<tr>
<td>4: SC&lt;sub&gt;W&lt;/sub&gt; &lt; SC&lt;sub&gt;M&lt;/sub&gt;</td>
<td>t = -5.93, df = 307</td>
<td>&lt;.000</td>
<td>Support</td>
</tr>
<tr>
<td>5A: LA&lt;sub&gt;TW&lt;/sub&gt; &lt; LA&lt;sub&gt;CW&lt;/sub&gt;</td>
<td>t = -0.23, df = 57</td>
<td>&lt;.41</td>
<td>No conclusion</td>
</tr>
<tr>
<td>5B: LA&lt;sub&gt;TM&lt;/sub&gt; ≠ LA&lt;sub&gt;CM&lt;/sub&gt;</td>
<td>t = 0.17, df = 44</td>
<td>&lt;.87</td>
<td>No conclusion</td>
</tr>
<tr>
<td>6A: FC&lt;sub&gt;T&lt;/sub&gt; &lt; MC&lt;sub&gt;T&lt;/sub&gt;</td>
<td>t = -5.42, df = 55</td>
<td>&lt;.000</td>
<td>Support</td>
</tr>
<tr>
<td>6B: FC&lt;sub&gt;C&lt;/sub&gt; ≠ MC&lt;sub&gt;C&lt;/sub&gt;</td>
<td>t = -3.30, df = 44</td>
<td>&lt;.002</td>
<td>Support</td>
</tr>
</tbody>
</table>
Table 34—Continued

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Test statistic/ df</th>
<th>Prob. value</th>
<th>Decision</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>6C: $F_{CTW} \neq F_{CTM}$</td>
<td>$t = -2.17$</td>
<td>&lt;.03</td>
<td>Support</td>
<td>Traditional women place females into lower career roles than traditional men.</td>
</tr>
<tr>
<td>6D: $F_{CTW} &lt; F_{CCW}$</td>
<td>$t = -0.72$</td>
<td>&lt;.24</td>
<td>No conclusion</td>
<td>Unable to state whether the placement of females into career positions is different among traditional and contemporary women.</td>
</tr>
<tr>
<td>6E: $MC_{TW} &gt; MC_{CW}$</td>
<td>$t = 1.67$</td>
<td>&lt;.05</td>
<td>Support</td>
<td>Traditional women place males into higher career roles than do contemporary women.</td>
</tr>
<tr>
<td>7A: $LA_{W,SES_W} &gt; 0$</td>
<td>$r = .15$</td>
<td>&lt;.03</td>
<td>Support</td>
<td>There is a positive relationship between leader aspiration and socioeconomic status, among women.</td>
</tr>
<tr>
<td>7B: $LA_{M,SES_M} &gt; 0$</td>
<td>$r = -.14$</td>
<td>&lt;.92</td>
<td>No conclusion</td>
<td>Unable to state whether there is a relationship between leader aspiration and socioeconomic status among men.</td>
</tr>
</tbody>
</table>
Table 34--Continued

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Test statistic/ df</th>
<th>Prob. value</th>
<th>Decision</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>8A: LAₔ, OCCₔ &gt; 0  ( r = .11 )  (&lt;.13 )</td>
<td>No conclusion</td>
<td>Unable to state whether there is a relationship between leader aspiration and mothers' occupation among women.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8B: LAₕ, OCCₕ &gt; 0  ( r = -.20 )  (&lt;.94 )</td>
<td>No conclusion</td>
<td>Unable to state whether there is a relationship between leader aspiration and mothers' occupation among men.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9A: LAₔ, EDUCₔ &gt; 0  ( r = .11 )  (&lt;.06 )</td>
<td>Support</td>
<td>There is a positive relationship between leader aspiration and mothers' education among women.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9B: LAₕ, EDUCₕ &gt; 0  ( r = -.13 )  (&lt;.92 )</td>
<td>No conclusion</td>
<td>Unable to state whether there is a relationship between leader aspiration and mothers' education among men.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10A: LAₔ, PARₔ &gt; 0  ( r = .22 )  (&lt;.001 )</td>
<td>Support</td>
<td>There is a positive relationship between leader aspiration and parental support among women.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypothesis</td>
<td>Test statistic/df</td>
<td>Prob. Value</td>
<td>Decision</td>
<td>Interpretation</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------</td>
<td>-------------</td>
<td>----------</td>
<td>----------------</td>
</tr>
<tr>
<td>10B: $L_{AM}^M,PAR_{M} &gt; 0$ $r = .02$</td>
<td>$&lt; .43$</td>
<td>No conclusion</td>
<td>Unable to state whether there is a relationship between leader aspiration and parental support among men.</td>
<td></td>
</tr>
</tbody>
</table>

The next chapter summarizes the research questions, offers limitations of the study, and presents the implications of the findings, as well as recommendations for utilization of the research results.
CHAPTER V

DISCUSSION AND CONCLUSIONS

The purpose of this study was to examine the extent to which women aspire to leadership roles and to determine if there is a relationship between leader aspiration and several sociological factors. A description of the survey findings and the results of the hypothesis tests have been presented, this chapter summarizes the results within the framework of the research questions. The limitations and implications of the study, as well as the recommendations for use of the findings are also presented.

Discussion of the Findings

The results of the hypotheses tests indicate support for the basic premise of the research, that women have lower career and leadership aspirations and that there is gender-typing of career and leader roles to the extent that women are not projected into potentially powerful positions in the workplace. There is also support for the proposition that women’s aspirations are influenced to a greater degree by selected sociological factors and the role of the parents, than is true for men. The effect of gender-role orientation does not appear to be a determining factor in women's desires for leader roles, as several of the test results were inconclusive. The next section reviews the findings within the context of the research questions.

Research Questions

This study attempted to answer the following research questions:
1. Are there gender differences among university seniors' aspirations to leader positions?

2. Are there differences among university seniors' aspirations to leadership based upon curriculum?

3. Are there gender differences among university seniors in their projections of classmates into career roles?

4. Are there gender differences among university seniors' projections for their own career roles?

5. Does gender-role orientation affect university seniors' aspirations to leadership, and their projections of classmates into future career roles?

6. Are there gender differences in the influence of specific sociological factors upon university senior's aspirations to leader roles?

7. Are there differences in the impact of parental influence upon university seniors' leadership aspirations?

The answer to the first question, whether women and men have different levels of aspiration to leader roles, is affirmative. The hypothesis that addressed this question supports the assertion that there is a difference in the desires women and men have with respect to leadership in their careers.

The results of this study are in agreement with the small amount of research literature relative to leadership aspiration, in that women pursue leader positions less than men and generally have lower career expectations. As cited in Chapter II, Savery (1990) found that on their jobs, women prefer less responsibility and desire promotions, leadership, and status less than men. He also noted that both women and men want challenges in their work, but women have lower ambitions for high positions.

This research found similar results. There is a big discrepancy in how women and men view their career roles; women have lower expectations for themselves.
Although both genders see themselves in the upper echelons of the organizational hierarchy, women expect to make less money than their male classmates. Although women and men have similar experience as leaders in high school and college, their career expectations are less. Women and men are relatively equal in their attitudes about seeking challenging opportunities and the ability to influence their peers, but women are less likely to prefer being in charge than men and are slightly more comfortable following the directions of others.

Clearly women's expectations are lower than their male classmates. Some attitudes may be rooted in a reality where men generally make more money than women. Often it is because of the selection of gender-typed occupations in a society where male-dominated professions are higher-paying than typically female professions. Even in situations where women and men perform the same functions and hold like positions, women are frequently paid less than their male colleagues (Liggett, 1986). Although women may have the experience and specific qualities necessary for leadership, reality or socialization makes them hope for less than their male classmates.

The answer to the second research question, whether there are differences among university seniors' aspirations to leadership based upon curriculum, is also affirmative. The relevant hypothesis indicates that there are aspirational differences in students enrolled in the business and public administration curricula compared to the students enrolled in the education curriculum.

A review of literature establishes that from youth and through adulthood, occupational gender-typing is prevalent. Enrollment patterns in college are often stratified by gender (Albrecht et al., 1977), to the extent that curriculum selections are based upon their relationship to future goals, that are biased by adult roles in the workplace (Eccles & Hoffman, 1984; Farmer & Sidney, 1985).
This study finds that education respondents, 85% of whom are female, place themselves in positions with less administrative responsibility than respondents from the business and public administration curricula. There is a similar attitude about getting ahead in their jobs across curricula, but the business respondents think they will make more money. Clearly this reflects the fact that education jobs are lower paying than jobs in the private sector. There are few differences across the curricula relating to leadership experience. Respondents from all three curricula are ambitious in extending themselves professionally. There is a considerable gap between the business and public administration respondents' ability to influence their peers, with business respondents being much surer of this attribute. The education respondents indicate less preference for being in charge than the respondents from the other curricula. Of all the respondents, it is the public administration seniors who are the least comfortable being followers. Respondents enrolled in the predominantly male business curriculum and in the public administration curriculum have higher aspirations to leadership than respondents in the typically female education curriculum.

The answer to the third research question, whether there are differences among university seniors in their projections of classmates into career roles based upon gender, is affirmative. The hypothesis relevant to this research question suggests that female university seniors are projected into responsible positions in future careers at a lower rate than are male university seniors.

These results come as no surprise after reading the leadership literature. In particular, Brown's (1979) conclusions from his review of research are that women are seen as ineffective leaders and that they lack the personal characteristics associated with leadership. Nieva and Gutek (1981), too, found that women are seen as lacking the necessary attributes for leadership.
This study supports prior research in this area. Students project females into lower career roles with less leader potential than males. Women are projected into jobs with less administrative responsibility, that are in the middle of the organization, earning equal or less money than men. A comparison of the scores of the female career projections for women and men reveals that men project females into higher career roles than do women. Perhaps men have higher expectations of women and don't realize, all things being equal (age, experience, and education), the gender-bias and discrimination that exist in the workplace. According to these data, males will have more responsibility, be higher in the organization, and earn more salary than women presumably of the same age, experience, and education. The only difference is gender.

The answer to the fourth research question, whether women and men project themselves into different career roles, is affirmative. The relevant hypothesis provides support for the premise that there are gender differences in university seniors' career aspirations.

The majority of studies on career aspiration concur that gender stereotypes can account for lower occupational aspirations in females. The foundation for these findings are that career aspirations are rooted in the ethos of a society, so that women and men aspire to gender-appropriate jobs and roles within the jobs (Duberman, 1975).

The findings of this study follow the general trend of the empirical literature, that is that females expect less of themselves in careers than do males. As university seniors envision their careers, it becomes apparent that women see themselves in positions with less administrative responsibilities, in positions slightly lower in the organizational hierarchy, and in positions that pay less than those envisioned by men. Both women and men have the greatest expectations for the careers of men. Men have the highest hopes first for their own career progress, then for their male classmates, and
rate their female classmates' careers lowest. Women, too, give their highest rating of
career progress to their male peers, then for their own career, and finally rate their
female peers' lowest. Women apparently have low aspirations for their female peers,
as well as themselves. This lower anticipation for women is reality based, as there are
fewer role models of women in leader positions for young women to emulate.

The fifth research question, whether the gender-role orientation of university
seniors affects their aspirations to leadership and their projections of classmates into
future career roles, cannot be answered. The findings are inclusive. The data analy­
ses did not demonstrate that (a) students' gender-role orientation influences their
desires for leader roles, or that (b) students' gender-role orientation affects the way
they view their classmates' future careers.

Prior research demonstrates that sex-role ideology, or gender-role socialization,
shapes one's expectations and choices; and that of all factors, gender is the determi­
nant of behavior and achievement (MDOE, 1990). There is further evidence that sex-
role ideology influences career ambitions among women, where traditional girls desire
occupations that are typically female, and girls with feminine orientations see different
career opportunities (Liben & Bigler, 1987). Sex-role attitudes were shown to be
related to career expectations in women in whether they expect to be in sex-typical or
sex-atypical jobs (Lyson & Brown, 1982).

These results do not support previous research findings. There are only small
differences among female and male university seniors based upon gender-role atti­
tudes. Leadership aspiration was not different among traditional and contemporary
women or men. It was anticipated that gender-role beliefs would not affect the
ambition of men, however it was expected that the more contemporary women would
have greater ambition to leadership than her more conservative female classmate.
When the students were asked to speculate upon the careers of their classmates, both the traditional and contemporary respondents view women in lower career roles than they do men. As with leadership aspiration, it is no surprise that the more traditional students would envision women in lesser roles, but it was anticipated that the more contemporary student would see females on a more equal plane than does the traditional student. There is the possibility that these results demonstrate a vision based in reality; for in the workplace, women do have positions with less responsibility, that are lower in the organizational structure, and that pay less. The results may reflect that reality-based attitude among the respondents.

When the students with traditional gender-role attitudes were isolated and asked to speculate upon the careers of their female classmates, the women projected their female classmates into lesser positions than did the men. When the women's responses were isolated, among traditional and contemporary females, (a) there was no difference in their projection of women into career roles, but (b) there was a difference in their projection of men into career roles. Traditionally oriented women placed men in higher career roles than did contemporary women. These attitudes could be based upon reality, and they could also indicate that women have low expectations of other women. In addition, these results support the premise that the more conservative person expresses an attitude that reflects the gender-appropriate roles of women and men.

If the gender-role items are a good measure of the gender-role orientation, these results suggest that a woman's ideas about gender-roles may not impact her ambition to lead. There is also the possibility that the gender-role items were not good measures of how students really feel about the appropriateness of certain behaviors of women and men, a point that is discussed later in this chapter.
The answer to the sixth research question, whether there is a gender difference in the influence of specific sociological factors upon university senior's aspirations to leader roles, is both affirmative and inconclusive. The sociological factors identified in this study are socioeconomic status (SES), the mothers' occupational level, and the mothers' educational level. Although the occupational and educational level of the respondents' parents are components of the SES ranking, this research aimed to examine the relationship between the leadership aspiration of women and the occupational and educational attainment of their mothers, separately. The purpose was to determine whether a mother with a highly rated occupation or a high level of schooling would increase her daughter's career ambitions. Having tested that theory, the same relationship among males and their mothers was examined.

The hypotheses relevant to leader aspiration and SES establishes that the women's ambitions are influenced by their socioeconomic status. The other pertinent hypotheses are inconclusive as to whether either gender's aspiration is affected by the level of their mothers' occupation, and only the women's ambition is influenced by the mothers' educational level.

Prior research suggests that gender roles are defined differently in different social strata, in that lower class children have more traditional attitudes about feminine and masculine roles. These attitudes contribute to the aspirations these children develop, according to Duberman (1975). People from low incomes have conservative values about women's roles. Prior research has demonstrated that female high school students are more influenced by social origin than intelligence in the expression of aspirations. Males are more influenced by intelligence than SES, as the basis of their career aspirations (Danziger, 1983). High SES high school girls are more likely than low SES girls to consider male jobs, and less likely to consider female jobs (Hannah & Kahn, 1989).
The findings of this study follow the trends of previous research. The results indicate that there is a relationship between SES and leadership aspiration among women, but are inconclusive about the relationship among men. One can conclude that the SES of female university seniors is directly related to the degree to which they aspire to leadership roles. In contrast the affect of the socioeconomic standing of the family of male university seniors' on their leader ambitions is inconclusive.

The results of this research were inconclusive in establishing a relationship between university seniors' ambition to leadership in their careers and their mothers' occupation. There is, however, a positive relationship between a woman's aspiration to leadership and her mother's educational attainment. The educational level attained by the mothers is directly related to the degree to which their daughters aspire to leader roles. The results are inconclusive as to the affect of the mothers' educational attain­ment on the leadership aspirations of men.

It appears that there are two sociological influences upon women in the development of their aspirations for leader roles. Socioeconomic status and maternal educational attainment positively affect this ambition for potential leadership among women.

The answer to the final question, whether there is a gender difference in the impact of parental support upon university seniors, is both affirmative and inconclusive. The hypotheses that address this query establishes that women are influenced by their parents' support in the development of leadership aspiration, but the results are inconclusive as to whether parental support influences men's aspiration to leadership.

Prior research suggests that feedback from parents is the primary influence in the development of aspirations for females and males (Danziger, 1983). Almost all of the research indicates that occupational expectations are positively related to perceived parental support, for both genders, although women particularly, can be affected by
their mothers' gender-role attitudes in their expectations for themselves (Almquist, 1977).

This research found that there is a relationship between women's aspiration to leadership and parental encouragement. The data provide support for the theory that the degree of parental support influences the level of aspiration to leader roles for women. The results of this study are inconclusive as to whether the ambition for leadership expressed by men is affected by the support they receive from their parents. From the sample data, slight differences are evident in the amount of parental support respondents report for particular activities. For example, daughters report slightly less encouragement from parents than sons to go to college and get their bachelor's degree, although once in college, the daughters report more parental support than sons to attend graduate school. Sons report more parental encouragement to pursue careers than daughters, while both daughters and education students are encouraged the most by their parents to have children. Sons and business students report more parental encouragement to accept leadership positions, than daughters, education, and public administration students. Finally, business students report less parental support to attend graduate school than either education or public administration students.

Limitations

It was stated in an earlier chapter that accepted or established items to measure gender-role beliefs are either absent from or obscured in the literature. Therefore, such items were constructed for this research. Chapter III described the analysis of the gender-role orientation items, in which an index of discrimination was computed for each item. Scores from 10 traditional students and 10 contemporary students were used in the computation of these indices. The possible range of scores was 10-50.
points, and the actual range of scores was 30-49 points. This scoring from the mid­
point to the contemporary side of the scale could indicate that either the wording of the
items was biased toward a contemporary answer, or that the answers reflecting con­
servative attitudes are more difficult to avow. Regardless, it introduces a caveat with
regard to the validity of these items. In addition, almost all of the hypotheses enlisting
the GRO index, which is a compilation of the gender-role orientation items, were
statistically nonsignificant.

There are two questionnaire items designed to assess parental influence that could
have been worded differently and whose modification would have elicited a better
measurement of the concept. The two items asking the degree of encouragement of
the mother and the father are below:

Question 37: "My mother encourages me to have children."
Question 43: "My father encourages me to have children."
The suggested rewording of these items is as follows:

Question 37: My mother encourages me to start a family.
Question 43: My father encourages me to start a family.

The modified items would have been more discriminative in detecting the natural
desire of parents to want grandchildren someday (items as written), and the desire of
parents to have their children begin a family now (items as modified).

The compilation of the socioeconomic status index utilized three questionnaire
items: (1) the score of occupation of the parent who was designated as the chief
provider, (2) the score of the chief provider's educational level, and (3) the score of
the household income. The resultant SES index was used to determine the correlation
between students' SES and their leadership aspiration index. Correlation procedures
require that both variables are measured on interval scales. The income categories, as
shown below, are ordinally scaled. This scaling of the SES variable may diminish the results of the hypothesis test.

1 □ less than $10,000 per year
2 □ $10,000 - $24,999 per year
3 □ $25,000 - $49,999 per year
4 □ $50,000 - $99,999 per year
5 □ more than $100,000 per year
6 □ don't know

There are two items in the measurement of the leadership aspiration index in which a score of zero was given when there was no response to the items. The two items requested students to describe (in an open-ended question) the leadership roles they had in high school and college, respectively, as shown below.

Question 21: "Please describe these leadership roles, briefly."
Question 23: "Please describe these leadership roles, briefly."

There was no response category to allow respondents to indicate leader roles they may have had without describing them. It was assumed that no response to these items was an indication that there were no leader roles, and they were scored accordingly.

Conclusions

The basic question proposed in this research is that of attitudes held by female university seniors toward gender-roles, based in early socialization, and the effect of these attitudes on their aspiration to leader roles in their careers.

This research demonstrates that women hope for less in their careers than do men, in spite of having similar leader experiences and leadership qualities. This study also demonstrates that both women and men have lower career projections for females
than they do for males. If there is no genetic disposition that accounts for this lower confidence in self and in women, then there must be another factor that causes half of the population to have lesser dreams for themselves, and for women in general. That factor has to be an attitude learned early in life that instills a lower sense of worth in females, as a group. It seems clear that experience and ability take a back seat to the societal values that demand certain behaviors of women and men. Prior research places gender-role beliefs as a contributing factor of career aspiration in young people, and it follows that the same belief system would contribute to leadership aspiration. While there are differences in the levels to which women and men aspire to positions of leadership, gender-role orientation, as measured in this research, is not a mitigating factor. Another finding of this study is that students planning careers in business and government have higher aspirations to leadership than those planning careers in education. This research also found that socioeconomic status, the level of the mothers' education, and the perceived parental encouragement affect the degree to which women aspire to leadership, while the results were inconclusive as to whether these same factors influence the extent to which men aspire to leader roles.

Implications of the Findings

The results of this research can be used to explain some of the events in the workplace. The indication of lower career and leadership aspirations of women could account in part for the few number of women in leader roles, but the indication of the gender-typing of career and leadership roles elucidates women's place in the work world to a greater degree. Occupations continue to be strongly gender-typed and discrimination against women in hiring, promotion, and salary in the fields traditionally occupied by males has yet to disappear. Women still receive less encouragement than men to seek positions of political power and influence or to obtain the training neces-
sary to enter traditionally masculine occupations. Explanations of gender-typing occupations cannot be based upon the differences between women and men in their physical capabilities and cognitive abilities, since strength and endurance are irrelevant to successful job performance (Spence & Helmreich, 1978).

In a report studying the experiences of women and men in the workplace from 1972 to 1986, Adelman's (1991) conclusions are startling. Women's educational achievements were superior to men's, but their rewards in the labor market were inferior. Females performed better in high school and college and were more valuable as employees in terms of knowledge-sharing and motivation, but they achieved pay equity in only 7 of 33 major occupations: computer programmer, electrical engineering technician, buyer or purchasing agent, research worker, high school teacher, editor or reporter, and computer equipment operator. The average high school class rank for females exceeded that of males, and their grade point averages were consistently higher in college. Women were more likely than men to have won scholarships. In 1985, for women and men without children with approximately 8 years of work experience, the average salaries were $18,970 and $25,022, respectively. Women with children with similar experience earned an average of $15,016, a lower figure than their childless counterparts because they tended to work in lower-paying fields, such as nursing, health technician, and teacher. Females' educational dreams were less inflated and more realistic than males', in part due to parents' lesser aspirations for their daughters, but women ultimately achieved more. Women bring to the workplace an attitude of sharing information, versus the proprietary view of knowledge that men demonstrate.

Women and companies alike have to realize demographic trends are in women's favor. The late 1990s may bring no more population growth, but may bring a growth in the economy. Women are now better educated than men, holding one-third of the
MBAs, more than half of the accounting degrees, and almost half the law degrees. Women are a valuable resource and employers are losing fortunes of money by leaving women languishing at the bottom or middle levels of management (Minton, 1992).

By the year 2000 women will make up at least 47% of the total work force. Currently, 70% of all women between the ages of 22 and 45 are in the work force. Sixty percent of all married women are working outside the home, and most women, even if they are married, will spend on the average 26 years in the paid work force. That women are in the paid work force and will continue to remain in it is a reality. Women are employed for the same reason that men seek employment; for the income it generates, and yet nationally women are paid $.70 for every dollar paid to a male (American Association of University Women, 1989).

Research indicates that all things being equal (experience, education, and opportunity), women perform as well as men, and yet statistics verify the reality of the disproportionately low levels of women in positions of power. There is evidence of a glass ceiling in the worlds of business, education, and government. Of the Fortune 500 companies, women make up only 4.5% of the directors and 2.6% of the officers (Lublin, 1991). Only 45% of the 89,502 full-time, female faculty members at the nation's colleges and universities had tenure during the 1990-91 school year, compared with 70% of the 225,496 men (Henry, 1991). During the 1980s the number of women who were appointed to federal jobs and nominated for judgeships was half that of the previous administration. These actions shut women out of the policy-making and administrative positions that determine how discretionary federal dollars are spent (Faludi, 1991).
Recommendations

In the past several decades, there has been sufficient research documenting (a) the gender-typing of occupations, (b) the lower aspiration of women as a result of the occupational stereotyping, (c) the large proportion of women in the workplace, (d) the effectiveness of women as leaders, (e) the disproportionately low number of women in leader roles, (f) the efficacy of feminine skills and tactics in workers and leaders, and (g) the need in the workplace for a new paradigm of leadership. In the 1990s when the nation is seeking to increase its productivity, when 64% of the entrants to the workforce will be women, and when it is trying to make the best use of its resources, the time has come to take this information from the vast amount of research and move forward.

The information from this and similar research could be useful to business and government leaders, who after seeing the implications of the gender-typing of work might adopt a new paradigm in the workplace that links ability with ability, rather than ability with gender. This information could be disseminated to sociologists and psychologists so that they can influence the socialization of our children by helping to modify the process, particularly the gender-stereotyping of behavior. This information will be ultimately useful to parents, as it is so pertinent to the development of ego and self-worth in their daughters and sons. Lastly, this information could help educators plan curriculum, for as major socializers of our children, they could do much to change many of the old attitudes about the gender-typing of behavior and roles. Armed with this knowledge, educators could develop curricula that are free of gender-bias and eliminate the subtle, and not so subtle, discrimination that occurs in our classrooms. Any gender-bias sends a message to children that there is one gender that is superior and one gender that is inferior.
Society insists that an individual's gender makes a difference in virtually every domain of human existence. It is time to begin a new era, one that pays attention to the potential of women and men in new roles. An era where human behaviors and personality attributes cease to have gender. An era that allows feminine and masculine roles, and does not value one more than the other. For if the attitudes do not change, the self-concepts of children generated by their socialization will transform cultural myths into self-fulfilling prophecies, especially for females.
Appendix A

Research Questionnaires
Directions for Completing
The College of Business Survey

1. Mark answers on survey
2. Place completed survey in return envelope
3. Mail return envelope to:

Western Michigan University
Department of Educational Leadership
Kalamazoo, MI. 49008-5193
ATTN: Research

The first set of questions asks you to speculate about the career you envision for yourself and your classmates. Please check the box next to the answer that is the closest to your opinion.

1. Which of the following best describes the role you see yourself in, five years from now?

   1. □ employed, responsible for 1-3 persons' work
   2. □ employed, responsible for 4-10 persons
   3. □ employed, responsible for 11-25 persons
   4. □ employed, responsible for 26-50 persons
   5. □ employed, responsible for more than 50 persons
   6. □ other ________________________________
   0 □ not employed
2. Which of the following best describes the role you see your female classmates in, five years from now?

1. [ ] employed, responsible for 1-3 persons' work
2. [ ] employed, responsible for 4-10 persons
3. [ ] employed, responsible for 11-25 persons
4. [ ] employed, responsible for 26-50 persons
5. [ ] employed, responsible for more than 50 persons
6. [ ] other ________________________________
7. [ ] not employed

3. Which of the following best describes the role you see your male classmates in, five years from now?

1. [ ] employed, responsible for 1-3 persons' work
2. [ ] employed, responsible for 4-10 persons
3. [ ] employed, responsible for 11-25 persons
4. [ ] employed, responsible for 26-50 persons
5. [ ] employed, responsible for more than 50 persons
6. [ ] other ________________________________
7. [ ] not employed

4. When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for yourself five years from now?

In the top 10% of all employees  In the upper half, but not the top 10%  Somewhere in the middle  In the lower half, but not bottom 10%  In the lower 10% of all employees

5 [ ] 4 [ ] 3 [ ] 2 [ ] 1 [ ]
5. When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for your female classmates five years from now?

<table>
<thead>
<tr>
<th>In the top 10% of all employees</th>
<th>In the upper half, but not the top 10%</th>
<th>Somewhere in the middle</th>
<th>In the lower half, but not bottom 10%</th>
<th>In the lower 10% of all employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

6. When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for your male classmates five years from now?

<table>
<thead>
<tr>
<th>In the top 10% of all employees</th>
<th>In the upper half, but not the top 10%</th>
<th>Somewhere in the middle</th>
<th>In the lower half, but not bottom 10%</th>
<th>In the lower 10% of all employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

7. How much money do you think you will be earning five years from now?

1. □ less than $10,000/year
2. □ $10,000 - $24,999/year
3. □ $25,000 - $39,999/year
4. □ $40,000 - $54,999/year
5. □ $55,000 - $69,999/year
6. □ $70,000 - $84,999/year
7. □ $85,000 - $99,999/year
8. □ $100,000 or more/year
8. How much money do you think most of your female classmates will be making five years from now?

1. less than $10,000/year
2. $10,000 - $24,999/year
3. $25,000 - $39,999/year
4. $40,000 - $54,999/year
5. $55,000 - $69,999/year
6. $70,000 - $84,999/year
7. $85,000 - $99,999/year
8. $100,000 or more/year

9. How much money do you think most of your male classmates will be making five years from now?

1. less than $10,000/year
2. $10,000 - $24,999/year
3. $25,000 - $39,999/year
4. $40,000 - $54,999/year
5. $55,000 - $69,999/year
6. $70,000 - $84,999/year
7. $85,000 - $99,999/year
8. $100,000 or more/year

The next set of questions asks you for your opinion about the various roles women and men perform in society. Check the word that makes the sentence reflect your thoughts.

10. Men are _______ better leaders than women.

Always  Usually  Sometimes  Seldom  Never
1  2  3  4  5
11. It is ________ more important for a man to prepare for a career than it is for a woman to prepare for a career.

```
Always  Usually  Sometimes  Seldom  Never
1        2          3            4         5
```

12. Women should ________ take an active role in solving the intellectual and social problems of the day.

```
Always  Usually  Sometimes  Seldom  Never
3        4          5            2         1
```

13. It would ________ be difficult to work for a woman.

```
Always  Usually  Sometimes  Seldom  Never
1        2          3            4         5
```

14. Women are ________ too emotional to be effective leaders.

```
Always  Usually  Sometimes  Seldom  Never
1        2          3            4         5
```

15. When the work is essentially equal, it is ________ wrong for women to receive less pay than men.

```
Always  Usually  Sometimes  Seldom  Never
3        4          5            2         1
```
16. Women are ______ unsuited for powerful jobs that require a strong personality.

   Always  Usually  Sometimes  Seldom  Never
   □  □  □  □  □
   1 2 3 4 5

17. In a relationship, it is ______ acceptable for the woman to be the breadwinner.

   Always  Usually  Sometimes  Seldom  Never
   □  □  □  □  □
   5 4 3 2 1

18. A husband and wife should ______ be equal partners in a marriage.

   Always  Usually  Sometimes  Seldom  Never
   □  □  □  □  □
   5 4 3 2 1

19. Whereas a career is important, a woman's real fulfillment ______ comes from being a wife and mother.

   Always  Usually  Sometimes  Seldom  Never
   □  □  □  □  □
   1 2 3 4 5
The next section asks questions about your experiences as a leader, and your opinions about leadership. Again, please check the word that makes the sentence reflect your thoughts.

20. In high school, I ______ had leadership roles in clubs, student government, or other organizations in which I was a member.

Always Usually Sometimes Seldom Never

21. Please describe those leadership roles, briefly.

22. In college, I have ______ had leadership roles in clubs, sororities/fraternities, student government, or other organizations to which I have belonged.

Always Usually Sometimes Seldom Never
23. Please describe these leadership roles, briefly.

24. As a professional, I see myself ______ seeking out challenging opportunities which test my skills and abilities.

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>5</td>
<td>Always</td>
</tr>
<tr>
<td>4</td>
<td>Usually</td>
</tr>
<tr>
<td>3</td>
<td>Sometimes</td>
</tr>
<tr>
<td>2</td>
<td>Seldom</td>
</tr>
<tr>
<td>1</td>
<td>Never</td>
</tr>
</tbody>
</table>

25. I ______ seem to have the ability to influence my peers.

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Always</td>
</tr>
<tr>
<td>4</td>
<td>Usually</td>
</tr>
<tr>
<td>3</td>
<td>Sometimes</td>
</tr>
<tr>
<td>2</td>
<td>Seldom</td>
</tr>
<tr>
<td>1</td>
<td>Never</td>
</tr>
</tbody>
</table>

26. I ______ prefer to be in charge rather than follow the directions of others.

<table>
<thead>
<tr>
<th>Level</th>
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</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Always</td>
</tr>
<tr>
<td>4</td>
<td>Usually</td>
</tr>
<tr>
<td>3</td>
<td>Sometimes</td>
</tr>
<tr>
<td>2</td>
<td>Seldom</td>
</tr>
<tr>
<td>1</td>
<td>Never</td>
</tr>
</tbody>
</table>
27. I am ________ comfortable being a follower rather than a leader.

Always  Usually  Sometimes  Seldom  Never

□  □  □  □  □

1  2  3  4  5

The last section asks questions about your family background. Check the box next to the most appropriate answer.

28. Which of the following best describes your mother's educational level?

1  □  did not complete high school
2  □  has high school diploma, or equivalent
3  □  attended some college or trade school
4  □  has college degree
5  □  has post graduate degree
0  □  don't know

29. Which of the following best describes your father's educational level?

1  □  did not complete high school
2  □  has high school diploma, or equivalent
3  □  attended some college or trade school
4  □  has college degree
5  □  has post graduate degree
0  □  don't know
30. What does your mother do? (Is she primarily a homemaker? Is she employed outside the home, if so, what is her profession and/or title? Is she active in community organizations, if so, what organizations and what is her role? Is she president of the church auxiliary, or chairperson of the service league, or a volunteer at the hospital?) If she is retired please describe what she did prior to her retirement.

31. What does your father do? (Does he work, if so what is his position and/or title. Is he active in community organizations, if so what organizations and what is his role? Is he on the school board, a church deacon, or a committee member for the United Way?) If he is retired, please describe what he did prior to his retirement.

32. What is the approximate income of the household in which you were raised?

1 □ less than $10,000 per year
2 □ $10,000 - $24,999 per year
3 □ $25,000 - $49,999 per year
4 □ $50,000 - $99,999 per year
5 □ more than $100,000 per year
6 □ don't know
<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>Yes</th>
<th>Somewhat</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>My mother encouraged me to go to college.</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>34</td>
<td>My mother encourages me to complete my bachelor's degree.</td>
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<td>1</td>
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<tr>
<td>35</td>
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<td>2</td>
<td>1</td>
</tr>
<tr>
<td>37</td>
<td>My mother encourages me to have children.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>38</td>
<td>My mother encourages me to accept leadership roles.</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>39</td>
<td>My father encouraged me to go to college.</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>40</td>
<td>My father encourages me to complete my bachelor's degree.</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
41. My father encourages me to enroll in graduate school. ☐ ☐ ☐

42. My father encourages me to pursue a career. ☐ ☐ ☐

43. My father encourages me to have children. ☐ ☐ ☐

44. My father encourages me to accept leadership roles. ☐ ☐ ☐

Please indicate your age, gender and grade point average. Remember this information is confidential and will only be used for this research.

45. How old are you? ______________ years.

46. Gender:  ☐ female  ☐ male

47. What is your grade point average (G.P.A.)? ______

Thank you very much for taking the time to participate in this important research! Please mail this right away!
Directions for Completing
The College of Education Survey
-----------------------------
1. Mark answers on survey
2. Place completed survey in return envelope
3. Mail return envelope to:
   Western Michigan University
   Department of Educational Leadership
   Kalamazoo, MI. 49008-5193
   ATTN: Research

The first set of questions asks you to speculate about the career you envision for yourself and your classmates. Please check the box next to the answer that is the closest to your opinion.

1. Which of the following best describes the role you see yourself in, five years from now?

   □ classroom teacher
   □ specialist (art, music, reading, etc.)
   □ principal
   □ administrator
   □ superintendent
   □ other ________________________________
   □ not employed
2. Which of the following best describes the role you see your female classmates in, five years from now?

1 [] classroom teacher
2 [ ] specialist (art, music, reading, etc.)
3 [] principal
4 [] administrator
5 [] superintendent
6 [ ] other __________________________
0 [] not employed

3. Which of the following best describes the role you see your male classmates in, five years from now?

1 [] classroom teacher
2 [ ] specialist (art, music, reading, etc.)
3 [] principal
4 [] administrator
5 [] superintendent
6 [ ] other __________________________
0 [ ] not employed

4. When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for yourself five years from now?

<table>
<thead>
<tr>
<th>In the top 10% of all employees</th>
<th>In the upper half, but not the top 10%</th>
<th>Somewhere in the middle</th>
<th>In the lower half, but not bottom 10%</th>
<th>In the lower 10% of all employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
5. When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for your female classmates five years from now?

<table>
<thead>
<tr>
<th>In the top 10% of all employees</th>
<th>In the upper half, but not the top 10%</th>
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<tr>
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<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

6. When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for your male classmates five years from now?

<table>
<thead>
<tr>
<th>In the top 10% of all employees</th>
<th>In the upper half, but not the top 10%</th>
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<tr>
<td>5</td>
<td>4</td>
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<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

7. How much money do you think you will be earning five years from now?

1. □ less than $10,000/year  
2. □ $10,000 - $24,999/year  
3. □ $25,000 - $39,999/year  
4. □ $40,000 - $54,999/year  
5. □ $55,000 - $69,999/year  
6. □ $70,000 - $84,999/year  
7. □ $85,000 - $99,999/year  
8. □ $100,000 or more/year
8. How much money do you think most of your female classmates will be making five years from now?

1  □  less than $10,000/year  
2  □  $10,000 - $24,999/year  
3  □  $25,000 - $39,999/year  
4  □  $40,000 - $54,999/year  
5  □  $55,000 - $69,999/year  
6  □  $70,000 - $84,999/year  
7  □  $85,000 - $99,999/year  
8  □  $100,000 or more/year

9. How much money do you think most of your male classmates will be making five years from now?

1  □  less than $10,000/year  
2  □  $10,000 - $24,999/year  
3  □  $25,000 - $39,999/year  
4  □  $40,000 - $54,999/year  
5  □  $55,000 - $69,999/year  
6  □  $70,000 - $84,999/year  
7  □  $85,000 - $99,999/year  
8  □  $100,000 or more/year

The next set of questions asks you for your opinion about the various roles women and men perform in society. Check the word that makes the sentence reflect your thoughts.

10. Men are ______ better leaders than women.

Always  □  Usually  □  Sometimes  □  Seldom  □  Never  □
11. It is ________ more important for a man to prepare for a career than it is for a woman to prepare for a career.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

12. Women should ________ take an active role in solving the intellectual and social problems of the day.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

13. It would ________ be difficult to work for a woman.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

14. Women are ________ too emotional to be effective leaders.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

15. When the work is essentially equal, it is ________ wrong for women to receive less pay than men.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
16. Women are _______ unsuited for powerful jobs that require a strong personality.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

17. In a relationship, it is _______ acceptable for the woman to be the breadwinner.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

18. A husband and wife should _______ be equal partners in a marriage.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

19. Whereas a career is important, a woman's real fulfillment _______ comes from being a wife and mother.

<table>
<thead>
<tr>
<th>Always</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
The next section asks questions about your experiences as a leader, and your opinions about leadership. Again, please check the word that makes the sentence reflect your thoughts.

20. In high school, I ______ had leadership roles in clubs, student government, or other organizations in which I was a member.

Always  Usually  Sometimes  Seldom  Never

□  □  □  □  □

5  4  3  2  1

21. Please describe those leadership roles, briefly.

22. In college, I have ______ had leadership roles in clubs, sororities/fraternities, student government, or other organizations to which I have belonged.

Always  Usually  Sometimes  Seldom  Never

□  □  □  □  □

5  4  3  2  1
23. Please describe these leadership roles, briefly.

24. As a professional, I see myself _____ seeking out challenging opportunities which test my skills and abilities.

   Always  Usually  Sometimes  Seldom  Never
   □  □  □  □  □
   5  4  3  2  1

25. I ______ seem to have the ability to influence my peers.

   Always  Usually  Sometimes  Seldom  Never
   □  □  □  □  □
   5  4  3  2  1

26. I ______ prefer to be in charge rather than follow the directions of others.

   Always  Usually  Sometimes  Seldom  Never
   □  □  □  □  □
   5  4  3  2  1
27. I am _______ comfortable being a follower rather than a leader.

Always  Usually  Sometimes  Seldom  Never

□ □ □ □ □

1  2  3  4  5

The last section asks questions about your family background. Check the box next to the most appropriate answer.

28. Which of the following best describes your mother's educational level?

1 □ did not complete high school
2 □ has high school diploma, or equivalent
3 □ attended some college or trade school
4 □ has college degree
5 □ has post graduate degree
0 □ don't know

29. Which of the following best describes your father's educational level?

1 □ did not complete high school
2 □ has high school diploma, or equivalent
3 □ attended some college or trade school
4 □ has college degree
5 □ has post graduate degree
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30. What does your mother do? (Is she primarily a homemaker? Is she employed outside the home, if so, what is her profession and/or title? Is she active in community organizations, if so, what organizations and what is her role? Is she president of the church auxiliary, or chairperson of the service league, or a volunteer at the hospital?) If she is retired please describe what she did prior to her retirement.

31. What does your father do? (Does he work, if so what is his position and/or title. Is he active in community organizations, if so what organizations and what is his role? Is he on the school board, a church deacon, or a committee member for the United Way?) If he is retired, please describe what he did prior to his retirement.

32. What is the approximate income of the household in which you were raised?

1  □ less than $10,000 per year
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<th>Somewhat</th>
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<tbody>
<tr>
<td>33.</td>
<td>My mother encouraged me to go to college.</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>34.</td>
<td>My mother encourages me to complete my bachelor's degree.</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>35.</td>
<td>My mother encourages me to enroll in graduate school.</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>36.</td>
<td>My mother encourages me to pursue a career.</td>
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<td>□</td>
</tr>
<tr>
<td>37.</td>
<td>My mother encourages me to have children.</td>
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<td>□</td>
</tr>
<tr>
<td>38.</td>
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<td>□</td>
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<tr>
<td>40.</td>
<td>My father encourages me to complete my bachelor's degree.</td>
<td>□</td>
<td>□</td>
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</tbody>
</table>
41. My father encourages me to enroll in graduate school. | Yes | Somewhat | No |
<table>
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<tr>
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<tr>
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</table>

42. My father encourages me to pursue a career. | Yes | Somewhat | No |
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<tbody>
<tr>
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<td>2</td>
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</tbody>
</table>

43. My father encourages me to have children. | Yes | Somewhat | No |
<table>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

44. My father encourages me to accept leadership roles. | Yes | Somewhat | No |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
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</table>

Please indicate your age, gender and grade point average. Remember this information is confidential and will only be used for this research.

45. How old are you? _______________ years.

46. Gender: □ female □ male

47. What is your grade point average (G.P.A.)? ________

Thank you very much for taking the time to participate in this important research! Please mail this right away!
Directions for Completing
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Kalamazoo, MI. 49008-5193
ATTN: Research

The first set of questions asks you to speculate about the career you envision for yourself and your classmates. Please check the box next to the answer that is the closest to your opinion.

1. Which of the following best describes the role you see yourself in, five years from now?

1 □ employed, responsible for 1-3 persons' work
2 □ employed, responsible for 4-10 persons
3 □ employed, responsible for 11-25 persons
4 □ employed, responsible for 26-50 persons
5 □ employed, responsible for more than 50 persons
6 □ other ________________________________
0 □ not employed
2. Which of the following best describes the role you see your female classmates in, five years from now?

- □ employed, responsible for 1-3 persons' work
- □ employed, responsible for 4-10 persons
- □ employed, responsible for 11-25 persons
- □ employed, responsible for 26-50 persons
- □ employed, responsible for more than 50 persons
- □ other ________________________________
- □ not employed

3. Which of the following best describes the role you see your male classmates in, five years from now?

- □ employed, responsible for 1-3 persons' work
- □ employed, responsible for 4-10 persons
- □ employed, responsible for 11-25 persons
- □ employed, responsible for 26-50 persons
- □ employed, responsible for more than 50 persons
- □ other ________________________________
- □ not employed

4. When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for your yourself five years from now?

- □ in the top 10% of all employees
- □ in the upper half, but not the top 10%
- □ somewhere in the middle
- □ in the lower half, but not the bottom 10%
- □ in the lower 10% of all employees

□ □ □ □ □
5. When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for your female classmates five years from now?

- In the top 10% of all employees □
- In the upper half, but not the top 10% □
- Somewhere in the middle □
- In the lower half, but not bottom 10% □
- In the lower 10% of all employees □

6. When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for your male classmates five years from now?

- In the top 10% of all employees □
- In the upper half, but not the top 10% □
- Somewhere in the middle □
- In the lower half, but not bottom 10% □
- In the lower 10% of all employees □

7. How much money do you think you will be earning five years from now?

- □ less than $10,000/year
- □ $10,000 - $24,999/year
- □ $25,000 - $39,999/year
- □ $40,000 - $54,999/year
- □ $55,000 - $69,999/year
- □ $70,000 - $84,999/year
- □ $85,000 - $99,999/year
- □ $100,000 or more/year
8. How much money do you think most of your female classmates will be making five years from now?

1 □ less than $10,000/year
2 □ $10,000 - $24,999/year
3 □ $25,000 - $39,999/year
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6 □ $70,000 - $84,999/year
7 □ $85,000 - $99,999/year
8 □ $100,000 or more/year

9. How much money do you think most of your male classmates will be making five years from now?

1 □ less than $10,000/year
2 □ $10,000 - $24,999/year
3 □ $25,000 - $39,999/year
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7 □ $85,000 - $99,999/year
8 □ $100,000 or more/year

The next set of questions asks you for your opinion about the various roles women and men perform in society. Check the word that makes the sentence reflect your thoughts.

10. Men are ______ better leaders than women.

Always  Usually  Sometimes  Seldom  Never
1 □  2 □  3 □  4 □  5 □
11. It is ________ more important for a man to prepare for a career than it is for a woman to prepare for a career.

Always    Usually    Sometimes    Seldom    Never
1          2          3          4          5

12. Women should ________ take an active role in solving the intellectual and social problems of the day.

Always    Usually    Sometimes    Seldom    Never
5          4          3          2          1

13. It would ________ be difficult to work for a woman.

Always    Usually    Sometimes    Seldom    Never
1          2          3          4          5

14. Women are ________ too emotional to be effective leaders.

Always    Usually    Sometimes    Seldom    Never
1          2          3          4          5

15. When the work is essentially equal, it is ________ wrong for women to receive less pay than men.

Always    Usually    Sometimes    Seldom    Never
5          4          3          2          1
16. Women are ______ unsuited for powerful jobs that require a strong personality.

Always  Usually  Sometimes  Seldom  Never

1  2  3  4  5

17. In a relationship, it is ______ acceptable for the woman to be the breadwinner.

Always  Usually  Sometimes  Seldom  Never

5  4  3  2  1

18. A husband and wife should ______ be equal partners in a marriage.

Always  Usually  Sometimes  Seldom  Never

5  4  3  2  1

19. Whereas a career is important, a woman's real fulfillment ______ comes from being a wife and mother.

Always  Usually  Sometimes  Seldom  Never

1  2  3  4  5
The next section asks questions about your experiences as a leader, and your opinions about leadership. Again, please check the word that makes the sentence reflect your thoughts.

20. In **high school**, I ______ had leadership roles in clubs, student government, or other organizations in which I was a member.

    | Always | Usually | Sometimes | Seldom | Never |
    |-------|---------|-----------|--------|-------|
    | 5     | 4       | 3         | 2      | 1     |

21. Please describe those leadership roles, briefly.

22. In **college**, I have ______ had leadership roles in clubs, sororities/fraternities, student government, or other organizations to which I have belonged.

    | Always | Usually | Sometimes | Seldom | Never |
    |-------|---------|-----------|--------|-------|
    | 5     | 4       | 3         | 2      | 1     |

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23. Please describe these leadership roles, briefly.

24. As a professional, I see myself _______ seeking out challenging opportunities which test my skills and abilities.

<table>
<thead>
<tr>
<th>Always</th>
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25. I ________ seem to have the ability to influence my peers.

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26. I ________ prefer to be in charge rather than follow the directions of others.

<table>
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<th>Always</th>
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<td>□</td>
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</tr>
</tbody>
</table>
27. I am _______ comfortable being a follower rather than a leader.

Always | Usually | Sometimes | Seldom | Never

□ 1 □ 2 □ 3 □ 4 □ 5

The last section asks questions about your family background. Check the box next to the most appropriate answer.

28. Which of the following best describes your mother's educational level?

1. □ did not complete high school
2. □ has high school diploma, or equivalent
3. □ attended some college or trade school
4. □ has college degree
5. □ has post graduate degree
6. □ don't know

29. Which of the following best describes your father's educational level?

1. □ did not complete high school
2. □ has high school diploma, or equivalent
3. □ attended some college or trade school
4. □ has college degree
5. □ has post graduate degree
6. □ don't know
30. What does your mother do? (Is she primarily a homemaker? Is she employed outside the home, if so, what is her profession and/or title? Is she active in community organizations, if so, what organizations and what is her role? Is she president of the church auxiliary, or chairperson of the service league, or a volunteer at the hospital?) If she is retired please describe what she did prior to her retirement.

31. What does your father do? (Does he work, if so what is his position and/or title. Is he active in community organizations, if so what organizations and what is his role? Is he on the school board, a church deacon, or a committee member for the United Way?) If he is retired, please describe what he did prior to his retirement.

32. What is the approximate income of the household in which you were raised?

   1 □ less than $10,000 per year
   2 □ $10,000 - $24,999 per year
   3 □ $25,000 - $49,999 per year
   4 □ $50,000 - $99,999 per year
   5 □ more than $100,000 per year
   0 □ don't know
<table>
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<tr>
<th></th>
<th>Yes</th>
<th>Somewhat</th>
<th>No</th>
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<tbody>
<tr>
<td>33.</td>
<td>My mother encouraged me to go to college.</td>
<td>3</td>
<td>2</td>
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<tr>
<td>34.</td>
<td>My mother encourages me to complete my bachelor's degree.</td>
<td>3</td>
<td>2</td>
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<tr>
<td>35.</td>
<td>My mother encourages me to enroll in graduate school.</td>
<td>3</td>
<td>2</td>
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<tr>
<td>36.</td>
<td>My mother encourages me to pursue a career.</td>
<td>3</td>
<td>2</td>
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<tr>
<td>37.</td>
<td>My mother encourages me to have children.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>38.</td>
<td>My mother encourages me to accept leadership roles.</td>
<td>3</td>
<td>2</td>
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<tr>
<td>39.</td>
<td>My father encouraged me to go to college.</td>
<td>3</td>
<td>2</td>
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<tr>
<td>40.</td>
<td>My father encourages me to complete my bachelor's degree.</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
41. My father encourages me to enroll in graduate school. □ 3 □ 2 □ 1
42. My father encourages me to pursue a career. □ 3 □ 2 □ 1
43. My father encourages me to have children. □ 1 □ 2 □ 3
44. My father encourages me to accept leadership roles. □ 3 □ 2 □ 1

Please indicate your age, gender and grade point average. Remember this information is confidential and will only be used for this research.

45. How old are you? ______________ years.
46. Gender: □ 1 female □ 2 male
47. What is your grade point average (G.P.A.)? ________

Thank you very much for taking the time to participate in this important research! Please mail this right away!
Appendix B

Letter for Pilot Test
September, 1991

Dear Fellow Student,

You have been randomly selected from the teacher education curriculum to participate in an important study being conducted at Western Michigan University.

I am particularly interested in the plans you have for your career, and the opportunities you foresee within your profession.

There are questions about your opinions on the roles women and men play in today's society, your extracurricular activities in high school and college, and your family background.

All the answers you give will be confidential and will not be used in any way in connection with you or your name. The identification number on the survey is only to help me keep track of the returned surveys. As soon as your survey is received, the ID number will be removed.

Please take five minutes to fill out the enclosed survey and return it today in the accompanying envelope. Your help is greatly appreciated!

Thanks again!

Sincerely,

Barbara K. Kreuzer
4425 Bronson Blvd.
Kalamazoo, MI. 49008

P.S. Any questions? Call me at 388-3280.
Appendix C

Pilot Test Questionnaire
Directions for Completing The College of Education Survey

1. Mark answers on survey
2. Place completed survey in return envelope
3. Mail return envelope to:

Barbara K. Kreuzer
4425 Bronson Blvd.
Kalamazoo, MI. 49008

The first set of questions asks you to speculate about the career you envision for yourself and your classmates. Please check the box next to the answer that is the closest to your opinion.

1. Which of the following best describes the role you see yourself in, five years from now?

1. ☐ classroom teacher
2. ☐ principal
3. ☐ educational specialist (art, music, reading, etc.)
4. ☐ administrator
5. ☐ superintendent
6. ☐ not employed
7. ☐ other ______________________________
2. Which of the following best describes the role you see your female teacher education classmates in, five years from now?

1. □ classroom teacher
2. □ principal
3. □ educational specialist (art, music, reading, etc.)
4. □ administrator
5. □ superintendent
6. □ not employed
7. □ other ________________________________

3. Which of the following best describes the role you see your male teacher education classmates in, five years from now?

1. □ classroom teacher
2. □ principal
3. □ educational specialist (art, music, reading, etc.)
4. □ administrator
5. □ superintendent
6. □ not employed
7. □ other ________________________________

4. Which of the following best describes the position you see for yourself in five years, within the organizational hierarchy in which you will be working?

1. □ In the top 10% of all employees
2. □ In the upper half, but not the top 10%
3. □ Somewhere in the middle
4. □ In the lower half, but not bottom 10%
5. □ In the lower 10% of all employees
5. Which of the following best describes the position you see for your female teacher education classmates in five years, within the organizational hierarchy in which they will be working?

In the top 10% of all employees □
In the upper half, but not the top 10% □
Somewhere in the middle □
In the lower half, but not bottom 10% □
In the lower 10% of all employees □

6. Which of the following best describes the position you see for your male teacher education classmates in five years, within the organizational hierarchy in which they will be working?

In the top 10% of all employees □
In the upper half, but not the top 10% □
Somewhere in the middle □
In the lower half, but not bottom 10% □
In the lower 10% of all employees □

7. How much money do you think you will be earning five years from now?

1 □ less than $10,000/year
2 □ $10,000 - $24,999/year
3 □ $25,000 - $39,999/year
4 □ $40,000 - $54,999/year
5 □ $55,000 - $69,999/year
6 □ $70,000 - $84,999/year
7 □ $85,000 - $99,999/year
8 □ $100,000 or more/year
8. How much money do you think most of your female teacher education classmates will be making five years from now?

1 □ less than $10,000 /year 5 □ $55,000 - $69,999/year
2 □ $10,000 - $24,999/year 6 □ $70,000 - $84,999/year
3 □ $25,000 - $39,999/year 7 □ $85,000 - $99,999/year
4 □ $40,000 - $54,999/year 8 □ $100,000 or more/year

9. How much money do you think most of your male teacher education classmates will be making five years from now?

1 □ less than $10,000 /year 5 □ $55,000 - $69,999/year
2 □ $10,000 - $24,999/year 6 □ $70,000 - $84,999/year
3 □ $25,000 - $39,999/year 7 □ $85,000 - $99,999/year
4 □ $40,000 - $54,999/year 8 □ $100,000 or more/year

The next set of questions asks you for your opinion about the various roles women and men perform in society. Again, check the box that most closely matches your thoughts.

10. Women should take an increasing responsibility for leadership in solving the intellectual and social problems of the day.

   Strongly Agree   Agree   Undecided   Disagree   Strongly Disagree
   1  2  3  4  5
11. Men are much better suited to assume leader roles in education than women.

Strongly Agree Agree Undecided Disagree Strongly Disagree
1  2 3 4 5

12. Women in college are more concerned with getting a husband than with preparing for a career.

Strongly Agree Agree Undecided Disagree Strongly Disagree
1  2 3 4 5

13. A husband and wife should be equal partners in a marriage.

Strongly Agree Agree Undecided Disagree Strongly Disagree
1  2 3 4 5

14. It is all right for a woman to work, but her real fulfillment comes with motherhood.

Strongly Agree Agree Undecided Disagree Strongly Disagree
1  2 3 4 5
15. A women who does the same work as a man should receive the same pay.

16. I would feel uncomfortable if my supervisor at work was a woman.

17. Women are capable of performing as well as men at work outside the home.

18. Most jobs with leadership responsibilities are unsuited to women.
19. Women should work **full-time** only before they have children.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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The next section asks questions about your experiences as a leader, and your opinions about leadership. Please check the appropriate box.

20. In **high school** I had leadership roles in clubs, student government, or other organizations in which I was a member.

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<tr>
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21. Please describe those leadership roles, briefly.

22. In **college**, I have had leadership roles in clubs, sororities/fraternities, student government, or other organizations in which I have belonged.

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<td>5</td>
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</tbody>
</table>
23. Please describe these leadership roles, briefly.

24. As a professional, I see myself seeking out challenging opportunities which test my skills and abilities.

25. I seem to have the ability to influence my peers.

26. I am more comfortable carrying out directions from others, than I am in having to generate the directions myself.
27. I am quite comfortable being a follower, rather than a leader.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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The last section asks questions about your family background. Again, check the box next to the most appropriate answer.

28. Which of the following best describes your mother's educational level?

1. □ did not complete high school
2. □ has high school diploma, or equivalent
3. □ attended some college or trade school
4. □ has college degree
5. □ has post graduate degree
6. □ don't know

29. Which of the following best describes your father's educational level?

1. □ did not complete high school
2. □ has high school diploma, or equivalent
3. □ attended some college or trade school
4. □ has college degree
5. □ has post graduate degree
6. □ don't know
30. What does your mother do? (Is she primarily a homemaker? Is she employed outside the home, if so, what is her profession and/or title? Is she active in community organizations, if so, what organizations and what is her role? Is she president of the church auxiliary, or chairperson of the service league, or a volunteer at the hospital?) If she is retired please describe what she did prior to her retirement.

31. What does your father do? (Does he work, if so what is his position and/or title. Is he active in community organizations, if so what organizations and what is his role? Is he on the school board, a church deacon, or a committee member for the United Way?) If he is retired, please describe what he did prior to his retirement.

32. What is the approximate income of your parent's household?

1 □ less than $10,000 per year
2 □ $10,000 - $24,999 per year
3 □ $25,000 - $49,999 per year
4 □ $50,000 - $99,999 per year
5 □ more than $100,000 per year
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<th>Yes</th>
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<tr>
<td>33. My mother encouraged me to go to college.</td>
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<td>34. My mother encourages me to complete my bachelor’s degree.</td>
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<td>35. My mother encourages me to enroll in graduate school.</td>
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<td>36. My mother encourages me to pursue a career.</td>
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<tr>
<td>37. My mother encourages me to have children.</td>
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<td>38. My mother encourages me to accept leadership roles.</td>
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<td>41. My father encourages me to enroll in graduate school.</td>
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<td>43. My father encourages me to have children.</td>
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<tr>
<td>44. My father encourages me to accept leadership roles.</td>
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</table>

Please indicate your age, gender and grade point average. Remember this information is confidential and will only be used for this research.

45. How old are you? ________________ years.

46. Gender: □ female □ male

47. What is your cumulative grade point average (G.P.A.) _______ ?

Thank you very much for taking the time to participate in this important research! Please mail this right away!
Appendix D

Postcards for Pilot Test
Dear Fellow Student,

October 8, 1991

Last week a questionnaire seeking ideas about your career plans, and your opinions about the career plans of your classmates was mailed to you. Your name was randomly selected from all seniors in the teacher education curriculum.

If you have already completed and returned it please accept my sincere thanks. If not, do so today! Because it has been sent to only a small sample of education majors, it is extremely important that yours be included in the study if the results are to accurately reflect the opinions of WMU students.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me right now (616-388-3280) and I will get another one in the mail to you today.

Sincerely,

Barbara K. Kreuzer
Jane Doe  
000 Elm St.  
Kalamazoo, MI 49007

Dear Jane,

About three weeks ago I wrote to you seeking ideas about your career plans, and your opinions about the career plans of your business classmates. As of today, I have not yet received your completed questionnaire.

This research was undertaken as a part of my doctoral program to obtain the opinions of students about the professional lives they envision for themselves and their classmates. These opinions and your thoughts about the various roles women and men play in society will provide valuable information to educators, sociologists and leaders in business and government.

Because the questionnaires were sent to only a small sample of business and teacher education seniors, it is extremely important that yours be included in the study so the results will accurately reflect the opinions of WMU students.

In the event that your questionnaire has been misplaced, a replacement is enclosed.

Your cooperation is greatly appreciated.

Sincerely,

Barbara K. Kreuzer  
Project Director

Robert O. Brinkerhoff  
Doctoral Committee Chair

P.S. Any questions? Call 616-388-3280.
Appendix F

Item Analysis Questions
The following questions ask for your opinions about the various roles women and men perform in society. Please check the box that most closely matches your thoughts—there is no right or wrong answer!

1. Women should take an active role in solving the intellectual and social problems of the day.

   Always □ Usually □ Sometimes □ Seldom □ Never □

2. Men are much better leaders than women.

   Always □ Usually □ Sometimes □ Seldom □ Never □

3. It is more important for a man to prepare for a career than a woman.

   Always □ Usually □ Sometimes □ Seldom □ Never □

4. A husband and wife should be equal partners in a marriage.

   Always □ Usually □ Sometimes □ Seldom □ Never □

5. In a relationship it is acceptable for either the woman or the man to be the breadwinner.

   Always □ Usually □ Sometimes □ Seldom □ Never □
6. When the work is essentially equal, it is wrong for women to receive less pay than men.

   Always □    Usually □     Sometimes □   Seldom □    Never □

7. It would be difficult to work for a woman.

   Always □    Usually □     Sometimes □   Seldom □   Never □

8. Powerful jobs that require a strong personality are probably not suitable for women.

   Always □    Usually □     Sometimes □   Seldom □   Never □

9. Women can get satisfaction from their careers, but their real fulfillment comes with motherhood.

   Always □    Usually □     Sometimes □   Seldom □   Never □

10. Women are too emotional to be effective leaders.

    Always □    Usually □     Sometimes □   Seldom □   Never □

11. How old are you? _________ years

12. Gender: □ female □ male

   Thank you for helping me with my research!
Appendix G

Instructions to Advisors
November 19, 1991

Dear Reverend Joles,

Thank you for helping me with my research. As per our telephone conversation, I am in the data collection phase of my doctoral dissertation. I am engaged in a process that will validate some items on my data collection instrument. As I mentioned, I need to prove that these items actually measure gender-role beliefs. In order to do that I must subject the items to groups of people who will reflect extreme viewpoints.

Your students will hopefully reflect a traditional value system by the answers they give on the questionnaire. Another group of students are being asked to participate in this validation process, in which a more contemporary value system will be reflected by their answers.

Enclosed you will find 20 sets of questions for students you feel have the strongest beliefs that reflect the teachings of your church. I ask that you give the questions to your students without any of the above information, in order not to bias their responses. After the administration of the questionnaire you may share the particulars of the process with them, if you choose.

Don't hesitate to call me at 388-3280 if you have any questions. I would appreciate it if you could administer these questions as soon as possible. I have enclosed an envelope for mailing them back to me, or I will happily pick them up. Again, thanks for your assistance.

Sincerely,

Barbara K. Kreuzer
4425 Bronson Blvd.
Kalamazoo, MI. 49008
Appendix H

Item Analysis on Gender-Role Orientation
1. Original item, with an index (D) of .5:

Women should take an active role in solving the intellectual and social problems of the day.

Always* Usually Sometimes Seldom Never
5 4 3 2 1

Modified item:

Women should ______ take an active role in solving the intellectual and social problems of the day.

Always* Usually Sometimes Seldom Never
5 4 3 2 1

*correct answer

2. Original item, with an index (D) .3:

Men are much better leaders than women.

Always Usually Sometimes Seldom Never*
1 2 3 4 5

Modified item:

Men are ______ better leaders than women.

Always Usually Sometimes Seldom Never*
1 2 3 4 5

*correct answer
3. Original item, with an index \((D)\) of .7:

It is more important for a man to prepare for a career than a woman.

Always  Usually  Sometimes  Seldom  Never*  
\[ \begin{array}{ccccc}
1 & 2 & 3 & 4 & 5 \\
\end{array} \]

Modified item:

It is ______ more important for a man to prepare for a career than it is for a woman to prepare for a career.

Always  Usually  Sometimes  Seldom  Never*  
\[ \begin{array}{ccccc}
1 & 2 & 3 & 4 & 5 \\
\end{array} \]

*correct answer

4. Original item, with an index \((D)\) of .5:

A husband and wife should be equal partners in a marriage.

Always*  Usually  Sometimes  Seldom  Never  
\[ \begin{array}{ccccc}
5 & 4 & 3 & 2 & 1 \\
\end{array} \]

Modified item:

A husband and wife should ______ be equal partners in a marriage.

Always*  Usually  Sometimes  Seldom  Never  
\[ \begin{array}{ccccc}
5 & 4 & 3 & 2 & 1 \\
\end{array} \]

*correct answer
5. Original item, with an index ($D$) of .7:

In a relationship it is acceptable for either the woman or the man to be the breadwinner.

<table>
<thead>
<tr>
<th>Always*</th>
<th>Usually</th>
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<th>Seldom</th>
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<td>4</td>
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Modified item:

In a relationship, it is _____ acceptable for the woman to be the breadwinner.

<table>
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<tr>
<th>Always*</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

*Correct answer

6. Original item, with an index ($D$) of .1:

When the work is essentially equal, it is wrong for women to receive less pay than men.

<table>
<thead>
<tr>
<th>Always*</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Modified item:

When the work is essentially equal, it is _____ wrong for women to receive less pay than men.

<table>
<thead>
<tr>
<th>Always*</th>
<th>Usually</th>
<th>Sometimes</th>
<th>Seldom</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

*Correct answer
7. Original item, with an index (D) of .5:

It would be difficult to work for a woman.

Always  Usually  Sometimes  Seldom  Never*
1  2  3  4  5

Modified item:

It would ______ be difficult to work for a woman.

Always  Usually  Sometimes  Seldom  Never*
1  2  3  4  5

*correct answer

8. Original item, with an index (D) of 1.00

Powerful jobs that require a strong personality are probably not suitable for women.

Always  Usually  Sometimes  Seldom  Never*
1  2  3  4  5

Modified item:

Women are ______ unsuited for powerful jobs that require a strong personality.

Always  Usually  Sometimes  Seldom  Never*
1  2  3  4  5

*correct answer
9. Original item, with an index (D) of .1:

Women can get satisfaction from their careers, but their real fulfillment comes with motherhood.

Always   Usually   Sometimes   Seldom   Never*
1         2         3         4         5

Modified item:

Whereas a career is important, a woman's real fulfillment comes from being a wife and mother.

Always   Usually   Sometimes   Seldom   Never*
1         2         3         4         5

*correct answer

10. Original item, with an index (D) of .6:

Women are too emotional to be effective leaders.

Always   Usually   Sometimes   Seldom   Never*
1         2         3         4         5

Modified item:

Women are too emotional to be effective leaders.

Always   Usually   Sometimes   Seldom   Never*
1         2         3         4         5

*correct answer
Appendix I

Cover Letter to Students
January 13, 1992

Mary Doe
000 Elm St.
Kalamazoo, MI 49007

Dear Mary,

You have been randomly selected to participate in an important study being conducted at Western Michigan University.

As a part of my doctoral program, I am surveying seniors in the business, teacher education, and political science curricula. I am particularly interested in the plans you have for your career, and the opportunities you foresee within your profession.

Also of interest is your opinion on the roles women and men play in today's society, your extracurricular activities in high school and college, and your family background. Your responses will provide valuable information to educators, sociologists and leaders in business and government.

All the answers you give will be confidential and will not be used in any way in connection with you or your name. The identification number on the survey is only to help me keep track of the returned surveys.

Please take five minutes to fill out the enclosed survey and return it today in the accompanying envelope. Your help is greatly appreciated!

Thanks again!

Sincerely,

Barbara K. Kreuzer
Project Director

Robert O. Brinkerhoff
Doctoral Committee Chair

P.S. Any questions? Call 616-388-3280.
Appendix J

Follow-up Postcards
January 21, 1992

Dear Fellow Student,

Last week a questionnaire seeking ideas about your career plans, and your opinions about the career plans of your classmates was mailed to you. If you have already completed and returned it please accept my sincere thanks. If not, do so today!

Because it has been sent to only a small sample of business majors, it is extremely important that yours be included in the study if the results are to accurately reflect the opinions of WMU students.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me right now (616-388-3280) and I will get another one in the mail to you today.

Sincerely,

Barbara K. Kreuzer

January 21, 1992

Dear Fellow Student,

Last week a questionnaire seeking ideas about your career plans, and your opinions about the career plans of your classmates was mailed to you. If you have already completed and returned it please accept my sincere thanks. If not, do so today!

Because it has been sent to only a small sample of education majors, it is extremely important that yours be included in the study if the results are to accurately reflect the opinions of WMU students.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me right now (616-388-3280) and I will get another one in the mail to you today.

Sincerely,

Barbara K. Kreuzer

January 21, 1992

Dear Fellow Student,

Last week a questionnaire seeking ideas about your career plans, and your opinions about the career plans of your classmates was mailed to you. If you have already completed and returned it please accept my sincere thanks. If not, do so today!

Because it has been sent to only a small sample of political science majors, it is extremely important that yours be included in the study if the results are to accurately reflect the opinions of WMU students.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me right now (616-388-3280) and I will get another one in the mail to you today.

Sincerely,

Barbara K. Kreuzer
Appendix K

Follow-up Letter
February 5, 1992

John Doe  
000 Elm St.  
Kalamazoo, MI 49007

Dear John,

About three weeks ago I sent you a yellow survey which asked about your career plans, and the career plans of your classmates. As of today I have not yet received your completed survey.

This research is the last requirement for my doctoral degree. I am particularly interested in the professional life you envision for yourself and your classmates. These opinions and your thoughts about the various roles men and women play in society will provide valuable information to educators, sociologists and leaders in business and government.

Because the surveys were sent to only a small sample of business, teacher education and political science seniors, it is extremely important that yours be included in the study so the results will accurately reflect the opinions of WMU students.

All your responses are confidential and will not be used in any way in connection with you or your name. The identification number on the survey is only used to help me keep track of the returned surveys.

In the event that your survey has been misplaced, a replacement is enclosed. I hope you will take a few minutes today to complete it and mail it back to me.

Thank you--I really appreciate your cooperation!

Sincerely,

Barbara K. Kreuzer  
Project Director

Robert O. Brinkerhoff  
Doctoral Committee Chair

P.S. Any questions? Call 616-388-3280.
P.P.S. Your prompt reply will make me a June graduate!
Appendix L

Responses to Leadership Aspiration Items
**Question 1:** "Which of the following best describes the role you see yourself in, five years from now?"

**Question 1 Percentages by Gender and Curriculum (N=310)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Classroom teacher/ Responsible for 1-3</td>
<td>57</td>
<td>25</td>
</tr>
<tr>
<td>Specialist/ Responsible for 4-10</td>
<td>20</td>
<td>32</td>
</tr>
<tr>
<td>Principal/ Responsible for 11-25</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>Administrator/ Responsible for 26-50</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Superintendent/ Responsible for 50+</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

| Total Percentage<sup>a</sup> | 91     | 93         | 94       | 88        | 95          |

<sup>a</sup> Deviations from 100% are the result of responses in the other category.
**Question 4:** "When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for yourself five years from now?"

Question 4 Percentages by Gender and Curriculum (N=310)

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>In the top 10% of all employees</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>In the upper half, but not the top 10%</td>
<td>49</td>
<td>45</td>
</tr>
<tr>
<td>Somewhere in the middle</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>In the lower half, but not the bottom 10%</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>In the lower 10% of all employees</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

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**Question 7:** "How much money do you think you will be earning five years from now?"

**Question 7 Percentages by Gender and Curriculum (N=311)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 195</td>
<td>n = 115</td>
</tr>
<tr>
<td>&lt;$10,000/year</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>$10,000 - $24,999</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>$25,000 - $39,000</td>
<td>56</td>
<td>54</td>
</tr>
<tr>
<td>$40,000 - $54,999</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>$55,000 - $69,999</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>$70,000 - $84,999</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>$85,000 - $99,999</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>&gt;$100,000/year</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Percentage</strong></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Question 20:  "In high school, I ______ had leadership roles in clubs, student government, or other organizations in which I was a member."

Question 20 Percentages by Gender and Curriculum (N=310)

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>(n = 195)</td>
<td>(n = 115)</td>
</tr>
<tr>
<td>Always</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Usually</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Sometimes</td>
<td>27</td>
<td>30</td>
</tr>
<tr>
<td>Seldom</td>
<td>25</td>
<td>17</td>
</tr>
<tr>
<td>Never</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
**Question 21:** Please describe those leadership roles, briefly.

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female (n = 195)</td>
<td>Male (n = 115)</td>
</tr>
<tr>
<td>Leader Role</td>
<td>62</td>
<td>56</td>
</tr>
<tr>
<td>Nonleader Role</td>
<td>38</td>
<td>44</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Business (n = 156)</td>
<td>Education (n = 134)</td>
</tr>
<tr>
<td>Leader Role</td>
<td>55</td>
<td>65</td>
</tr>
<tr>
<td>Nonleader Role</td>
<td>45</td>
<td>35</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

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Question 22: "In college, I have _____ had leadership roles in clubs, sororities/fraternities, student government, or other organizations to which I have belonged."

Question 22 Percentages by Gender and Curriculum (N-311)

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th></th>
<th>Curriculum</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Business</td>
<td>Education</td>
<td>Public adm</td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>6</td>
<td>13</td>
<td>10</td>
<td>7</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Usually</td>
<td>12</td>
<td>25</td>
<td>19</td>
<td>13</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>19</td>
<td>12</td>
<td>17</td>
<td>15</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Seldom</td>
<td>24</td>
<td>15</td>
<td>20</td>
<td>21</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>39</td>
<td>35</td>
<td>34</td>
<td>44</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
**Question 23:** "Please describe these leadership roles, briefly."

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 194</td>
<td>n = 114</td>
</tr>
<tr>
<td>Leader Role</td>
<td>41</td>
<td>49</td>
</tr>
<tr>
<td>Nonleader Role</td>
<td>59</td>
<td>51</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Question 24: "As a professional, I see myself ______ seeking out challenging opportunities which test my skills and abilities."

### Question 24 Percentages by Gender and Curriculum (N=311)

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th></th>
<th>Curriculum</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Business</td>
<td>Education</td>
<td>Public adm</td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>35</td>
<td>44</td>
<td>39</td>
<td>37</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Usually</td>
<td>51</td>
<td>43</td>
<td>50</td>
<td>46</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>14</td>
<td>10</td>
<td>9</td>
<td>17</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Seldom</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
**Question 25:** "I ______ seem to have the ability to influence my peers."

**Question 25 Percentages by Gender and Curriculum (N=311)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 196</td>
<td>n = 115</td>
</tr>
<tr>
<td>Always</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Usually</td>
<td>66</td>
<td>64</td>
</tr>
<tr>
<td>Sometimes</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>Seldom</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

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Question 26: "I ______ prefer to be in charge rather than follow the directions of others."

Question 26 Percentages by Gender and Curriculum (N=311)

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Always</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>Usually</td>
<td>39</td>
<td>57</td>
</tr>
<tr>
<td>Sometimes</td>
<td>46</td>
<td>23</td>
</tr>
<tr>
<td>Seldom</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
**Question 27:** "I am _____ comfortable being a follower rather than a leader."

**Question 27 Percentages by Gender and Curriculum (N=311)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Female (n = 196)</th>
<th>Male (n = 115)</th>
<th>Business (n = 157)</th>
<th>Education (n = 134)</th>
<th>Public adm (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Usually</td>
<td>10</td>
<td>14</td>
<td>13</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Sometimes</td>
<td>58</td>
<td>49</td>
<td>53</td>
<td>57</td>
<td>50</td>
</tr>
<tr>
<td>Seldom</td>
<td>29</td>
<td>34</td>
<td>30</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>Never</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Appendix M

Responses to Female Career Items
**Question 2:** Which of the following best describes the role you see your female classmates in, five years from now?

**Question 2 Percentages by Gender and Curriculum (N=309)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Classroom teacher/</td>
<td>61</td>
<td>35</td>
</tr>
<tr>
<td>Responsible for 1-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialist/</td>
<td>23</td>
<td>36</td>
</tr>
<tr>
<td>Responsible for 4-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal/</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Responsible for 11-25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrator/</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Responsible for 26-50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superintendent/</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Responsible for 50+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Percentage*</td>
<td>93</td>
<td>93</td>
</tr>
</tbody>
</table>

* Deviations from 100% are the result of responses in the other or unemployed categories.
Question 5: When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for your female classmates five years from now?

**Question 5 Percentages by Gender and Curriculum (N=309)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female n = 195</td>
<td>Male n = 115</td>
</tr>
<tr>
<td>In the top 10% of all employees</td>
<td>5 4</td>
<td>3 7</td>
</tr>
<tr>
<td>In the upper half, but not the top 10%</td>
<td>33 33 33 34 40</td>
<td>55 52 55</td>
</tr>
<tr>
<td>Somewhere in the middle</td>
<td>51 58</td>
<td>55 52 55</td>
</tr>
<tr>
<td>In the lower half, but not the bottom 10%</td>
<td>8 5 9 5 0</td>
<td>9 5 0</td>
</tr>
<tr>
<td>In the lower 10% of all employees</td>
<td>2 0</td>
<td>0 2 0</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100 100</td>
<td>100 100 100</td>
</tr>
</tbody>
</table>
**Question 8:** How much money do you think most of your female classmates will be making five years from now?

**Question 8 Percentages by Gender and Curriculum (N=309)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female (n=194)</td>
<td>Male (n=115)</td>
</tr>
<tr>
<td></td>
<td>Business (n=157)</td>
<td>Education (n=132)</td>
</tr>
<tr>
<td></td>
<td>Public adm (n=20)</td>
<td></td>
</tr>
<tr>
<td>&lt; $10,000/year</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>$10,000 - $24,999</td>
<td>32</td>
<td>17</td>
</tr>
<tr>
<td>$25,000 - $39,000</td>
<td>56</td>
<td>64</td>
</tr>
<tr>
<td>$40,000 - $54,999</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>$55,000 - $69,999</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>$70,000 - $84,999</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>$85,000 - $99,999</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>&gt; $100,000/year</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

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Appendix N

Responses to Male Career Items
**Question 3:** Which of the following best describes the role you see your male classmates in, five years from now?

**Question 3 Percentages by Gender and Curriculum (N=307)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Female (n = 192)</th>
<th>Male (n = 115)</th>
<th>Business (n = 155)</th>
<th>Education (n = 133)</th>
<th>Public adm (n = 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom teacher/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsible for 1-3</td>
<td>51</td>
<td>27</td>
<td>18</td>
<td>76</td>
<td>11</td>
</tr>
<tr>
<td>Specialist/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsible for 4-10</td>
<td>17</td>
<td>41</td>
<td>39</td>
<td>6</td>
<td>52</td>
</tr>
<tr>
<td>Principal/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsible for 11-25</td>
<td>18</td>
<td>18</td>
<td>28</td>
<td>5</td>
<td>26</td>
</tr>
<tr>
<td>Administrator/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsible for 26-50</td>
<td>9</td>
<td>7</td>
<td>10</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Superintendent/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsible for 50+</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Total Percentage* 100 100 100 100 100

* Deviations from 100% are the result of responses in the other or unemployed categories.*
Question 6: When it comes to 'getting ahead' (receiving promotions, etc.), which of the following best describes the progress you see for your male classmates five years from now?

Question 6 Percentages by Gender and Curriculum (N=310)

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female n = 195</td>
<td>Male n = 115</td>
</tr>
<tr>
<td>In the top 10% of all employees</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>In the upper half, but not the top 10%</td>
<td>48</td>
<td>44</td>
</tr>
<tr>
<td>Somewhere in the middle</td>
<td>35</td>
<td>50</td>
</tr>
<tr>
<td>In the lower half, but not the bottom 10%</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>In the lower 10% of all employees</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

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**Question 9:** How much money do you think most of your male classmates will be making five years from now?

**Question 9 Percentages by Gender and Curriculum (N=308)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female n = 193</td>
<td>Male n = 115</td>
</tr>
<tr>
<td>$&lt; 10,000/year</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>$10,000 - $24,999</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>$25,000 - $39,000</td>
<td>53</td>
<td>66</td>
</tr>
<tr>
<td>$40,000 - $54,999</td>
<td>23</td>
<td>17</td>
</tr>
<tr>
<td>$55,000 - $69,999</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>$70,000 - $84,999</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>$85,000 - $99,999</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>$&gt; 100,000/year</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Percentage</strong></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Appendix O

Responses to Gender-Role Orientation Items
Question 10: Men are _____ better leaders than women.

Question 10 Percentages by Gender and Curriculum (N=308)

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 194</td>
<td>n = 114</td>
</tr>
<tr>
<td>Always</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Usually</td>
<td>12</td>
<td>35</td>
</tr>
<tr>
<td>Sometimes</td>
<td>77</td>
<td>61</td>
</tr>
<tr>
<td>Seldom</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Never</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

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Question 11: It is _____ more important for a man to prepare for a career than it is for a woman to prepare for a career.

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 193</td>
<td>n = 114</td>
</tr>
<tr>
<td>Always</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Usually</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>Sometimes</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td>Seldom</td>
<td>27</td>
<td>18</td>
</tr>
<tr>
<td>Never</td>
<td>41</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Business</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td>n = 155</td>
<td>n = 132</td>
</tr>
<tr>
<td>Always</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Usually</td>
<td>22</td>
<td>14</td>
</tr>
<tr>
<td>Sometimes</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>Seldom</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Never</td>
<td>27</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Public adm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 20</td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Usually</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Seldom</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>45</td>
<td></td>
</tr>
</tbody>
</table>

Total Percentage: 100 100 100 100 100
**Question 12:** Women should ______ take an active role in solving the intellectual and social problems of the day.

**Question 12 Percentages by Gender and Curriculum (N=309)**

<table>
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<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 194</td>
<td>n = 115</td>
</tr>
<tr>
<td>Always</td>
<td>67</td>
<td>53</td>
</tr>
<tr>
<td>Usually</td>
<td>25</td>
<td>24</td>
</tr>
<tr>
<td>Sometimes</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>Seldom</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
**Question 13:** It would _____ be difficult to work for a woman.

**Question 13 Percentages by Gender and Curriculum (N=307)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 192</td>
<td>n = 115</td>
</tr>
<tr>
<td>Always</td>
<td>1 2</td>
<td>2 0</td>
</tr>
<tr>
<td>Usually</td>
<td>5 5</td>
<td>6 4</td>
</tr>
<tr>
<td>Sometimes</td>
<td>48 41</td>
<td>44 46</td>
</tr>
<tr>
<td>Seldom</td>
<td>31 36</td>
<td>33 33</td>
</tr>
<tr>
<td>Never</td>
<td>15 16</td>
<td>15 17</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100 100</td>
<td>100 100</td>
</tr>
</tbody>
</table>
**Question 14:** Women are _____ too emotional to be effective leaders.

**Question 14 Percentages by Gender and Curriculum (N=307)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Female (n = 193)</th>
<th>Male (n = 114)</th>
<th>Business (n = 156)</th>
<th>Education (n = 132)</th>
<th>Public adm (n = 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Usually</td>
<td>2</td>
<td>9</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sometimes</td>
<td>31</td>
<td>58</td>
<td>46</td>
<td>36</td>
<td>42</td>
</tr>
<tr>
<td>Seldom</td>
<td>50</td>
<td>29</td>
<td>39</td>
<td>45</td>
<td>47</td>
</tr>
<tr>
<td>Never</td>
<td>17</td>
<td>2</td>
<td>5</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
**Question 15:** When the work is essentially equal, it is _____ wrong for women to receive less pay than men.

**Question 15 Percentages by Gender and Curriculum (N=309)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 194</td>
<td>n = 115</td>
</tr>
<tr>
<td>Always</td>
<td>96</td>
<td>75</td>
</tr>
<tr>
<td>Usually</td>
<td>3</td>
<td>24</td>
</tr>
<tr>
<td>Sometimes</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Seldom</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
**Question 16:** Women are _____ unsuited for powerful jobs that require a strong personality.

**Question 16 Percentages by Gender and Curriculum (N=310)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 195</td>
<td>n = 115</td>
</tr>
<tr>
<td>Always</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Usually</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Sometimes</td>
<td>28</td>
<td>46</td>
</tr>
<tr>
<td>Seldom</td>
<td>42</td>
<td>29</td>
</tr>
<tr>
<td>Never</td>
<td>29</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total Percentage</strong></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
**Question 17:** In a relationship, it is _____ acceptable for the woman to be the breadwinner.

**Question 17 Percentages by Gender and Curriculum (N=308)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 194</td>
<td>n = 114</td>
</tr>
<tr>
<td>Always</td>
<td>25</td>
<td>17</td>
</tr>
<tr>
<td>Usually</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>Sometimes</td>
<td>37</td>
<td>47</td>
</tr>
<tr>
<td>Seldom</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Question 18: A husband and wife should _____ be equal partners in a marriage.

Question 18 Percentages by Gender and Curriculum (n=310)

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 195</td>
<td>n = 115</td>
</tr>
<tr>
<td>Always</td>
<td>86</td>
<td>79</td>
</tr>
<tr>
<td>Usually</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>Sometimes</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Seldom</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Never</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
**Question 19:** Whereas a career is important, a woman's real fulfillment comes from being a wife and mother.

**Question 19 Percentages by Gender and Curriculum (N=305)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 192</td>
<td>n = 113</td>
</tr>
<tr>
<td>Always</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Usually</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Sometimes</td>
<td>74</td>
<td>70</td>
</tr>
<tr>
<td>Seldom</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Never</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Appendix P

Responses to Parental Influence Items
**Question 33:** My mother encouraged me to go to college.

Question 33 Percentages by Gender and Curriculum (N=308)

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 194</td>
<td>n = 114</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Somewhat</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Yes</td>
<td>76</td>
<td>88</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

|          | Business | Education | Public adm |
|          | n = 156  | n = 133   | n = 19     |
| No       | 8        | 9         | 5          |
| Somewhat | 10       | 12        | 16         |
| Yes      | 82       | 79        | 79         |
| Total Percentage | 100 | 100 |

**Question 34:** My mother encourages me to complete my bachelor's degree.

Question 34 Percentages by Gender and Curriculum (N=310)

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 196</td>
<td>n = 114</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Somewhat</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Yes</td>
<td>85</td>
<td>94</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

|          | Business | Education | Public adm |
|          | n = 156  | n = 134   | n = 20     |
| No       | 6        | 5         | 5          |
| Somewhat | 6        | 8         | 0          |
| Yes      | 88       | 87        | 95         |
| Total Percentage | 100 | 100 |

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**Question 35:** My mother encourages me to enroll in graduate school.

**Question 35 Percentages by Gender and Curriculum (N=303)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 192</td>
<td>n = 111</td>
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<tr>
<td>No</td>
<td>38</td>
<td>49</td>
</tr>
<tr>
<td>Somewhat</td>
<td>28</td>
<td>26</td>
</tr>
<tr>
<td>Yes</td>
<td>34</td>
<td>25</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Question 36:** My mother encourages me to pursue a career.

**Question 36 Percentages by Gender and Curriculum (N=309)**

<table>
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<tr>
<th>Category</th>
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<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 195</td>
<td>n = 114</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Somewhat</td>
<td>12</td>
<td>10</td>
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<tr>
<td>Yes</td>
<td>81</td>
<td>87</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
**Question 37:** My mother encourages me to have children.

**Question 37 Percentages by Gender and Curriculum (N=306)**

<table>
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<tr>
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<th>Male</th>
<th>Business</th>
<th>Education</th>
<th>Public adm</th>
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<tr>
<td></td>
<td>n = 194</td>
<td>n = 112</td>
<td>n = 155</td>
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<td>28</td>
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<tr>
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<td>32</td>
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<td>33</td>
<td>34</td>
<td>25</td>
</tr>
<tr>
<td>Yes</td>
<td>47</td>
<td>37</td>
<td>41</td>
<td>50</td>
<td>25</td>
</tr>
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<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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</tbody>
</table>

**Question 38:** My mother encourages me to accept leadership roles.

**Question 38 Percentages by Gender and Curriculum (N=308)**

<table>
<thead>
<tr>
<th>Category</th>
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<th>Male</th>
<th>Business</th>
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<tr>
<td></td>
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<td>n = 113</td>
<td>n = 156</td>
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<tr>
<td>No</td>
<td>16</td>
<td>12</td>
<td>17</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Somewhat</td>
<td>26</td>
<td>34</td>
<td>26</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>Yes</td>
<td>58</td>
<td>54</td>
<td>57</td>
<td>57</td>
<td>55</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
**Question 39:** My father encouraged me to go to college.

**Question 39 Percentages by Gender and Curriculum (N=305)**

<table>
<thead>
<tr>
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<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 191</td>
<td>n = 114</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>4</td>
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<tr>
<td>Somewhat</td>
<td>12</td>
<td>15</td>
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<tr>
<td>Yes</td>
<td>76</td>
<td>81</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Question 40:** My father encourages me to complete my bachelor's degree.

**Question 40 Percentages by Gender and Curriculum (N=299)**

<table>
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</tr>
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<tbody>
<tr>
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<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 187</td>
<td>n = 112</td>
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<tr>
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</tbody>
</table>

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**Question 41:** My father encourages me to enroll in graduate school.

**Question 41 Percentages by Gender and Curriculum (N=294)**

<table>
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</tr>
</thead>
<tbody>
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<td>Female</td>
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</tr>
<tr>
<td></td>
<td>n = 185</td>
<td>n = 109</td>
</tr>
<tr>
<td>No</td>
<td>40</td>
<td>45</td>
</tr>
<tr>
<td>Somewhat</td>
<td>26</td>
<td>32</td>
</tr>
<tr>
<td>Yes</td>
<td>34</td>
<td>23</td>
</tr>
<tr>
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<td>100</td>
</tr>
<tr>
<td></td>
<td>Business</td>
<td>Education</td>
</tr>
<tr>
<td></td>
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<td>n = 126</td>
</tr>
<tr>
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<td>37</td>
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<tr>
<td>Somewhat</td>
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<td>27</td>
</tr>
<tr>
<td>Yes</td>
<td>24</td>
<td>36</td>
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</tbody>
</table>

**Question 42:** My father encourages me to pursue a career.

**Question 42 Percentages by Gender and Curriculum (N=302)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 189</td>
<td>n = 113</td>
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<tr>
<td>Yes</td>
<td>79</td>
<td>90</td>
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<tr>
<td>Total Percentage</td>
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<td>100</td>
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<td></td>
<td>Business</td>
<td>Education</td>
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<tr>
<td></td>
<td>n = 155</td>
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<tr>
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<td>8</td>
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<tr>
<td>Somewhat</td>
<td>7</td>
<td>10</td>
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<tr>
<td>Yes</td>
<td>85</td>
<td>82</td>
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</table>

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**Question 43:** My father encourages me to have children.

**Question 43 Percentages by Gender and Curriculum (N=297)**

<table>
<thead>
<tr>
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<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
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<td>Male</td>
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<tr>
<td></td>
<td>n = 185</td>
<td>n = 112</td>
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<td>No</td>
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<td>38</td>
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<tr>
<td>Somewhat</td>
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<td>36</td>
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<tr>
<td>Yes</td>
<td>35</td>
<td>26</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Question 44:** My father encourages me to accept leadership roles.

**Question 44 Percentages by Gender and Curriculum (N=301)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Gender</th>
<th>Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>n = 188</td>
<td>n = 113</td>
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<td>No</td>
<td>19</td>
<td>8</td>
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<td>Somewhat</td>
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<td>30</td>
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<tr>
<td>Yes</td>
<td>57</td>
<td>62</td>
</tr>
<tr>
<td>Total Percentage</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Appendix Q

HSIRB Exemption Letter
Date: August 13, 1991
To: Barbara K. Kreuzer
From: Mary Anne Bunda, Chair
Re: HSIRB Project Number: 91-08-02

This letter will serve as confirmation that your research protocol, "Women and Leadership: The Effect of Gender-role Orientation on Aspiration to leader Roles in Women" has been approved under the exempt category of review by the HSIRB. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the approval application.

You must seek reapproval for any changes in this design. You must also seek reapproval if the project extends beyond the termination date.

The Board wishes you success in the pursuit of your research goals.

xc: Robert Brinkerhoff, Educational Leadership

Approval Termination: August 13, 1992
BIBLIOGRAPHY


Bernikow, L. (1984, April). We're dancing as fast as we can. Savvy, p. 42.


Hauser, R. M. (1972). Disaggregating a social-psychological model of educational attainment. *Social Science Research, 1*, 159-188.


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