Achievement Motivation in Women: A Developmental Perspective

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ACHIEVEMENT MOTIVATION IN WOMEN:
A DEVELOPMENTAL PERSPECTIVE

by
Elizabeth S. Miller

A Dissertation Submitted to the Faculty of the Graduate School
of Loyola University of Chicago in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

February
1977
ACKNOWLEDGMENTS

I would like to thank the Director of my dissertation, Dr. Joy Rogers, and the members of my committee, Dr. Ronald Morgan and Dr. Jack Kavanagh for their help and support throughout the writing of this dissertation. I would also like to thank my family, especially my husband, Peter, and my mother for their assistance and encouragement during my many years of graduate study. I hope that I have been a good role-model for my daughter, Elizabeth, and that some day she will feel free to use her potential to the fullest.
The author, Elizabeth Suzanne Miller, is the daughter of Martin A. Salmon and Marion (Baker) Salmon. She was born July 29, 1948 in Chicago, Illinois. She is the wife of Martin Peter Miller and the mother of Elizabeth Ann.

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CHAPTER I

INTRODUCTION

To be emancipated from helplessness and need, and to work freely upon the earth -- that is your birthright. To have something to desire, something to make, something to achieve, and at least something genuine to give.

(Greer, 1970)

In recent years the feminist movement has brought the psychology of females into the academic spotlight with the accompanying proliferation of research. However, not much of this research traces the development of female psychology in order to build an historical framework for today's research.

Throughout history males have tried to understand the nature of females. The birth of the formal study of psychology in 1879 was devoted to the description of the adult mind. It was not clear if adult meant both sexes, but formal psychology was relatively slow to take up the topic of psychology of females. It seems the understanding of the female mind was considered a social problem and not in the realm of psychology.

When the theory of evolution was incorporated into psychological thinking, the functionalist movement in the United States fostered the study of sex differences.
However, females were discussed only in relationship to males and were viewed as serving a complimentary function. This evolutionary theory provided the theoretic justification for the study of individual differences, and the biological emphasis of evolutionary theory gave ample "scientific" reason to assume differences in the sexes were innate.

Phrenology and the neuroanatomists brought the topic of female intelligence into the 19th century. Phrenology provided the first objective method for determining the neurological foundation of sex differences in intelligence and temperament. The practice of comparing the appearance of all or part of the brain was one of the most popular means of providing proof of female mental inferiority. The argument for female mental inferiority took two forms: some argued the quality of intellect was proportional to absolute or relative brain size; others contended that the presence of certain mental qualities was dependent upon the development of corresponding brain centers. (Shields, 1975 a) Characteristics of the female brain were thought not simply to render females less intelligent but also allow more "primitive" parts of human nature to be expressed in her personality. Instinct and emotions were thought to dominate the female which was considered the reason for her inevitable failure.

At the turn of the 20th century, the prevailing thought was that females tended to be inferior to males in all intellectual capacities. (Shields, 1975 a) The rarity of female
achievement was used to support this theory. It was felt that females had not excelled, therefore, they could not excel. When the testing movement did not support the belief that females were inferior, an evolutionary hypothesis became popular.

In evolutionary theory, variation from the norm was accepted as the vehicle of progress. To the psychologists studying sex differences, it seemed that the male was more variable and, therefore, superior. The real impact of this theory was seen in the field of education. Since females were thought to be less likely to have above average ability, their educations should prepare them for a place as wives and mothers.

G. Stanley Hall proposed an educational system tailored for girls' delicate physical nature and designed to prepare them for their special role in society. (Shields, 1975 b) He felt the glory of the female lay in motherhood, and their education should keep this end in mind.

Edward Thorndike was one of the most influential psychologists to take up the cause of variability. He felt it only had meaning, however, when one looked at the highest levels of giftedness. The range of female ability was narrower than male ability, therefore, females should be educated and channeled into fields where they could be the most successful. These fields were not the high level professions (Shields, 1975 b).
One of the challengers of the variability hypothesis was a student of Thorndike's, Letta Stetter Hollingworth. She viewed the issue as going beyond the variability question into one of nature versus nurture. She saw the crux of the problem to be society's expectations for females. Females' talents had been channeled into housekeeping and childrearing.

Hollingworth pointed out the faulty assumptions the variability literature had been founded on. The major criticism was that it had not been demonstrated that the distribution of any trait or set of traits within the population was Gaussian. Therefore, there was no force to the argument that females were biologically unable to be in the highest levels of ability. (Shields, 1975 b)

Hollingworth brought the issue to a head, but until more sophisticated tests were developed during World War I, nothing could be settled. During the 1920's the debate was revived, but without much of its earlier vigor. The debate seemed to have become a statistical issue, taking the emphasis away from sex differences. Today the slight variation between the sexes is viewed as having little meaning compared to the great variation within each sex. (Shields, 1975 a)

Research on sex differences today focuses on differences in cognition and socialization. It is hoped that this research will help both males and females maximize their achievements, rather than prove the superiority of one sex. In fact, most recent research emphasizes the similarities
between the sexes rather than the differences.

Maccoby and Jacklin (1975) have reviewed the most recent literature on sex differences, and they find there are few intellectual differences between the sexes. Beginning early in infancy, the two sexes are remarkably similar in the basic intellectual processes of perception, learning, and memory. Although the sexes seem to have almost equal ability, girls tend to get better grades throughout grades 1-12 and are less likely to drop out of school before completing high school. Despite this early achievement, males achieve substantially better than females in college and adulthood.

After high school the achievement of females begins to decline. Despite the fact high school girls have better grade point averages than boys, girls are less likely to believe they "definitely have the ability" to do college work. (Cross, 1975) In 1971 three-quarters of male high school graduates went on to college, while only one-half of the female graduates went on. (Cross, 1975) The proportion of females completing each degree level is smaller than the proportion of males, and the difference is greater at each successive level. In 1965 only one female in 100 with a bachelor's degree attained the doctorate, as compared to one in every ten or eleven males who received a bachelor's degree. (Astin, Bayer, Folder, 1970)

Family socioeconomic status is an important determinant
of who goes to college. In our society parents seem to feel it is more important for a son to go to college than for a daughter, and many studies show parental encouragement and support bears a high relationship to college attendance. When differences in academic ability are controlled, females from lower socioeconomic backgrounds are not as well represented in higher educational institutions as males from the same background. (Astin, Bayer, Folger, 1970)

Not only are there marked differences in the educational attainment of males and females, there are even greater differences in their career plans. Astin, Bayer, and Folger (1970) indicate the career outcomes of boys are closely related to their early career plans, while the career outcomes of girls depend on certain preparatory activities in high school.

When females enter college, they are more career-oriented than they are four years later. As they enter college and they consider a career, they are uncertain about marriage, but during the four year period they develop specific marriage plans and drop the idea of a career. It is interesting to note that females who aspire to careers in the natural sciences and the professions, (male-dominated careers), are more likely to abandon their plans than females planning to go into teaching, health fields, or social service, (female-dominated careers). It is not clear, however, whether these changes are a result of poor initial planning
or from social pressures to conform to traditional career roles. Whatever the reason for these changes in career plans, there remains a sizable proportion of females capable of pursuing professional careers who do not.

There are, however, females who do not accept the traditional feminine role and opt to enter the high-level, male-dominated, professions. While great numbers of males are motivated to achieve professional status, few females are motivated to do so. This difference in achievement motivation in males and females has been of interest to researchers, especially in the past 25 years.

The earliest research on achievement motivation by McClelland et al. (1953) did not even try to apply the theory to females. Field (1951) tried to explain the difference in achievement motivation between the sexes by linking the female's need to achieve to the need to be liked. Another hypothesis contended that females achieve for the approval of others and excel on tasks that involve interaction with people, while men do not. It has also been suggested that differences in self-concept may account for the sharp decline in feminine achievement in the years after high school. Horner's (1969, 1970) research on achievement motivation has had a great impact in the field. Her hypothesis is that females fear success for they really want to be liked, not to be achievers. It is easy to see that achievement motivation, or lack of it, in females is a consequence of several factors working together.
Exactly what those factors are, and how they work to make some females achievers, still has not been determined.

To produce more female achievers in the future, it is important to understand the type of environment that nurtures and sustains achievement. The purpose of this dissertation is to investigate non-traditional achievement in females from a developmental perspective. Two groups of females will be studied. The first group, the homemakers, will consist of college graduates engaged in full-time homemaking, and the second group, the professionals, will be made up of doctoral students, law students, and medical students.

The two groups of females will be compared in the following ways: a.) The mental ability of the two groups will be compared; b.) the parental educational and occupational levels of the two groups will be compared; c.) the parental child-rearing techniques, especially independence-granting, control, and achievement expectations, of the two groups will be compared; d.) the sex-role orientation of the two groups will be compared. If certain developmental patterns tend to characterize each group this data can be used to help predict which females will choose to prepare for the high-level professions and which females will not.
Males and females have equally good intellectual potential, and the two sexes are similar in their achievement throughout the school years, but feminine achievement in spheres outside the domestic one decline sharply in the years following formal schooling. The explanations for this failure of females to fulfill their intellectual potentials are so plentiful that one marvels that there are any females who do achieve outside the home. The literature review investigates research for developmental trends in females that would help explain their decline in achievement in young adulthood.

Sex Differences in Intellectual Abilities and Cognitive Style

As was pointed out earlier, in the past the lack of feminine achievement was thought to be due to the female's inferior intellectual capacities. Today it is no longer accepted that females cannot be in the highest levels of intellectual ability. Maccoby and Jacklin (1975) have reviewed recent literature on sex differences, and they find there are few intellectual differences between the sexes. Beginning in early infancy, the two sexes are remarkably
similar in their basic intellectual processes of perception, learning, and memory. Maccoby and Jacklin made the following conclusions regarding sex differences and intellectual ability:

1. **Girls excel in verbal ability.**
   Girls' verbal abilities mature earlier and more rapidly than boys'. From preschool to adolescence, the sexes are similar in their verbal abilities. However, at age 11 through at least high school and maybe beyond, the sexes differ with the female becoming increasingly superior. Girls are better at analogies, comprehension, and creative writing, as well as fluency. The female advantage on verbal tasks is about one-quarter of a standard deviation.

2. **Boys excel in visual-spatial ability.**
   In childhood boys and girls are about equal in their spatial ability. However, male superiority on visual-spatial tasks is constant during adolescence and adulthood. Boys' abilities increase through high school to about .40 of a standard deviations above girls' abilities.

   The Embedded Figures Test (Witkin, Oltman, Raskin, and Karp, 1971) is a test of spatial ability, and it has been found that males outperform females on this test. A person who does well on this test is competent in perceptual disembedding and is said to have a
"field independent" cognitive style. A person who is less competent is called "field dependent". Maccoby (1966) suggests child-rearing practices may differentiate persons who differ in spatial ability. Independence training during childhood is associated with higher spatial ability, according to research done by Witkin et al. (1962), Berry (1966), MacArthur (1967) and the Munroes (1971).

3. Boys excel in mathematical ability.
The two sexes are similar in their early learning of quantitative concepts and their mastery of arithmetic during the school years. Beginning at about 12-13 years, boys' mathematical skill increases faster than girls'. The amount of difference varies greatly from population to population, but it is probably not as great as the difference in spatial ability.

4. Girls get better grades throughout their school years.
Girls are more interested in school-related skills and less likely to drop out of school before completing high school. However, in adulthood males achieve substantially more than females.

Males and females do not differ greatly in their cognitive abilities. However, except in the domestic sphere, females do not achieve as adults. The reasons for this lack of feminine achievement are not clear, but there appears to be a need for females to develop achievement orientations and
to express them in a variety of areas, including educational and occupational achievement.

Achievement Motivation in Males and Females

The earliest and perhaps the most widely known studies of achievement motivation were done by McClelland et al. (1953). They saw motivation as a relatively stable disposition to strive for success in any situation that standards of excellence were applicable. Achievement motivation research has yielded significant and readily replicable results when using male subjects. However, this theory of achievement motivation did not seem to apply to females. For example, with males, achievement-oriented instructions increased the McClelland Need for Achievement Score, while neutral instructions depressed the score. With females, however, both achievement-oriented and neutral instructions evoked equally high need for achievement score. (Alper and Greenberger, 1967)

The McClelland Need for Achievement Score is based on the analysis of a subject's responses to pictures similar to those of the Thematic Apperception Test (TAT) that evoke achievement-oriented responses. Because of the discrepancies between male and female needs for achievement scores, there have been various hypotheses tested, without success, to explain these differences. Veroff, Feld, and Crockett (1966) hypothesized that picture cues removed from the storyteller's
own occupation would evoke more achievement imagery than cues related to the storyteller's occupation. This held true for males but not for females.

Research by Field (1951) indicated female's achievement motivation is linked to the need to be liked. He used a social arousal situation and gave the subjects social acceptance scores. This arousal raised male's need for achievement scores somewhat, but increased female's scores significantly. However, this hypothesis proved to be undependable, for when a competitive element such as leadership was introduced, the hypothesis did not hold true. It is difficult to tell whether female's scores increased because the competitive theme was omitted, or because the social acceptance theme was included, or both.

More research has uncovered some seemingly relevant variables such as: sex of the stimulus figures, the effect of sex and the position of the stimulus figures relative to each other, differences in value orientation, and the age and family situation of the storyteller. (Alper, 1974) It has been found that subjects of both sexes give fewer achievement themes when responding to a story about a female. This suggests that females and males do not reflect their own motivations in their responses, but rather their concepts concerning the usual characteristics of females.

Using Field's (1951) idea that female's achievement motivation was linked to the need to be liked, McClelland
et al. (1953) hypothesized that males and females were oriented toward different kinds of achievement. Males were interested in achieving on tasks that involved impersonal ideas or inanimate objects, whereas females were interested in tasks that involved interaction with people. Another related hypothesis was that males were mainly interested in the task for its own sake, while females worked primarily for the praise and approval of others.

Studies have been done with children to see if boys were more task oriented and girls more socially oriented. Children placed in situations that assessed task persistency did not show sex differences in persistence in the manipulation of objects, even when the task was considered a social task. (Jacklin et al., 1972, W. Mischel et al., 1968) Results of studies on curiosity and exploration are inconsistent as to whether boys or girls are more task-oriented. Research with children under three showed both sexes were willing to explore a novel environment. (Marvin, 1971, H. Ross et al., 1972) During the years three to six, boys tend to do more exploring and show more interest in novelty, but whether this interest is due to "task-orientation" or to the heightened activity level of boys this age, is open to question. (Marvin, 1971, Shipman, 1971) Studies comparing the effectiveness of social reinforcement and material rewards hypothesized person-oriented subjects would find social reinforcement more effective than material rewards. However, a
review of these studies shows there is no sex difference in the type of reinforcement preferred. (Meddock et al., 1971, Spear and Spear, 1972).

Horner (1970) studied the hypothesis that females are more person-oriented than males. Her results showed college males performed better on a task when being observed by peers, while it made no difference to females. However, Meddock et al. (1971) found that the presence of an adult did not influence the performance of children of either sex. If any conclusion can be drawn, it would be that males are more "person oriented" in the fact they are more influenced by the presence and actions of peers. / 

A recent study by Rosenberg and Simmons (1975) suggests that early adolescence is accompanied by a sharp rise in "people-orientedness" among girls. Compared to boys, girls become very worried about what other people think of them and are more fearful of displeasing people. They are more vulnerable to criticism or disapproval than boys. This sharp rise in people-orientedness in female adolescents helps account for their higher level of self-consciousness. Both achievement and self-fulfillment among girls may be impeded by overconcern with others, a concern that is traditionally part of the feminine sex role stereotype. /

Maccoby and Jacklin (1974) suggest that differences in self-concept may account for the decline in feminine achieve-
ment in young adulthood. It is not until the college years that any sex differences in self-concept are noted. At this time, however, females had less sense of being able to control their own fate, tended to define themselves in more social terms, and had less confidence in their ability to perform.

Alper (1974) has labeled feminine achievement motivation a "now-you-see-it-now-you-don't" phenomenon. She points to the wide methodological differences from study to study, rather than basic instability of achievement motivation among females, as the reason for the differences in achievement motivation in males and females. The important variables to be considered and controlled are: a) personality factors, especially sex-role orientation, b) sampling differences, c) context and form differences in the stimulus cues, and differences in scoring.

Fear of Success

In Stein and Bailey's (1973) review of the literature on feminine achievement behavior, they indicated females were more anxious about failure, more cautious in risking failure, and more likely to assume responsibility for failure than males. These characteristics occurred across achievement areas, but some were only demonstrated in areas of academic achievement. Females were found to have lower expectancies of success and were, many times, perceived as less competent
than males, even if their work was identical. Females were as likely as males to set moderate levels of aspiration, however, those females who did not set moderate limits were more likely to set low limits.

Knowing that females had lower expectancies of success and lower aspirations than males, Matina Horner tried to find a new explanation of why this was so. Horner's (1969, 1970) hypothesis was that females do not achieve because they really do not want to be achievers, they want to be liked. She asserted that females are in a conflict situation where it is acceptable to do well in school, but at the same time, unladylike to beat males. Females avoided or feared success because "success in achievement situations was followed by negative consequences". (Horner, 1972) This motive to avoid success produces anxiety which is shown by inhibiting achievement activity, not disclosing past success, or trying to disguise abilities and potentials.

Horner (1969) presented University of Michigan coeds the stimulus, "After first term finals, Anne finds herself at the top of her medical school class." Over 65% of the coeds told avoidance of success stories. However, to the same stimulus, except replacing Anne with John, over 90% of the male subjects told success stories. Statistical tests found both intrasex and intersex differences to be significant. The main themes in the avoidance stories were: a) No one would like Anne because she was so achieving, b) She was achieving
because she was not very feminine. These themes indicate that the coeds did not see feminine achievement as culturally compatible with the traditional feminine sex-role stereotype.

Horner's research had a great impact on the field of achievement motivation. A review of more recent literature shows that it is now almost totally devoted to studying "fear of success". Horner (1972), using the same stimulus, tested high ability juniors at an outstanding coeducational university and found 85% of the female subjects told avoidance stories. Alper (1974) reported 89% avoidance stories using the "Anne" stimulus with Wellesley college undergraduates tested in 1970-71. She also gave a second group of females the "John" stimulus. With the "John" stimulus, the percentage of avoidance stories dropped to 50%. These results indicate bright females do not want or expect to be achievers, but they may also expect males to be less achievement oriented than they really are.

Maxwell and Gonzalez (1972) investigated Horner's suggestion that because females fear success they limit themselves to traditional role choices which demand a lower self-concept. Their study hypothesized that college females who chose a traditional feminine role would report failure in tasks usually performed by males, and those who chose non-traditional roles would report failure in traditionally feminine tasks. Their study supported this hypothesis.

Breedlove and Circirelli (1974) did research along these
same lines. Their study showed undergraduate females exhibited more fear of success when dealing with masculine careers. However, even when the stimulus involved a traditionally feminine occupation, half of the subjects told fear of success stories. It was also noted that fear of success stories seemed to increase with year in school.

Lockheed (1975) did a study which suggested that females' attitudes were more accepting than males' toward successful females. If the female's success was in an area in which female participation was as frequent as male participation, males react favorably to this success. When the success was associated with "deviant" female behavior, males reacted punitively. The success of the females did not seem to be the issue as much as the deviant nature of her actions. In the past females have revealed a "motive to avoid success" which may be related to the hostile reactions of males to such achievement. The fact that the "motive to avoid success" is seen less in present day females may be due to new social definitions of appropriate behavior for women.

Midgley and Abrams (1974) did a study that examined females' motives to avoid success and feelings of being controlled externally. Rotter (1966) suggested that a feeling of internal control of environmental reinforcement contingencies was related to a high degree of achievement motivation. In the Midgley and Abrams (1974) study, University of Vermont coeds were given Horner's "Anne" stimulus and
Rotter's Internal-External Locus of Control Scale. The results indicated a high level of motive to avoid success was associated with the high external control scores. During informal interviews those subjects high in external control felt more victimized by circumstances, less autonomous, and less likely to penetrate the social barriers that obstruct successful female achievement.

A recent replication of Horner's original study by Lois W. Hoffman (1974) suggests that the traditional concept of the achieving male may be becoming less acceptable to males. She found that fear of success in males had jumped from 8% in 1965 to 77% in 1971. The most common avoidance theme given was questioning the value of success and academic achievement. In both 1965 and 1971, 65% of the females told fear of success stories. The female's responses in 1971 were similar to those given in 1965, with affiliative loss as the predominate avoidance theme.

Janet T. Spence (1974) also found that males told more fear of success stories than in Horner's study, and they seemed less enamored by conventional success. But most of the females in her study told positive stories, which might have been due to recent changes in society's attitude toward achieving females. She reported that the negative themes of the females centered around conflicts in maintaining a career and a family. These conflicts were typically resolved by having the heroine limit or accommodate her career to her
family setting.

Until recently most research on fear of success has been done with adults, however, there are now a few studies using children as subjects. Romer (1975) did a study using fifth through eleventh grade children. All subjects were given a TAT-like measure of motive to avoid success and also performed a series of tasks in competitive and noncompetitive conditions. The study found no clear sex differences or developmental trends in the presence of the motive to avoid success. However, by eleventh grade the motive to avoid success seemed to have peaked in males and was on the decrease. But in females the motive to avoid success was on the increase. The motive to avoid success was not seen in girls on the performance tasks until the ninth grade and above. It may be that the motive to avoid success doesn't become part of a female's motivational make-up until adolescence. Perhaps, it is not aroused until the female becomes aware of the incompatability of success and the traditional feminine sex-role. If these things are true, then the motive to avoid success could be considered a developmental phenomenon affected by puberty.

O'Leary and Hammack (1975) studied the effect of sex-role orientation and the motive to avoid success in high school girls. In their study they found that the role orientation (traditional or nontraditional) of the subject correlated to the occurrence of success-avoidance stories told.
Nontraditionally oriented subjects told fewer success-avoidant stories than either moderately or traditionally oriented subjects. One implication of this study is that the fear of success as described by Horner (1972) as an "internalized feminine sex-role stereotype" does not have stable, universal meaning within the female population, but fluctuates according to the individuals sex-role orientation.

Most of the fear of success research seems to be built on Horner's original study, however, this method is not without its critics. Tresemer (1974) sees fear of success as a popular explanation of feminine achievement motivation, but as yet not proven to his satisfaction. He sights the lack of consistency in the research as a reason to question the validity of fear of success. Zuckerman and Wheeler (1975) cite the following reasons they feel the fear of success is unproven: a) Horner's results did not support the hypothesis that females high in fear of success do poorly under competitive conditions, b) it is not clear whether the fear of success measure taps a motive or a cultural stereotype, c) the reliability of the fear of success measure is low (.30-.40), d) there are no consistent relationships between fear of success and behavioral measures.

Jellison, Jackson-White, and Bruder (1975) approach achievement behavior from a situational approach. The review of the literature shows most of the research on the motive to avoid success has been descriptive and has involved only the
measurement of the percentages of different populations who have high fear of success. The situational approach looks at achievement behavior differently. According to the situational perspective, if the cues of a situation indicate that high performance will be followed by positive external consequences, then people will perform at a high level. Conversely, if the cues of a situation indicate lower performance will be followed by positive external consequences, then people will not perform at a high level. This study and a study by Kanter (1976) confirmed the situational approach, that males and females perform in order to obtain maximal rewards in each situation, regardless of whether this means performing at a high, moderate, or low level. What is important here is that an action is defined as a success only when the desired consequences are greater than the undesirable consequences. In our society today, achieving females may be punished for "outstanding" achievement and therefore avoid doing well. This does not mean they have a psychological barrier to success. Rather, they are acting in a reasonable manner to avoid punishment.

This type of research indicates that fear of success is transmitted culturally. If this is the case a cross-cultural look at feminine achievement would help confirm this hypothesis. A study by Safilios-Rothschild (1971) looks at feminine achievement in countries with per capita Gross National Products in the following categories: a) GNP over $1,500,
b) GNP between $1,000-1,500, c) GNP between $500-1,000, d) GNP under $500. The findings indicated the more highly developed the country the more singleness is discouraged. In countries with a medium high ($1,000-1,500) GNP females had more options to work or study after marriage. Finally, females have the option to enter "masculine" occupations such as, pharmacy, dentistry, law, and medicine in countries of medium ($500-1,000) GNP more than in countries of higher or lower economic development. Thus, the optimum condition for feminine freedom to and societal approval of work is found in medium high levels of economic development as is true in Poland, Hungary, and Finland. (Safelios-Rothschild, 1971)

Females have many options in very different societies. However, the society's attitudes concerning what options are "appropriate" for females exert a great influence. It is true that a widespread ideology about female's equality with males, preferably officially espoused and implemented by the government, along with options for child care as is the case in Sweden, Denmark, and the Eastern European countries are the most helpful factors for providing females with maximum educational and occupational options./

Child-Rearing Practices and Achievement

Many researchers have found that child-rearing practices can affect achievement. (Hoffman, 1975, Mischel, 1970, Stein and Bailey, 1973) An analysis of child-rearing practices indicates that parental nurturance influences the need to
achieve. While a moderate level of warmth is conducive to achievement, over-protectiveness and/or babying is not. Crandall and Battle (1970) found a negative correlation between maternal babying and protectiveness and adult intellectual achievement. Stein and Bailey (1973) report a curvilinear relationship was found between aspiration and maternal warmth. Low levels of aspiration were related to early protectiveness, warmth, and low punishment; high levels to early punishment and low warmth. Studies of leadership also show a curvilinear relationship to parental warmth.

Mischel (1970) reported that high levels of maternal nurturance typically produced feminine girls, that is dependent, passive, and nonassertive girls. Achievement motivation, on the other hand, is associated with independence, assertiveness, and competitiveness, all of which are considered unfeminine. Mischel thinks achievement motivation is fostered by sufficient affection and support to provide confidence and security, but not too much.

In general, permissiveness is positively associated with achievement orientation in females. Among adolescent females, parental restrictiveness is associated with low leadership, low responsibility, and low achievement aspirations. (Stein and Bailey, 1973)

Lois W. Hoffman (1975) theorized that early child-rearing experiences mold the girl into the underachieving adult, for from birth boys and girls are responded to differently
by their mothers. As the child becomes mobile she begins to strive for independence from the mother. Hoffman hypothesizes that the female child is given inadequate parental encouragement during these early independence strivings. Mothers seem to fear more for their "sweet, delicate daughter's" physical well being during this time when falls seem to be the norm than for their "rough and tumble sons". As children grow into middle childhood, they must begin to establish a separate sense of self. Hoffman indicates that girls have a more delayed separation of self from their mothers. Also, this separation may be incomplete, because the daughter is the same sex as the mother with the same sex role expectations, and because girls have fewer conflicts with their parents. As a result of her upbringing, the female does not develop confidence in her ability to cope with the environment independently and rarely displays highly achievement-oriented behavior as an adult.

Maternal Influence on Achievement

Achievement behavior seems to be positively related to various forms of parental encouragement of the achievement effort. Maternal acceleration during the early years is positively related to high achievement during adulthood. (Crandall and Battle, 1970) Perhaps, in some ways the pushy mother produces the effect she wants. The role of the father in encouraging achievement is less clear, however. But if a father approves of achievement, this may enable the daughter
to integrate high achievement into her concept of feminity.

Identification with the mother is usually associated with low motivation. However, the presence of an achieving mother seems to encourage achievement in her daughter. Girls whose mothers work and are satisfied with their role patterns are more likely to choose their mother as a model than girls with nonworking mothers or mothers dissatisfied with their role as a worker. (Baruch, 1975) Astin (1969) found females with doctorates were more likely to be in the labor force if their mothers had worked. Baruch (1972, 1974) found that daughters of working mothers assessed the professional competence of females higher than daughters of nonworking mothers. Almquist and Angrist (1971) found career salience and atypicality of choice were significantly associated with maternal employment. In one study of college females, maternal employment was associated with high achievement motivation and dominance. (Stein and Bailey, 1973)

Recapitulation

Although there are many hypotheses, there is still no accepted explanation for the decline in feminine achievement in young adulthood. The intellectual capacities of males and females are so similar that this can no longer be pointed to as the reason adult females do not excel outside the domestic sphere. Not only are females the intellectual equals of males, they seem to be more school-oriented and get better
grades through high school. However, fewer females go to college than males, and those females who do go to college are less likely to graduate. It is during the college years that the feminine decline in achievement begins. Nevertheless, some females do go on to pursue graduate and professional degrees, and there is no reason to believe that these females, like their male counterparts, are not in the highest levels of intellectual ability. For this reason it was hypothesized the professional group would score significantly higher on the Otis-Lennon Mental Ability Test than the homemaker group in this study.

The difference in achievement motivation in adult males and females has been of great interest to researchers. McClelland's (1953) early research on achievement motivation did not even try to apply the theory to females. Field (1951) tried to explain the difference in achievement motivation between the sexes by linking the female's need to achieve to the need to be liked. Other theories suggested males and females achieve for different reasons. Horner (1969, 1970) hypothesized females are not achievers, for they fear success, because they really want to be liked, not to be achievers. Research by Alper (1974) and O'Leary and Hammack (1975) found sex-role orientation to be correlated to fear of success. The more traditionally oriented the subjects exhibited more fear of success than subjects with a more non-traditional orientation. In the present study it was hypothesized the professional
group would be more non-traditional in their sex-role orientation, and they would respond to projective pictures in a different manner.

The home a child is reared in has a great influence on his future achievement. Family socioeconomic status is an important determinant of who goes to college. Females from families with higher parental educational levels, occupational levels, and higher socioeconomic status are more likely to receive parental encouragement to attend college and graduate school. (Astin, Bayer, Folger, 1970) Studies of childrearing practices indicate over-protectiveness and babying are negatively correlated to adult intellectual achievement and aspiration. (Crandall and Battle, 1970, Stein and Bailey, 1973)

These studies laid the foundation for the following hypotheses:

a) The professional group will report higher parental educational and occupational levels, b) the professional group will report their parents as having higher expectations for them, c) the professional group will describe their adolescence and young adulthood as more independent, d) the professional group would report their parents' child-rearing techniques less warm and nurturing than the homemaker group.

Achievement behavior seems to be positively related to various forms of parental encouragement of the achievement effort. Although identification with the mother is usually associated with low motivation the presence of an achieving mother seems to encourage achievement in her daughter. In a
study done by Tangri (1975), she found that females entering male-dominated professions (role innovators) who had working mothers, particularly those who had mothers in male-dominated professions, tended to take their mothers as role models. These role innovators did not reject the core female roles of wife and mother. However, they did expect to postpone marriage and have fewer children than traditionally oriented females. There was no evidence that the role innovators made their choice because of difficulty attracting the opposite sex. The role innovators were more committed to their profession than females entering traditionally feminine professions and were more autonomous and individualistic. Because of this it was hypothesized in this study that the professionals would report more maternal employment and more favorable reactions than the homemaker group.

Because of traditional sex-role stereotypes for females involving motherhood and keeping house, society often does not reward high achievement in females. When looking into the backgrounds of females who have entered male-dominated professions, it has been found they have had parental, peer, and faculty support that helped them feel comfortable in a non-traditional role. (Tangri, 1972) Perhaps, the more diffuse achievement needs of females make it necessary for a society to provide them flexibility, so they can respond to the various possibilities for achievement as a professional engaged in a career, as a wife, and as a mother.
CHAPTER III

METHOD

This study investigates non-traditional achievement from a developmental perspective. Two groups of college educated women were studied. The first group, the homemakers, was made up of females engaged in full-time homemaking. The second group, the professionals, consisted of females enrolled in graduate or professional school. The study, which was correlational-descriptive in nature, compared the two groups through the use of life history data and various paper-and-pencil tests. It was hoped that the various instruments would adequately differentiate and describe the two groups, and certain developmental patterns would emerge that tended to characterize the two groups.

Hypotheses

The following hypotheses were used to compare the two groups of subjects:

1. The professional group will score significantly higher on the Otis-Lennon Mental Ability Test than the homemaker group.

2. The professional group will score significantly lower on the Wellesley Role-Orientation Scale than the Homemaker
3. The professional group will report higher parental education levels than the homemaker group.

4. The professional group will report higher parental occupational levels than the homemaker group.

5. The professional group will report more maternal employment than the homemaker group.

6. The professional group will report more favorable reactions to maternal employment than the homemaker group.

7. The professional group will describe their behavior during adolescence as more independent than the homemaker group.

8. The professional group will describe their behavior during young adulthood as more independent than the homemaker group.

9. The professional group will respond to the "upset adult" projective picture differently than the homemaker group.

10. The professional group will respond to the "upset adult" projective picture with more achievement for the sake of competence stories than the homemaker group.

11. The professional group will report their parents as having higher expectations of achievement than the homemaker group.

12. The professional group will report their parents' child-rearing techniques as less warm and nurturing than the homemaker group.
Subjects

The sample in this study consisted of two groups of female college graduates. The first group, the homemakers, was made up of females engaged in full-time homemaking. The second group was called the professionals, because these females were engaged in graduate study that would, in all likelihood, lead to a professional career. The professional group was made up of three subgroups: a) Ph.D. students, b) J.D. students, and c) M.D. students. These females were then contacted by letter and asked to be subjects. Table 1 shows the number of initial letters sent to potential subjects, the number of test packets sent, and the number of completed test packets returned. All of the test material that was not completed was also returned by the potential subjects.

Although the original proposal called for a random sample, practical problems during the study necessitated the use of a sample of convenience. The names of the homemakers were obtained by the experimenter through personal contacts. Loyola University provided the names of the Ph.D. students and the J.D. students. The names of the M.D. students were obtained from a personal contact at the University of Vermont. Because all of the graduate students were accepted from applicants from all geographic areas it was felt that the populations from Loyola University and the University of Vermont were comparable.
### Table 1

**Selection of the Sample - Initial Letter Through Completion of Test Packet**

<table>
<thead>
<tr>
<th></th>
<th>First Letter</th>
<th>Number Responding</th>
<th>Packets Sent</th>
<th>Packets Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Homemakers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homemakers</td>
<td>53</td>
<td>51 / 97%</td>
<td>51</td>
<td>50 / 98%</td>
</tr>
<tr>
<td>No Children</td>
<td>15</td>
<td>15 / 100%</td>
<td>15</td>
<td>15 / 100%</td>
</tr>
<tr>
<td><strong>Total Homemakers</strong></td>
<td>68</td>
<td>66 / 97%</td>
<td>66</td>
<td>65 / 98%</td>
</tr>
<tr>
<td><strong>Ph.D. Students</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Students</td>
<td>50</td>
<td>31 / 62%</td>
<td>31</td>
<td>27 / 87%</td>
</tr>
<tr>
<td>Law Students</td>
<td>25</td>
<td>25 / 100%</td>
<td>25</td>
<td>15 / 60%</td>
</tr>
<tr>
<td><strong>Total Professionals</strong></td>
<td>121</td>
<td>83 / 68%</td>
<td>83</td>
<td>61 / 73%</td>
</tr>
</tbody>
</table>
In total 124 female college graduates took part in this study. All of the subjects resided in the Chicago area except the 25 University of Vermont medical students. The ages of the subjects ranged from 21 to 55 years. Table 2 presents some life history data collected from the homemakers, and Table 3 presents some life history data collected from the professionals.

**Procedure**

Each subject was sent a test packet that took approximately 1½-2 hours to complete. Directions for completing the tests were included in the packet. When the subjects completed the test packet, they were to return the tests in a stamped envelope provided for them. The material in each test packet was as follows:

1. **Directions for completing the test packet**
   
   These directions told the subject how to complete the test packet. The directions tried to answer any questions the subject might have about the tests. (See Appendix A for a copy of the directions.)

2. **Life History Data**
   
   This questionnaire was constructed by the experimenter. It sought information on socioeconomic status, educational history, work history, and family history of both the subject and her parents. (See Appendix A for a copy of the questionnaire.)
### TABLE 2

**DESCRIPTION OF THE HOMEMAKER SAMPLE**

<table>
<thead>
<tr>
<th>Subgroup 1: Homemakers with Children</th>
<th>Subgroup 2: Homemakers without Children</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Subjects</td>
<td>50</td>
<td>15</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>32.9</td>
<td>30.6</td>
</tr>
<tr>
<td>Range</td>
<td>22-51</td>
<td>23-55</td>
</tr>
<tr>
<td># of Siblings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Range</td>
<td>0-11</td>
<td>0-5</td>
</tr>
<tr>
<td>Marital Status</td>
<td>MARRIED</td>
<td>MARRIED</td>
</tr>
<tr>
<td>Present Socio-Economic Status</td>
<td>Upper Class</td>
<td>Middle Class</td>
</tr>
<tr>
<td># of Children</td>
<td>2.2</td>
<td>0</td>
</tr>
<tr>
<td>Range</td>
<td>1-4</td>
<td>0</td>
</tr>
<tr>
<td>I.Q.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>118.4</td>
<td>121.7</td>
</tr>
<tr>
<td>Range</td>
<td>98-145</td>
<td>103-141</td>
</tr>
<tr>
<td>College Grade Point Average</td>
<td>B</td>
<td>B</td>
</tr>
</tbody>
</table>
### TABLE 3

**DESCRIPTION OF THE PROFESSIONAL SAMPLE**

<table>
<thead>
<tr>
<th></th>
<th>SUBGROUP 3</th>
<th>SUBGROUP 4</th>
<th>SUBGROUP 5</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ph.D.</td>
<td>M.D.</td>
<td>J.D.</td>
<td></td>
</tr>
<tr>
<td>NUMBER OF SUBJECTS</td>
<td>25</td>
<td>15</td>
<td>19</td>
<td>59</td>
</tr>
<tr>
<td>AGE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEAN</td>
<td>34.8</td>
<td>25.6</td>
<td>27.8</td>
<td>30.2</td>
</tr>
<tr>
<td>RANGE</td>
<td>21-53</td>
<td>22-29</td>
<td>24-33</td>
<td></td>
</tr>
<tr>
<td>NUMBER OF SIBLINGS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEAN</td>
<td>1.7</td>
<td>2.2</td>
<td>2.8</td>
<td>2.2</td>
</tr>
<tr>
<td>RANGE</td>
<td>0-5</td>
<td>0-6</td>
<td>0-12</td>
<td></td>
</tr>
<tr>
<td>MARITAL STATUS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEAN (1=married 2=single)</td>
<td>1.2</td>
<td>1.4</td>
<td>1.8</td>
<td>1.5</td>
</tr>
<tr>
<td>PRESENT SOCIO-</td>
<td>MIDDLE</td>
<td>MIDDLE</td>
<td>MIDDLE</td>
<td>MIDDLE</td>
</tr>
<tr>
<td>ECONOMIC STATUS</td>
<td>CLASS</td>
<td>CLASS</td>
<td>CLASS</td>
<td>CLASS</td>
</tr>
<tr>
<td>NUMBER OF CHILDREN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEAN</td>
<td>.76</td>
<td>0</td>
<td>.2</td>
<td>.4</td>
</tr>
<tr>
<td>RANGE</td>
<td>0-4</td>
<td>0</td>
<td>0-2</td>
<td></td>
</tr>
<tr>
<td>I.Q.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEAN</td>
<td>125.8</td>
<td>131.5</td>
<td>127.1</td>
<td>127.7</td>
</tr>
<tr>
<td>RANGE</td>
<td>102-145</td>
<td>122-141</td>
<td>100-141</td>
<td></td>
</tr>
<tr>
<td>COLLEGE GRADE POINT</td>
<td>B+</td>
<td>B+</td>
<td>B+</td>
<td>B+</td>
</tr>
<tr>
<td>AVERAGE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Children's Reports of Parental Behavior Inventory

The Children's Reports of Parental Behavior Inventory (CRPB) (Schaefer, 1965) consists of 18 scales which describe specific, observable parental behavior. The scales were designed to measure concepts which are incorporated within a theoretical model for parental child-rearing practices. The inventory was designed for children up to age 16, so the subjects were asked to respond as they would have at age 16. Also because of the length of the inventory, only the 16 scales most relevant to this study were used. (See Appendix A for a copy of the CRPB.)

4. Biographical Inventory

The Independence Scale of the Biographical Inventory (BI) (Super, 1966) assesses independence during adolescence and young adulthood. The BI was developed based on the idea that personality traits can be measured through knowledge of life history data. Together, the 30 items of the Independence Scale are considered to be a reflection of the degree to which a person has been self-reliant in setting and pursuing goals. Test-retest reliability, six months between tests, for a sample of 66 twenty-five year old males was .87. For a group of eleventh and twelfth grade girls, tested two weeks apart, the test-retest reliability was .87. (See Appendix A for a copy of the Independence Scale.)
5. **Wellesley Role-Orientation Scale**

The Wellesley Role-Orientation Scale (WROS) (Alper, 1973) is a 24-item paper-and-pencil self-rating scale consisting of 7-item subscales and three filler items. The subscales tap the following areas: a) traits college girls regard as "feminine" rather than "masculine", b) role activities they find acceptable for themselves as females, c) career and/or career-oriented activities they consider more appropriate for males than for females. The WROS correlates positively and highly with the Traditional Family Ideology Scale by Levinson and Huffman. (Alper, 1973) A split-half reliability test found the WROS to have a Spearman's Rho = .58 p < .01 for group and a Spearman's Rho = .60 p < .01 for group two. (Alper, 1973) The WROS determines the sex-role orientation of the testee. (See Appendix A for a copy of the WROS.)

6. **Otis-Lennon Mental Ability Test - Advanced Level form J and K**

The Otis-Lennon is a 40 minute paper-and-pencil test designed to assess general mental ability. The emphasis is placed upon measuring reasoning and abstract thinking. The reliability for the Advanced Level for 11,866 twelfth grade pupils is as follows: Split-Half = .96 and Kuder-Richardson #20 = .95. (Otis-Lennon Manual)

7. **Projective Picture**

A picture containing a young girl and a male adult, card
The card was scored for the reason the subject gave for the adult being upset. Two major themes were scored: a) The adult was upset due to the child's poor academic achievement, b) the adult was upset due to the child's defiance of parental authority and/or the child's clumsiness. If the reason for upsettedness was poor academic achievement the following themes were scored: a) Was the adult supportive and nurturant? b) Was the adult derogating and punitive? c) Did the child end up an achiever? d) Is performance not improved?

If the subject wrote a story about achievement it was scored as follows: a) Stories that told of achievement to satisfy the young girl's need to achieve were scored as achievement for the sake of competence, b) stories that told of achievement by the young girl to satisfy the aspirations of others were scored as achievement for the sake of approval. (See Appendix A for copies of the directions and the picture.)

The data collected through the use of the instruments described was statistically analyzed to isolate those factors that differentiated the two groups. Those factors were used
to give a profile of those subjects who chose to enter male-dominated, non-traditional professions and those subjects who chose the traditional role of wife and mother.
CHAPTER IV

ANALYSIS OF THE DATA

This study has hypothesized that certain developmental trends in the life-histories of the subjects could be used to differentiate those females engaged in professional study from those females engaged in homemaking. The hypotheses tested were formulated in hopes of identifying the major variables that differentiated the homemakers from the professionals. After the hypothesis testing was completed, a discriminant analysis was performed to determine which variables best discriminated between the two groups. Chapter IV will be concerned with the presentation and analysis of the data gathered in this study. The results of the hypothesis testing will be presented first followed by the discriminant analysis.

1. The Professional Group Will Score Significantly Higher on the Otis-Lennon Mental Ability Test than the Homemaker Group

A t test was used to compare the mean I.Q. score, as measured by the Otis-Lennon, of the homemakers and the professionals. Table 4 presents the results of the t test used to compare the mean I.Q.'s of the two groups.
TABLE 4

COMPARISON OF THE MEAN I.Q.s OF THE HOMEMAKERS AND THE PROFESSIONALS

<table>
<thead>
<tr>
<th>GROUP</th>
<th>n</th>
<th>Mean</th>
<th>$S_x$</th>
<th>Separate t value</th>
<th>Variance Estimate</th>
<th>2-tailed prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homemakers</td>
<td>65</td>
<td>$118.969$</td>
<td>$10.06$</td>
<td>$-4.33$</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Professionals</td>
<td>59</td>
<td>$127.661$</td>
<td>$12.07$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A $t = -4.33$, d.f. = 113, with a 2-tailed $p = .000$ supported the hypothesis that the professional group would score significantly higher on the Otis-Lennon than the homemaker group. This result was expected, because in order to be admitted to a graduate program that leads to a Ph.D., J.D., or M.D. degree a candidate must possess above average intelligence. Also, females who enter male-dominated professions tend to come from the highest levels of measured intelligence.

2. The Professionals Will Score Significantly Lower on the Wellesley Role-Orientation Scale Than the Homemaker Group

The females in the professional group were chosen because they were actively engaged in training that would lead to a career in a male-dominated profession. Females who enter male-dominated professions are typically non-traditional in their sex-role orientation. For this reason it was hypothesized the
professionals would score lower, more non-traditional, on the WROS which is a measure of sex-role orientation.

A t test was used to compare the mean WROS scores of the professionals and the homemakers. Table 5 presents the results of the t test.

**TABLE 5**

**COMPARISON OF THE MEAN WROS SCORES OF THE HOMEMAKERS AND THE PROFESSIONALS**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>n</th>
<th>Mean</th>
<th>$S_x$</th>
<th>$t$ Value</th>
<th>d.f.</th>
<th>2-tailed prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homemakers</td>
<td>65</td>
<td>62.09</td>
<td>13.83</td>
<td>4.23</td>
<td>122</td>
<td>0.000</td>
</tr>
<tr>
<td>Professionals</td>
<td>59</td>
<td>52.63</td>
<td>10.71</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A $t = 4.23$, d.f. = 122, with a p. = .000 supported the hypothesis that the professionals scored significantly lower on the WROS than the homemakers, and thus indicated they were non-traditional in their sex-role orientation.

3. The Professional Group Will Report Higher Parental Education Levels than the Homemaker Group

It was hypothesized that the professionals would come from families that had higher parental education levels than the homemakers, because in families with higher educational levels there would presumably be more parental encouragement to pursue a graduate degree. It is also possible that if one or both of the parents held an advanced degree they would
serve as a role-model for their daughter. A Chi Square analysis was used to measure how strongly subject grouping, homemaker or professional, and parental education were associated to each other. Table 6 shows the results of the Chi Square test analyzing the relationship between paternal education and subject grouping.

TABLE 6

CHI SQUARE ANALYSIS OF PATERNAL EDUCATION AND SUBJECT GROUPING

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Home.</td>
<td>4</td>
<td>5</td>
<td>14</td>
<td>10</td>
<td>2</td>
<td>11</td>
<td>4</td>
<td>15</td>
<td>65</td>
</tr>
<tr>
<td>Prof.</td>
<td>11</td>
<td>2</td>
<td>5</td>
<td>12</td>
<td>0</td>
<td>9</td>
<td>5</td>
<td>15</td>
<td>59</td>
</tr>
<tr>
<td>Column Total</td>
<td>15</td>
<td>7</td>
<td>19</td>
<td>22</td>
<td>2</td>
<td>20</td>
<td>9</td>
<td>30</td>
<td>124</td>
</tr>
</tbody>
</table>

Chi Square = 11.04399  d.f. = 7  significance = 0.1367

Table 6 indicates the relationship between subject grouping and paternal education is not significant, and the hypothesis is not supported.

In Table 7 the relationship between maternal education and subject grouping is shown.
TABLE 7

CHI SQUARE ANALYSIS OF MATERNAL EDUCATION AND SUBJECT GROUPING

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Home.</td>
<td>1</td>
<td>6</td>
<td>18</td>
<td>16</td>
<td>3</td>
<td>13</td>
<td>1</td>
<td>7</td>
<td>65</td>
</tr>
<tr>
<td>Prof.</td>
<td>7</td>
<td>6</td>
<td>13</td>
<td>13</td>
<td>3</td>
<td>10</td>
<td>2</td>
<td>7</td>
<td>59</td>
</tr>
<tr>
<td>Column Total</td>
<td>8</td>
<td>12</td>
<td>29</td>
<td>29</td>
<td>6</td>
<td>23</td>
<td>3</td>
<td>14</td>
<td>124</td>
</tr>
</tbody>
</table>

Chi Square = 6.95058  d.f. = 7  Significance = .4340

As in Table 6, Table 7 indicates the relationship between subject grouping and maternal education is not significant. Again this information does not lend support to the hypothesis.

The two Chi Square analyses do not support the hypothesis that higher parental educational levels would be associated with the professional group. Tables 6 and 7 show that there are few discrepancies between the parental education levels and the subject groupings. It is interesting to note, however, the largest discrepancies occur at the elementary school level. More mothers and fathers of the professionals had completed only elementary school than parents of the homemakers, which is notable for this is completely counter to the hypothesis. The next hypothesis
deals with parental occupational levels, and perhaps there is an association between low parental educational levels and low parental occupational levels.

4. The Professional Group Will Report Higher Parental Occupational Levels Than the Homemaker Group

It was hypothesized that the parents of the professionals would come from higher occupational levels, because it would provide a role model for the daughter and also expose her to what is involved in a professional career. A Chi Square analysis was used to measure the strength of association between parental occupational level and subject grouping. Table 8 shows the results of the Chi Square test analyzing the association between maternal occupational levels and subject grouping.

TABLE 8

CHI SQUARE ANALYSIS OF MATERNAL OCCUPATIONAL LEVEL AND SUBJECT GROUPING

<table>
<thead>
<tr>
<th>Group</th>
<th>Semi-Skilled</th>
<th>Clerical/Sales</th>
<th>Business Manager</th>
<th>Nurse Teacher Librarian</th>
<th>Other Professional</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>8</td>
<td>20</td>
<td>4</td>
<td>14</td>
<td>3</td>
<td>49</td>
</tr>
<tr>
<td>Prof.</td>
<td>13</td>
<td>19</td>
<td>4</td>
<td>9</td>
<td>4</td>
<td>49</td>
</tr>
<tr>
<td>Column Total</td>
<td>21</td>
<td>39</td>
<td>8</td>
<td>23</td>
<td>7</td>
<td>98</td>
</tr>
</tbody>
</table>

Chi Square = 2.44593  d.f. = 4  Significance = .6543
The total n does not equal 124 because those mothers who never worked were not included in the analysis. Maternal occupational level was based on the type of job a subject's mother held anytime after she completed her education. These numbers do not imply that these mothers worked after having children or that they are presently employed.

A Chi Square = 2.44593, d.f. = 4, with p. = .6543 shows maternal occupational level to be not associated with subject grouping. This result did not support the hypothesis.

Next a Chi Square analysis of paternal occupational level and subject grouping was done. The results of this analysis are shown in Table 9.

TABLE 9

CHI SQUARE ANALYSIS OF PATERNAL OCCUPATIONAL LEVEL AND SUBJECT GROUPING

<table>
<thead>
<tr>
<th>Group</th>
<th>Semi-Skilled</th>
<th>Skilled</th>
<th>Sales</th>
<th>Business/Managerial</th>
<th>Professional</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home.</td>
<td>0</td>
<td>8</td>
<td>2</td>
<td>34</td>
<td>21</td>
<td>65</td>
</tr>
<tr>
<td>Prof.</td>
<td>9</td>
<td>7</td>
<td>3</td>
<td>20</td>
<td>20</td>
<td>59</td>
</tr>
<tr>
<td>Column Total</td>
<td>9</td>
<td>15</td>
<td>5</td>
<td>54</td>
<td>41</td>
<td>124</td>
</tr>
</tbody>
</table>

Chi Square = 12.66  d.f. = 4  Significance = 0.0131

A Chi Square = 12.66, d.f. = 4, with p. = .0131 shows
paternal occupational level and subject grouping to be associated with each other. However, this significant Chi Square does not lend support to the hypothesis. By looking at Table 9 it can be seen that only fathers of the professionals held semi-skilled jobs and that more homemakers had fathers engaged in business/managerial occupations than professionals. The data indicate that the paternal occupational level of the homemakers is higher than that of the professionals.

In order to explain the outcome of the Chi Square analysis of paternal occupational levels further analysis was done. Three additional Chi Square Analyses were done comparing the homemakers and the medical students, the homemakers and the law students, and the homemakers and the doctoral students. The results of these analyses are presented in Tables 10, 11, and 12.

Table 10 shows the Chi Square analysis of the association between paternal occupational level and the homemakers and the medical students.
Chi Square Analysis of Paternal Occupational Level and Subject Grouping - Homemaker or M.D.

Table 10

<table>
<thead>
<tr>
<th>Group</th>
<th>Semi-Skilled</th>
<th>Skilled</th>
<th>Sales</th>
<th>Business/Managerial</th>
<th>Professional</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>0</td>
<td>8</td>
<td>2</td>
<td>34</td>
<td>21</td>
<td>65</td>
</tr>
<tr>
<td>M.D.</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Column Total</td>
<td>1</td>
<td>8</td>
<td>4</td>
<td>40</td>
<td>27</td>
<td>80</td>
</tr>
</tbody>
</table>

Chi Square = 9.32649  d.f. = 4  Significance = 0.0534

A Chi Square = 9.32649, d.f. = 4, with p. = .0534 shows there is a significant relationship between paternal occupational level and subject grouping - homemaker or M.D. The association proved significant because the M.D.'s have significantly more fathers engaged in professional occupations.

The association between paternal occupational level and subject grouping - homemaker or J.D. is shown in Table 11.

Table 11

<table>
<thead>
<tr>
<th>Group</th>
<th>Semi-Skilled</th>
<th>Skilled</th>
<th>Sales</th>
<th>Business/Managerial</th>
<th>Professional</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>0</td>
<td>8</td>
<td>2</td>
<td>34</td>
<td>21</td>
<td>65</td>
</tr>
<tr>
<td>J.D.</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>8</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>Column Total</td>
<td>2</td>
<td>11</td>
<td>2</td>
<td>42</td>
<td>27</td>
<td>84</td>
</tr>
</tbody>
</table>

Chi Square = 7.87132  d.f. = 4  Significance = .0964
The Chi Square = 7.87132, d.f. = 4, with p. = .0964 indicates there is no significant relationship between paternal occupational level and subject grouping - homemaker or J.D.

Table 12 shows the Chi Square analysis of the relationship between paternal occupational level and subject grouping - homemaker or Ph.D.

### Table 12

**CHI SQUARE ANALYSIS OF PATERNAL OCCUPATIONAL LEVEL AND SUBJECT GROUPING - HOMEMAKER OR Ph.D.**

<table>
<thead>
<tr>
<th>Group</th>
<th>Semi-Skilled</th>
<th>Skilled</th>
<th>Sales</th>
<th>Business/Managerial</th>
<th>Professional</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>0</td>
<td>8</td>
<td>2</td>
<td>34</td>
<td>21</td>
<td>65</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>6</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>Column Total</td>
<td>6</td>
<td>12</td>
<td>3</td>
<td>40</td>
<td>29</td>
<td>90</td>
</tr>
</tbody>
</table>

Chi Square = 19.08665  d.f. = 4  Significance = .0008

The Chi Square = 19.08665, d.f. = 4, with p. = .0008 shows there is a significant relationship between paternal occupation and subject grouping - homemaker or Ph.D. As Table 12 shows the paternal occupational level of the Ph.D.'s is significantly lower than that of the homemakers' fathers.

The results of the Chi Square analysis comparing paternal occupational levels with subject grouping - homemakers or professionals were significant, however it showed the paternal
occupational levels of the homemakers to be higher than the paternal occupational levels of the professionals. These results were in direct opposition with what was hypothesized. Further analysis indicated that significance was reached in the original analysis because the paternal occupational levels of the Ph.D. students were much lower than the paternal occupational levels of the homemakers. The paternal occupational levels of the J.D.'s showed no significant difference from those of the homemakers, and the fathers of the M.D.'s held significantly higher occupational levels than the fathers of the homemakers. Therefore, the hypothesis is only partially supported since only the medical students reported their fathers had higher occupational levels than the homemakers. Further study is needed to explain the role of parental occupation in the development of feminine achievement motivation for it appears that females who enter medicine are more apt to have professional fathers, whereas female Ph.D. students often have fathers employed in low level occupations.

5. The Professional Group Will Report More Maternal Employment than the Homemaker Group

Females engaged in an educational program that will prepare them for a professional career in all likelihood will work full-time even if they become wives and mothers. It was hypothesized that daughters who had employed mothers would be more likely to prepare for a full-time professional career
for they had a working mother to serve as a role-model. For this reason a Chi Square analysis was performed to determine if there was a relationship between maternal employment and subject grouping. Table 13 shows the results of this analysis.

**TABLE 13**

**CHI SQUARE ANALYSIS OF MATERNAL EMPLOYMENT AND SUBJECT GROUPING**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mother held a job after children</th>
<th>Mother did not hold job after children</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOMEMAKERS</td>
<td>36</td>
<td>29</td>
<td>65</td>
</tr>
<tr>
<td>PROFESSIONALS</td>
<td>39</td>
<td>20</td>
<td>59</td>
</tr>
<tr>
<td>Column Total</td>
<td>75</td>
<td>49</td>
<td>124</td>
</tr>
</tbody>
</table>

Chi Square = 1.07164  d.f. = 1  Significance = .3006

The Chi Square = 1.07164, d.f. = 1, with p. = .3006 reveals that there is no significant relationship between maternal employment and membership in either the homemaker or the professional group. It is apparent that having a working mother was not a significant factor in influencing the females in the professional group to pursue a career. Perhaps future research should explore the relationship between working mothers and their daughters to determine if the working mother has any influence on her daughter's future career plans.
6. The Professional Group Will Report More Favorable Reactions to Maternal Employment than the Homemaker Group

If the professionals viewed their employed mother as role-models and then prepared themselves for high level professional careers, it would seem likely that they looked upon their mothers' employment favorably or they would not have planned to work themselves. For this reason, it was hypothesized that the professionals would report more favorable reactions to maternal employment than the homemaker group. A Chi Square analysis was performed to determine if there was a relationship between reactions to maternal employment and subject grouping. Table 14 shows the results of this analysis.

<table>
<thead>
<tr>
<th></th>
<th>Mother didn't work</th>
<th>Subject disliked mother working</th>
<th>Subject didn't mind mother working</th>
<th>Subject felt mother working was a burden</th>
<th>Subject proud mother worked</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>28</td>
<td>4</td>
<td>19</td>
<td>2</td>
<td>12</td>
<td>65</td>
</tr>
<tr>
<td>Prof.</td>
<td>20</td>
<td>1</td>
<td>21</td>
<td>1</td>
<td>16</td>
<td>59</td>
</tr>
<tr>
<td>Column Total</td>
<td>48</td>
<td>5</td>
<td>40</td>
<td>3</td>
<td>28</td>
<td>124</td>
</tr>
</tbody>
</table>

Chi Square = 3.85679   d.f. = 4   Significance = 0.4257
A Chi Square = 3.85679, d.f. = 4, with p. = .4257 indicates the association between reaction to maternal employment and subject grouping is not significant. Perhaps the professional group and the homemaker group reacted to maternal employment in a similar manner because almost half of the mothers in both groups did not work. It is also possible that the mothers who were employed did not work long enough for their daughters to form any reaction to their employment.

7. The Professional Group Will Describe Their Behavior During Adolescence as More Independent than the Homemaker Group

The professional group was involved in educational training that would lead to a career in a male-dominated profession. It has already been shown that the professionals were more nontraditional in their sex-role orientation and their career choices support this orientation. Because the professionals made nontraditional career choices it was hypothesized they would show more independence in other areas of their behavior even in adolescence. The Biographical Inventory was used to measure independence during adolescence, and a t test was used to compare the mean independence scores of the homemaker and professional groups. Table 15 presents the results of the t test.
TABLE 15

COMPARISON OF THE MEAN INDEPENDENCE DURING ADOLESCENCE SCORES ON THE BIOGRAPHICAL INVENTORY OF THE HOMEMAKERS AND PROFESSIONALS

<table>
<thead>
<tr>
<th>GROUP</th>
<th>n</th>
<th>Mean</th>
<th>$S_x$</th>
<th>Pooled Variance Estimate value</th>
<th>2-tailed d.f.</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homemakers</td>
<td>65</td>
<td>13.7538</td>
<td>9.9</td>
<td>-0.20</td>
<td>122</td>
<td>0.843</td>
</tr>
<tr>
<td>Professionals</td>
<td>59</td>
<td>14.0169</td>
<td>2.56</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A $t = -0.20$, d.f. = 122, with a 2-tailed $p. = .843$ does not support the hypothesis. It may be that the two groups did not differ in their mean independence scores as measured by the BI, but perhaps the BI does not measure the type of independence females who enter male-dominated fields must exhibit in order to succeed.

8. The Professional Group Will Report Their Behavior During Young Adulthood as More Independent than the Homemaker Group

Because the professionals were engaged in educational programs that would lead to a career in a male-dominated profession which is nontraditional for young females in our society it was hypothesized that the professionals would report their behavior as young adults as being more independent than the homemakers. The Biographical Inventory was used to measure independence during young adulthood, and a
A t = -1.53, d.f. = 122, with a 2-tailed p. = .128 indicated there is no significant difference between the mean independence scores as a young adult of the homemakers and the professionals. As was suggested previously, perhaps the BI does not measure the type of independence females who enter male-dominated fields must exhibit in order to succeed.

9. The Professional Group Will Respond to the "Upset Adult" Projective Picture Differently than the Homemaker Group

The hypothesis stated that females who scored non-traditionally on the WROS would respond differently to the "upset adult" picture than females who scored traditionally
on the WROS. It was thought that the traditionally oriented females would attribute the adult's upsettedness to the child's poor academic achievement, while females who were nontraditionally oriented would attribute the adult's upsettedness to the child's defiance of parental authority and/or the child's clumsiness. A Chi Square analysis was performed to determine if there was a significant relationship between response to the "upset adult" picture and subject grouping. Table 17 presents the results of the Chi Square analysis.

**TABLE 17**

| CHI SQUARE ANALYSIS OF RESPONSE TO "UPSET ADULT" PICTURE AND SUBJECT GROUPING |
|---|---|---|---|
| Group | Upset due to poor school work | Upset due to child breaking rule | Row Total |
| Homemakers | 29 | 19 | 48 |
| Professionals | 18 | 23 | 41 |
| Column Total | 47 | 42 | 89 |

Chi Square = 1.80253  d.f. = 1  Significance = 0.1794

Table 17 indicates the relationship between response to the "upset adult" picture and subject grouping is not significant. Perhaps the picture itself was not conducive to telling stories not connected to academic achievement for the man and the child seem to be looking at a book. By looking
at Table 17 it should be noted that more professionals told stories dealing with the child's defiance of authority but this number was not significant. It should also be noted that more than one-third of the subjects told stories that did not deal with either academic failure or defiance of parental authority. These facts should be taken into account when looking at the results of the Chi Square analysis.

10. The Professional Group Will Respond to the "Upset Adult" Projective Picture with More Achievement for the Sake of Competence Stories than the Homemaker Group

In the study of achievement motivation males have typically told stories in response to projective pictures that indicated they wished to achieve for the sake of competence, while females have responded with stories that indicated they wished to achieve in order to gain approval from others. Because the professionals were nontraditional in their sex-role orientation it was hypothesized that they would be more likely to respond to the "upset adult" picture in a typically male fashion and tell achievement for the sake of competence stories. The stories told by the homemakers and professionals were grouped by theme and a Chi Square analysis was performed. Table 18 presents the results of this analysis.
TABLE 18

CHI SQUARE ANALYSIS OF THEME OF RESPONSE TO "UPSET ADULT" PICTURE AND SUBJECT GROUPING

<table>
<thead>
<tr>
<th>Group</th>
<th>Achieved to please others</th>
<th>Achievement for competence stories</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homemakers</td>
<td>23</td>
<td>7</td>
<td>30</td>
</tr>
<tr>
<td>Professionals</td>
<td>7</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>Column Total</td>
<td>30</td>
<td>17</td>
<td>47</td>
</tr>
</tbody>
</table>

Chi Square = 4.48248  d.f. = 1  Significance = 0.0342

The Chi Square analysis indicates there is a significant relationship between theme of response to the "upset adult" picture and subject grouping, therefore the hypothesis is supported.

11. The Professional Group Will Report Their Parents as Having Higher Expectations of Achievement than the Homemaker Group

It has been found that parental support, encouragement and high expectations bear a relationship to achievement. The subjects in this study were asked four questions about their parents' expectations concerning their expectations for their daughter. Four Chi Square analyses were performed in order to discover if there was a relationship between parental
expectations and subject grouping. Tables 19, 20, 21, and 22 present the results of the Chi Square analyses.

**TABLE 19**

CHI SQUARE ANALYSIS OF PARENTAL EXPECTATION FOR SUBJECT TO BE AT THE TOP OF HER COLLEGE CLASS AND SUBJECT GROUPING

<table>
<thead>
<tr>
<th>Group</th>
<th>Did not expect daughter to be at top of class</th>
<th>Expected daughter to be at top of class</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homemakers</td>
<td>56</td>
<td>9</td>
<td>65</td>
</tr>
<tr>
<td>Professionals</td>
<td>27</td>
<td>32</td>
<td>59</td>
</tr>
<tr>
<td>Column Total</td>
<td>83</td>
<td>41</td>
<td>124</td>
</tr>
</tbody>
</table>

Chi Square = 21.00949   d.f. = 1   Significance = 0.0000

**TABLE 20**

CHI SQUARE ANALYSIS OF PARENTAL EXPECTATION FOR SUBJECT TO RECEIVE A J.D., M.D., OR Ph.D., AND SUBJECT GROUPING

<table>
<thead>
<tr>
<th>Group</th>
<th>Did not expect an advanced degree</th>
<th>Expected an advanced degree</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homemakers</td>
<td>65</td>
<td>0</td>
<td>65</td>
</tr>
<tr>
<td>Professionals</td>
<td>54</td>
<td>5</td>
<td>59</td>
</tr>
<tr>
<td>Column Total</td>
<td>119</td>
<td>5</td>
<td>124</td>
</tr>
</tbody>
</table>

Chi Square = 3.75881   d.f. = 1   Significance = 0.0525
### TABLE 21

**CHI SQUARE ANALYSIS OF PARENTAL EXPECTATIONS FOR SUBJECT TO MARRY AND SUBJECT GROUPING**

<table>
<thead>
<tr>
<th>Group</th>
<th>Felt marriage was important</th>
<th>Felt marriage was not important</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homemakers</td>
<td>50</td>
<td>15</td>
<td>65</td>
</tr>
<tr>
<td>Professionals</td>
<td>41</td>
<td>18</td>
<td>59</td>
</tr>
<tr>
<td>Column Total</td>
<td>91</td>
<td>33</td>
<td>124</td>
</tr>
</tbody>
</table>

Chi Square = 0.53544  d.f. = 1  Significance = 0.4643

### TABLE 22

**CHI SQUARE ANALYSIS OF PARENTAL EXPECTATION FOR SUBJECT TO HAVE A CAREER IN A MALE-DOMINATED FIELD AND SUBJECT GROUPING**

<table>
<thead>
<tr>
<th>Group</th>
<th>Expected not to enter male-dominated field</th>
<th>Expected to enter male-dominated field</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homemakers</td>
<td>64</td>
<td>1</td>
<td>65</td>
</tr>
<tr>
<td>Professionals</td>
<td>53</td>
<td>6</td>
<td>59</td>
</tr>
<tr>
<td>Column Total</td>
<td>117</td>
<td>7</td>
<td>124</td>
</tr>
</tbody>
</table>

Chi Square = 2.85678  d.f. = 1  Significance = 0.0910
By looking at Tables 19-22 it can be seen there was a significant difference in the expectations of the two groups of parents in regard to their daughters' academic achievement. The parents of the professionals expected their daughters to be at the top of their college class and to go on and receive an advanced degree while the parents of the homemakers did not. However, there was not a significant difference in parental expectations in regard to marriage or career plans. The parents of the professionals expected high academic achievement but did not encourage their daughters to remain single and enter a male-dominated career.

12. The Professional Group Will Report Their Parents' Child-Rearing Techniques as Less Warm and Nurturing than the Homemaker Group

An analysis of child-rearing techniques indicates that parental nurturance influences the need to achieve. There is a negative correlation between parental warmth and adult intellectual achievement. (Stein and Bailey, 1973) In this study the subjects were given the Children's Reports of Parental Behavior to assess the child-rearing techniques used by the subjects' parents. An analysis of the CRPB indicated the parents of the homemakers were significantly more child-centered, more positively involved with their children, and more accepting of their child as an individual. These techniques were found to be significant by comparing the mean
scores of the two groups through the use of a t test. Table 23 shows the results of this analysis.

TABLE 23

COMPARISON OF THE MEAN SCORES RELATING TO PARENTAL WARMTH AND NURTURANCE ON THE CRPB OF THE HOMEMAKERS AND PROFESSIONALS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>n</th>
<th>Mean</th>
<th>$S_x$</th>
<th>Separate t value</th>
<th>Variance Est.</th>
<th>d.f.</th>
<th>2-tailed prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child-centeredness</td>
<td>Home.</td>
<td>65</td>
<td>18.00</td>
<td>3.509</td>
<td>2.65</td>
<td>107</td>
<td>.009</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prof.</td>
<td>59</td>
<td>16.02</td>
<td>4.663</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Involvement</td>
<td>Home.</td>
<td>65</td>
<td>38.03</td>
<td>6.842</td>
<td>3.10</td>
<td>107</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prof.</td>
<td>59</td>
<td>33.53</td>
<td>9.083</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accept as an individual</td>
<td>Home.</td>
<td>65</td>
<td>38.17</td>
<td>3.017</td>
<td>2.25</td>
<td>108</td>
<td>.027</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prof.</td>
<td>59</td>
<td>34.61</td>
<td>3.378</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The parents of the professionals expected high academic achievement from their daughters, and it is obvious that the parents were not disappointed. Perhaps this expectation of high achievement creates an atmosphere that is less warm and nurturing but encourages achievement.

Discriminant Analysis

Discriminant analysis can be utilized to statistically distinguish between two groups. The mathematical objective of discriminant analysis is to weigh and linearly combine the
discriminating variables so as to make the groups as statistically distinct as possible. In this study the groups would be defined as the homemakers and the professionals. To distinguish between the two groups a set of discriminating variables were found. Because many variables were found to discriminate between the two groups the variables were divided into two categories, biographical and personal. Even after placing the variables in the two categories it was felt there were more variables in each category than necessary to achieve satisfactory discrimination between the two groups. For this reason a stepwise discriminant analysis was used so as to select only the variables that best discriminated between the two groups to make up the discriminant function.

The biographical data was analyzed through the use of a stepwise procedure. Only 12 of the original 45 variables were selected for inclusion in the discriminant function before the addition to Rae's V became nonsignificant. The results of the stepwise procedure are shown in Table 24.

### TABLE 24

<table>
<thead>
<tr>
<th>Discriminant Function</th>
<th>Eigenvalue</th>
<th>Relative Percentage</th>
<th>Canonical Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.56071</td>
<td>100.00</td>
<td>0.599</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Functions Derived</th>
<th>Wilks' Lambda</th>
<th>Chi Square</th>
<th>d.f.</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.6407</td>
<td>51.637</td>
<td>12</td>
<td>0.000</td>
</tr>
</tbody>
</table>
As Table 24 indicates the 12 variables chosen for the discriminant function produced a moderately high degree of separation as indicated by a final Wilk's Lambda = .6407 and a canonical correlation = .599.

Of the original 45 biographical variables 33 were not included in the standardized discriminant function. Table 25 lists the variables not included in the function and each variable's entry criterion. Low entry criterions are given to those variables that discriminate the least between the two groups.

**TABLE 25**

**STEPWISE DISCRIMINANT ANALYSIS**

**BIOGRAPHICAL DATA**

**VARIABLES NOT INCLUDED IN THE ANALYSIS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Entry Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother a librarian</td>
<td>3.0000</td>
</tr>
<tr>
<td>Subject's job after college; semi-skilled, skilled, clerical or sales, business/managerial, nurse, teacher, librarian, other professional</td>
<td>2.0000</td>
</tr>
<tr>
<td>Subject's college major (11 choices)</td>
<td>1.0000</td>
</tr>
<tr>
<td>Mother a nurse</td>
<td>1.0000</td>
</tr>
<tr>
<td>Mother did not work</td>
<td>.1473</td>
</tr>
<tr>
<td>Mother a semi-skilled worker</td>
<td>.0514</td>
</tr>
<tr>
<td>Mother held job in clerical or sales</td>
<td>.0002</td>
</tr>
</tbody>
</table>

Table 25 shows that the next variable that would have
been included in the discriminant function would have been mother a librarian. The type of job a subject held after graduation from college and the subject's college major appears to be information that is not needed, for it is almost useless in discriminating between the homemakers and the professionals.

The biographical variables that were found to discriminate between the homemakers and the professionals are shown in Table 26. Positive scores indicate the discriminants for the homemaker group, and negative scores indicate the discriminants for the professional group.

### TABLE 26

**STEPWISE DISCRIMINANT ANALYSIS**

**BIOGRAPHICAL DATA - HOMEMAKERS / PROFESSIONALS**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Function 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father a semi-skilled worker</td>
<td>-0.04535</td>
</tr>
<tr>
<td>Father in a business/managerial job</td>
<td>0.14706</td>
</tr>
<tr>
<td>Parents are upper class</td>
<td>-0.35992</td>
</tr>
<tr>
<td>Parents are lower-middle class</td>
<td>-1.11191</td>
</tr>
<tr>
<td>Parents are lower class</td>
<td>-0.52126</td>
</tr>
<tr>
<td>Present religion is Jewish</td>
<td>-0.48038</td>
</tr>
<tr>
<td>Present religion is Protestant</td>
<td>0.20841</td>
</tr>
<tr>
<td>Follow no organized religion</td>
<td>-0.51555</td>
</tr>
<tr>
<td>Mother a skilled worker</td>
<td>0.28021</td>
</tr>
<tr>
<td>Mother in a business/managerial job</td>
<td>-0.22308</td>
</tr>
<tr>
<td>Mother a teacher</td>
<td>-0.28300</td>
</tr>
<tr>
<td>Mother another professional</td>
<td>-0.34134</td>
</tr>
</tbody>
</table>
Three-quarters of the discriminants shown in Table 27 are variables that can be used to discriminate the professional group from the homemaker group, which indicates that the subjects in the professional group came from backgrounds that could be characterized in a particular manner. By looking at the absolute values of the function coefficients it is possible to rank the variables in their order of "discriminating power". The higher a variable's absolute value the more power it has to discriminate between the two groups.

### TABLE 27

**STEPWISE DISCRIMINANT ANALYSIS**

**BIOGRAPHICAL DATA**

**VARIABLES LISTED IN ORDER OF DISCRIMINATING POWER**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents lower-middle class</td>
<td>-1.1119</td>
</tr>
<tr>
<td>Parents are lower class</td>
<td>-0.5213</td>
</tr>
<tr>
<td>Follow no organized religion</td>
<td>-0.5156</td>
</tr>
<tr>
<td>Present religion is Jewish</td>
<td>-0.4904</td>
</tr>
<tr>
<td>Parents are upper class</td>
<td>-0.3599</td>
</tr>
<tr>
<td>Mother an other professional</td>
<td>-0.3413</td>
</tr>
<tr>
<td>Mother a teacher</td>
<td>-0.2830</td>
</tr>
<tr>
<td>Mother a skilled-worker</td>
<td>0.2802</td>
</tr>
<tr>
<td>Mother in a business/managerial job</td>
<td>-0.2231</td>
</tr>
<tr>
<td>Present religion is Protestant</td>
<td>0.2084</td>
</tr>
<tr>
<td>Father in a business/managerial job</td>
<td>0.1471</td>
</tr>
<tr>
<td>Father a semi-skilled worker</td>
<td>-0.0454</td>
</tr>
</tbody>
</table>
The socioeconomic class of the parents of the professional was a highly discriminating variable in this study. The professionals tended to come from families at the extremes of the socioeconomic scale. The present religion of the professional, also sets her apart from the homemaker. If a subject in the professional group follows any organized religion it tends to be Judaism, whereas the homemakers are mostly Protestant. The mothers of the professionals tended to be employed in professional or business/managerial jobs, while the fathers were semi-skilled workers. However, the homemakers' mothers tended to be the semi-skilled workers and the fathers employed in business/managerial type jobs.

The personal data was analyzed through the use of a stepwise procedure also. Only 10 of the original 26 variables were included in the discriminant function before the addition to Rao's $V$ became nonsignificant. The results of the stepwise procedure are shown in Table 28.

**TABLE 28**

**STEPWISE DISCRIMINANT ANALYSIS**

<table>
<thead>
<tr>
<th>PERSONAL DATA - HOMEMAKERS / PROFESSIONALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>**Discriminant Function</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Functions Derived</th>
<th>Wilks' Lambda</th>
<th>Chi Square</th>
<th>d.f.</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.2882</td>
<td>145.580</td>
<td>10</td>
<td>0.000</td>
</tr>
</tbody>
</table>
As Table 28 indicates the 10 variables chosen for the discriminant function produced a high degree of separation as shown by the final Wilk's Lambda = .2882 and a canonical correlation = .844.

Sixteen of the original 26 variables were not included in the standardized discriminant function. Table 29 lists the variables not included in the standardized discriminant function and its entry criterion. The higher the entry criterion the more the variable discriminates.

TABLE 29

STEPWISE DISCRIMINANT ANALYSIS
PERSONAL DATA
VARIABLES NOT INCLUDED IN THE ANALYSIS

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>ENTRY CRITERION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do plan to hold a full-time job</td>
<td>6.83268</td>
</tr>
<tr>
<td>Husband's occupation (6 choices)</td>
<td>2.0000</td>
</tr>
<tr>
<td>Present socioeconomic status (5 choices)</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Table 29 indicates that planning to hold a full-time job would have been the next variable included in the discriminant function. A subject's husband's occupation and her present socioeconomic status appear to be poor discriminators between the homemakers and the professionals.

The personal variables that were found to discriminate between the homemakers and the professionals are listed in
Table 30. Positive scores indicate the discriminants for the homemaker group, and negative scores indicate the discriminants for the professional group.

TABLE 30

STEPWISE DISCRIMINANT ANALYSIS

PERSONAL DATA - HOMEMAKERS / PROFESSIONALS

Standardized Discriminant Function Coefficients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stopped working because of marriage</td>
<td>0.36872</td>
</tr>
<tr>
<td>Stopped working because had children</td>
<td>0.57719</td>
</tr>
<tr>
<td>Stopped working - became full-time student</td>
<td>-0.40486</td>
</tr>
<tr>
<td>Stopped working because wanted to</td>
<td>0.52013</td>
</tr>
<tr>
<td>Moved and couldn't find a job</td>
<td>0.36656</td>
</tr>
<tr>
<td>Marital status - widow</td>
<td>-0.21550</td>
</tr>
<tr>
<td>Never plan to hold a full-time job</td>
<td>0.25150</td>
</tr>
<tr>
<td>Told achievement for the sake of approval stories</td>
<td>0.09498</td>
</tr>
<tr>
<td>Mental ability</td>
<td>-0.18941</td>
</tr>
<tr>
<td>Holds traditional sex-role orientation</td>
<td>0.03539</td>
</tr>
</tbody>
</table>

Almost three-quarters of the personal variables characterize the homemaker group. The most discriminating variables seem to involve working. The homemakers are distinguished from the professionals, because they do not work and do not want to pursue a full-time job. Table 31 lists the discriminating variables in order of their "discriminating power".
TABLE 31

STEPWISE DISCRIMINANT ANALYSIS

PERSONAL DATA

VARIABLES LISTED IN ORDER OF DISCRIMINATING POWER

<table>
<thead>
<tr>
<th>Variable</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stopped working because had children</td>
<td>0.5772</td>
</tr>
<tr>
<td>Stopped working because wanted to</td>
<td>0.5202</td>
</tr>
<tr>
<td>Stopped working because of marriage</td>
<td>0.3687</td>
</tr>
<tr>
<td>Moved and couldn't find a job</td>
<td>0.3666</td>
</tr>
<tr>
<td>Stopped working - became a full-time student</td>
<td>-0.4049</td>
</tr>
<tr>
<td>Never plan to hold a full-time job</td>
<td>0.2515</td>
</tr>
<tr>
<td>Marital status - widow</td>
<td>-0.2155</td>
</tr>
<tr>
<td>Mental ability</td>
<td>-0.1894</td>
</tr>
<tr>
<td>Told achievement for the sake of approval stories</td>
<td>0.0950</td>
</tr>
<tr>
<td>Holds traditional sex-role orientation</td>
<td>0.0354</td>
</tr>
</tbody>
</table>

The subjects' attitudes toward working and planning to hold a full-time job seem to be the main variables that discriminate the two groups. The housewives stopped working because of children, marriage or just a desire to stop working, while the professionals quit work to become full-time students. The personal data indicates that the homemakers are committed to the role of wife and mother and do not plan to pursue a career. However, the fact that the professionals are attending graduate school in order to prepare for a high-
level profession would indicate they have plans to pursue a full-time career in the future regardless of their marital status.

As was stated earlier discriminant analysis can be utilized to distinguish between two groups. Since canonical correlation is the basis for discriminant analysis the canonical correlation = .599 for the biographical data and the canonical correlation = .844 for the personal data show that the two functions obtained by the analysis very adequately distinguish between the homemakers and the professionals. The discriminant analysis allows a characterization of the two groups. The homemakers came from middle class or upper middle class homes often with a father in a business or managerial position. They were Protestants and for the most part quite traditional in their sex-role orientation. If they had held a job they quit because of marriage, children or because they wanted to stop working. They did not plan to hold full-time jobs now or in the future.

The professionals did not tend to come from an average background. These females came from homes at the upper and lower ends of the socioeconomic scale. Their fathers often held semi-skilled jobs while their mothers were employed in business or as a professional. They had high mental ability and were full-time students training for a full-time career.
CHAPTER V

DISCUSSION

Although many hypotheses have been put forth, there is still no accepted explanation for the decline in feminine achievement in young adulthood. While great numbers of males are motivated to achieve professional status, few females are motivated to do so. The intellectual capacities of males and females are so similar that this can no longer be pointed to as the reason adult females do not achieve outside the domestic sphere. In the past, it was thought that females who sought to enter male-dominated professions had non-traditional life-histories and personalities. In this study, however, it was hypothesized that the professionals had enriching life-histories that encouraged achievement and highly educated parents, often both involved in professional careers.

The purpose of this study was to determine if the life-histories of females engaged in either full-time homemaking or full-time professional study could be used to find variables that would characterize the two groups. The statistical analysis of the data isolated certain variables that could be used to characterize the homemakers and the professionals.
A stepwise discriminant analysis isolated variables that can be used to characterize the backgrounds of the homemakers and the professionals. The homemakers had fathers who were employed in business or managerial positions. If their mothers had ever held a full-time job it was usually a semi-skilled job. The homemakers were traditional in their sex-role orientation, which may explain why they never planned to hold a full-time job. If they had worked after college they quit because of marriage, children, or because they wanted to.

The professionals came from homes at the upper and lower extremes of the socioeconomic scale. Their fathers were often employed in semi-skilled positions, while their mothers held jobs in the professions. After completing their graduate study, the professionals planned to hold full-time jobs.

Sex-role orientation and measured ability discriminated the professionals from the homemakers. The professionals were characterized by nontraditional sex-role orientation and high measured ability. The analysis of the data revealed that the professionals saw their parents as less warm and nurturing than the homemakers. Researchers have found a negative correlation between parental nurturance and warmth and adult achievement in females. (Crandall and Battle, 1970, Stein and Bailey, 1973) The professionals also felt their parents had higher expectations for them than the professionals. If high achievement was expected and encouraged the professionals
would not find entering a male-dominated profession extremely unusual. As the situational approach to achievement behavior points out, if the cues of a situation indicate that high performance will be rewarded by positive external consequences people, male or female, will perform at a high level.

This study has analyzed the data through the use of two stepwise discriminant analyses. Two discriminant functions that are very high in their ability to distinguish the homemakers from the professionals were generated. Because the functions were so effective in discriminating the two groups it is possible that this knowledge could be used in the future. However, future studies should be conducted using larger, more representative samples to test the effectiveness of the discriminant functions.

The sample in this study was made up of a relatively small number of volunteers. The homemakers were all from the Midwest and most of them lived in middle to upper-middle class suburban areas. The professionals were students at either Loyola University of Chicago or the University of Vermont. These facts about the sample certainly limit the generalizations that can be made from the results of this study.

If future studies with larger, more representative samples find discriminant functions that are able to discriminate between the homemakers and the professionals, these functions could be used as predictors of future group membership. A short instrument could be devised that would be used
to predict group membership. This instrument could be used alone or perhaps in conjunction with a predictor of sex-role orientation to facilitate psychologists and counselors maximize the potential of their female clients and encourage more females to strongly consider professional careers.

There is no doubt that the home environment a child is reared in can strongly affect his intellectual and psychological development. Research has shown the first five years of life to be the most critical in the development of a child, and even more recently, the age has been lowered to three years. There is no doubt that parents affect their children's sex-role orientation and achievement motivation, however more study is needed to assess the exact role the parent plays in the development of these two qualities. Studies should be conducted using young children and their parents as subjects. Achievement motivation and sex-role orientation in males and females should not be studied separately as most past studies have done, but groups made up of both sexes should be studied. If possible, every attempt should be made to conduct longitudinal studies. By studying children as they develop an explanation for the sudden decline in feminine achievement in adolescence and young adulthood may be found.

In the present study, the role of the mother as a model was not clear. Maternal employment did not appear to be associated with either the homemakers or the professionals, but the mothers of the professionals, if they were employed,
were often employed as professionals, while the mothers of the homemakers more often held semi-skilled jobs. Studies by Baruch (1975), Stein and Bailey (1973), and Tangri (1972) found that maternal employment and the family's reaction to that employment played a role in the daughter's sex-role orientation and future career plans. The exact nature of the role of maternal employment in the development of achievement motivation and sex-role orientation requires further study.

Future studies should explore the effect of the type of job held by the mother, the husband's and child's reactions to the mother's job, the age of the child when the mother began work, the type of child care facilities used by the mother, and the reasons the mother is working.

The professionals grew up in an environment that expected and rewarded achievement. Although many females are capable of entering male-dominated professions relatively few choose this option, for it necessitates embracing a nontraditional life-style. It seems reasonable to assume that even if these females have parental support, they must also receive support and encouragement from peers and faculty to assist them in feeling comfortable with their choice. Therefore, studies assessing the role of significant others in the development and fostering of feminine achievement motivation and non-traditional career choice are necessary.

The situational approach to achievement behavior points out that if the cues of a situation indicate that high
performance will be followed by positive external consequences, people regardless of sex, will perform at a high level. Further study is needed to try to assess what types of positive external consequences foster achievement in females. If it were known what reinforced achievement in females this knowledge could be used to boost feminine achievement in adolescence and young adulthood, years when achievement traditionally falls.

There have been many explanations put forth in an effort to explain the decline in feminine achievement in adolescence and young adulthood, and still, there is no accepted answer. This study has shown that there are measurable differences between females engaged in full-time homemaking and females preparing to enter high-level, male-dominated careers. It is important to know what variables are related to high achievement motivation and the pursuit of a professional career if society wishes to foster these qualities in females. However, in order for females to fully utilize their potential society must provide them flexibility, so they can respond to the various possibilities for achievement as a professional engaged in a career, as a wife, and as a mother.
CHAPTER VI

SUMMARY

This study hypothesized that certain developmental trends in the life-histories of the subjects could be used to differentiate those females engaged in full-time homemaking from those engaged in professional study.

The sample consisted of 124 female college graduates who volunteered to be in this study. The subjects were then placed in one of two groups. The first group, the homemakers, was made up of 66 females engaged in full-time homemaking. The second group was called the professionals and was made up of 31 doctoral students, 15 medical students, and 19 law students.

Each subject was mailed a test packet that took 1½-2 hours to complete. The packet included several test instruments and directions for completing the tests.

After the data had been collected a stepwise discriminant analysis was performed to determine which variables best discriminated between the homemakers and the professionals.

The hypothesis testing and discriminant analysis allowed a characterization of the two groups. The homemakers were characterized as follows:

1. They had fathers who were employed in business or
managerial positions.

2. They had mothers who at one time held jobs as skilled workers.

3. Their parents' childrearing techniques were warm and nurturing.

4. They were Protestants.

5. They had stopped working because of marriage, children, could not find a job, or they wanted to quit work.

6. They never planned to hold a full-time job.

7. In response to a projective picture they told achievement for the sake of approval stories.

8. They were traditional in their sex-role orientation.

The professionals were characterized in the following manner:

1. They had fathers who were employed as semi-skilled workers.

2. They had mothers who at one time held jobs as teachers, in business/managerial positions, or in other professional positions.

3. Their parents' socioeconomic class was either upper, lower-middle, or lower.

4. They were either Jewish or they did not follow any organized religion.

5. They stopped working to become full-time students.

6. Some of them were widows.
7. Their parents expected high academic achievement.
8. They had high mental ability.

The results of this study supported the general hypothesis that certain developmental characteristics could be used to discriminate between those females engaged in full-time homemaking and those females engaged in professional study.
BIBLIOGRAPHY


34. Lockheed, Marlaine, E., "Female Motive to Avoid Success: A Psychological Barrier or a Response to Deviancy?" *Sex Roles*, 1975, 1, 41-50.


APPENDIX A
DIRECTIONS

OTIS-LENNON MENTAL ABILITY TEST

This is a test which shows how well you solve different types of problems. In the test packet you will find a test booklet and a separate answer sheet.

DIRECTIONS FOR FILLING OUT ANSWER SHEET

1. In the top right-hand section of your answer sheet fill in your SOCIAL SECURITY NUMBER where it says NAME.
2. In the top right-hand section of your answer sheet under the blank for NAME fill in ONLY Date of Birth and Age.
3. Leave the grid on the top left-hand side of the answer sheet BLANK.

DIRECTIONS FOR TAKING THE TEST

1. This is a TIMED test. You are allowed ONLY 40 Minutes. Set a timer for forty minutes and stop at the end of that time.
2. Turn to the back page of the test booklet and read the DIRECTIONS.
3. Mark all answers to the test questions on the TEST BOOKLET. Remember to mark only one answer for each question. Your answer marks should be in DARK PENCIL. If an answer is to be changed erase completely.
4. Set your timer. Open to page 2 and begin.

AFTER THE TEST

1. Place your test BOOKLET and ANSWER SHEET in the envelope provided.
2. When you have finished both tests send them back to me.

PLEASE FOLLOW THE DIRECTIONS

PLEASE BE PROMPT
PERSONAL HISTORY

1. Social Security Number

2. Place of birth:
   Northeast   South   Midwest   West   Abroad

3. Age of parents when you were born:
   Mother   Father

4. Was your father:
   a Natural Born U.S. Citizen, a Naturalized U.S. Citizen, not a U.S. Citizen

5. Was your mother:
   a Natural Born U.S. Citizen, a Naturalized U.S. Citizen, not a U.S. Citizen

6. Mark the highest educational level your father reached:
   Grammar School   Jr. College Graduate
   Some High School   College Graduate
   High School Graduate   Some Graduate School
   Some College or Other   Graduate or Professional Degree

7. Mark the highest educational level your mother reached:
   Grammar School   Jr. College Graduate
   Some High School   College Graduate
   High School Graduate   Some Graduate School
   Some College or Other   Graduate or Professional Degree

8. Father's Occupation:
   Semi-skilled worker   Business/Managerial
   Skilled worker   Professional
   Clerical or Sales

9. Socio-Economic Status of your parents while you were growing up:
   Upper Class   Lower-Middle Class
   Upper-Middle Class   Lower Class
   Middle Class

10. Are your parents:
    Married   Divorced   Father dead   Mother dead

11. How old were you when your parents divorced?

12. How old were you when your mother died?

13. How old were you when your father died?
14. Mark the number of times your family moved while you were 0-22 years:
   0-1 times    7-9 times
   2-3 times    10 or more
   4-6 times
15. Where did you grow up?
    Northeast    West
    South        Abroad
    Midwest      Moved often from area to area
16. Mark the size town you grew up in:
    Farm
    Town less than 10,000
    Town 10,000-49,000
    Suburb or central city of less than 100,000
    Suburb or central city of 100,000-499,999
    Suburb or central city of 500,000-2,000,000
    Suburb or central city of more than 2,000,000
    Not given
17. What was your parents' religion:
    Catholic    Did not follow any organized
    Jewish      religion
    Protestant  Other - specify
18. As a child did you attend religious services:
    Weekly      Monthly     Rarely     Never
19. What is your present religion:
    Catholic    Do not follow any organized
    Jewish      religion
    Protestant  Other - specify
20. Were you:
    First born
    Second born
    Third born
    Fourth born
    Fifth born
    Sixth born
    Only child
    Other - specify
21. Circle the number of children in your family:
    1  2  3  4  5  6  7  8  9  10  11
22. Circle the number of brothers you have:
    1  2  3  4  5  6  7  8  9  10  11
23. Circle the number of sisters you have:
    0  1  2  3  4  5  6  7  8  9  10  11
24. Circle the number of brothers you have over 21 years old:
0  1  2  3  4  5  6  7  8  9  10  11  12

25. How many brothers over 21 years old hold college degrees:
0  1  2  3  4  5  6  7  8  9  10  11  12

26. How many brothers over 21 years old hold graduate or professional degrees:
0  1  2  3  4  5  6  7  8  9  10  11  12

27. How many brothers over 21 years old are employed as professionals:
0  1  2  3  4  5  6  7  8  9  10  11  12

28. Circle the number of sisters you have over 21 years old:
0  1  2  3  4  5  6  7  8  9  10  11  12

29. How many sisters over 21 years old hold college degrees:
0  1  2  3  4  5  6  7  8  9  10  11  12

30. How many sisters over 21 years old hold graduate or professional degrees:
0  1  2  3  4  5  6  7  8  9  10  11  12

31. How many sisters over 21 years old are employed as professionals:
0  1  2  3  4  5  6  7  8  9  10  11  12

32. Has your mother ever held a full-time job:
Yes  No

33. Did your mother work before she was married:
Yes  No

34. How long did your mother work before she was married:
Less than 1 year  4 years
1 year  5 years
2 years  More than 5 years
3 years

35. What type of job did your mother hold before she was married:
Semi-skilled    Nurse
Skilled    Teacher
Clerical or Sales    Librarian
Business/Managerial    Other Professional
36. Did your mother work after she was married before she had children:
Yes No

37. How long did she work after she married but before having children:
Less than 1 year 4 years
1 year 5 years
2 years More than 5 years
3 years

38. What type of job did your mother hold after she was married but before she had children:
Semi-skilled Teacher
Clerical or Sales Librarian
Business/Managerial Other Professional
Nurse

39. Did your mother work after she had children:
Yes No

40. How old were you when she worked:
0-4 years 14-17 years
5-8 years 18 or over years
9-11 years On and off during entire childhood
12-13 years

41. How long did she work after having children:
Less than 1 year 4 years
1 year 5 years
2 years More than 5 years
3 years She worked on and off during entire childhood

42. What type of job did your mother hold after she had children:
Semi-skilled Nurse
Skilled Teacher
Clerical or Sales Librarian
Business/Managerial Other Professional

43. Why did your mother work:
To support the family
To supplement the family income
She wanted to work outside the home
She had prepared for a career and was pursuing it.

44. How did your father react to your mother's job:
He disliked her working and encouraged her to quit
He wished it was not necessary for her to work
He had no opinion
He encouraged her and was proud of her
45. How did your mother feel about her job:
   She disliked work
   She didn't complain but worked only for the money
   She enjoyed work but was under a great deal of stress
   She enjoyed work

46. How did you feel about your mother's job:
   Disliked her working
   Didn't mind her work
   Felt she neglected her home and family because of her job
   Felt you had to do more than your share of housework and/or child care because of her job
   Was very proud of her for working

47. What type of elementary school did you attend:
   Public
   Private
   Private - all girls
   Parochial
   Parochial - all girls
   Boarding
   Boarding - all girls

48. What type of Jr. High did you attend:
   Did not attend Jr. High
   Public
   Private
   Private - all girls
   Parochial
   Parochial - all girls
   Boarding
   Boarding - all girls

49. What type of High School did you attend:
   Public
   Private
   Private - all girls
   Parochial
   Parochial - all girls
   Boarding
   Boarding - all girls

50. How large was your High School:
   Under 200
   200-699
   700-999
   1,000-2,000
   Over 2,000

51. Mark the activities you were involved in in High School:
   Student government
   Sports
   Drama
   Yearbook
   Newspaper/literary mag.
   Band/orchestra
   Service clubs

52. Mark any honors or awards received in High School:
   Valedictorian
   Salutatorian
   National Honor Society
   National Merit finalist
   National Merit semi-finalist

53. Did you have any career plans at the end of High School:
   Yes
   No
   Did you carry out those plans:
   Yes
   No
54. What type of undergraduate institution did you attend:
Private liberal arts college
Private liberal arts woman's college
Private woman's college associated with men's school
Private university
State university

55. What was your major in college:
Education
History/political science
English/foreign language
Psychology/sociology
Fine arts
Engineering
Architecture
Math/science
Business
Pre-med
Economics

56. What was your approximate grade point average in college:
4.0 (A) 2.0 (C)
3.5 (B+) 1.5 (C-)
3.0 (B) 1 (D)
2.5 (C+)

57. What activities were you involved in in college:
Student government Literary magazine
Sports Band/orchestra
Drama Glee Club
Yearbook Service clubs
Newspaper Debate
Religious organizations S.D.S.
Young Republicans Young Democrats

58. List any honors or awards received in college:
Valedictorian Phi Beta Kappa
Salutatorian Honorary society
Graduate with high honors Fellowship to graduate school
Graduate with honors

59. Did you hold any part-time jobs in high school: Yes No

60. Did you hold any summer jobs during high school: Yes No

61. Did any of the jobs held during high school influence your career plans: Yes No

62. Did you hold any part-time jobs during college: Yes No

63. Did you hold any summer jobs during college: Yes No
64. Did any of the jobs you held during college influence your career plans:
   Yes                      No

65. Did you work after graduation from college:
   Yes                      No

66. How long did you work:
   Less than 1 year        4 years
   1 year                  5 years
   2 years                 6-10 years
   3 years                 More than 10 years

67. What type of job did you hold:
   Semi-skilled            Nurse
   Skilled                 Teacher
   Clerical or sales       Librarian
   Business/Managerial     Other professional

68. Why did you stop working:
   Marriage                Wanted to stop working
   Had children            Moved and couldn't find a job
   Became a full-time student

69. Do you presently engage in any volunteer activities:
   Yes                      No

70. What is your marital status:
   Married                  Divorced
   Single                   Widowed

71. Circle the number of years you have been married:
   0 1 2 3 4 5 6 7 8 9 10 11 12

72. Mark the highest educational level your husband reached:
   Grammar school           Jr. college graduate
   Some high school         College graduate
   High school graduate     Some graduate school
   Some college or other    Graduate or professional degree

73. Husband's occupation:
   Semi-skilled worker      Business/Managerial
   Skilled worker           Professional
   Clerical or sales

74. What is your present socio-economic status:
   Upper class              Lower-middle class
   Upper-middle class       Lower class
   Middle class
75. Circle the number of children you have:
   0  1  2  3  4  5  6

76. How many sons do you have:
   0  1  2  3  4  5  6

77. How many daughters do you have:
   0  1  2  3  4  5  6

78. How many children do you have who are not yet in grammar school (under 5):
   0  1  2  3  4  5  6

79. How many children do you have in grades K-6 (about ages 5-11):
   0  1  2  3  4

80. How many children do you have in grades 7 or 8 (about ages 12-13):
   0  1  2  3  4

81. How many children do you have in high school (about ages 14-17):
   0  1  2  3  4

82. How many children do you have above high school age (18 or over):
   0  1  2  3  4

83. What do you expect to be doing in five years:
   Homemaker
   Graduate student
   Part-time job
   Full-time job

84. What do you expect to be doing in ten years:
   Homemaker
   Graduate student
   Part-time job
   Full-time job

85. Do you ever plan to hold a part-time job:
   Yes
   No

86. Do you ever plan to hold a full-time job:
   Yes
   No

87. Does the job you plan to hold require graduate school:
   Yes
   No
CHILDREN'S REPORT OF PARENTAL BEHAVIOR

The following questionnaire is designed to sample children's views of their parents' child-rearing techniques. You are to answer this as you would have at age sixteen. There are no right or wrong answers. Make sure you mark each statement in the left margin.

3 - Like my parents
2 - Somewhat like my parents
1 - Not like my parents

1. Seems to see my good points more than my faults.
2. Enjoys going on drives, trips, or visits with me.
3. Enjoys doing things with me.
4. Often speaks of the good things I do.
5. Seems proud of the things I do.
6. Likes to talk to me and be with me much of the time.
7. Is always thinking of things that will please me.
8. Gives me a lot of care and attention.
9. Often gives up something to get something for me.
10. Makes me feel like the most important person in their lives.
11. Make their whole life center around their children.
12. Spend almost all their free time with their children.
13. Enjoys staying at home with me more than going out with friends.
14. Doesn't let me go places because something might happen to me.
15. Seems to regret that I am growing up and spending more time away from home.
16. Worries about me when I am away.
17. Does not approve of my spending a lot of time away from home.
18. Becomes very involved in my life.
19. Usually makes me the center of their attention at home.
20. Worries that I can't take care of myself unless they are around.
21. Wishes I would stay at home where they could take care of me.
22. Thinks my ideas are silly.
23. Forgets to help me when I need it.
24. Sometimes wishes they didn't have children.
25. Often blows up when I bother them.
26. Sees to it that I know exactly what I may or may not do.
27. Believes in having a lot of rules and sticking to them.
28. Insists that I must do exactly as I'm told.
29. I have certain jobs to do and am not allowed to do anything else until they are done.
30. Believes that all my bad behavior should be punished in some way.
31. Sees to it that I'm on time coming home from school and for meals.
32. Believes in punishing me to correct and improve my manners.
33. Sees to it that I keep my clothes neat, clean and in order.
34. Is very strict with me.
35. Always sticks to a rule instead of allowing a lot of exceptions.
36. Sees to it that I obey when they tell me something.
37. Almost always punishes me in some way when I am bad.
38. Punishes me when I don't obey.
40. If I do the least little thing I shouldn't, punishes me.
41. Has more rules than I can remember, so is often punishing me.
42. Says I'm very good natured.
43. Tells me how much they love me.
44. Tells me I'm good looking.
45. Hugs and kisses me often.
46. Believes in showing their love for me.
47. Likes to talk about what they read with me.
48. Tries to treat me as an equal.
49. Always listens to my ideas and opinions.
50. Often has long talks with me about the causes and reason for things.
51. Often praises me.
52. Is happy to see me when I come home from school.
53. Is very interested in what I am learning in school.
54. Says I make them happy.
55. Encourages me to read.
56. Often speaks of the good things I do.
57. Tells me where to find out more about the things I want to know.
58. Always wants to know exactly where I am and what I am doing.
59. Is always checking on what I've been doing at school or at play.
60. Asks me to tell everything that happens when I'm away from home.
61. Questions me in detail about what my friends and I discuss.
62. Always wants to know who phoned me or wrote me and what they said.
63. Is always telling me how I should behave.
64. Always tells me how I should do my work.
65. Tells me how to spend my free time.
66. Wants to control whatever I do.
67. Keeps after me to finish my work.
68. Would like to be able to tell me what to do all the time.
69. Is unhappy I am not better in school than I am.
70. Lose their tempers when I don't help around the house.
71. Doesn't let me decide things for myself.
72. Depends on their mood whether or not a rule is enforced.
73. Doesn't check up to see whether I have done what they told me.
74. Doesn't insist that I do my homework.
75. Seldom insists that I do anything.
76. Does not bother to enforce rules.
77. Lets me get away without doing work I had been given to do.
78. Lets me get away with a lot of things.
79. Doesn't mind if I kid them about things.
80. Enjoys it when I bring my friends home.
81. Likes me to choose my own way to do things.
82. Allows me to tell them if I think my ideas are better than theirs.
83. Makes me feel free when I'm with them.
84. Makes me feel at ease when I'm with them.
85. Wants me to tell them about it if I don't like the way they treat me.
86. Lets me help decide how to do things we're working on.
87. Really wants me to tell them just how I feel about things.
88. Allows me to have friends at my home often.
89. Tries to understand how I feel about things.
90. Asks me what I think about how we should do things.
91. Lets me do things that other children my age do.
92. Tries to be a friend rather than a boss.
93. Gives me the choice of what to do whenever possible.
94. Are easy to talk to.
95. Are easy with me.
96. Lets me off easy when I do something wrong.
97. Does not insist I obey if I complain or protest.
98. Can be talked into things easily.
99. Can't say "no" to anything I want.
100. Excuses my bad conduct.
101. Lets me stay up late if I keep asking.
102. I can talk them out of an order, if I complain.
103. Thinks I am just someone to "put up with".
104. Doesn't seem to enjoy doing things with me.
105. Doesn't talk with me very much.
106. Doesn't share many activities with me.
107. Hardly notices when I am good at home or in school.
108. Wishes I were a different kind of person.
109. Often makes fun of me.
110. Allows me to go out as often as I please.
111. Doesn't tell me what time to be home when I go out.
112. Gives me as much freedom as I want.
113. Lets me dress in any way I please.
114. Allows me to spend money in any way I please.
115. Lets me go to any place I want without asking.
116. Lets me do anything I like to do.
117. If I take someone else's side in an argument, is cold and distant.
118. Are less friendly with me if I don't see things their way.

119. Sometimes when they disapprove, they don't say anything but are cold and distant.

120. If I upset them they won't have anything to do with me until I find a way to make up.
THE INDEPENDENCE SCALE

1. While growing up, I did things against my parents' wishes or advice.
   a) Never          d) Often
   b) Occasionally  e) Most of the time
   c) Fairly often

2. During high school, I usually got money to go out by:
   a) Having a big enough allowance  c) Working and saving
   b) Asking my family  d) I did not go out

3. I had my first paid job when I was:
   a) 10 or younger  d) 18 or older
   b) 11 to 13       e) I have not had a paid job
   c) 14 to 17

4. During high school, I usually spent most of my summer vacations living:
   a) At home and working, studying or helping the family
   b) At home with nothing particular to do
   c) Away from home working, studying, or traveling
   d) At home doing whatever I could find to pass the time enjoyably
   e) Away from home and doing whatever I could find to pass the time enjoyably.

5. While still in high school, overnight trips away from home without my family (or the people I lived with) were for me:
   a) Rather common  c) Rare
   b) Occasional     d) Unheard of

6. When I was young I took a dare:
   a) Most of the time  d) Occasionally
   b) Often            e) Never
   c) Fairly often

7. The job or occupation which I expect to enter is one in which I will have:
   a) A great deal of independence
   b) Some independence  e) I do not plan to enter an occupation in the next few years
   c) Little independence
   d) No independence  f) I haven't yet decided what to do

8. When I learned to drive a car, I was:
   a) 13 years old or less  d) 18 or older
   b) 14 to 15            e) I have not yet learned to drive a car
   c) 16 or 17
9. As a student I prefer assignments in which:
   a) The method and procedures are spelled out
   b) Fairly explicit methods are briefly outlined
   c) The broad outlines of an approach are suggested
   d) I am free to work in my own way
   e) I do not care one way or another

In each of the following questions 10-16 choose from the following answers the one answer which best describes who in recent years has made the following kinds of decisions. The possible answers are:
   A. You and your father, mother, and/or other relatives
   B. You and a faculty member or employer
   C. You and your friends and/or spouse
   D. Your father, mother, husband, other relatives, or a friend
   E. You alone (with whatever advice you want and seek)

10. What kind of work to do or prepare for.
11. What kind of firm, company, etc. to work for.
12. Whether or not to study and/or train to be able to do a certain kind of work or improve your working skills.
13. How to spend your vacations.
14. How much spending money to have.
15. How to spend personal or family income.
16. How to spend your free time.

In each of the following questions 17-20, choose from the following answers the one which best describes who made that kind of decision in your family when you were in **high school**. Possible answers are:
   A. Your father, mother, other relative and/or friend
   B. You and your father and/or mother
   C. You and another relative
   D. You and a friend or friends
   E. You alone (with whatever advice you wanted or sought)

17. Whether or not to stay in school.
18. Whether or not to go to college.
19. What kind of job to prepare for or enter.
20. How late you should be able to stay out at night.

In questions 21-30, mark among the alternatives below the age when you first did the things stated:
   A. 12 or younger       D. 19 or older
   B. 13 to 15           E. Not yet
   C. 16 to 18

21. Going on my first real date.
22. First frequent dating.
23. Dancing (not dancing school).
24. Hitchhiking.
25. Living away from home (longer than one month).
27. Contributing substantially to my own financial support by working, getting scholarships or loans.
28. Coming and going as I pleased without having to ask permission.
29. Getting my first regular paid full-time job (including summer vacation).
30. Choosing all or almost all of my own clothes.
1. How did your parents expect you to perform in college:
   a) Near the top of the class if not at the top
   b) Above average but not at the top
   c) Average
   d) Below average
   e) Barely able to make it

2. How did your parents feel about your attending college:
   a) Did not expect me to attend
   b) Expected me to attend a couple of years
   c) Expected me to graduate from college
   d) Expected me to receive a Master's Degree
   e) Expected me to receive a Ph.D., J.D., M.D., etc.

3. How did your parents feel about you getting married:
   a) That is the most socially acceptable role for women
   b) Marriage is one means of fulfillment for anyone, man or woman
   c) Woman's place is in the home
   d) It was not important

4. How did your parents feel about you pursuing a career:
   a) Have career training and work before marriage
   b) Be a homemaker
   c) Have a career but didn't specify what kind
   d) Have a career in a field frequently chosen by women: teacher, nurse, librarian, etc.
   e) Have a career in a field not typically entered by women: law, business, medicine, etc.
   f) Expected me to accomplish something but didn't have any career expectations.
This is a test of creative imagination. You will look at the picture and then have **FOUR** minutes to make up a story answering the following four questions. Take one minute for each question.

In this picture the adult is upset.

1. What is happening? Who are the people?

2. What in the past has led up to this situation?

3. What is being thought, wanted, and by whom?

4. What will happen? What will be done?
The following questionnaire is designed to sample opinions and attitudes. There are no right or wrong answers. You may find yourself agreeing strongly with others, and feeling less certain about others. Regardless of how you feel, make sure you mark every statement in the left margin. Write in +3, +2, +1, or -3, -2, -1 according to how much you agree or disagree with it.

+3 Strongly Agree
+2 Moderately Agree
+1 Slightly Agree
-1 Slightly Disagree
-2 Moderately Disagree
-3 Strongly Disagree

1. If I were married and had children, I would prefer not to have a job.

2. I believe that aggressiveness and drive are more valuable personality attributes for men than for women.

3. I think college girls, in general, tend to be impolite.

4. Since women are less apt to complete their training, preference should be given to men in admission to medical school.

5. I object to jobs where I have to wear uniforms which make me appear less feminine.

6. It seems to me girls think about marriage more frequently than boys do.

7. When given a present, I prefer it to be something frivolous rather than something practical.

8. Just because I have chosen a career rather than marriage does not mean I am less feminine.

9. My husband and I should discuss all problems but the ultimate decisions should rest with him.

10. I believe men have greater ability than women to apply the principles of math and science.

11. As an undergraduate, I should pick a major because I am interested in the subject, not because I am preparing for a specific career.

12. To achieve a happy marriage, I think it is necessary to subordinate my interests to those of my husband.

13. I feel that able women should give serious thought to a career instead of marriage.

14. I see no reason why a woman should not be elected President of the United States.
15. I feel it is just as important for a girl to receive a higher education as it is for a boy.

16. It seems to me that girls desiring to enter such professions as law or engineering are somewhat masculine.

17. I think a working mother has a greater chance for achieving happiness than an unmarried career woman.

18. I don't think women have what it takes to be business executives.

19. Given a choice, I would rather knit than build something with my hands.

20. I would find it more difficult to have confidence in a female doctor than in a male one.

21. People who are sentimental will never work hard to overcome obstacles and improve themselves.

22. I like a date to notice what I am wearing.

23. If I were to take a teaching job, I would rather teach science than English literature.

24. I believe that all colleges should adopt the honor system.
TABLE A1
COMPARISON OF MEAN SCORES
FOR HOMEMAKERS & PROFESSIONALS -
PERSONAL DATA

<table>
<thead>
<tr>
<th>Variable</th>
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<th>PROFESSIONALS</th>
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<td>Mean</td>
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<td>Mean</td>
<td>Standard Deviation</td>
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TABLE A2
COMPARISON OF MEAN SCORES FOR
HOMEMAKERS & PROFESSIONALS - CRPB

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## TABLE A3

**COMPARISON OF MEAN SCORES FOR HOMEMAKERS & PROFESSIONALS - BI**

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## TABLE A4

**COMPARISON OF MEAN SCORES FOR HOMEMAKERS & PROFESSIONALS - WROS**

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The dissertation submitted by Elizabeth Suzanne Miller has been read and approved by the following committee:

Dr. Joy J. Rogers  
Associate Professor  
Foundations of Education, Loyola University

Dr. Ronald Morgan  
Assistant Professor  
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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the committee with reference to its content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

1/10/77  
Date  

Director's Signature