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SOCIAL INFLUENCES ON WOMENS' PURSUIT OF A

NONTRADITIONAL CAREER

by

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ABSTRACT

Three hypotheses were derived from the basic premise that, among

women, socio-emotional factors are crucial in the choice of a high

status, nontraditional career. (1) Women applying to nontraditional

careers should have lower affiliative needs than women applying to tradi-

tional careers. (2) As compared with women entering a traditional field,

women entering a nontraditional field will a) consider the fulfillment

of social and marital needs as less important, b) be more likely to

perceive nontraditional careers as compatible with the satisfaction of

social and marital needs. (3A) As compared with women entering tradi-

tional fields, women entering nontraditional fields will be more likely

to perceive the attitudes of significant others as favorable toward

nontraditional careers. (3B) As compared with women entering traditional

fields, women entering nontraditional careers will be more likely to have

had a boyfriend who was supportive and tolerant of a nontraditional

career. Data were collected via mailed questionnaires from 153 tradi-

tional (nursing and medical rehabilitation) applicants and 78 nontradi-

tional (medical and dental) applicants. The results, with minor

qualifications, supported all three hypotheses.

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CHAPTER I

INTRODUCTION AND OVERVIEW

Overview

The purpose of this study was to examine socio-emotional factors related to the career choices of women. A large majority of North American women work outside the home, most often in low status positions. It would seem that women do not aspire to be as productive as men or to be as highly successful in the more demanding professional careers. In 1962 women represented 3/4 of all worders in the following fields: bookkeepers, cashiers, dressmakers, housekeepers, professional nurses, school teachers, librarians, office machine operators, stenographers, typists, secretaries, telephone operators, and waitresses (Psathas, 1962). In 1972, Tangri reported that over seventy percent of American women were in four fields: teaching, nursing, secretarial work, and social work. The Royal Commission on the Status of Women in Canada reported similar results. Women were predominantly employed in the clerical, service and recreational occupations. At the managerial level only 2.3% of all workers were women and at the technical and professional level 18.4% of workers were women. The professional level for most women often includes traditionally female professions such as elementary school teacher, nurse, dietician, home economist, librarian, and social worker (Royal Commission on the Status of Women, 1971). Bright girls are less likely to enter university and complete a degree than bright men; they are less likely to continue beyond the undergraduate level and among those who do continue, they are less likely to use their skills and become productive in a full time job (Tangri, 1972).

Investigations of variables that relate to achievement behavior and career choice have produced some consistent results for men but not for women. For example, Terman and Oden (1947) found a substantial correlation between I.Q. measured during school years and later occupational level for males but found no correlation for females. School performance has also been shown to be largely irrelevant to female adult goals (Tulkin, 1968), and among senior co-eds, socioeconomic status bears no consistent relationship to plans for graduate study (Davis, 1964).

Although achievement needs would appear to be a logical determinant of striving for success, this variable has not been a useful predictor for women (O'Leary, 1974; Veroff, Wilcox and Atkinson, 1953). Several authors have suggested that females are more socio-emotionally oriented than males. For example, Bardwick (1970) and Lipinski (1966) concluded that college women were most concerned about fulfillment of affiliative and interpersonal needs. Therefore, these needs may have considerable impact on the career choices of women but perhaps little impact on the choices of men. This thesis attempted to explore social-psychological and personality variables which might influence women's choices of traditional or nontraditional health-sciences career. These variables included need affiliation, perceived compatibility of high status careers with social and marital needs and perceived attitude of others towards women's career choice.

CHAPTER II

LITERATURE REVIEW AND HYPOTHESES

The Influence of the Achievement and Affiliative Motives

The Ambiguity of the Achievement Motive

The literature presented in this chapter is related to the basic

theme that socio-emotional factors are important determinants of women's

career choice. Specifically, in the first section it is argued that the

data concerning need for achievement (n-ach) in women is ambiguous and

irrelevant to career choice. Therefore, it appears more profitable to

examine the probable impact of socio-emotional factors such as the affil-

iative motive. Affiliative needs are examined from a developmental

perspective with emphasis upon differential development in the sexes.

The second section includes a discussion on the importance of social and

marital needs and their impact on career choice. The third section

examines the influence of perceived attitudes of parents, male friends,

and significant others on women's career choice. The literature reviewed

in each section serves as a basis for one or more of the specific hypo-

theses made in this study.

The early research using Thematic Apperception Test (TAT) measures

of achievement motivation produced some very consistent and significant

results. However, this research was only applicable to men and not to

women. For instance, McClelland, Atkinson, Clark and Lowell (1953) dis-

covered that different degrees of achievement motivation could be

experimentally produced by varying the number of achievement motivating

cues in the situation immediately preceding administration of the thematic measure. The situation varied from a relaxed orientation (few achievement cues) to an achievement orientation (many achievement cues). The research was based primarily on male subjects. When female subjects were finally included in the experimental design, the achievement scores of females did not change from the relaxed orientation to the achievement orientation conditions (Veroff, Wilcox and Atkinson, 1953). In fact, under both conditions, women were operating at the level of men under the achievement orientation condition.

Early researchers also searched for a relationship between achievement and various indicators of sociability among women. According to Field (1951) the achievement responses of women increased when experimental arousal was in terms of social acceptability. However, other researchers were unable to replicate Field's findings and demonstrated that affiliation arousal was not consistently related to achievement behavior in women (Vogel, 1954; cited by Atkinson, 1958). Females scored higher than males on questionnaire measures of social desirability but this measure did not relate to females' achievement efforts (Crandall, 1966), although it was associated with females' social interactions.

In reviewing the literature, published to date, O'Leary (1974) commented "investigations of women's need to achieve have produced puzzling and ambiguous results". The apparent contradictions have generated research on the relative importance of the achievement and affiliation motives in men and women.

The impact of the affiliative motive. That women have greater

affiliative needs than men has been extensively documented through the use

of tests, self-reports, and behavioral analyses. Spangler and Thomas

(1962) found significant sex differences for subjects over forty years of

age on the Edwards Personality Preference Scale on five of fifteen mani-

fest needs. Women scored higher on affiliation, nurturance, and succor-

ance and men scored higher on dominance and agression. Sanford, Atkins,

Miller and Cobb (1943) discovered that girls aged five to fourteen

scored higher than boys on TAT measures of need affiliation and Lansky,

Crandall, Kagan and Baker (1961) discovered the same results using the

French Insight Test.

Developmental studies have examined the behavior of males and

females and have demonstrated the gradual emergence of sex differences in

achievement oriented and affiliation oriented behaviors. One study

included six behavior ratings of nursery school and grade school chil-

dren: (1) amount of achievement efforts displayed in free-play, (2)

amount of help-seeking from other children, (3) amount of help-seeking

from other adults, (4) amount of approval-seeking from other children,

(5) amount of approval-seeking from adults, and (6) readiness of with-

drawal in threatening situations. It was found that boys in the nursery

group did not exhibit more achievement efforts than girls in a free-play

situation and that girls were no more or less prone to seek approval or

help from others (Crandall and Rabson, 1960). In the early grade school

years, there were still no sex differences in the amount of achievement

efforts displayed, but other differences were evident. Girls in this age

group did seek help and approval from other children and from adult staff

more often. In a task-repetition choice following success and failure,

boys at the early grade school level began to choose the previously failed puzzle, whereas girls continued to choose the successful one (Crandall and Rabson, 1960). With age, boys appear to become more motivated towards task mastery whereas girls do not.

It has also been found that grade school girls tend to set lower standards and lower expectations for themselves and that their standards and expectations do not appear to be significantly related to their actual performances on intelligence tests; whereas, those of boys do (Crandall, Katowsky and Preston, 1962). Stein (1971) demonstrated that the expectancies of ninth grade females were lower than those of sixth grade females; the reverse pattern occurred for males. To explain emerging sex differences it has been hypothesized that boys and girls are differentially rewarded by parents and teachers for intellectual achievement efforts or standards (Crandall et al., 1962). According to Crandall et al. (1962) boys may be criticized when stated expectancies or standards do not fit actual performance and girls may be criticized as unfeminine for stating high (though realistic) standards. Several studies which have documented different child-rearing techniques for males and females lend credence to the idea that differential training and socialization experiences of boys and girls produce sex differences in affiliative and achievement behaviors. There is some evidence which might indicate that such differential conditioning may be declining. Lunneborg and Rosenwood (1972) replicated Bardwick's (1971) study of achievement and affiliative motives in college men and women. Although the same tendencies were observed, they were not as extreme as those found by Bardwick.

Bronfenbrenner (1961) determined that girls are exposed to more affection, more companionship, less punishment and fewer achievement demands than boys. His research also indicated that girls tend to be more anxious, timid, dependent, and more sensitive to rejection; thus, he suggested that girls m ay be "oversocialized". Mischel (1970) has shown that high levels of warmth from parents appear to result in dependent, passive, and nonassertive behaviors associated with femininity whereas moderate levels may be more conducive to achievement behavior in females. Parents not only react to their sons and daughters differently but they also stress the development of different attributes. For example, Winterbottom (1958) found that parents placed more emphasis on the independence training of boys than girls. Collard (1964) asked mothers of four year olds to indicate the ages at which they would permit their children to engage in certain behaviors (e.g., the use of scissors without supervision). Mothers of girls indicated later ages than mothers of boys. Although some studies have produced mixed results, in general, independence from adults and maternal acceleration do appear to be related to achievement striving. Crandall, Preston and Rabson (1960) found that independence from adults and amount of achievement striving were positively correlated in children's free-play behaviors. Crandall and Battle (1970) found a negative relationship between adult intellectual achievement effort and early maternal babying and a positive relationship between achievement efforts and maternal acceleration.

An alternative view of need affiliation. The feminine pattern of affiliation and dependence is very compatible with success in the elementary and even high school years, particularly since docility and obedience

are characteristics that many teachers will reward. Consequently, the early achievement behaviors of both boys and girls may be directed towards obtaining social approval. With age, the pattern appears to change and boys become more motivated towards task mastery. Tyler, Raffety, and Tyler (1962) found that girls in elementary school who tried hardest to achieve were also girls most eager to gain approval; the relationship was not true for boys. The evidence presented by Tyler et al. (1962) supports Field's (1951) earlier assertion that females are motivated by affiliative desires. However, to reconcile these results with studies failing to find a relationship between achievement and social acceptance, other authors have taken a different view of the influence of affiliative needs on the achievement behavior of females.

Unlike researchers who hypothesized that affiliative needs enhance achievement behavior, Hoffman (1972) argued that affiliative needs can both enhance and block achievement related behaviors. If achievement fosters affiliation, then an increase in performance may result. If achievement threatens affiliation, then a decline in performance may result. There are some data to suggest that performance may be sacrificed for the sake of affiliation (Baruch, 1967; Bardwick , 1970) but there are no data supporting the contention or outlining the conditions in which affiliative needs can both enhance and block the achievement motive. Baruch (1967) found that after ten to fifteen years of marriage, responses of former female college students indicated an increase in the motive to achieve. It is conceivable that women need to be secure in their personal relationships and affiliative needs before embarking on a career or upon any achievement related behavior.

Need for achievement has not been successfully related to career choices (Tangri, 1972). It appears to be applicable to any type of career and is not associated with the prestige hierarchy of occupations. Some women may want to achieve in nursing as much as other women may want to achieve in medicine. Assuming, for example, that women entering nursing and medicine have a similar need for achievement, it is the contention of this author that one of the key factors in career decisions is need for affiliation. That is, need affiliation may act to determine the career a woman chooses to pursue rather than to motivate achievement behavior per se.

It seemed plausible that women entering traditional fields would have traditional personality characteristics. Perhaps the forces that produce a greater affiliative drive in most girls also leads them to select traditional careers. Perhaps, also, high affiliative needs are actually incompatible with the demands of many professional careers. The years of intensive training often do not allow time for social interaction or for the development and maintenance or friendship. Autonomy and independence are the behaviors required for the more demanding careers. Women with high affiliative needs who are also motivated to achieve may find themselves in a dilemma and may opt for a lower status career.

It was, therefore, hypothesized that 1) women entering traditional fields have greater affiliative needs than women entering nontraditional fields.

Perceived Compatibility of Social and Marital Needs

Socio-emotional orientation of females. The research on affiliative and achievement needs of women has been further elaborated by several authors (Horner, 1968; 1972; Bardwick, 1970; Hoffman, 1972) who postulate that females are generally more "socio-emotionally" oriented than males. For example, Lipinski (1966) asked college women "what kinds of things have you done in your life which you think of as accomplishments and achievements?" Her subjects emphasized interpersonal skills, relationships with family and friends, coping with problems, achieving maturity and a personally acceptable philosophy of life. Bardwick (1971) concluded that college men were most concerned about fulfillment of achievement needs whereas college women were most concerned about fulfillment of affiliative needs. In addition, men expected greater satisfaction of affiliative needs as a result of achievement whereas women expected a reduction of satisfaction of affiliative needs as a result of achievement (Bardwick, 1971). As Mead (1949) stated, "whereas men are unsexed by failure, women are unsexed by success."

From a cognitive consistency viewpoint (Heider, 1958, Newcomb, 1959) women who seek fulfillment of socio-emotional needs but pursue nontraditional careers detrimental to these needs, should experience imbalance. A woman seeking a nontraditional career could reduce her imbalance in a number of ways. In particular, she could reduce the importance she assigns to the fulfillment of social needs, or she could change her perception that a nontraditional profession interferes with

the satisfaction of these needs. Thus, the following predictions were generated. As compared with women entering a traditional field, women entering a nontraditional field will (a) consider fulfilling social/ marital needs less important, and will (b) be more likely to perceive nontraditional careers as compatible with the satisfaction of social and marital needs.

The Incompatibility of Achievement and Social/Marital Needs:

The Motive to Avoid Success

Indirectly, the importance of social and marital needs has also been underscored by Horner (1968, 1970) who conceptualized the motive to avoid success in an attempt to explain unresolved sex differences in achievement motivation. Her conceptualization is also consistent with the hypothesis that nontraditionals are more apt to perceive nontraditional careers as compatible with the satisfaction of social needs. She argued that most women have a "disposition" to become anxious about success because they expect negative consequences (i.e., social rejection) to result. In her study, 90 females responded to the cue "After first term finals, Anne finds herself at the top of her medical school class". Sixty-five percent of the girls were troubled or confused by the cue or displayed what Horner has conceptualized as the motive to avoid success. She stated that her subjects' responses reflected loss of femininity, social rejection (particularly by male peers) and anxiety about becoming unpopular, unmarriageable, or lonely. A significantly lower percentage of men (ten percent) who responded to the cue "After

first term finals John finds himself at the top of his medical school class" displayed the motive to avoid success.

When performance in a mixed-sex competition was compared with subject's own subsequent performance in a noncompetitive condition, thirteen of seventeen girls who had scored high in the motive to avoid success performed at a significantly lower level in the mixed-sex competition than in the noncompetitive situation. Twelve of thirteen girls who had scored low in the motive to avoid success did better in the mixed-sex competition as did two-thirds of the male subjects.

The motive to avoid success rose significantly from the junior high school years (47%) to the college undergraduate (81%). This suggests that as a woman nears the end of her college career either she or her parents and her peers become concerned with her marrying, being a social success, and fulfilling a typical feminine role. Earlier stress on educational accomplishments may diminish.

Horner's results have been replicated by some (Alper, 1974) but have been criticized by others (Tresman, 1974; Feather and Raphelson, 1974). According to Horner the motive to avoid success is paramount for many females giving the appearance that women do not really want to achieve. However, Horner's results simply demonstrated that women do not really want to achieve in a traditionally female-inappropriate field, that is, medicine. Alper (1974) predicted that a nursing school cue would significantly increase the percentage of success stories in females. When Anne was depicted at the top of her medical school class,

twenty percent of the female subjects told success stories whereas when Anne was depicted at the top of her nursing school class, eighty-six percent of the subjects told success stories. The difference was statistically significant and leads us to suspect that women do want to succeed, but perhaps the areas in which they will aspire to succeed are different from those to which men will aspire. A choice of a feminine career may satisfy achievement needs while also alleviating sex role conflicts and conflicts with social and marital needs.

Tresman (1974) criticized both Horner's choice of cue and her scoring technique. Horner's criteria for the motive to avoid success included not only negative consequences but also negative antecedents, negative content (e.g., cheating at exams), negative affect, relaxation of effort after success and bizarre or inappropriate responses to the cue. By scoring only negative consequences Tresman (1974) found that 22% of the females in his study displayed the motive to avoid success. When the cue was altered to include either "half of Anne's classmates are women" or "all of Anne's classmates are men", a decrease in the motive to avoid success was found under the first condition suggesting that women are concerned about Anne's being deviant (Tresman, 1974). Tresman argued that Horner may have found "fear of sex-role inappropriateness" rather than fear of success. Criticism has also been directed at the motive to avoid success in terms of its validity. The conditions under which the motive is aroused have not been firmly established and behavioral correlates do not exist (Tresman, 1974). The motive shows

no relationship with role innovation (Tangri, 1972); it also shows no relationship with the strength of the affiliation motive nor does the affiliation motive predict the performance of female subjects. Despite the criticisms levelled at Horner's work, her conclusions support the hypothesis that social and marital needs may influence women's career choice.

According to Horner, many women equate achievement in nontraditional fields with loss of femininity, social rejection and loneliness. A nontraditional career may be a conceivable goal for many bright women but it may also produce what Horner has labelled the "Motive to Avoid Success". Thus, although the validity of Horner's results may be questionable, they have stimulated research in the area of women's achievement.

Perceived Attitude of Others Towards Womens' Career Choice

The content of Horner's stories (e.g., rejection by male peers and/or negative social consequences) may also reflect women's sensitivity to the attitude of others toward their career choice. Research and theory support this idea.

Influence of male attitudes. Bailyn (1964) postulated that the most important source of hostility or support for professional women is the attitude of men. Hawley (1971, 1972) found that females in traditional roles believe that men view behavior as appropriately male or female whereas females preparing for nontraditional roles believed men did not differentiate attitudes and behaviors as a function of sex.

Tangri (1972) obtained complementary results. In exploring the role of peers, Tangri collected data from each woman's closest friend. Of the latter, 24 out of 106 were men. Of those men, six said they would like the idea of marrying a woman who had her own career, 11 said it would be alright, three said it wouldn't matter and only four said they would not like the idea. The women who named the last four men as one of their best friends averaged markedly low scores on Role Innovation.

Influence of parents and significant others. Tangri's (1972) study also investigated the influence of family background on occupational choice. Mother's education, work experience, and percentage of men in mother's occupation were all positively related to daughter's role innovation score. However, only the relationship between mother's role innovation score and daughter's career choice was statistically significant. Other investigators have also noted a tendency for working mothers to increase daughter's career orientation and increase likelihood of daughters choosing masculine occupational goals (Douvan, 1963).

Tangri (1972) also examined women's expressed relationship to their parents and concluded that Role Innovators in her study appeared to have autonomous relationships with both parents, warm feelings toward mother but some perceived similarity to father. Neither parent alone seemed to serve as a role model. All the girls in her study scored on the feminine side of a masculinity/femininity bipolar scale. Although the role innovators had somewhat more untraditional attitudes about sex roles they had "hardly recognizable feminist ideology."

To sum briefly the data on family background characteristics it appears that mothers occupation may have an impact on daughters career choice when mother's occupation is classified as role innovative or not. However, mothers do not appear to serve as a role model. Considering the importance that women tend to attach to the approval and to the esteem of others it is conceivable that one of the factors mediating career choice is the attitude of parents towards various careers rather than the careers that parents (particularly mothers) actually pursue. Perhaps some mothers who are nurses would have been doctors had the opportunity for women to enter medical school in the thirties and fourties been at least at the levels they are today! Given that the attitude of society towards working women is gradually changing, it is probable that some mothers who are not working themselves would nevertheless have a different view about their daughters working and pursuing a fairly demanding career.

When daughters rated the importance of mothers in helping them decide their career, in general, it was found that mothers had a negative or "conservative" influence on Role Innovative career choice. However, it is thought that caution should be exercised in interpreting this finding. These data seem analogous to data on students sexual standards, another area in which values have changed since World War II. As regards sex, the evidence (Riess, 1967) suggests the following: even though the parental generation has more conservative attitudes, the children of liberal parents tend to be more liberal by today's standards than the children of conservative parents.

Generalizing from the literature on sexual standards, it seems likely that the majority of women who are in professional fields would have been raised by mothers or fathers with favorable attitudes towards their daughters' innovative roles. Based on the premise that perceived attitudes of men, of parents and of significant others are important determinants of women's career choice the following hypotheses were generated:

3A. As compared with women entering traditional careers, women entering nontraditional careers will be more likely to perceive the attitudes of significant others as favorable toward nontraiditional careers.

3B. As compared with women entering a traditional career, women entering a nontraditional career will be more likely to have a boyfriend who was supportive and tolerant of a nontraditional career.

Thus, the general thesis problem is the investigation of several factors that may influence a woman's career choice. These factors primarily include need affiliation, perceived compatibility of social and marital needs, and perceived attitudes of others towards women's career choice. Data on need achievement will also be collected to verify previous results.

Hypotheses

1. Women entering traditional fields will likely have higher affiliative needs than women entering nontraditional fields.

2. As compared with women entering a traditional field, women entering a nontraditional field will (a) consider fulfilling social/marital needs as less important, and (b) be more likely to perceive nontraditional careers as compatible with the satisfaction of social and marital needs.

3A. As compared with women entering traditional fields, women entering nontraditional fields will be more likely to perceive the attitudes of significant others as favorable towards nontraditional careers.

3B. As compared with women entering traditional fields, women entering nontraditional fields will be more likely to have had a boyfriend who was supportive and tolerant of a nontraditional career.

CHAPTER III

METHOD

Subjects

Subjects included applicants to medical school, dentistry, nursing, and medical rehabilitation. A career in medicine or dentistry was considered to be nontraditional for women, whereas a career in nursing or medical rehabilitation was considered to be traditional. Applicants rather than accepted students were included to control for high selectivity in medicine and dentistry. The sample of potential (N=129) nontraditional respondents included all the applicants to medicine and dentistry with the exception of women over the age of twenty-five. The sample of potential traditional respondents (N=200) included all women applying to nursing or medical rehabilitation who had either an undergraduate degree in Arts or Science or at least one year of university prior to entering professional training. It also included a random sample of high school graduates selected from the total population of approximately 600.

Procedure

An envelope containing a questionnaire, an answer sheet, a return envelope and a letter briefly outlining the purpose of the study was mailed to all subjects (see Appendix I and II). Subjects were asked to return the necessary materials within a two-week period. A follow-up letter was mailed to those who did not comply with the original instructions (see Apppendix III). All subjects were told that they would receive a summary of the results upon completion of the study (see Appendix IV).

Instruments

The questionnaire included need affiliation and need achievement scales from Jackson's Personality Research Form; 12 items concerning perceived attitudes of males and significant others; nine items concerning marital and social needs and five items concerning presence (or absence) of a tolerant and supportive boyfriend (see Appendix I).

Examples of items on the need affiliation scale are "I try to be in the company of friends as much as possible" and "I want to remain unhampered by obligations." The former is scored for affiliation if an individual checks 'true' and the latter is scored for affiliation if an individual checks 'false'. Examples of items on the need achievement scale are: "I have rarely done extra studying in connection with my work" and "I enjoy doing things which challenge me." The former is scored for achievement if an individual checks 'false' and the latter is scored if an individual checks 'true'.

Scales from the Jackson Personality Research form were chosen because the research on reliability and validity appeared to be more comprehensive than that conducted on other tests (Jackson, 1964). The form also attempts to eliminate some of the problems encountered with other paper and pencil tests. For example, to suppress acquiescence the scales were developed with an equal number of true and false keyed items. To suppress social desirability the criterion for inclusion of an item included a low correlation with a desirability scale included in every item analysis.

All the other items on the questionnaire were devised by the author of this thesis. The twelve questions concerning perceived atti-

tudes asked the women to rate on a scale from 1 to 5 (1 = most favorable, 5 = most unfavorable), the attitude of "my mother," "my father," "most men," "most women," "my male friends," "my female friends," towards women pursuing a nontraditional career and then towards women pursuing a traditional career. The nine items concerning social and marital needs asked the women to rate the extent to which they would like to marry (Q.65), the extent to which they would like to have a family (Q.66) and the extent to which they felt certain careers would be detrimental to satisfaction of social and marital needs. The remaining five items asked the women to rate the extent to which their boyfriends tolerated and supported "nontraditional" and "traditional" careers. Data concerning age, marital status, father's occupation, mother's occupation, father's education, mother's education, grade point and reason mother works outside the home were also collected. Parents' occupations were classified with reference to the scheme devised by Hollingshead (1965) but in this sample categories five, six, and seven were collapsed to produce a total of five categories rather than seven. In Hollingshead's schema, category one represents high social status, categories five, six, and seven, represent low status. Parents educational level was classified according to a five point scale: 1. Through grade 8, 2. high school, 3. technical or vocational school, 4. university, and 5. graduate training.

CHAPTER IV

RESULTS

The results include a summary of the return rates, a summary of
the demographic data and a presentation of the findings with respect to
the major hypotheses.

Return Rates

The final sample contained 78 nontraditional subjects and 153
traditional subjects. The overall return rate was excellent for a
mailed survey (74.5%). The return rate for the traditional group was
76.5%. The return rate for the nontraditional group was 71.3%. The
difference in return rates was not significant (x^2 = 1.105). Fourteen
of the nontraditional subjects who returned the questionnaire were
ultimately excluded from the sample because 12 were older than the upper
age limit of 25 and two had decided not to pursue medicine as a career.
One of the individuals who had changed her career plans did so because
her husband "vetoed my decision..." and the other because her pediatri-
cian made her feel "that my career in medicine would mean my marriage
would suffer considerably along with my son's development." For these
reasons she chose not to pursue medicine although she added "I still yen
for it."

Background characteristics

Several preliminary analyses of the data were performed to deter-
mine the comparability of the samples on background characteristics.
The data concerning age, marital status, father's occupation, mother's
occupation, father's education, mother's education, and reason mother
works outside the home, were analyzed by chi-square statistics. Grade

point data was analyzed by a Student t-test.

There were no significant differences between the groups with respect to marital status, mother's occupation or grade point. The majority of women were single (69 nontraditionals and 139 traditionals); the majority of mothers were either unemployed or employed in lower status positions (see Table 1) and the majority of women in both groups had grade points in the range of 3.0 - 3.7 on a 4 point scale (see Table 1). In both groups women with mothers working outside the home indicated that self-satisfaction was a more important factor than financial renumeration in determining mother's decision to work.

A significant difference in the age of the traditional and non-traditional subjects was found (x^2 = 36.62; df = 4, p = .05). The traditional subjects tended to be younger than the nontraditionals, undoubtedly due to the fact that medicine and dentistry require more preparation than nursing or medical rehabilitation. There were also differences in father's education (x^2 = 25; df = 14; p $<$ .05), mother's education (x^2 = 18.59; df = 3; p $<$ .05) and father's occupation (x^2 = 13.4; df = 4, p $<$ .05). Parents of nontraditional subjects tended to be better educated than parents of traditional subjects (see Table 2). The proportion of fathers with middle status occupations was similar in the two groups. Whereas there was a higher proportion of fathers of non-traditional subjects in higher status positions in contrast to a higher proportion of fathers of traditionals in lower status positions.

Need Affiliation

In general, the major hypotheses of the study were confirmed.

TABLE 1

Frequency Tables of Background Characteristics that were not

Significantly Different Between Traditional and

Nontraditional Subjects

	Nontraditional N=78	Traditional N=153
Marital Status		
Single	68	139
Married	7	8
Divorced or Separated	2	-
Grade Point		
2.0-2.9 or 60%-70%	11	40
3.0-3.4 or 70%-80%	25	39
3.5-3.7 or 80%-90%	25	39
3.8-4.0 or 90%-100%	12	22
Mother's Occupation		
Higher Executives of Large Concerns, Proprietors, and Major Professionals	2	-
Business Managers, Proprietors of Medium Sized Businesses, and Lesser Professionals	10	11
Administrative Personnel, Owners of Small Businesses, and Minor Professionals	13	23
Clerical and Sales Workers, Technicians and Owners of Small Businesses (Value under $6,000)	12	20
Skilled Manual Employees	38	93
Reason Mother Works		
Financial Renumeration	15	27
Self-satisfaction	27	41

TABLE 2

Frequency Tables of Background Characteristics that Were

Significantly Different Between Traditional and

Nontraditional Subjects

	Nontraditional N=78	Traditional N=153
Age		
17 - 18	5	55
19	13	31
20	30	28
21 - 22	23	20
23+	16	13
Father's Education		
Through Grade 8	8	27
High School	24	64
Technical or Vocational School	1	7
University	23	36
Graduate Training	20	9
Mother's Education		
Through Grade 8	9	24
High School	26	83
Technical or Vocational School	6	14
University	31	24
Graduate Training	4	1
Father's Occupation		
Higher Executives of Large Concerns, Proprietors, and Major Professionals	26	24
Business Managers, Proprietors of Medium Sized Businesses, and lesser Professionals	10	27
Administrative Personnel, Owners of Small Businesses, and Minor Professionals	20	31
Clerical and Sales Workers, Technicians and Owners of Little Businesses (Value under $6,000)	11	38
Skilled Manual Employees	8	26

The first hypothesis predicted that women in traditional fields would have greater affiliative needs than women in nontraditional fields. To test Hypothesis 1, the need affiliation scores of the traditional and nontraditional subjects were compared via a t-test. As predicted, the nontraditional group had significantly lower need affiliation scores than did women in the traditional group ($X^1 = 14.14$ vs. 16.29; $\underline{t}$ (229) = 5.14; $\underline{p} < .01$). Thus, the data support the first prediction.

Social and Marital Needs

The hypotheses concerning social and marital needs examined (a) the extent to which women wanted to fulfill these needs and (b) the extent to which they felt these needs were compatible with nontraditional vs. traditional careers. To test Hypothesis 2A the mean ratings of the nontraditional and traditional respondents on Questions 65 (to what extent would you like to marry) and 66 (to what extent would you like to have a family) were compared via t-tests. Traditionals clearly attributed greater importance to having children than did nontraditionals, $\underline{t}$ (229) = 3.85, $\underline{p} < .01$. They also had a significant tendency to attribute more importance to being married, $\underline{t}$ (229) = 1.7, $\underline{p} < .05$.

A repeated measures analysis of variance was used to test Hypothesis 2B; the extent to which traditional and nontraditional women perceived nontraditional and traditional careers as compatible with satisfaction of social and marital needs. Scores on Questions 70 and 71 (see Appendix I) were combined to give a measure of the extent to which women perceived traditional careers as compatible with social and marital success. The scores on these two questions correlated .56.

Scores on Questions 72 and 73 were used as a measure of the extent to which women perceived nontraditional careers detrimental to social and marital success. The scores on these two questions correlated .71.

Both groups indicated that careers in traditional fields would be compatible with social and marital needs (mean rating of 2.85 for nontraditionals and 2.65 for traditionals on a 5 point scale). However, the two groups differed in the degree to which they rated nontraditional careers as compatible with social and marital needs. Compared with traditionals, nontraditional respondents perceived the possibility for social and marital fulfillment while pursuing a nontraditional career as greater, ($\overline{X}$ = 3.53 vs. $\overline{X}$ = 4.05; $\underline{F}$ = 7.323; $\underline{df}$ = 1.229; $\underline{p}$ < .01). It must be noted that the difference in ratings could be attributed to the relative strengths of the familial needs reported above.

Perceived Attitudes

The hypotheses concerning perceived attitudes were: Hypothesis 3A. As compared with women entering traditional fields, women entering nontraditional fields will be more likely to perceive the attitudes of significant others as favorable toward nontraditional careers and Hypothesis 3B. As compared with women entering traditional fields, women entering nontraditional careers will be more likely to have had a boyfriend who was supportive and tolerant of a nontraditional career.

To test Hypothesis 3A, a 2 x 2 x 6 repeated measures analysis of variance was used. The dependent variable was the perceived attitudes of significant others towards the career choices of women. The independent variables included one between group factor (traditional vs.

nontraditional subjects) and two within-group factors: (1) attitudes towards both nontraditoonal and traditional careers and (2) as attributed by the respondent to her mother, her father, most men, most women, her male friends, and her female friends.

There were no main effects for subject group or for attitudes towards both nontraditional and traditional careers but there was a main effect for perceived attitude of specific individuals ($\underline{F}$ = 46.934; $\underline{df}$ = 5,1145; $\underline{p}$ < .01). This result will be discussed in conjunction with the 3-way interaction reported below.

There was a significant two-way interaction between subject group and perceived attitudes towards traditional and nontraditional careers ($\underline{F}$ = 4.419; $\underline{df}$ = 1,1145; $\underline{p}$ < .05). That is, in general, compared with traditional subjects, nontraditional subjects perceived the attitude of significant others towards nontraditional careers as more favorable. Traditional subjects tended to perceive the attitude of significant others towards traditional careers as more favorable. The most important result of this analysis was the three-way interaction between subject group, perceived attitude towards both a nontraditional or traditional career and particular individual rated (e.g., mother, father, etc.) ($\underline{F}$ = 7.494; $\underline{df}$ = 5,1145; $\underline{p}$ < .01; see Tables 3 & 4).

Tukey's HSD tests for specific cell comparisons were calculated to determine which significant others were contributing to the overall effect. The harmonic mean (N = 103) was used to control for unequal numbers in the subject groups. Nontraditional women, as compared with traditional women, perceived their mothers ($\underline{t}$ (2748) = 5.0; $\underline{p}$ < .01), their fathers ($\underline{t}$ (2748) = 3.75; $\underline{p}$ < .01), women in general ($\underline{t}$ (2748) =

TABLE 3

Perceived Attitudes of Significant Others Toward

Traditional and Nontraditional Careers

Significant Other	Subjects	
	Traditionals (N=153)	Nontraditionals (N=78)
Perceived Attitudes Toward Traditional Careers		
Mother	2.08	2.28
Father	2.12	2.37
Men	1.97	1.89
Women	2.36	2.15
Male Friends	2.35	2.40
Female Friends	2.48	2.67
Perceived Attitudes Toward Nontraditional Careers		
Mother	2.16	1.72
Father	2.20	1.87
Men	3.30	3.30
Women	2.33	2.63
Male Friends	2.40	2.09
Female Friends	1.84	1.64

Note: All responses were on a 1 (= most favorable) to 5 (= most unfavorable) scale.

TABLE 4

An Analysis of Variance of Perceived Attitudes Using the

Subjects' Career Choice (C), the Type of Career Being

Rated (T) and Significant Others (O) as Variables

Source	DF	SS	MS	F
Subjects' Career Choice (C)	1	1.4582	1.4582	0.651
Error 1	229	512.6506	2.2386	0.651
Type of Career Being Rated (T)	1	0.7279	0.7279	0.387
C x T	1	8.3048	8.3048	4.419*
Error 2	229	430.3623	1.8793	
Significant Others (O)	5	93.7903	18.7581	46.934*
C x O	5	2.3076	0.4615	1.155
Error 3	1145	457.6179	0.3997	
T x O	5	317.6353	63.5270	94.408*
C x T x O	5	25.2084	5.0417	7.492*
Error 4	1145	770.4700	0.6729	
Total	2771	2588.6965		

*$\underline{p}$ .01.

3.41; $p < .01$) and male friends as more supportive of nontraditional careers.

Several additional comparisons were performed to determine how the members of each group perceived people's attitudes toward traditional and nontraditional careers. Within the traditional group, women perceived only men in general (t (1374) = 14.46; $p < .01$) and their female friends (t (1374) = 6.96; $p < .01$) as having different attitudes toward a traditional vs. a nontraditional career. These subjects felt men in general preferred women to enter traditional as opposed to nontraditional careers ($\overline{X}$ 1.97 vs. $\overline{X}$ 3.30). However, these subjects felt their female friends would prefer women to enter nontraditional rather than traditional careers ($\overline{X}$ = 1.84 vs. $\overline{X}$ = 1.48). They perceived their parents as having less favorable attitudes toward and type of career.

The nontraditional women perceived all significant others as having a preference for one type of career over the other; they perceived all the people in their immediate lives--that is, their mother (t (1374) = 6.08; $p < .01$) their father (t (1374) = 5.43; $p < .01$), their male friends (t (1374) = 3.369; $p < .01$) and their female friends (t (1374) = 11.195; $p < .01$) as favoring women entering a nontraditional rather than a traditional career. However, they perceived men (t (1374) = 15.33; $p < .01$) and women (t (1374) = 5.22; $p < .01$) in general as favoring women entering a traditional career.

Interaction of Need Affiliation, Need Achievement and

Perceived Attitudes

Given that Hypothesis 3A received support, it was decided to exam-

ine the interaction of perceived attitudes, with need affiliation and need

achievement to determine if womens' perceptions were related to their

personality characteristics.

A 2 x 2 x 2 x 6 repeated measures block design was used to analyze

the interaction of personality characteristics with perceived attitudes.

This procedure was performed separately, first using need achievement and

then using need affiliation as the independent variable. A median split

was used to divide both the nontraditional and traditional groups into

sub-groups of high or low need achievement and high or low need affilia-

tion. With respect to need achievement there was a significant interac-

tion between high/low achievement (summed over both groups) and perceived

attitudes towards nontraditional and traditional careers (F = 4.931; $\underline{df}$

1,1135; $\underline{p}$ < .05). That is, subjects who were high in need achievement

tended to perceive the attitudes of significant others towards nontradi-

tional careers as more favorable than subjects who were low in need

achievement. Subjects who were low in need achievement tended to per-

ceive more favorable attitudes towards traditional careers. There was

also an important 3-way interaction between high/low need achievement,

perceived attitude towards nontraditional and traditional careers and

particular individuals rated (F = 2.284; $\underline{df}$ = 5,1135; $\underline{p}$ < .05). Subjects

who were high in need achievement tended to rate the attitudes of

'mother', 'father', 'my friends' towards nontraditional careers as more

favorable than subjects who were low in need achievement. All subjects

tended to rate the attitude of 'most men' toward nontraditional careers

as somewhat unfavorable. With respect to need affiliation, there were

no significant interactions between high/low need affiliation and per-

perceived attitudes.

Perceived Attitudes of Boyfriends

Since the attitudes of boyfriends was thought to be a major determinant of career choice, these data were treated in a separate analysis. Women in both groups were asked to indicate if they were married or had a boyfriend at the time they applied to pursue their chosen career. As noted above, there was no difference in the groups with respect to marital status. A chi-square analysis also determined that there was no difference in the proportion of women in both groups who had a boyfriend ($X^2 = .0589$). Approximately, half the nontraditional subjects (41) and approximately half the traditional subjects (83) indicated that at the time they applied to the faculty of their choice they had a steady boyfriend or were married.

Boyfriends of girls in both groups were rated as fairly supportive of their particular girlfriend's career choice. Although the difference was not significant, boyfriends of nontraditionals tended to be somewhat more supportive in general than boyfriends of traditionals.

The attitudes of all boyfriends towards either a nontraditional or traditional career were compared via t-tests. A difference was found in attitudes towards nontraditional careers but not towards traditional. That is, all boyfriends were supportive of traditional careers to a similar degree ($t = .9157$) but boyfriends of girls in the nontraditional group were much more supportive of nontraditional careers than boyfriends of girls in the traditional group ($\overline{X} = 4.317$ vs. $\overline{X} = 3.434$; $t = 5.394$; $df = 229$; $p < .001$).

Need Achievement

In addition to the hypothesized results, need achievement scores of

women in the nontraditional group were significantly higher ($\overline{X}$ = 15.18

vs. $\overline{X}$ = 14.09; $\underline{t}$ (229) = 2.962; $\underline{p}$ < .01). This was surprising in light

of previous findings.

Regression and Covariance Analyses

To determine the relative importance of variables found to be sig-

nificantly different between the groups, a stepwise multiple regression

analysis was computed. A stepwise multiple regression analysis is a pro-

cedure for selecting the best independent variables for predicting a

dependent variable. The analysis first selects the single variable which

best correlates with the criterion variable. It then selects other vari-

ables in order of predictive ability given the preceding variables

entered. The selection process is based upon multiple correlation

coefficients which determine the strength of association between one

variable and a set of variables and partial correlation coefficients

which determine the strength of association between two variables after

removing the linear effect of a set of variables (Afifi and Azen, 1972).

A preliminary analysis using career choice as the dependent vari-

able considered 29 variables in the predictor equation (see Appendix V).

The 29 variables accounted for 37% of the variance ($\underline{F}$ = 4.113, $\underline{df}$ = 52;

$\underline{p}$ < .01) but the t-statistic determined that only 7 variables were found

to be significant contributors. A further analysis indicated that these

7 variables accounted for 26.6% of the variance ($\underline{F}$ = 11.968; $\underline{df}$ = 52;

$\underline{p}$ < .01). They included need affiliation (11%), need achievement (4%),

mother's attitude towards nontraditional careers (3.4%), desire to have

a family (2.1%), perceived attitudes of women in general towards tradi-

tional careers (2.1%), father's education (2.4%), and lastly, perceived compatibility of marital needs with nontraditional careers (1.6%; see Table 5). Thus, even when taking all variables in combination, the variables of concern to the present author were still significant predictors of women's career choices.

To determine if the background differences in age, father's education, father's occupation, mother's education, had any effect on the hypothesized results, several analyses of covariance were performed. These analyses were limited to two dependent variables: need affiliation and need achievement. When these background variables were used as covariates, all the previously reported results remained. Thus, these findings do not appear to be an artifact of demographic differences between the two groups.

Summary of Results

With minor exceptions, support was provided for all major hypotheses. The need affiliation scores of nontraditional subjects were significantly lower than the need affiliation scores of traditionals (t = 5.143; df = 229; $p < .01$). Compared with traditionals, nontraditionals perceived the possibility for social and marital fulfillment while pursuing a nontraditional career as greater ($\overline{X}$ = 3.53 vs. $\overline{X}$ = 4.05; F = 7.323; df = 1,229; $p < .01$). Traditional women were much more interested in having a family than nontraditionals (t = 3.848; df = 229; $p < .01$) and also appeared to attach somewhat more importance to being married, t (229 = 1.7; $p < .05$.

In general, compared with traditionals, nontraditionals perceived the attitude of significant others toward nontraditional careers as

TABLE 5

The Seven Variables in a Stepwise Multiple Regression Analysis that were

Significant Predictors of Career Choice

Variable	Proportion of Variance Reduced	Computed t-Value
Need Affiliation	11%	-4.998
Need Achievement	4.7%	3.099
Perceived attitude of mother toward Nontraditional career	3.4%	-2.112
Desire to have a family	2.1%	-2.604
Perceived attitude of other women toward traditional career	2.1%	-2.777
Father's education	2.4%	2.753
Perceived compatibility of traditional careers with marital status	1.6%	-2.241

Multiple correlation coefficient = 0.523.

Cumulative proportion of variance reduced = 27.3%.

F-value for analysis of variance = 11.968.

more favorable ($\underline{F}$ = 7.492; $\underline{df}$ = 5,1145; $\underline{p}$ < .01). Traditional women perceived little support for any type of career. The attitude of parents (particularly mothers) was a more crucial variable than the attitude of boyfriends. Significant others in the subjects' immediate environments appeared to be more influential than people in general. In addition to the hypothesized findings, need achievement scores of nontraditionals were found to be significantly higher than need achievement scores ($\underline{t}$ = 2.962; $\underline{df}$ = 229; $\underline{p}$ < .01) of traditionals.

A stepwise multiple regression analysis indicated that of 29 variables in the predictor equation, 7 were significant contributors. These 7 variables accounted for 26.6% of the variance ($\underline{F}$ = 11.968; $\underline{df}$ = 52; $\underline{p}$ < 01). They included need affiliation (11%), need achievement (4%), mother's attitude towards a nontraditional career (3.4%), desire to have a family (2.1%), perceived attitudes of women in general towards traditional careers (2.1%), father's education (2.4%), and perceived compatibility of marital needs with nontraditional careers (1.6%).

CHAPTER V

DISCUSSION

The data supported the basic premise that, among women, social

factors are crucial in the choice of a career. The significantly higher

need affiliation scores of traditional women indicated that women who

value time to maintain and to make friends, who enjoy being with

friends, and people in general, are not likely to pursue a nontraditional

career even if they have the ability and the necessary marks to do so.

Since affiliation needs tend to be somewhat lower in men this factor

is probably not as much of a determinant for them.

Perceived compatibility of social and marital needs with nontrad-

itional careers also appeared to be a factor influencing womens' career

choice. Perceived compatibility, however, could be a function of the

relative strength of these needs which differed between the two groups.

Traditionals were more interested in having a family than nontraditionals

and were also somewhat more interested in being married.

The attitudes of significant others also influenced womens' career

choice. In general, compared with traditional women, nontraditionals

perceived more favorable attitudes towards nontraditional careers. Trad-

itional women did not perceive very favorable attitudes for any type of

career. It is conceivable that nontraditionals were more aware of

approval or disapproval than traditionals. Women in a nonconformist

role might be more sensitive to environmental feedback and might have a

greater need to establish support for their position than women in a

conformist role.

Although the attitudes of boyfriends in the two groups were significantly different, they did not appear to have the overwhelming impact that had previously been postulated. As all the women in the sample were under the age of 25, it is conceivable that many of them were still dating and had not made a firm commitment to their current boyfriends. Therefore, it would perhaps be premature for a boyfriend to play a major part on an important decision.

The attitude of parents (particularly that of mothers) appears to be more of a crucial variable than the attitude of boyfriends. Although mother's occupation tended to increase daughter's career orientation, mother's attitude was a stronger factor in predicting career choice. It must be noted, however, that the lack of relationship between mother's occupation and daughter's choice of career could be due to limited variation in the former variable. Other investigators have found evidence for a modelling effect (Tangri, 1972). However, this study appears to indicate that mother's attitude may be as crucial or in some instances more crucial than mother's behavior.

One additional finding regarding the attitudes of significant others merits comment: nontraditionals perceived 'women in general' and 'men in general' as being less favorable toward nontraditional careers than towards traditional careers. Intuitively, one might expect such perceived attitudes to discourage these women from seeking nontraditional careers. Yet, this did not appear to be the case. It is probable that women discriminate between significant others in their immediate environ-

ment and people in general. Many theories of attitude change suggest that individuals are more apt to internalize the attitudes of people with whom they identify. Thus, people who are part of a woman's immediate environment should have more influence on career choice than people 'in general'.

The results regarding need achievement and father's education were somewhat surprising. Tangri (1972) did not find a relationship between fathers' status and career choice; yet such a relationship was found in this study. The differences in results may reflect the populations studied. One possibility is that fathers' status may be more important in the choice of a medical career than in the choice of other nontraditional careers. This possibility is especially likely in this study since the specific school in question is perceived by many perspective students as giving preference to the offspring of doctors. Another possibility is that Tangri's students at the University of Michigan came from relatively affluent and economically homogeneous backgrounds. Our Manitoba sample probably came from more diverse backgrounds. Naturally, if Tangri's sample was drawn from homogeneous backgrounds, the probability of finding statistically significant results would be reduced thus our data are perhaps more relevant for society at large.

In the regression analysis, need achievement was the second most important factor. The fact that nontraditionals had higher need achievement scores than traditionals contradicts earlier nonsignificant findings. However, it must be noted that our measure was a paper and pencil questionnaire technique; whereas most previous investigators had used a fantasy-based story telling technique such as the TAT. In a recent review article, O'Leary (1974) suggests that "low reliability of tradi-

tional (TAT based) measures may help explain the failure to find relation-
ships between achievement motives and achievement behavior among women
(p. 820)". Therefore, if previous investigations had used more reliable
techniques a relationship between need achievement and behavior might
have been established. It is felt that using reliable, well-validated
objective need achievement measures may still demonstrate the importance
of this variable in women's career choices.

In summary, the crucial factors appear to be low need affiliation,
high need achievement, perceiving support in the attitudes of others
(particularly mothers), low familial needs and perceiving the need to
have a family as being compatible with a nontraditional career.

CHAPTER VI

SUMMARY

This thesis investigated social influences on womens' pursuit of

a nontraditional career. Several authors have suggested that females are

more socio-emotionally oriented and more sensitive to social opinion than

males (Horner, 1968, 1972; Bardwick, 1970; Hoffman, 1972; Alper, 1974).

Therefore, it was expected that social influences, affiliative tendencies

and perceived attitudes would be especially important determinants of

career choice. Specifically, it was hypothesized: 1) Women entering

traditional fields will likely have higher affiliative needs than women

entering nontraditional fields. 2) As compared with women entering a

traditional field, women entering a nontraditional field will (a) consider

fulfilling social/marital needs as less important, and (b) be more likely

to perceive nontraditional careers as compatible with the satisfaction

of social and marital needs. 3A) As compared with women entering tradi-

tional fields, women entering nontraditional fields will be more likely

to perceive the attitudes of significant others as favorable towards

nontraditional careers. 3B) As compared with women entering traditional

fields, women entering nontraditional careers will be more likely to have

had a boyfriend or husband who was supportive and tolerant of a nontradi-

tional career.

Subjects included applicants to medical school, dentistry, nursing

and medical rehabilitation. A career in medicine or dentistry was con-

sidered to be nontraditional for women, whereas a career in nursing or

medical rehabilitation was considered to be traditional.

The questionnaire included need affiliation and need achievement scales from Jackson's (1967) Personality Research Form; 12 items concerning perceived attitudes of males and significant others; nine items concerning marital and social needs and five items concerning the presence (or absence of a tolerant, supportive boyfriend.

Data were also collected concerning the respondent's age, marital status, father's education, father's occupation, mother's education, mother's occupation, and mother's reasons for working outside the home.

The final sample contained 78 nontraditional subjects and 153 traditional subjects. The overall return rate was excellent for a mailed survey (74.5%). The return rates for the traditional and nontraditional groups were 71.3% and 76.5%, respectively (chi-square = 1.11, N.S.).

With minor exceptions, support was provided for all major hypotheses. The need affiliation scores of nontraditional subjects were significantly lower than the need affiliation scores ($\underline{t}$ = 5.143; $\underline{df}$ = 229; $\underline{p}$ < .01). Compared with traditionals, nontraditionals perceived the possibility for social and marital fulfillment while pursuing a nontraditional career as greater ($\overline{X}$ = 3.53 vs. $\overline{X}$ = 4.05; $\underline{F}$ = 7.323; $\underline{df}$ = 1,229; $\underline{p}$ < .01). The difference in ratings could possibly be attributable to the relative strengths of social and marital needs. Traditional women were more interested in having a family than nontraditionals ($\underline{t}$ = 3.848; $\underline{df}$ = 229; $\underline{p}$ < .01). They also attached somewhat more importance to being married, $\underline{t}$ (229) = 1.7; $\underline{p}$ < .05.

In general, compared with traditionals, nontraditionals perceived the attitude of significant others toward nontraditional careers as more

favorable ($\underline{F}$ = 7.492; $\underline{df}$ = 5,1145; $\underline{p}$ .01). Traditional women perceived little support for any type of career. The perceived attitude of parents (particularly mothers) was a more crucial variable than the perceived attitude of boyfriends. Similarly, the girls' perceptions of their mothers' attitudes was a more important factor than mothers' work status. Significant others in the subjects' immediate environments appeared to be more influential than people in general. In addition to the hypothe-sized findings, need achievement scores of nontraditionals were found to be significantly higher than need achievement scores of traditionals ($\underline{t}$ = 2.962; $\underline{df}$ = 229; $\underline{p}$ .01).

To determine the relative importance of variables found to be significantly different between the groups, a stepwise multiple regression analysis was computed. A preliminary analysis using career choice as the criterion variable considered 29 variables in the predictor equation. The 29 variables accounted for 37% of the variance ($\underline{F}$ = 4.113; $\underline{df}$ = 52; $\underline{p}$ .01) but the t-statistic determined that only 7 variables were found to be significant contributors. A further analysis indicated that these seven variables accounted for 26.6% of the variance ($\underline{F}$ = 11.968; $\underline{df}$ = 52; $\underline{p}$ .01). They included need affiliation (11%), need achievement (4%), mother's attitude towards a nontraditional career (3.4%), desire to have a family (2.1%), perceived attitudes of women in general towards traditronal careers (2.1%), father's education (2.4%), and perceived compatibility of marital needs with nontraditional careers (1.6%). Thus, the regression analysis indicated that the variables of interest were still significant predictors of women's career choice.

In summary, the data provide support for the basic premise that social factors are important determinants of womens' career choices.

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APPENDIX I

GENERAL INSTRUCTIONS:

To complete the questionnaire please use the answer sheet which you will find enclosed at the end of the questionnaire. You will note that the numbers on the sheet run across the page starting with #1 on the red side. Please use a pencil to mark your answers. Do not use a pen since the computer will only work with pencil. Ignore the box in the top right hand corner and do not put your name anywhere on the sheet.

To answer the first 52 questions you must choose between True ("T") or False ("F"). If you choose True blacken the space under "T" beside the number on your answer sheet which corresponds to the number of the question you are considering. If you choose False blacken the space under "F". For example, if your answer to question #1 is True, your answer sheet should look as follows:

	T	F								
	A 1	B 2	C 3	D 4	E 5
1.	▰▰▰	___	___	___	___

You will note that "T" on your answer sheet always corresponds to column 1 and "F" on your answer sheet always corresponds to column 2.

To answer questions 53-78 you must choose one of 5 possible answers. If you choose alternative 1, blacken the space beside each question which is marked 1, if you choose alternative 2, blacken the space beside each question which is marked 2, etc. For example, if your answer to #53 is 4 your answer sheet should look as follows:

	T	F								
	A 1	B 2	C 3	D 4	E 5
53.	___	___	___	▰▰▰	___

*** On the last page of the questionnaire (p. 6) you are asked to provide some hand-written information therefore please detach p. 6 from the rest of the questionnaire and return it with your answer sheet in the pre-addressed envelope.

It is important that you do not bend, fold or staple your answer sheet.

On the following pages you will find a series of statements which a person might use to describe herself. Read each statement and decide whether or not it describes you.

If you agree with a statement or decide that it does describe you mark TRUE (T). If you disagree with a statement or feel that it is not descriptive of you mark FALSE (F) on your answer sheet.

Answer every statement either true or false, even if you are not completely sure of your answer.

* * * * * * * * *

1. I enjoy doing things which challenge me.	T	F
2. I pay little attention to the interests of people I know.	T	F
3. I often decide ahead of time exactly what I will do on a certain day.	T	F
4. Self-improvement means nothing to me unless it leads to immediate success.	T	F
5. I believe that a person who is incapable of enjoying the people around him misses much in life.	T	F
6. I am too shy to tell jokes.	T	F
7. I get disgusted with myself when I have not learned something properly.	T	F
8. Trying to please people is a waste of time.	T	F
9. I work because I have to, and for that reason only.	T	F
10. Loyalty to my friends is quite important to me.	T	F
11. Rarely, if ever, do I do anything reckless.	T	F

12. I will keep working on a problem after others have given up.　　　　T　F

13. Most of my relationships with people are business-like rather than friendly.　　　　T　F

14. The people I know who say the first thing they think of are some of my most interesting acquaintances.　　　　T　F

15. I try to work just hard enough to get by.　　　　T　F

16. I am considered friendly.　　　　T　F

17. I often set goals that are very difficult to reach.　　　　T　F

18. After I get to know most people, I decide that they would make poor friends.　　　　T　F

19. I am quite good at keeping others in line.　　　　T　F

20. I would rather do an easy job than one involving obstacles which must be overcome.　　　　T　F

21. I enjoy being neighborly.　　　　T　F

22. My goal is to do at least a little bit more than anyone else has done before.　　　　T　F

23. Usually I would rather go somewhere alone than go to a party.　　　　T　F

24. I would enjoy the feeling of riding to the top of an unfinished skyscraper in an open elevator.　　　　T　F

25. I really don't enjoy hard work.　　　　T　F

26. I try to be in the company of friends as much as possible.　　　　T　F

27. I prefer to be paid on the basis of how much work I have done rather than on how many hours I have worked.　　　　T　F

28. I have relatively few friends.　　　　T　F

29. I have rarely done extra studying in connection with my work.　　　　T　F

30. To love and be loved is of greatest importance to me.　　　　T　F

31. I prefer a quiet, secure life to an adventurous one.　　　　T　F

32. People have always said that I am a hard worker.　　　　T　F

33. I seldom go out of my way to do something just to make others happy.　　　　T　F

34. I respect rules because they guide me.   T   F

35. When people are not going to see what I do, I often   T   F
    do less than my very best.

36. Most people think I am warm-hearted and sociable.   T   F

37. I don't mind working while other people are having fun. T   F

38. When I see someone I know from a distance, I don't go   T   F
    out of my way to say "Hello".

39. I become angry more easily than most people.   T   F

40. It doesn't really matter to me whether I become one of   T   F
    the best in my field.

41. I try enjoy myself at social functions.   T   F

42. I don't try to "keep up with the Joneses."   T   F

43. Sometimes people say I neglect other important aspects T   F
    of my life because I work so hard.

44. I want to remain unhampered by obligations to friends. T   F

45. I am sure people think that I don't have a great deal   T   F
    of drive.

46. I spend a lot of time visiting friends.   T   F

47. I feel comfortable in a somewhat disorganized room.   T   F

48. I enjoy work more than play.   T   F

49. I am quite independent of the people I know.   T   F

50. I would prefer a quiet evening with friends to a   T   F
    loud party.

51. It is unrealistic for me to insist on becoming the   T   F
    best in my field of work all of the time.

52. I go out of my way to meet people.   T   F

The next 12 questions concern what _you_ think are the attitudes of
various individuals toward women pursuing either a "traditional"
female career; that is, a career most often chosen by women (e.g.,
nursing, teaching, social work) or a "non-traditional" career; that
is, a career most often chosen by men (e.g., medicine, law, physics)

To answer the questions please refer to the following key.

1 = a most favourable attitude
2 = a favourable attitude
3 = a neutral or ambivalent attitude
4 = an unfavourable attitude
5 = a most unfavourable attitude

Mark on your answer sheet the number to the right of each statement which best corresponds to your opinion.

		most favourable				most unfavourable
53.	My mother's attitude toward women pursuing a "non-traditional" career is	1	2	3	4	5
54.	My father's attitude toward women pursuing a "non-traditional" career is	1	2	3	4	5
55.	The attitude of most men toward women pursuing a "non-traditional" career is	1	2	3	4	5
56.	The attitude of most women toward other women pursuing a "non-traditional" career is	1	2	3	4	5
57.	The attitude of most of my male friends toward women pursuing a "non-traditional" career is	1	2	3	4	5
58.	The attitude of most of my female friends toward women pursuing a "non-traditional" career is	1	2	3	4	5
59.	My mother's attitude twoard women pursuing a "traditional" career is	1	2	3	4	5
60.	My father's attitude toward women pursuing a "traditional" career is	1	2	3	4	5
61.	The attitude of most men toward women pursuing a "traditional" career is	1	2	3	4	5
62.	The attitude of most women toward other women a "traditional" career is	1	2	3	4	5
63.	The attitude of most of my male friends toward women pursuing a "traditional" career is	1	2	3	4	5

64. The attitude of most of my female friends toward women   1 2 3 4 5
    pursuing a "traditional" career is

To answer the last set of questions please refer to the following key.

    1 = not at all
    2 = to a small extent
    3 = to a moderate extent
    4 = to a large extent
    5 = to a very large extent

Mark on your answer sheet the number to the right of each statement which best corresponds to your opinion.

65. To what extent would you like to marry?   1 2 3 4 5

66. To what extent would you like to have a family?   1 2 3 4 5

67. To what extent do you feel that your behavior   1 2 3 4 5
    is influenced by social approval?

68. To what extent do you think that women who pursue   1 2 3 4 5
    a "non-traditional" (as defined above) career are
    less likely to marry than women who pursue a
    "traditional" career?

69. To what extent do you think that women who   1 2 3 4 5
    pursue a "non-traditional" career are perceived
    as less socially acceptable than women who pursue
    a "traditional" career?

*70. To what extent do you feel that a career in nursing   1 2 3 4 5
    will conflict with satisfaction of your social
    (e.g., friendship) needs?

*71. To what extent do you feel that a career in nursing   1 2 3 4 5
    will conflict with satisfaction of your marital needs?

*72. To what extent do you feel that a career in medicine   1 2 3 4 5
    would conflict with satisfaction of your social
    (e.g., friendship) needs?

*73. To what extent do you feel that a career in medicine   1 2 3 4 5
    would conflict with satisfaction of your martial needs?

74. At the time when you made your decision to apply to nursing did you have a
    steady boyfriend or were you married? Mark "1" on your answer sheet if you
    were married, mark "2" if you had a boyfriend, mark "3" if you were
    neither married nor had a boyfriend.

If your answer to question 74 is "1" or "2" please answer questions 75, 76, and 77. If you answer "3" please answer only question 78.

75. To what extent was your boyfriend (or husband if applicable) tolerant and supportive of your career choice?   1 2 3 4 5

**76. To what extent do you think your boyfriend (or husband if applicable) would have been tolerant and supportive had you chosen to apply to medicine?   1 2 3 4 5

77. If at the time when you made your decision you had not had a boyfriend (or husband if applicable) to what extent do you feel your decision might have been different?
If the presence of your boyfriend (or husband if applicable) made a difference in what way did he make a difference? (Please describe briefly)   1 2 3 4 5

78. If you had had a boyfriend (or husband if applicable) at the time when you made your decision to what extent do you feel that your decision might have been different? If the presence of a boyfriend (or husband if applicable) would have made a difference in what way would he have made a difference? (Please describe briefly)   1 2 3 4 5

*
Note this page is representative of the form sent to nursing students. The wording in questions 70, 71, 72, and 73 was altered on the forms sent to students in medical rehabilitation, dentistry, and nursing.
**
Note this page is representative of the form sent to nursing and medical rehabilitation students. The wording of question 76 was altered for dentistry and medicine.

AGE _____   MARITAL STATUS _____

FATHER'S OCCUPATION _____   MOTHER'S OCCUPATION _____

FATHER'S EDUCATION _____   MOTHER'S EDUCATION _____

GRADE POINT AVERAGE OR MATRICULATION AVERAGE _____

If you mother works outside the home, please underline one of the factors listed below which contributed most to her decision to work.

    a. financial
    b. self-satisfaction

PLEASE DETACH THIS PAGE AND RETURN IT WITH YOUR ANSWER SHEET. THANK YOU.

APPENDIX II

UM

THE UNIVERSITY OF MANITOBA

DEPARTMENT OF PSYCHOLOGY

WINNIPEG, CANADA
R3T 2N2

July 5, 1974

Dear

    This letter is to request your cooperation in a study I am doing for my masters thesis in Psychology. The purpose of this research is to find out how several factors affect the career choices of women. I am particularly interested in gathering information from women who applied to pursue a career in the Health Science Fields.

    After I explained the nature of my project to the administrators in the Registrar's Office, they gave me permission to write to you. To obtain valid and useful results it is very important that everyone who receives a copy of the enclosed questionnaire complete it and return it. A pre-addressed, stamped envelope is included for your convenience. I would be most appreciative if you could return it by July 18. It will take about 20 minutes of your time. Do not put your name on the answer sheet because the information that you provide is to be kept completely confidential.

    Please complete the questionnaire as soon as you can – today if possible. Past experience has shown that people who put off doing it are apt to forget. If you have any questions about the project please do not hesitate to contact me or my advisor, Dr. Daniel Perlman, c/o the Department of Psychology. Your cooperation will be greatly appreciated. Upon completion of the study about 2 or 3 months from now you will be mailed a summary of the findings.

    Thank you in advance.

Sincerely,

Linda J. Trigg

Linda J. Trigg

LJT/nr

Enc.

APPENDIX III

UM

THE UNIVERSITY OF MANITOBA

DEPARTMENT OF PSYCHOLOGY

WINNIPEG, CANADA
R3T 2N2

July 20, 1974

Dear

     About two weeks ago you should have received an envelope from me containing a questionnaire, an answer sheet and a letter explaining the nature of the study. Many of you have already returned the questionnaire. The purpose of this letter is to ask those of you who have not yet returned it to kindly do so. The sucess of my project depends upon each and every one of you.

     If you have lost or misplaced your questionnaire and would like another copy, please let me know and I will gladly send you one. After 6 P.M. I can be reached at 269-8871. During the day my advisor, Dr. Daniel Perlman, can be reached at 474-8248. Thank you for your cooperation.

Sincerely,

Linda J. Trigg

Linda J. Trigg

APPENDIX IV

THE UNIVERSITY OF MANITOBA

August 20, 1975

Dear

      Last spring, I asked you to participate in a survey of women applicants to the University of Manitoba. Questionnaires were mailed to applicants to dentistry, medical rehabilitation, medicine and law. About 75% of the questionnaires were returned. The results for every-one except the law school applicants have now been analyzed.

      My research focused on factors influencing womens' career choices. For the purposes of my thesis, I called medical rehabilitation and nursing traditional careers; I called dentistry and medicine nontradi-tional careers. I believed that social pressures and personality needs were important factors in women's career choices. In general, the findings supported this viewpoint.

      On the basis of my results, the following conclusions can be drawn:

1) Nontraditional applicants had more need for achievement than did traditional applicants.

2) Traditional applicants had more need to affiliate with other people than did nontraditional applicants.

3) Traditional women were more interested in having a family than were nontraditional women and were also slightly more interested in being married.
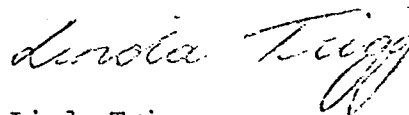
- 2 -

4) Nontraditionals felt they could pursue a nontraditional career and still satisfy their social/marital needs. Traditionals were more apt to feel that such a nontraditional career would interfere with the satisfaction of marital and social needs.

5) Nontraditional women were more apt than traditional women to think that their family and friends approved of a nontraditional career.

6) The type of career a girl pursued was not influenced by whether or not her mother worked.

If you have any further questions about this research please feel free to contact me at home (269-8871) or at the Department of Psychology, (474-9338). I wish to express my very sincere thanks for your cooperation and to apologize for the delay in sending you a summary of the results.

Sincerely,

Linda Trigg.

APPENDIX V

The 29 Predictor Variables that were Entered into a

Multiple Stepwise Regression

1. Need achievement.

2. Need affiliation.

3. Perceived attitude of mothers toward nontraditional careers.

4. Perceived attitude of fathers toward nontraditional careers.

5. Perceived attitude of men in general towards nontraditional careers.

6. Perceived attitude of women in general towards nontraditional careers.

7. Perceived attitude of male friends toward nontraditional careers.

8. Perceived attitude of female friends toward nontraditional careers.

9. Perceived attitude of mothers toward traditional careers.

10. Perceived attitudes of fathers toward traditional careers.

11. Perceived attitudes of men in general towards traditional careers.

12. Perceived attitudes of women in general towards traditional careers.

13. Perceived attitudes of male friends towards traditional careers.

14. Perceived attitudes of female friends towards traditional careers.

15. Desire to marry (Question 65).

16. Desire to have a family (Question 66).

17. Degree to which subjects' behavior is influenced by social approval
    (Question 67).

18. Degree to which subject believed that nontraditional women are less
    likely to marry nontraditional

19. Degree to which subject believed that nontraditional women are less
    socially acceptable than traditional women (Question 69)

20. Perceived compatibility of social needs with traditional careers

(Question 70).

21. Perceived compatibility of marital needs with traditional careers

    (Question 71).

22. Perceived compatibility of social needs with nontraditional careers

    (Question 72).

23. Perceived compatibility of marital needs with nontraditional careers

    (Question 73).

24. Degree to which subject perceived her boyfriend as tolerant and

    supportive of her career choice (Question 75).

25. Degree to which subject perceived her boyfriend as willing to toler-

    ate an alternate choice (Question 76).

26. Father's occupation.

27. Mother's occupation.

28. Father's education.

29. Mother's education.