RELATIONSHIP BETWEEN SEX ROLE CONFORMITY AND SELF-ESTEEM, ANXIETY, AND MOTIVE TO AVOID SUCCESS

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A dissertation submitted to the Graduate Faculty in Clinical Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York.

1973

This manuscript has been read and accepted for the Graduate Faculty in Clinical Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

April 30, 1973
date

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Abstract

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A review of the literature on sex role conformity indicated that females who conform to the traditional feminine role are characterized by low self-esteem, by restriction of growth, and by inhibition of achievement striving. On the other hand, females who defy traditional sex role expectations fall prey to anxiety. The purpose of this study was to examine the problem of sex role conformity in a college sample. It was expected that the conflict between traditional and achievement-oriented goals would be most apparent within this setting.

City College undergraduates, 165 females and 128 males, were asked to complete a test booklet during their classroom hour. Sex role conformity was operationally defined in terms of occupational goals and measured by an Occupational Conformity Scale (OCS). Self-esteem was measured by Cattell's Self-Sentiment Test (SE), anxiety by Block's Psychoneuroticism Scale (Pn), and achievement inhibition by Horner's Motive to Avoid Success (MTAS). Included also were measures of occupational commitment, self-satisfaction, and future

expectations. Data were analyzed by correlational techniques.

The first hypothesis predicted a negative relationship between self-esteem and occupational conformity status for females and a positive relationship for males. A positive relationship between male dominance and social status, and between social status and self-esteem had been demonstrated in past research. In this study, self-esteem was unrelated to conformity status.

The second hypothesis predicted a negative relationship between conformity status and anxiety for both males and females. Sex role deviation had been associated with anxiety in past research. In this study, conformity status was unrelated to anxiety. The lack of relationship between these two variables may be accounted for by the atmosphere in the college environment where the social pressures to conform to traditional sex roles is less pressing.

The third hypothesis predicted a positive relationship between anxiety in females and their motive to avoid success. No prediction was made for males. Achievement-oriented females have been shown to fear success and this fear has been related to anxiety regarding a loss of social acceptability. This hypothesis was confirmed among juniors and seniors in that the higher their level of anxiety, the greater their motive to avoid success. No relationship between these two variables was found for males or for sophmore females. It is probable that females, as they draw nearer to graduation, become increasingly subject to conflict between achievement and traditional goals. Motive to avoid success was also found to have a relationship to future expectations and to conformity status suggesting

that MTAS is most prominent among those females who have a high level of aspiration. To wit, females with high future expectations and nonconformist occupational goals showed the greatest achievement inhibition.

For females in their senior year, nonconformist occupational goals were associated with high anxiety, low self-satisfaction and a high degree of uncertainty about future plans. Despite widely publicized changes in attitudes toward sex role, it would appear that stereotypes persist and continue to exert a powerful influence on behavior.

ACKNOWLEDGMENTS

This writer wishes to express her gratitude to Professor Harold Wilensky, chairman of her committee, whose guidance and support have been of invaluable aid from the initial through the final stages of completion of this thesis.

Professors Barbara Dohrenwend and John Neulinger, members of her committee, have made valuable contributions and have offered their continuing encouragement. I also wish to thank Ms. Camille Lynch and the staff of The City University Computer Center for their gracious help.

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1. Introduction

There has been a consistent distortion of the female case in the psychological literature. This has come about as a result of strong sexist and functionalist biases within the field. Psychoanalysis presented the view of the female as a deficient male (Sherfy, 1966). Her role was directed almost exclusively to childbearing, to child rearing, and to providing the atmosphere in which the man and the children could be served. Freud (1905, 1925) linked biology to psychology, and psychosexual development to character structure. His views on the female centered around her desire to obtain the favored male organ. The hopeless striving to obtain a penis was finally abandoned at childbirth, when the woman could accept her child as a substitute for the penis. Freud believed that this struggle left the female with permanent psychological scars, such as insatiable envy and feelings of inferiority. He also assumed that certain character traits were linked with gender; passivity with femininity and activity with masculinity.

Freud's view was almost entirely the result of speculation based on a priori assumption of male genital primacy. The special privileges and higher status afforded to males was completely ignored. Natalie Shainess (1970) points out that what psychoanalysts characterize as pathological is often the core of woman's humaneness and her healthiest part (e.g., self-assertion as penis envy).

> "Most of the theoretical concepts relating to feminine psychology were evolved by men, who have tended to have a self-serving perspective on women, and have taken for granted the superior position they have occupied

in most societies. Freud's phallocentric bias...(has) led to a misunderstanding of feminine behaviors." (p.244)

It might be noted that modern ego psychology has not wandered far from Freud's initial conceptions about women. Erikson and others postulated a theory of differential male and female ego structures and their modalities to supplement earlier psychoanalytic theories based primarily upon instinctual motives and the organ inferiority of females. Erikson (1968) focuses on the implications for woman's identity of her "productive inner space", asserting that she should rely upon her "right to be uniquely creative" through maternity, while offering moral assistance to the male. Thus, according to Erikson, women do not experience an identity crisis the way men do, because their identity is ultimately determined by their biology.

Functionalism began as an attempt to make social science more scientific by studying institutions in terms of their structure and function within the society and thereby avoiding value judgments. Sociologists studying the family borrowed heavily from selective findings in social anthropology and psychoanalytic theory and pronounced sex to be a universally necessary basis for role differentiation in the family. By extension, in the larger society, women are seen as predominantly fulfilling nurturant, expressive functions and men the instrumental, active functions. When this viewpoint is applied to American society, intellectually aggressive women or tender expressive men, are seen as deviants showing signs of role conflict or neurotic disturbance.

As time passed, description became prescription, and sexual inequality

became 'functional' in maintaining the status quo (Friedan, 1963; Millet, 1970). Talcott Parsons (1949) depicts this in his analysis of sex roles, saying that "only in very exceptional cases can an adult man be genuinely self-respecting and enjoy a respected status in the eyes of others if he does not 'earn a living' in an approved occupational role." Parson goes on to say that the case of the female role is radically different and that "woman's fundamental status is that of her husband's wife, the mother of his children... equality of opportunity is clearly incompatible with any positive solidarity of the family."

In the psychological literature sex differences are described but etiology goes unexamined. The differing expectations regarding masculine and feminine behaviors are ignored. Consequently, the basic pathology of the feminine role (passive, dependent, narcissistic) is overlooked while sex-role stereotypes are presented as the norm for healthy development.

Much psychological testing reinforces stereotypes, both in the manner in which tests are constructed and in the way they are interpreted. For example, a common method of determining masculinity-femininity is to provide Ss with behavioral descriptions of traits which they are to rate as being more or less descriptive of themselves. Males are expected to be more need-achieving, autonomous, dominant, to show greater endurance, and to be less deferent, affiliative, succorant, abasing and nurturant. The reverse pattern is scored as sex-typical of females (Heilbrun, 1965). Inherent in this measure is a double standard in value orientations. That is, while the virtues of domesticity are universally hailed, in

fact, social practice confers all the prestige upon the man's achievement oriented role. Florence Kluckholn (1954) points out how the dominant value orientations of our society are expressed in the man's occupational role whereas "the behavior expected of women in the wife-mother role is relative to value orientations which are markedly different from the dominant American value."

Wright and Abate (1970) investigated the meaning of the MMPI and Strong Vocational Interest Blank MF scales and concluded that assigning sex labels and therefore connotations to vocations and avocations was a questionable practice because thereby "the tests become perpetuators of cultural stereotypes without contributing to diagnostic perception." They challenged the uncritical acceptance by psychologists of stereotyped values -- war-like equals masculine ("I want to be a soldier" is a masculine item on the MMPI) and peaceloving equals feminine. Such distortion they say could have "untoward consequences for society." Holmes (1967) found that male and female differences in MMPI ego strength were based on sex role identification independent of pathology. If a subject indicated, for example, that he did not like to cook or would not like to paint flowers he received a high Ego Strength (Es) score. Thus femininity on the MMPI is an indicator of low ego strength.

Broverman et al (1970) demonstrated the extent to which sex role stereotypes are adopted by mental health professionals and the degree to which they affect clinical judgements concerning mental health. Each clinician was given one of three sets of instructions and told to describe either a man, woman, or adult who

was mature, healthy and socially competent. There was strong agreement among all the clinicians on the attributes characterizing a healthy man, woman, or adult but these were different for women than for men. Women were perceived as more submissive than men, less independent, less adventurous, more easily influenced, less aggressive, less competitive, more excitable in minor crises, more emotional, more conceited about their appearance, less objective and more averse to math and science. The authors note that this is a highly peculiar way of describing a mature, healthy person and reveals the powerful negative assessment of women that our culture contains and which clinicians serve to perpetuate. The authors conclude that women find themselves in a position of conflict over whether to exhibit positive characteristics considered masculine and adult, -- thus having their 'femininity' questioned; or to behave "in the prescribed feminine manner, accept second-class adult status, and possibly live a lie to boot."

Purpose

This study examined the effects of sex role conformity on college women and men in terms of self-esteem, achievement, and anxiety. The attempt was made to avoid the sexist and functionalist biases outlined below by: 1) judicious selection of test materials; 2) relating sex differences, found in the literature and/or demonstrated by this research, to the dominant value norms of our culture rather than to sex role stereotypes.

Sex Role Development: Relation to Self-Esteem

The existence of sex role stereotypes, that is, consensual beliefs about the differing characteristics of men and women, has often been noted in the literature (Komarovsky, 1950; Rosenkrantz, 1968). Sherriffs and McKee (1957) arrived at representative stereotypes of men and women as defined by adjectives applied to them by both sexes. Men are characterized as being straightforward and uninhibited socially; they demonstrate vigor, action and effectiveness in dealing with the environment; intellectually they are rational and competent. Men's vices are limited to mild exaggerations of their desirable characteristics. Women are characterized by social skills and emotional support. Negatively, they are regarded as guilty of snobbery and irrational and unpleasant emotionality. In a more recent study, Lunneborg (1970) found that male subjects emphasized men's desirable characteristics while female subjects emphasized women's neuroticism.

There is a tendency for sex role stereotypes to ascribe greater social value to masculine than to feminine behaviors, since our society esteems males more highly than females (Lynn, 1959; Rosnow et al, 1969). Smith (1939) reported that with increasing age both boys and girls have a progressively better opinion of the boys and a progressively poorer opinion of the girls. Kitay (1940) found that female college students adopted a prevailing unfavorable male opinion of themselves. Lunneborg (1970) reviewed studies showing that both sexes think more highly of the male stereotype and even though there are many unfavorable

characteristics associated with being female, women describe themselves more in terms of stereotypes than do men.

The extent to which sex role stereotypes and their associated social values influence the self-concepts of college students was investigated by Rosencrantz et al (1968). They found that the self-concepts of men and women were very similar to their respective stereotypes; women holding negative estimates of their worth relative to men. The results are "particularly surprising when it is remembered that the data producing the conclusion were gathered from enlightened, highly selected college girls who typically more than hold their own intellectually vis-a-vis boys...The factors producing the incorporation of the female stereotype along with its negative valuation into the self-concepts of the female Ss, then, must be enormously powerful." (p.293)

Sears (1970) studied the relationship of early socialization experiences to self-concepts and gender role in middle childhood. He found that femininity, in both sexes, was strongly associated with a poor self-concept as well as with aggression anxiety and high self-aggression. Other findings (Sears et al, 1957) support the suggestion that girls feel they are punished for being female and come to prefer the masculine role for the privileged status it affords. Brown (1957) found that girls as a group show far less preference for the feminine role than boys do for the masculine role. At every grade level, up to the fifth, a majority of the girls indicate a male role preference. Studies with adults (Terman, 1938; Gallup Poll of 1955) also indicate preference for the male role by women.

The evidence cited above indicates that femininity, and its low social valuation, is clearly associated with poor self-concept in children and adults, and even among enlightened college students.

Sex Role Conformity: Relation to Achievement and Anxiety

For women, the antecedents of intellectual mastery are different than they are for men. Kagan and Freeman (1963) found important sex differences in the pattern of relations between childhood intelligence and adolescent behavior. "For boys, the only consistent correlate of high IQ in childhood was involvement in intellectual mastery during adolescence... For girls, however, IQ predicted not only concern with intellectual competence, but also popularity with peers... rejection of traditional feminine interests, and self-rated aggression and anxiety." Girls who rejected traditional sex role behavior scored higher on intelligence than girls who conformed to the feminine role. Sontag et al (1958) studied groups of children longitudinally and identified personality factors associated with changes in IQ from ages 6 to 10. Children whose IQs would increase were found to be competitive, self-assertive, independent and dominant in interaction with other children. The children who showed declining IQs in the same age group were passive, shy and dependent. It is apparent that the characteristics associated with a rising IQ are not those which are stereotypically feminine.

Crandal et al (1964) found that girl's achievement strivings were directly related to their apparent desire for approval from adults while the boy's achievement strivings were more autonomously determined. Also, the boys' belief in

self-responsibility correlated positively with their performance on academic achievement tests, while these variables were not significantly related for girls. Those girls who were most competent academically were treated most like boys by their parents. Crandal (1963, 1966) and others (Lahaderne and Jackson, 1970) have repeatedly observed that girls score higher on measures of social desirability and these high scores are associated with withdrawal and the absence of aggression in social situations. The academic performance of girls is "depressed ...by the operation of an adaptive strategy of withdrawal that is responsive to their concern for what others think of them."

Stein and Smithells (1969) studied age and sex differences in children's sex role standards about achievement and found that children do have clear sex role standards at an earlier age than that at which traditional performance differences appear. They conclude that the standards influence the performance and the primary changes in sex role standards between the 2nd and 12th grade is concerned with learning what is inappropriate for one's sex. For girls, this means putting less and less effort into areas considered masculine; e.g., spatial and mechanical skills, science and mathematical reasoning. The implications of this finding as it relates to women's later eminence in science have been noted by Maccoby (1963) and Rossi (1965).

Kurtzman (1967) found highly creative adolescent boys to be more sociable, emotionally stable and self-assured than the less creative boys; but they found no difference in ego strength and self-assurance between high and low creative

adolescent girls. In addition, highly creative girls were less well accepted by their peers, whereas the highly creative boys were the most accepted group. Crandal (1964) asked a group of children how they thought they would do on a new task. Among boys, IQ was positively correlated with expectation of success, but the brighter the girl, the less well she expected to do. Also, although the bright boys believed that success was an outcome of their own efforts, there was no correlation between intelligence and self-reliance for girls.

Horner (1969) demonstrated that the desire to achieve in women is often contaminated by the fear that success in competition with men will lead to negative social consequences, e.g., loss of femininity or unpopularity. Coleman (1961), working with seventh grade children, suggested that intelligent girls are caught in a double-bind. They wish to conform to teacher and parental expectations to live up to their capacity, but fear that high academic achievement will make them unpopular with the boys. Larsen (1969) found that most college women (up to 87% of her sample on a given story) have conflicts about academic achievement. Of those who experience such conflict, a majority see achievement as a threat to their interpersonal relationships, particularly with men.

Horner (1969) noted that "achievement motivation in women (was) much more complex than the same drive in men." She found that most men did not feel much inhibition if they were "able and motivated to succeed." However, the road for the achievement-oriented woman is full of obstacles. "She learns that it isn't really ladylike to be too intellectual. She is warned that men will treat her with

distrustful tolerance at best, and outright prejudice at worst, if she pursues a career." (p.62)

Since social control processes entail aversive as well as positive reinforcements to maintain role appropriate behaviors, it is to be expected that persons who defy role prescriptions do so at the cost of some anxiety. Thus, for example, the depressed performance of low-status individuals in competitive situations can be viewed as the effects of anxiety aroused by role-inappropriate behavior. In the case of women, to whom both the intellectual and the more traditional goals are desirable, the possibility of conflict is obvious, since moving in the direction of one goal may reduce the attainment of the other. Since men are not asked to choose between, for example, having a career and being a father, the problem for them is much less acute.

Binger (1961), in discussing the sources of emotional difficulty in college women, attributed major importance to the incompatibility of the female role and success in college. Sustained achievement, independence and competitive disregard for others, are all instrumentally important for academic success and are all stereotypically masculine traits. Heilbrun (1963) found that failure to make a successful adjustment in college was related to greater role femininity. Thus, no matter where a girl falls on the masculinity-femininity continuum she should be subject to conflicting expectancies. The more feminine girl should find need-achieving behavior (masculine competitional endeavor) inconsistent with traditional feminine role demands whereas the more masculine girl will be

subject to anxiety for defying role prescriptions. Maccoby (1963) observed that a girl who succeeded "in maintaining throughout her childhood years, the qualities of dominance, independence and active striving" considered requisites for analytic thinking would have to be in defiance of the conventions concerning appropriate sex role behavior. "...it is a rare woman (she notes) who will not have paid a price for it: a price in anxiety," and she believes that such anxiety "helps to account for the lack of productivity among those women who do make intellectual careers." (p.36)

Studies involving exceptional children in early and middle childhood (Kagan and Freeman, 1963; Werner and Bachtold, 1969) as well as studies involving college students (Sopchak, 1952; Heilbrun, 1965) and creative adults (Helson, 1967; Bachtold and Werner, 1970) all indicate that the girl or woman who is achievement oriented (and therefore 'unfeminine') is made to pay a price. She is less well accepted by her peers, has lower self-esteem than her male counterparts, and has difficulties with adjustment in college (Heilbrun, 1963) and productivity in latter life (Maccoby, 1963; Rossi, 1965). Thus, as long as the adoption of culturally-prescribed masculine or feminine sex role behaviors receives systematic social reinforcement, there is reason to expect psychological adjustment (to be viewed in this research in terms of self-esteem, anxiety and motive to avoid success) to vary with degree of conformity to traditional sex role norms.

Hypotheses

1) There will be a negative correlation between self-esteem and occupational conformity status (OCS) for females whereas the relationship for males will be positive.

Rationale:

Because of the high correlation between male dominance and occupational status, the percentage of males in a given occupational category can also be viewed as an indicator of a person's level of aspiration (Gurin, et al, 1966; Tangri, 1969). In this research, males with a high OCS and females with a low OCS have occupational goals with higher social status than do their same sex counterparts (i.e., male nonconformists and female conformists). Rosenberg (1965) and others have found high correlations between social status and self-esteem. For this population, which is made up of students with goals (as opposed to workers with jobs), self-esteem is conceptualized as a determiner of OCS. In this context, it is expected that females with high self-esteem will be nonconformists in occupational choice (low OCS), but males with high self-esteem will be conformists (high OCS).

2) There will be a negative correlation between occupational conformity status and anxiety for both females and males.

Rationale:

Deviation from traditional sex role expectations has been associated with increased anxiety in both males and females (Heilbrun, 1965; Helson, 1967). It is expected that those persons who have occupational goals which do not conform to stereotypic M-F will have higher anxiety than those persons with more traditional goals (high OCS for both sexes).

3) There will be a positive correlation between anxiety and motive to avoid success for females. No prediction is made for males.

Rationale:

For many females, the desire to achieve is attenuated by the fear that success in competitive achievement with males will lead to negative social consequences (Horner, 1969). It is expected that females with high anxiety will have a greater motive to avoid success than females with low anxiety. For males, achievement inhibition is usually related to 'fear of failure' rather than to MTAS, and for that reason, no prediction is being made.

Summary of Variables

There are four main variables in this research, all of which are expected to be inter-related.

OCS: Occupational conformity status is coded from the question on 'occupational goals'. A rating (percentage of the opposite sex in the chosen occupation) is assigned to it on the basis of the current sex-ratio in the field, based on Labor Department statistics.

SE: Self-esteem is measured by Cattell's self-sentiment test. The score is the number of good things minus the number of bad things a person writes about her (him)-self.

Pn: Anxiety is measured by Block's psychoneuroticism scale which consists of 19 True/False items.

MTAS: Motive to avoid success is a measure of achievement inhibition developed by Homer.

In addition, three other measures were included for comparison purposes with the variables of main interest.

Sure: Degree of occupational commitment is coded from the question on 'occupational certainty'.

Happy: Degree of self-satisfaction is coded from the questionnaire and was included as a back-up measure for the Cattell SE scale.

Future: Level of future expectations is measured by an objective test developed by Cattell and was included for comparison purposes with OCS and MTAS.

Summary of Model

Conceptually, the interrelationship of the four variables of main interest would be as follows:

Self-esteem (SE) is a determiner of Occupational Conformity Status (OCS). OCS is a determiner of anxiety (Pn). Pn is a determiner of motive to avoid success (MTAS) for females.

Predicted relationships for females:

High SE----->Low OCS----->High Pn----->High MTAS

Low SE----->High OCS----->Low Pn----->Low MTAS

Predicted relationships for males:

High SE----->High OCS----->Low Pn

Low SE----->Low OCS----->High Pn

II. Method

Subjects

Two hundred and ninety three subjects (165 females and 128 males) were selected from elective courses in the physical and social sciences and education in order to maximize the chances for obtaining a variety of occupational goals. The mean age for both males and females was 21 (See Table 1). The great majority of subjects were white (females, 73%; males, 86%), single (females, 78%; males, 94%) and upper class persons (juniors and seniors: females, 87%; males, 76%). For females, education was the most popular field of concentration (44%), for males, social science was the choice of the majority (59%).

Procedure

Subjects were given a test booklet (See Appendix A), by the experimenter or an associate, consisting of items relating to self-esteem, motive to avoid success, susceptibility to anxiety, and demographic factors. Also included was a back-up measure for self-esteem ('degree of self-satisfaction'), a level of aspiration measure ('future expectations') and an item asking for degree of occupational commitment. They were asked to complete this material during their classroom hour. Testing time lasted from 15 to 20 minutes.

Data were analyzed by correlational techniques with the help of the IBM 360 computer using the P Stat program.

Table 1

Number and percentages of subjects on demographic variables.

	Female n = 165		Male n = 128	
Demographic Variables	No.	%	No.	%
1. Race				
White	120	.73	110	.86
Nonwhite	45	.27	18	.14
2. Marital Status				
Single	128	.78	120	.94
Married	26	.16	6	.05
Divorced	7	.04	1	.01
3. College Class				
Sophmore	21	.13	30	.23
Junior	56	.34	49	.38
Senior	88	.53	49	.38
4. College Major				
Humanities	27	.16	26	.20
Social Sciences	46	.27	75	.59
Basic Sciences	17	.10	21	.16
Education	73	.44	4	.03
5. Mean Age	21.16		21.05	

Measures

Occupational Conformity Status

Sex role conformity was operationally defined in terms of occupational goals.

Occupational conformity status (OCS) was coded for each subject by taking his or her career choice and determining the percentage of males in a particular occupation according to Labor Department statistics (See Appendix B, p.74). Thus, for example, if a female planned on becoming a lawyer, her OCS score would be .04, indicating that 96% of the persons who were lawyers according to the last census were males. Conversely, a male who had the goal of becoming a lawyer would receive an OCS score of .96. In terms of this research then, a female lawyer is considered to be a nonconformist whereas a male lawyer is a conformist.

Self-Esteem

Problems of construct validity and methodology seem to be inherent in most measures of self-esteem. For example, it has been suggested that evaluations of self-worth are often made within a frame of reference composed of other persons of the same sex rather than all other persons (Sears, 1970). To compare males and females without taking into account the social context in which their self-judgments are made (e.g., differing cultural expectations) results in a measure of doubtful validity. In addition, the failure to characterize the content of the subjects' choices limits the usefulness of such measures as the Semantic Differential. For example, a high correlation between the self and the ideal could be interpreted as reflecting not high self-esteem but a denial of undesirable qualities in the self or a low level of aspiration (Block and Thomas, 1955). The failure to find differences in self-acceptance between male and female subjects may also be due in part to the high correlation of social desirability with measures of self-esteem (Ziller, 1969).

As a result of the above mentioned problems it was decided to disregard the most frequently used SE measures and instead look for a new measure of self-esteem that would be methodologically "purer". The Cattell self-sentiment test (See Appendix B, p.78) appeared to be a suitable measure for this purpose. It had it's origin in a factor analytic approach and it is considered to be "objective". An objective test, according to Cattell, is "one in which a person's response is measured on some aspect of which he is unaware." For this test, unfakeability

was achieved through the use of a disguised purpose technique. Subjects were asked to write down their good and bad qualities. The score was based on the difference between the number of good and bad things the person says about himself.

The self-sentiment test loads most heavily on Factor U.1.26 labeled self-realization or narcissistic self sentiment. According to Cattell (1967), U.1.26 follows directly after intelligence and anxiety as a determiner of school performance and cultural level. He describes it as a combination of egotism and self-control, contributing to social and action success but less to examination success. He asserts that "nature-nurture" evidence favors the hypothesis that this factor represents the self-sentiment, for "environmental differences are overwhelmingly predominant in shaping this trait. The steep rise through childhood (of self-sentiment), accelerated in early adolescence, also agrees with clinical observation."

Motive to Avoid Success

Horner (1968) attributes much of the conflicting evidence regarding the achievement motive in women (see for example, French and Lesser, 1964; Baruch, 1967; Stein, 1969) to the neglect of a variable which she calls "motive to avoid success". Because this motive is very low in the male population it has had little effect on experimental data interpreted in terms of traditional n Achievement theory. However, Horner found that a high proportion of her female population displayed this motive so that not only their n Ach scores but also their task performance was affected. Their scores on these measures of task performance did not reflect the difference between women who were high on achievement motivation as against those who scored low.

In a subsequent study, Horner (1969) found that 65% of the girls in a college sample tested for achievement motivation showed negative imagery relating to a "motive to avoid success", whereas only 10% of the boys in that sample provided this response. According to Horner, this motive is acquired early in life along with other sex role standards. "When fear of success conflicts with a desire to be successful, the result is an inhibition of achievement motivation."

A modification of Horner's technique was used in the present study. Subjects were asked to tell a story based on the following clues: "After first-term finals, Anne (John) finds herself (himself) at the top of her (his) medical school class." The girls wrote about Anne, and the boys about John. They were asked to include

in their stories what led up to the event, how Anne (John) feels about it, and what the outcome would be.

Stories were scored for "motive to avoid success" if they contained any negative imagery relating to concern about doing well. Horner found that such imagery fell into three categories:

1) The most frequent..."reflected strong fears of social rejection as a result of success. (Expression)...of anxiety about becoming unpopular, unmarriageable and lonely."
2) In the second category were those whose major concern appeared to be definitions of womanhood. Their stories "expressed guilt and despair over success, and doubts about their femininity or normality."
3) The third group of stories "denied the possibility that any mere woman could be so successful."

Scoring for both sexes was based on guidelines worked out by Horner and Tangri (Tangri, 1969 - See Appendix B, p.80). On a random sample of thirty MTAS stories, inter-coder reliability (rho) between male and female judges was .86.

Anxiety

The Psychoneuroticism (Pn) scale was devised by Block (1961, See Appendix B, p.81) to measure a person's susceptibility to anxiety. This scale has an advantage over other anxiety measures in that it was developed factor analytically on nonpathological samples. It correlates highly with the MMPI Psychasthenia Scale, the MMPI Manifest Anxiety Scale (Taylor) and the Welsh Anxiety Scale. Those who score on the high end of the Pn scale tend to be troubled, self-preoccupied, and extremely vulnerable to external stimuli.

The total Pn scale is made up of 45 items taken from the CPI and the MMPI. The 19 items from the CPI have been shown to be sufficient in number to provide a reliable and dimensionally valid score (Block, 1961) and were used in the present study.

III. Results

Population Characteristics

Means and standard deviations were calculated for each of the six variables by sex and differences between the sexes were examined. A summary of these findings is presented in Table 2 along with "t" and "F" values. Females were more nonconformist in their occupational choices than males ($p<.01$), as well as being more certain of these choices ($p<.05$). There were no significant differences between males and females on measures of self-esteem (SE), anxiety (Pn), motive to avoid success (MTAS), degree of self-satisfaction (Happy), or level of future expectations (Future). Males demonstrated greater variability than females on the SE and Future measures ($p<.05$), while females were more variable than males on the OCS measure ($p<.01$).

Self-esteem and OCS

It was hypothesized that there would be a negative correlation between self-esteem and occupational conformity status for females while the relationship for males would be positive. The results indicated a lack of relationship between SE and OCS for both sexes (See Table 3). For this sample, self-esteem was unrelated to occupational conformity status.

OCS and Anxiety

The second hypothesis predicted a negative relationship between OCS and anxiety for both sexes. That is, the more nonconformist the occupational goal,

the greater the anxiety. Results (Table 3) indicated a lack of relationship between these two variables. Sex role conformity appears to be unrelated to anxiety in both males and females.

Anxiety and Motive to Avoid Success

The third hypothesis predicted a positive relationship between anxiety and motive to avoid success for females, while no prediction was made for males. Results (Table 3) indicated that MTAS was unrelated to anxiety among females.

Significant Intercorrelations - Not Hypothesized

A. Sex Differences

Sex differences were found in the relationship of OCS to degree of occupational certainty and to level of future expectations (See Z scores, Table 3). Females with conformist occupational goals were more certain of these goals than were nonconformist females (r=.31), but there was no relationship between conformity status and occupational certainty for males (r=.01). The difference between these correlations was significant at the .05 level (Z=2.71). Additionally, OCS was negatively related to level of future expectations for females (r=-.14) while for males, the relationship was positive (r=.12). The difference between these correlations was significant at the .05 level (Z=2.22).

B. Non-Sex Specific Correlations

Other intercorrelations which turned out to be significant were

Table 2

Means, standard deviations, ranges and t and F test comparisons, for males and females on the seven variables.

	Females n = 165			Males n = 128			Mean Diff.	Variance Diff.
	$\bar{X}$	SD	Range	$\bar{X}$	SD	Range	t	F
OCS	.57	.31	.04 to .99	.76	.21	.12 to .99	**5.67	**2.18
SE	2.14	2.53	-10 to +8	2.11	3.00	-5 to +12	.09	*1.41
Pn	8.89	3.66	0 to 18	8.91	3.47	3 to 17	.06	.1.11
MTAS	.37	.66	0 to 2	.40	.66	0 to 2	.41	NS
Sure	.79	.20	.15 to .99	.73	.22	.00 to .99	*2.20	NS
Happy	6.36	1.63	0 to 9	6.15	1.84	1 to 9	.97	1.27
Future	1.46	.34	1.00 to 2.67	1.53	.41	1.00 to 2.67	1.74	*1.45

* $p < .05$

** $p < .01$

Table 3

Correlation matrix for females and males on the seven variables.

(Females, n=165; Males, n=128)

		SE	Pn	MTAS	Sure	Happy	Future
OCS	Female	.07	.06	-.06	**.31 [a]	.09	-.14 [b]
	Male	-.08	.09	-.01	-.01	-.01	.12
SE	Female		**-.35	-.07	**.25	**.26	.09
	Male		**-.32	-.07	*.20	**.39	.05
Pn	Female			.10	*-.17	*-.19	**-.36
	Male			.04	-.15	**-.39	*-.19
MTAS	Female				-.03	.04	*.17
	Male				.12	-.14	.04
Sure	Female					**.27	-.08
	Male					**.26	.03
Happy	Female						.13
	Male						.01

* $p < .05$: females, r=.15; males, r=.17
** $p < .01$: females, r=.19; males, r=.22

a, Z=2.71, $p < .01$
b, Z=2.22, $p < .05$

theoretically reasonable in terms of the constructs being used. For example, self-esteem was positively correlated with self-satisfaction and negatively correlated with anxiety for both males and females (Table 3). In addition, the correlations between self-esteem and self-satisfaction were positive while correlations between anxiety and self-satisfaction were negative.

For females, the higher their future expectations, the greater was their motive to avoid success. For males, there was no relationship between these two variables. Future expectations was negatively correlated with anxiety for both sexes, although the relationship for females (R=-.36, Table 3) tended to be somewhat stronger than it was for males (R=-.19). In addition, those who were certain of their occupational goals had higher self-esteem and a greater degree of self-satisfaction than those who were less certain.

Occupational Commitment as a Selector Variable

The major portion of this research concerned itself with the concept of sex role conformity and its relationship to self-esteem, anxiety, and motive to avoid success. Since OCS is a measure of occupational goals rather than of achieved occupational status, the certainty with which one pursues these goals takes on primary importance. Degree of occupational commitment was reflected directly by a percentage rating of degree of certainty about occupational goals. Class status also had a direct bearing thereon since those who were about to graduate were closer to pursuing

Table 4

Means, standard deviations, t and F test comparisons for males and females who are more than 90% sure of their occupational choice.

	FEMALES n = 71		MALES n = 30		Mean Differences	Variance Differences
	$\bar{X}$	SD	$\bar{X}$	SD	t	F
OCS	.70	.30	.76	.23	1.04	1.70
SE	2.69	2.36	3.93	3.85	*1.98	**2.66
Pn	8.35	3.59	7.00	2.95	1.82	1.48
MTAS	.29	.58	.48	.77	1.29	*1.76
Happy	6.58	1.56	6.70	1.97	.33	1.60
Future	1.44	.33	1.61	.45	*2.03	*1.85

*$p < .05$
**$p < .01$

their occupational goals than those with lower class standing (i.e., sophmores and juniors).

It was found that females who were more than 90% certain of their occupational goals (n=71) had lower self-esteem, higher anxiety and a lower level of future expectations than males who were certain (n=30, See Table 4). Within this subgroup there were no significant differences between males and females on measures of occupational conformity status, motive to avoid success, or degree of self-satisfaction. In addition, males were more variable than females in their responses to SE, MTAS and Future items.

As for the sample as a whole, none of the predicted relationships was significant for those subjects who were certain of their occupational goals (See Table 5). The only two significant sex differences in this subgroup were related to self-satisfaction. Males who reported a high degree of self-satisfaction also reported lower anxiety and less of a motive to avoid success. For females, degree of self-satisfaction was not significantly related to either of these measures.

Results in Demographic Subgroups

The absence of predicted relationships in the sample as a whole made it advisable to explore certain subgroups in order to ascertain whether the

Table 5

Correlation matrix for females and males who are more than 90% Sure of their occupational choice on the seven variables.

(Females, n=71; Males, n=30)

		SE	Pn	MTAS	Sure	Happy	Future
OCS	Female	.12	.20	.09	.12	.10	-.05
	Male	-.19	-.07	.19	-.17	-.04	.31
SE	Female		**-.42	-.07	.08	.14	*.24
	Male		-.11	-.30	.00	.20	-.16
Pn	Female			.18	-.09	-.02	*-.27
	Male			-.20	-.20	**-.49[a]	-.31
MTAS	Female				-.04	.14[b]	*.27
	Male				.16	*-.39	.08
Sure	Female					.21	.18
	Male					.02	.27
Happy	Female						.08
	Male						.20

* $p < .05$: females, $r = .23$; males, $r = .35$
** $p < .01$: females, $r = .30$; males, $r = .45$

a, $Z = 2.07$, $p < .05$
b, $Z = 2.33$, $p < .05$

main effects were in any way obscured by interaction with these demographic or moderator variables. There is need for caution in interpreting statements of significance on any of these subgroups since no specific hypotheses were made regarding them. (For example, Table 6 contains 80 correlations, so that by chance, about 4 of them would be significant at the .05 level.)

It was predicted (for the sample as a whole) that there would be a negative relationship between self-esteem and conformity status for females and a positive relationship for males. Among those subgroups where the relationship reached significance (See Table 6), the opposite was true. For females who were divorced, and for those majoring in the basic sciences, the higher their self-esteem, the more conformist their occupational choice. When degree of self-satisfaction was used as an indicator of self-esteem, it was found that females who were married, or in their senior year, or majoring in education, showed a positive relationship between "happy" and OCS. It should be noted that the latter three groups had significantly higher OCS scores than the total population of females tested (See Tables 8, 10 and 11). For males, the relationship between SE and OCS was negative, although this reached significance only among sophmores.

The relationship between OCS and anxiety was predicted to be negative for both females and males. Among females, only those who were married confirmed the hypothesis; that is, the more nonconformist they were in

Table 6

Intercorrelations for demographic subgroups of males and females on each of the hypothesized relationships.

Demographic Variables	Number F	Number M	SE:OCS F	SE:OCS M	OCS:Pn F	OCS:Pn M	Pn:MTAS F	Pn:MTAS M	Happy:OCS F	Happy:OCS M
Race										
White	120	110	.03	-.08	.08	.07	.03	.05	.08	.01
Nonwhite	39	15	.13	-.14	.06	.28	**.37	.03	.17	-.17
Class Status										
Sophmore	21	30	.10	*-.33	.00	.07	-.34	.01	-.08	.01
Junior	56	49	-.07	.20	.12	.07	*.25	.05	.02	.10
Senior	88	49	.12	-.15	.03	.05	*.17	.03	*.20	.05
Age										
23 and Older	20	21	.05	-.21	-.11	.16	.07	-.12	.25	-.32
19 and Younger	30	27	-.05	-.14	.02	.18	-.10	-.12	-.25	.04
Marital Status										
Single	128	120	.01	-.12	.14	.11	.08	.03	.01	.00
Married	26	6	-.02	.40	**-.47	-.25	.23	.17	*.38	-.14
Divorced	7	0	*.69		.14		.00		.25	
College Major										
Humanities	27	26	-.06	-.21	-.08	-.13	**.51	-.21 a	-.02	-.28
Social Science	46	75	-.16	.08	.09	.06	*-.29	.01	-.14	.09
Basic Science	17	21	**.77	.21 b	-.05	.20	.28	*.47	.26	*.36
Education	73	4	.15		-.08		.16		*.26	

* $p < .05$ ** $p < .01$ a, $Z = 2.67$, $p < .01$ b, $Z = 2.27$, $p < .05$

occupational choice, the higher their anxiety. For males, the correlation between OCS and anxiety did not reach significance in any of these subgroups. (Table 6)

The relationship between anxiety and motive to avoid success was expected to be positive for females. No prediction was made for males. The hypothesis was confirmed among those females who were nonwhite, for those majoring in the humanities, and for those in their junior and senior years. For these groups, the higher their anxiety, the greater their motive to avoid success. For males, the relationship reached significance only among those who were majoring in the basic sciences (Table 6).

T test comparisons were also done in order to determine whether the variables of main interest operated differentially with respect to these demographic subgroups.

For race (See Table 7), the only significant difference occurred on occupational conformity status. Males, both white and nonwhite, were more conformist in their occupational goals than the females. There is a trend for nonwhites, of both sexes, to be more conformist than their white counterparts, although this is not statistically significant.

Class status (See Table 8) significantly affects conformity status and degree of occupational commitment, for both females and males. Females, in the sophmore and junior years were more nonconformist than comparable

Table 7- Means, standard deviations and t test comparisons for males and females by race on the seven variables.

	White				Non-white				t Values			
	(WF) Females n = 120		(WM) Males n = 110		(BF) Females n = 39		(BM) Males n = 15		WF WM	BF BM	WF BF	WM BM
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	t	t	t	t
OCS	.56	.31	.75	.22	.62	.33	.81	.14	**5.22	*2.10	1.10	1.01
SE	2.25	2.28	2.08	2.89	1.95	3.31	2.73	3.61	.49	.76	.63	.79
Pn	8.98	3.81	8.88	3.45	8.56	3.19	9.13	3.58	.21	.57	.62	.26
MTAS	.38	.66	.41	.67	.40	.70	.23	.44	.39	.76	.13	.94
Sure	.77	.21	.74	.22	.85	.17	.75	.17	1.00	1.80	1.95	.21
Happy	6.40	1.63	6.11	1.79	6.30	1.73	6.21	2.26	1.19	.14	.33	.20
Future	1.44	.33	1.52	.40	1.49	.32	1.70	.45	1.65	1.90	.87	1.61

* $p < .05$
** $p < .01$

Table 8

Means, standard deviations and t test comparisons for males and females by class status on the seven variables.

	SOPHMORE				JUNIOR				SENIOR			
	(SF) Female n=21		(SM) Male n=30		(JrF) Female n=56		(JrM) Male n=49		(SrF) Female n=88		(SrM) Male n=49	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
OCS	.51	.28	.81	.20	.49	.31	.82	.16	.64	.31	.66	.24
SE	1.76	2.47	1.93	2.84	2.07	2.41	2.13	3.06	2.28	2.63	2.20	3.08
Pn	8.10	3.81	9.00	3.71	9.07	4.15	9.33	3.85	8.97	3.29	8.45	2.88
MTAS	.55	.89	.33	.55	.37	.66	.45	.74	.32	.60	.40	.66
Sure	.75	.23	.72	.21	.77	.20	.76	.16	.82	.20	.69	.27
Happy	5.94	1.26	5.75	1.87	6.66	1.54	6.03	1.64	6.26	1.74	6.50	1.96
Future	1.41	.36	1.58	.42	1.52	.35	1.52	.43	1.43	.32	1.51	.39

Table 8 - continued

t VALUES

	SF SM	JrF JrM	SrF SrM	SF JrF	JrF SrF	SF SrF	SM JrM	JrM SrM	SM SrM
	t between sexes			intra-sex: females			intra-sex: males		
OCS	**4.46	**6.52	.47	.23	**2.70	1.70	.19	**3.84	**2.86
SE	.22	.10	.14	.50	.47	.81	.28	.13	.39
Pn	.85	.33	.92	.94	.17	1.06	.37	1.28	.74
MTAS	1.03	.60	.64	.97	.40	1.37	.72	.38	.41
Sure	.46	.57	**3.02	.38	1.33	1.31	1.61	*2.08	.48
Happy	.38	1.87	.69	1.78	1.36	.72	.61	1.14	1.51
Future	1.58	.01	1.37	1.30	1.73	.25	.60	.17	.79

* $p < .05$
** $p < .01$

groups of males. For seniors however, there were no significant OCS differences by sex, but females were more certain of their occupational goals than males. Within-sex comparisons indicate that females were most conformist in their occupational choices and most certain of these choices as they approached graduation, while for males, the movement was in the opposite direction. That is, males chose less conformist occupations and were less certain of these occupational goals in their senior year.

For age (See Table 9), an "extreme" group analysis was done to maximize the possibility of finding any age-related differences which were masked in dealing with the sample as a whole. Among females, those who were older (22 and above) had higher self-esteem and were more certain of their occupational goals than those who were younger (19 and below). Among males, the older group was more nonconformist in its occupational goals than the younger group.

Marital status (See Table 10) had no significant relationship with any of the test variables for males. For females however, marital status was related to OCS and SE. Married females were more conformist in their occupational goals and had higher self-esteem than single females. Divorced females were not significantly different on any of the tested measures from single females. This would negate the possibility that age, rather than marital status, was responsible for the OCS and SE differences, since divorced as well as married females were significantly older than single females.

Table 9 - Means, standard deviations and t test comparisons for males and females using 'extreme' groups on age for each of the seven variables.

	OLDER 23 and above				YOUNGER 19 and below				t VALUES			
	(OF) Females n = 20		(OM) Males n = 21		(YF) Females n = 30		(YM) Males n = 27		OF OM	YF YM	OF YF	OM YM
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	t	t	t	t
OCS	.59	.30	.69	.25	.59	.31	.82	.18	1.20	**3.48	.06	*2.02
SE	3.63	2.43	2.14	3.34	1.80	1.86	2.33	2.59	1.60	.90	**2.98	.22
Pn	7.85	3.56	8.24	3.56	8.30	3.51	7.96	2.64	.35	.41	.44	.31
MTAS	.35	.70	.21	.54	.38	.73	.46	.72	.69	.40	.12	1.25
Sure	.89	.09	.79	.16	.79	.18	.72	.22	*2.26	1.35	*2.02	1.04
Happy	6.37	2.03	6.47	1.88	6.89	1.40	6.32	1.29	.14	1.49	1.05	.29
Future	1.53	.36	1.51	.44	1.56	.41	1.52	.39	.21	.41	.25	.09

* $p < .05$

** $p < .01$

Table 10

Means, standard deviations and t test comparisons for males and females by marital status on each of the seven variables plus age.

	SINGLE				MARRIED				DIVORCED	
	(SF) Female n = 128		(SM) Male n = 120		(MF) Female n = 26		(MM) Male n = 6		(DF) Female n = 7	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
OCS	.55	.31	.76	.21	.75	.29	.70	.28	.59	.35
SE	1.92	2.57	2.12	3.00	3.08	2.29	1.83	3.60	3.29	1.89
Pn	8.90	3.55	8.94	3.49	9.53	4.24	8.17	3.93	8.00	3.00
MTAS	.45	.72	.41	.66	.16	.37	.40	.89	.00	.00
Sure	.78	.21	.73	.23	.84	.18	.82	.14	.87	.09
Happy	6.26	1.69	6.15	1.85	6.79	1.41	5.80	1.92	6.83	1.47
Future	1.47	.35	1.54	.42	1.36	.26	1.47	.29	1.53	.29
Age	20.76	1.65	20.88	2.02	22.50	3.50	23.50	2.17	24.17	2.40

Table 10 - continued

t Values

	SF SM	MF MM	SF MF	MF DF	SF DF	SM MM
	t between sexes		intra-sex: females			males
OCS	**6.31	.37	**3.11	1.27	.35	.64
SE	.58	1.07	*2.10	.22	1.38	.23
Pn	.10	.72	.81	.90	.66	.53
MTAS	.44	1.01	1.93	1.03	1.51	.02
Sure	1.83	.19	1.17	.45	1.03	.89
Happy	.47	1.35	1.44	.06	.81	.41
Future	1.44	.92	1.52	1.46	.41	.41
Age	.54	.67	**3.90	1.10	**4.83	**3.09

* $p < .05$
** $p < .01$

College major (See Table II) significantly differentiated the sexes on OCS ratings. Females majoring in the humanities, the social sciences, and the basic sciences had occupational goals which were more nonconformist than their male counterparts. Female education majors were more conformist, had a lower motive to avoid success, and were more certain of their occupational goals than female humanities' majors. In addition, females in the humanities had a greater motive to avoid success than females in the basic sciences. Males majoring in the humanities were the least conformist in occupational goals and yet were more certain of these goals than were males in the basic and social sciences.

Table II

Means, standard deviations and *t* test comparisons for males and females by college major on each of the seven variables.

	HUMANITIES				SOCIAL SCIENCE				BASIC SCIENCE				EDUCATION	
	(HF) Female n = 27		(HM) Male n = 26		(SSF) Female n = 46		(SSM) Male n = 75		(BSF) Female n = 17		(BSM) Male n = 21		(EdF) Female n = 73	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
OCS	.36	.16	.62	.24	.40	.26	.78	.18	.45	.36	.89	.12	.78	.24
SE	1.78	2.41	2.12	3.68	2.39	2.97	2.28	2.71	2.35	2.21	1.29	2.72	2.10	2.39
Pn	9.30	3.69	8.65	3.39	8.17	3.88	8.81	3.47	7.71	3.93	9.99	3.44	9.41	3.38
MTAS	.67	.82	.57	.75	.36	.69	.40	.67	.06	.25	.32	.58	.33	.63
Sure	.74	.23	.85	.16	.71	.20	.69	.25	.79	.26	.71	.18	.87	.14
Happy	6.12	1.69	5.78	1.83	6.65	1.57	6.20	1.87	6.06	1.48	6.15	1.81	6.38	1.71
Future	1.53	.32	1.62	.47	1.48	.38	1.53	.36	1.49	.35	1.50	.45	1.41	.31

1 - Male education majors numbered only 4 and were eliminated from this analysis

* $p < .05$; ** $p < .01$

Table II - Continued

t VALUES FOR COLLEGE MAJOR

	t between sexes			intra-sex: females					
	HF HM	SSF SSM	BSF BSM	HF SSF	HF BSF	HF EdF	SSF BSF	SSF EdF	BSF EdF
OCS	**4.62	**9.56	**5.21	.87	1.20	**8.33	.58	**7.93	**4.49
SE	.40	.20	1.31	.91	.80	.59	.04	.59	.40
Pn	.66	.94	1.92	1.21	1.36	.15	.42	1.83	1.82
MTAS	.41	.26	1.62	1.63	**2.86	*2.06	1.71	.28	1.66
Sure	*1.96	.43	1.00	.49	.67	**3.50	1.19	**4.94	1.79
Happy	.66	1.19	.16	1.26	.11	.65	1.27	.81	.68
Future	.82	.72	.08	.53	.34	1.69	.10	1.13	.95

	intra-sex: males		
	HM SSM	HM BSM	SSM BSM
OCS	**3.83	**4.84	**2.68
SE	.27	.86	1.49
Pn	.20	1.35	1.39
MTAS	1.05	1.20	.48
Sure	**2.80	**2.60	.41
Happy	.91	.66	.11
Future	.97	.85	.30

Stepwise Multiple Regression

Multiple Regression was used in this research, as opposed to analysis of variance (with which it is "theoretically equivalent", See Cohen, 1968), because it constituted a flexible system for the analysis of data. Unfortunately, the lack of relationship among the variables of main interest in the sample as a whole, nullified the advantages of the MR design in this research (See Table 12).

The MR method involved the forming of a hierarchy of sets of independent variables from which F ratios were obtained to determine the significance of increments to R^2. In addition, MR design required that a conceptual model be specified prior to the analysis in order to limit the kinds of relationships being studied. This was done (See below, p. 18) and the data were analyzed in three stages. Step 1 (Set A, Table 12) included specific relationships generated by the model; i.e., the hypotheses. Step 2 (Set B, Table 12) included other relationships which were suggested by the model, but not specifically hypothesized. Step 3 (Set C, See Appendix C, Table 13) included all possible relationships which were examined for the purpose of strictly exploratory research.

Table 12

Correlation Coefficients for hypothesized relationships (Step 1, Set A) and multiple correlation coefficients for relationships generated by the conceptual model (Step 2, Set B).

Model: SE-->OCS-->Pn-->MTAS

Set A

Independent Variable	Dependent Variable	Correlation Male	Female
SE	OCS	-.08	.07
OCS	Pn	.09	.06
Pn	MTAS	.04	.10

Set B

Independent Variable	Dependent Variable	Multiple R Male	Female
SE	Pn	-.32	-.35
(SE) (OCS)	Pn	-.32	-.36
SE	MTAS	.07	.07
OCS	MTAS	.01	.06
(SE) (OCS)	MTAS	.07	.08
(SE) (Pn)	MTAS	.07	.10
(OCS) (Pn)	MTAS	.04	.11
(SE) (OCS) (Pn)	MTAS	.07	.12

IV. Discussion

Self-esteem (SE) and Occupational Conformity Status (OCS)

It was hypothesized that there would be a negative correlation between self-esteem and conformity status for females, while for males, the relationship would be positive. For this sample, there were no significant correlations between SE and OCS for either males or females.

The hypotheses were formulated on the basis of two related lines of research. First, the finding of a high correlation between male dominance and status of professions (Gurin et al, 1966; Tangri, 1969); and secondly, the findings of positive correlations between social status and self-esteem (Rosenberg, 1965). In the present research, conformist males and non-conformist females were defined in terms of occupational goals which represented higher social status choices than their same sex counterparts.

This study indicates that there is no simple correlation between self-esteem and conformity status. However , a number of variables tend to obscure the SE/OCS relationship and should be explored in future research. For example, it has been demonstrated (Korman, 1967) that high SE persons tend to be intrinsically motivated, unlike low SE persons who are more influenced by external motivational sources (social desirability, peer pressure, etc.). It is conceivable, for example, that peer pressure within the college environment, with its strong feminist movement, would lead to a greater choice of nontraditional occupations. Given such a social climate, low SE

might actually be a factor contributing to a female choosing a nonconformist goal.

Sears (1970) and Inselburg (1973) have shown that those who do not conform to sex role norms tend to be less favorably regarded by their peers, thereby effecting a lowering of self-esteem. Ginzberg (1951) has shown that the anticipation of failure among those who choose nontraditional occupations also tends to lower self-esteem. In brief, it would seem that lower peer acceptance as well as anticipation of failure in future occupations might be factors contributing to a lowering of self-esteem among nonconformist females.

Occupational Conformity Status and Anxiety (Pn)

It was hypothesized that sex-role deviation (low OCS) would be associated with increased anxiety for both males and females. For the sample as a whole, there were no significant correlations between conformity status and Pn for either females or males. Thus, it appears that the occupational goals of these college students are unrelated to self-reported anxiety.

The hypothesis was formulated on the basis of research findings indicating that persons who deviate from traditional sex-role expectations are exposed to negative social reinforcements resulting in anxiety. If we view the college campus, rather than society as a whole as the social context within which conformity is to be judged, then the social pressures to conform to the cultural definition of masculinity-femininity may be muted. For example, females who are planning to enter predominantly male fields (e.g. Law, OCS=.04) would not experience the kind of negative pressure within the college environment that they might be subjected to in a different social context.

This failure to be context specific may also account for some of the contradictory findings in the literature regarding sex-role deviation in females. Some researchers argue that women who are more 'feminine' are better adjusted (Porter, 1967) while other argue that the 'masculine' woman is the better adjusted (Wessman et al, 1960). For males the findings are

consistent; 'masculine' males are better adjusted (Heilbrun, 1965). Since the differing contexts within which male conformity is judged vary little, the consistency of this finding is understandable. Thus, for example, value orientations for the male moving from the college environment to the world at large remain the same. The traits which were considered positive attributes in college will continue to be considered positively in the world of work. For females, the change in social context signals a change in societal expectations.

The only subgroup within which the OCS/Pn relationship was significant, in the predicted direction, was among married females. In this group, the more nonconformist their occupational goals, the higher their anxiety. It may be that the very pressures that caused them to marry while still in college would have led them to experience increased anxiety if they had deviated from traditional sex-typed occupations. In other words, this group may have been more sensitive to societal pressure for conformity to begin with, and thus would be more likely to become anxious if they choose nonconformist occupational goals. In addition, by getting married, these females had acquired a role which superceded that of being a college student. The role of 'wife' would expose them to increased societal pressures to conform; pressures which the other females would not yet feel because of their status as students.

Future research on sex role deviation in females should consider both the social context within which the deviation occurs as well as the degree

of susceptibility to external pressures to conform to traditional sex role norms.

Anxiety and Motive to Avoid Success (MTAS)

It was hypothesized that females with high anxiety would tend to have a high motive to avoid success. No prediction was made for males. For the sample as a whole, there was no significant relationship between anxiety and MTAS.

In her work on the motive to avoid success, Horner (1972) stresses that anxiety over "femininity" as it relates to academic achievement falls most heavily on females about halfway through college. "The woman student in her third year understands then...that she actually has been sent to college to find a husband...rather than take the unconventional and risky course of becoming a serious working person." (p.51) In the present research, a subgroup analysis by college class strongly supports Horner's finding. Among females in their sophmore year, there was no relationship between anxiety and MTAS. For juniors and seniors however, a significant positive relationship between anxiety and motive to avoid success was found.

The following story was obtained from an upper junior majoring in the humanities whose occupational goal was to become a writer. Her anxiety score was 16 (18 is the maximum). When asked to write a story about a

female who finds herself at the top of her medical school class, she wrote:

> Anne has been a cheater all of her life. She never strived (sic) hard to get anything; her only means of achievement was through deception. She had exams coming up and rather than study for them she constructed a means whereby the answers would be easily obtainable; i.e. slips of paper, writing on her arm, etc. After first-term finals she was way ahead of the class in stature but far behind in academic abilities. Anne not only felt inadequate, she was unable to perform on other tests.

Apparently, this female was extremely ambivalent about success in competitive achievement with males. Her response to the MTAS cues was to deny the possibility that Anne could be successful by her own efforts.

When females were grouped according to their college major it was found that those with the most nonconformist occupational goals (humanities, mean OCS=.36) had the greatest motive to avoid success; while the group with the most conformist occupational goals (Education majors, OCS=.78) had the lowest motive to avoid success. Since both education and humanities majors had high anxiety, one might speculate on the role of this anxiety in terms of predicting occupational aspiration among females. For example, it may be that high anxiety predated occupational choice among education majors. Isaacson (1964) found that for females in an honors program, the acquisition of teaching certificates was closely related to high scores on anxiety. Humanities majors, on the other hand, may be experiencing a kind of reactive anxiety; their choice of occupational goals probably having been affected by their knowledge of social bias in connection with future employ-

ment. The strong relationship between anxiety and MTAS ($r=.51$, $p<.01$; See Appendix C, Table 14) in this group lends support to this interpretation. Ginzberg (1951) writes:

> The prospect of realizing a future goal is of crucial importance in determining present action, because only the exceptional person will continue to put forth a major effort in the face of a very small chance of accomplishment. (p. 204)

Also supporting Horner's theory of achievement inhibition was the finding that females with a high level of future expectations experienced the greatest motive to avoid success. MTAS had no relationship to future expectations for males. In addition, it was found that females who did not fear success (MTAS = 0) had a lower level of future expectations than those who did. (See Appendix C, Table 15). Since both nonconformist occupational goals and high future expectations reflect a high level of aspiration (Gurin, 1966; Cattell, 1967), it would appear that those females who most strongly desire success have the greatest conflicts about achieving it.

Differences in the amount of achievement inhibition (as reported in a number of college samples) would also seem to be related to desire for success. It was Horner's initial finding (1968) that 65% of female Michigan University undergraduates showed a motive to avoid success. In a later study (Horner, 1972) it was found that 88% of a sample of Radcliffe women showed MTAS. In the present research, only 37% of the women tested were scored for MTAS. This City College sample differs from the other two mainly in terms of social

class (lower middle and lower class as opposed to upper middle and upper class at Radcliffe and Michigan) and with respect to admissions procedure (open enrollment as opposed to more selective admissions criteria at Radcliffe and Michigan). If Radcliffe and Michigan students are more capable of success and have a higher level of aspiration than City College students, then this might account for their higher motive to avoid success.

The results of this study indicate that occupational conformity status and level of future expectations bear heavily on the motiviation of females to avoid success. Future investigations of MTAS should take these two variable into account.

Sex Differences: Occupational Conformity Status

In the population as a whole, females had occupational goals which were more varied and nonconformist than the occupational goals of males. The mean distribution for females was symmetrical; for males, it was skewed, with most males expressing highly conformist occupational choices.

For males, high conformity status represents occupational goals with high prestige, greater income, etc. Given the characteristics of this subject population (largely lower middle class and lower class ethnics and blacks) this conformity is easily understood.

One is tempted to explain the low OCS scores among females in terms of a changing social climate helped by the feminist movement and the realities of a post-industrial society. Perhaps there are expanding job opportunities and females who choose occupations which have been hitherto male preserves receive more encouragement (or less harrassment) from the "establishment". Unfortunately, subgroup analyses seem to argue against this kind of interpretation with regard to females who are highly committed to their occupational goals and to those in their senior year. In these groups, the OCS differences between the sexes found in the sample as a whole disappears. Females appear to become more conformist in their occupational goals as they approach graduation, while males become increasingly nonconformist. This increased conformity among females agrees with other research findings. Tangri (1969) found and "increase in sex-role stereotyping (after four years in college) rather than an increase in diversification which a liberal arts education might be expected to produce." Constantinople (1969) found that males showed a clear pattern of increasing maturity over four years in college while females become more stereotyped in their thinking as they approach graduation. It is possible that the shift toward conformity indicated in the present research (and in the above studies) may reflect a backing away from the notion of identity derived primarily from work toward a more traditional female role; that is, from the need to

be independent to the concern with finding a mate. Males about to graduate are not asked to choose between career and parenthood, but many females feel they must make this choice.

Sex Differences: Occupational Commitment

For females, a positive relationship was found between OCS and degree of occupational certainty, in that the more they deviated from traditional sex-role norms in their occupational goals, the more uncertain they became of these goals. That such a relationship failed to appear for males suggests that less social pressure is applied to males who choose nontraditional occupations. In studying the sexual structure of occupations, Gross (1969) found no change in the amount of job segregation in the period 1900 to 1960. There was continued resistance against females in "male" occupations while the opposite was true for males who wished to enter traditionally female fields. They were actively encouraged to enter these fields because their presence usually served to upgrade pay, working conditions, etc.

In the sample as a whole, females were more certain of their occupational goals than males, but the differing social contexts in which their commitments are made clouds the meaning of this finding. For example, degree of commitment at this stage in their lives (college students) may mean very

different things to males and females. For females, "occupation housewife" is always a viable social alternative, so that although their occupational commitment may appear to be firm in the years preceding and directly after graduation, in fact that sense of conviction may rapidly disintegrate. Dombusch (1966) noted that about "70% of female teachers view teaching only as an adventure." Berry's (1955) survey of college women from fifteen universities and colleges showed that "career" was interpreted as "an activity which will take place in the one or two years interim between graduation and marriage."

When seniors were compared on degree of occupational certainty, males were found to be able to deal with a lack of certainty about occupational goals more effectively than females. Males in their senior year who were unsure of their occupational goals (cutoff point was less than 50% sure) reported a lower degree of self-satisfaction than males who were more certain (greater than 70% sure) of what they wanted to do. For females, however, lack of occupational certainty was associated with low self-esteem and high anxiety, in addition to low self-esteem and high anxiety, in addition to low self-satisfaction (See Appendix C, Table 16). It may be that the source of uncertainty among males and females is different. For example, among males, lack of certainty regarding future goals has no relationship to occupational conformity status. On the other

hand, lack of certainty regarding future goals for females is markedly related to nonconformist occupational goals (See Appendix C, Table 17).

From a slightly different perspective it might be asked: why can male seniors better deal with their uncertainty regarding future occupational goals than females?" One reason might be that female uncertainty relates to competing life styles rather than to competing occupational goals. Marriage and motherhood are often perceived as roles which exclude meaningful career choices. Komarovsky (1946) studied the expectations that female college seniors had with regard to their adult sex role and found that they perceived themselves to be faced with two mutually exclusive alternatives: the homemaker and the "career girl". The fact that females are socialized for both roles creates enormous conflict. The attitudes which Komarovsky found in her subjects in the mid-40's has not appreciably changed to date. In fact, Horner noted in a recent interview (Gornick, 1972) that the emphasis on the new freedom for women had "created something of a backlash." The negative attitudes expressed toward successful women had "increased to a disproportionately greater extent than the positive ones," and this was "true of both male and female subjects."

Sex Differences: Level of Future Expectations

Cattell has related level of future expectations to McClelland's need for achievement. It has also been interpreted as a reflection of sheer ambition and optimism (Cattell, 1967). The fact that males in this study scored higher on this measure than females, may be taken as an indicator of a socialization process which tends to encourage low achievement in females.

When future occupational goals were related to future expectations, a difference appeared between the sexes (Table 3). Females with conformist occupational goals were found to have a low level of future expectations while males with conformist occupational goals were found to have a high level of future expectations. This difference is probably related to the different social statuses associated with male and female conformity (high for males, low for females) and generally supports the conceptualization of the way in which male dominance reflects level of aspiration. (Gurin et al, 1966).

Evaluation of Instruments: Self-Satisfaction versus Self-Esteem

Two measures of self-esteem were included in this research. The first was derived from an objective test (Cattell, 1967) chosen because it appeared to avoid some of the pitfalls of such popular measures as the Semantic Differential (See below, p. 22). The second measure was a self-report item asking for degree of self-satisfaction. The latter was added to the test battery in order to provide a back-up measure for the Cattell SE test.

In the Cattell measure, the frame of reference is the "self"; a person is asked to list good and bad qualities. The relative fluency of the Ss response on these factors is considered an indicator of feelings about the self. But the degree of self-satisfaction item taken by itself does not define a reference field in that the concept of self-satisfaction has to be related to the particular arena in which a person is functioning. For example, "is self-satisfaction related to college work, or relationships with others; is the reference field composed of all other persons, or all other college students, or perhaps all other females?" Depending on the reference field, a high degree of self-satisfaction can reflect a low level of aspiration rather than high self-esteem.

For the population as a whole, self-satisfaction, anxiety and self-esteem were interrelated. The relationships among this triad were consistent

for males regardless of college class. For female seniors however, self-satisfaction was independent of the other two variables. Additionally, there appeared a trend for females; as the degree of occupational commitment became stronger, the relationship of self-satisfaction to other measures declined. No such trend appeared for males. It might be that "self-satisfaction" changes its meaning for females as they move out of the student category. The negative relationship between self-esteem and anxiety which appears consistently throughout the data for both sexes agrees with the finding of other studies. It seems that the Cattell SE measure is a more consistent measure of self-esteem for females and should be used in future research.

CONCLUSIONS

For this college sample, predictions of relationships between occupational conformity status, self-esteem, anxiety, and motive to avoid success, were not statistically significant. However, analyses of subgroups in which the hypotheses were confirmed suggests a developmental trend for females which has broad social significance. When females enter college there appears to be little conflict between their role as female and their role as student. Within the college environment, achievement goals and feminine role demands appear to be fairly congruent for most females until they reach their junior year. It is at this time when the pressures for conformity seem to increase resulting in a shift towards more conformist occupational goals and an increase in achievement inhibition. That no such trends were found for males suggests that societal expectations do not create role conflicts for them.

> The advantage which man enjoys, which makes itself felt from his childhood, is that his vocation as a human being in no way runs counter to his destiny as a male...He is not divided. Whereas it is required of a woman that in order to realize her femininity she must make herself object and prey, which is to say that she must renounce her claims as sovereign...subject of her life. (deBeauvoir, 1952)

Those females who persist into their senior years in having conformist occupational goals apparently pay a "price". They report lower self-

esteem, higher anxiety, greater uncertainty, and a lesser degree of self-satisfaction than do females who have conformist goals. Despite highly publicized changes in attitudes toward sex role, these do not seem to have had any appreciable effect on the females in this sample. Sex role stereotypes persist and continue to exert a powerful influence on behavior.

Appendix A - Test Booklet

Code # _____

We are conducting a study to investigate the relationship between occupational goals and certain personality and background factors among City College undergraduates. Some of the questions listed below may appear highly personal. Please remember that these data will be evaluated without reference to any identifying information. It will be appreciated if you are as thoughtful and candid as possible in your replies. If you need more space than has been provided for your answer, please use the reverse side of the page.

1. Sex _____

2. Age _____

3. Race _____

4. Marital Status _____

5. College Status (Sophmore, Jr., etc.) _____

6. College Major _____

7. Please describe as specifically as you can, the occupation or type of work you think you will enter. (If you are uncertain about your work decision, answer in terms of the occupation you would probably choose if you had to make a decision now.) Please be specific. For instance, if possible, don't just say "Go into TV"; instead, please specify whether it is TV production, acting, directing, etc. Or if you're interested in "teaching English" please specify what level of teaching (high school, college, etc.) and whether it is only teaching or a combination of teaching and research, or teaching and creative writing, etc.

Code # _____

8. Please express in terms of a percentage (from 0 to 100%) how certain you are of this occupational goal.

_____% certain

If you have mentioned more than one, answer in terms of the occupation to which you are most committed at this time.

Occupation _____: _____% certain

9. How satisfied are you with yourself at this time? (Circle One)

Completely Satisfied 9....8....7....6....5....4....3....2....1....0 Completely Dissatisfied

10. Write down as many things (single words where possible) as you can think about yourself which would be considered good or admirable and for which you respect yourself. For example, "punctual," "a loyal friend," "a good athlete." Make only reasonable claims which you could substantiate.

11. Now write down as many things as you can think of about yourself which would be considered defective, weak or humiliating. For example, "unintelligent," "bow-legged," "a quitter."

12. Below is a list of certain goals and life experiences that many people think they might like to achieve. You might reasonably expect to experience some of them. Check whether your chances are low, average or good of attaining these things in some future period of your life.

	Good Chance	Fair Chance	Unlikely
a. Owning a famous original oil painting	_____	_____	_____
b. Traveling to Africa	_____	_____	_____

Code # _____

	Good Chance	Fair Chance	Unlikely
c. Writing a best-seller	_____	_____	_____
d. Election to high political office	_____	_____	_____
e. Earning a million dollars	_____	_____	_____
f. Winning a Nobel Prize	_____	_____	_____

Please read each statement and decide whether it is true or false as applied to you. If a statement is true or mostly true, circle the T in the space provided. If a statement is false or mostly false, circle the F.

		True	False
1.	I tend to be on my guard with people who are somewhat more friendly than I had expected.	T	F
2.	It is hard for me to start a conversation with strangers.	T	F
3.	It often seems that my life has no meaning.	T	F
4.	I get very tense and anxious when I think other people are disapproving of me.	T	F
5.	The thought of being in an automobile accident is very frightening to me.	T	F
6.	I feel as good now as I ever have	T	F
7.	Criticism or scolding makes me very uncomfortable.	T	F
8.	I feel nervous if I have to meet a lot of people.	T	F
9.	I hardly ever feel pain in the back of my neck.	T	F
10.	It is hard for me to act naturally when I am with new people.	T	F
11.	I get pretty discouraged sometimes.	T	F
12.	I usually don't like to talk much unless I am with people I know very well.	T	F
13.	I am sometimes cross and grouchy without any good reason.	T	F
14.	I think I am usually a leader in my group.	T	F
15.	My table manners are not quite as good at home as when I am out in company.	T	F
16.	I sometimes feel that I am a burden to others.	T	F

Code # _____

	True	False
17. I have had no difficulty in starting or holding my bowel movement.	T	F
18. Clever, sarcastic people make me feel very uncomfortable.	T	F
19. Sometimes I cross the street just to avoid meeting someone.	T	F

Please write a story based on the following clues: "After first-term finals, John finds himself at the top of his medical school class." Include in your story what led up to this event, how John feels about it, and what the outcome will be.

(Females were given the same task, but 'Anne' was substituted for 'John".)

Appendix B - Items and Codes for all Variables

Coding of Test Booklet

1. Sex: Males code "0"; Females code "1".

2. Age: code as is.

3. Race: Whites code "1"; Blacks code "2"; Puerto Ricans code "3"; Asians code "4".

   Note - in the tables categories "2", "3" and "4" were combined under the heading "nonwhites".

4. Marital Status: single code "1"; married code "2"; other (widowed or divorced) code "3".

5. College Status: freshman code "1"; sophmore code "2"; junior code "3"; senior code "4".

6. College Major: professional or pre-professional code "1"; humanities and languages code "3"; social science, history, special area studies code "4"; basic sciences and math code "5"; education and library science code "6"; arts and architecture code "7".

   Note - in the results categories "3" and "7" were combined under the heading "humanities".

7. Choice of occupation: OCS (occupational conformity status), coded on the basis of % of opposite sex in chosen profession based on Labor Department statistics (See below for specific coding instructions and tables).

8. Certainty of occupational goal: code % certain.

9. Degree of self-satisfaction: code from 0 to 9.

10. Self-esteem: number of good things one says about oneself

11. minus the number of bad things equals the SE score. (See below for details on Cattell's Self-Sentiment test).

12. Future expectations: chances for success of some future goal - good chance = 3 points, fair chance = 2 points, unlikely = 1 point. Code the sum of these items divided by the number of items done.

13. Psychoneuroticism scale (page 3 of test booklet): add up those items keyed for anxiety and code composite score. (See below for scoring key and background of test).

14. Motive to avoid success (page 4): code 0, 1 or 2 based on the guidelines worked out by Horner and Tangri (Tangri, 1969; see below).

Instructions for Coding OCS

1. When only one occupation is mentioned, code it.

2. When more than one occupation is mentioned, and:

    a) One is more definite than the others: code the most definite occupation.

    b) All equally definite, time-ordered: code terminal occupation.

    c) All equally definite, unordered: code first mention.

    d) All equally indefinite, unordered: code first mention.

    e) All equally indefinite, time-ordered: code first mention.

3. If only one occupation is mentioned, which combines two fields and for which no single code is specifically appropriate, code the most specialized aspect of the occupation for OCS score.

Occupation Code and Percent Women

Code	Occupation	%W
000	Accountants, auditors	17
010	Actors, actresses	38
832	Airline stewardess	98
013	Architects	03
014	Artists, art teachers	35
015	Athletes	08
020	Authors	25
	College Pres, Prof's, Inst.	(22)
030	President, Dean	02
	Professor, Instructor	
031	Agric Sciences	01
032	Biol Sciences	16
034	Chemistry	12
035	Economics	06
040	Engineering	02
041	Geology, Geophysics	02
042	Mathematics	15
043	Medical Sciences	17
045	Physics	03
050	Psychology	21
051	Statistics	08
052	Natural Sciences NEC	04
053	Social Sciences NEC	29
054	Nonscientific Subjects	31
070	Dancers, dancing teachers	81
520	Decorators	46
071	Dentists	02
072	Designers	13
073	Dieticians, Nutritionists	93
074	Draftsmen	06
075	Editors, Reporters	37
101	Entertainers, NEC	23
102	Farm and Home Management Advisors	47
107	Lawyers, Judges	04
111	Librarians	86
120	Muscicians, Music Teachers	56
	Natural Scientists	(11)
130	Agriculture	05
131	Biology, Zoology	27
132	Chemistry	09

Occupation Code and Percent Women, Continued

Code	Occupation	%W
134	Geology, Geophysics	02
135	Mathematics	20
140	Physics	04
145	Miscellaneous Natrl Scientists	09
151	Nurses	98
152	Optometrists	04
555	Peace Corps	29
154	Personnel, Labor Relations	31
160	Pharmacists	08
161	Photographers	12
162	Physicians, Surgeons	07
163	Public Relations, Publicity	23
165	Rec, Group, Community Org Workers	43
170	Religious Workers	62
171	Social, Welfare Workers	72
	Social Scientists	(25)
172	Economists	14
173	Psychologists	31
174	Statisticians, Actuaries	37
175	Misc Social Scientists	27
179	Nursery and Kindergarten teacher	98
180	Elementary school principals	37
181	Elementary school counselors	72
183	Elementary school librarians	97
	Teachers	(72)
182	Elementary	88
	Secondary	
400	Agriculture	01
401	Art	70
402	Commerce	69
403	English	77
	Foreign Language	
404	French	86
405	German	68
405	Latin	69
407	Russian	67
408	Spanish	75
409	Other	75

Occupation Code and Percent Women, Continued

Code	Occupation	%W
410	Not Specified	81
411	Home Economics	99
412	Industrial Arts	01
413	Journalism	60
414	Library Sciences	90
415	Mathematics	45
416	Music	55
417	Physical Education	36
	Science	
418	General Science	33
419	Biology	41
420	Chemistry	32
421	Physics	16
422	Social Science, History	39
423	Special Education	45
424	Speech	73
425	Other Visiting teachers	67
426	Secondary school principals	04
427	Secondard school counselors	49
428	Secondary school librarians	91
184	Teachers NEC: TV teaching, producing	61
185	Technicians, Med., Dent., Hosp.	62
192	Technicians: NEC (Lab)	24
193	Therapists, Healers	54
	Prof., Tech., Kindred Workers NEC	(20)
194	Computer Programmer, Systems Analyst	24
195	Museum Curator, Specialist, Exhibits	15
197	Translator, Interpreter	38
556	Vista	51
250	Buyers and Dept. Heads, store	23
271	State Pub. Admin.	13
270	Federal Pub. Admin. (Foreign Service)	12
272	Local Pub. Admin.	27
273	Mgrs., Officials, salaried only	(13)
274	Communic's, Util's, Sanit. Serv.	11
275	Eating and drinking places	39
276	Apparel, accessories stores	33
277	Personal services	35
278	Mgrs., Officials, Proprietors, Self-Employ.	(15)
279	Apparel, access. stores	34

Occupation Code and Percent Women, Continued

Code	Occupation	%W
280	Eating and drinking places	31
281	Personal services	33
285	Purchasing agents and buyers, self-employed and salaried	10
294	Business services, salaried only	21
295	Bus. services, self-employed only	16
300	Clerical and Kindred Workers	(77)
303	Attend's., med. and dent. offices	97
310	Bookkeepers	84
305	Bank tellers	69
312	Cashiers	79
325	Office machine operators	74
345	Secretarial	96
360	Typists	93
380	Advertising agents, salesmen	14
393	Real Estate agents, Brokers	24
842	Practical Nurses	96
843	Hairdressers, cosmetologists	89
444	Housewife	98
999	NA, None	99

Cattell's Self-Sentiment Test

T284 (MI 214b)

Objective test 284, for group administration

Title: Self-evaluation of moral qualities

Subject: Self-estimates

Age range of test: Adults; 13-18 years

Length of test: about 4 minutes

Test formal structure: questionnaire

Variables derived from test:

1. Greater fluency on own good relative to bad qualities.
2. Greater fluency on own good qualities.

Note: My concern was with variable (1) because of its 'disguised purpose' design. The minimum requirements for factor loadings on all tests in the compendium were .30 for a single research and .20 which was the factor mean if the variable had been included in more than one factorial research.

Advantages of Cattell's SE Test

1) Problem of differing motivation of individuals in the test situation is resolved by: a) the "cancellation design" of the SE test. That is, two parts of the test are being compared so that by getting a difference score, the level of motivational involvement cancels out. b) Restriction of

scoring to the formal aspects of performance also serves to eliminate problem of differing motivation of individuals.

2) Problem of reducing the inclusion of variance due to different levels of ability is resolved through the "cancellation" principle. That is, the ratio score between the two parts (good qualities vs. bad qualities) equally involving ability will cancel it out.

3) The test was derived from a factor analytic approach to personality measurement. Cattell (1967) has stated that the great advantage of the factor analytic approach is that "one knows thereby not only that a certain variable is significantly associated with the concept one is studying, but also that it does not additionally have substantial allegiance to other concepts." (p.115)

Measurement of Anxiety

Block and his associates at the Institute of Personality Assessment and Research (1961) established, refined and validated a personality scale "to index a person's susceptibility to anxiety." This scale, labeled Psychoneuroticism (Pn), "was developed by the sequential application of cluster analysis, item analysis against cluster score criteria, a further method of dimensional purification, and finally, validation on a number of different subject samples." (p.393)

The Pn scale correlates in the .70s and .80s with the MMPI Psychasthenia scale, the MMPI Anxiety scale (Taylor, 1953) and the Anxiety scale developed factor analytically by Welsh (1956). As Block has noted, "all of these scales are good representatives of the first underlying dimension repeatedly found in factor and cluster analyses of personality inventories...This dimension, variously measured, has proved of broad significance in both correlational and experimental studies."

The 480-item California Psychological Inventory (CPI) (Gough, 1957) provides no direct measure of maladjustment. The Psychoneuroticism scale was developed to provide a quick and efficient means of filling this gap. Block (1961) has found that the 19 Pn items scorable from a CPI protocol are "sufficient in number to provide a reliable and dimensionally valid score."

Scoring Key for Psychoneuroticism (Pn) Scale

1. True
2. True
3. True
4. True
5. True
6. False
7. True
8. True
9. False
10. True
11. True
12. True
13. True
14. False
15. True
16. True
17. False
18. True
19. True

Scoring Guidelines for Motive to Avoid Success (MTAS)

"0" = No indication of negative consequences, negative affect, or concern about negative consequences. If only "fear of failure" present, score "0". If only negative mention is that of other women's jealousy or envy, without indication of concern about it, score "0". If story contains reference to Anne's not always being on the top of her class subsequently but not because of reduction of effort on her part, or because reduction of effort is for reasons other than problems relating to success per se, e.g. exhaustion, score "0".

"1" = Any mention of mild negative affect or mild negative consequences or mild concern about possible negative consequences when relation to success is ambiguous. If successful person shows mild concern about others jealousy, score "1" (whichever sex the others are). If decision is doubtful, score "1".

"2" = Any mention of negative affect or negative consequences or concern about negative consequences when relation to success is clear. Also score "leaving the field" for non-achievement alternatives "2". Score severe negative consequences "2" even if relation in success is ambiguous. Leaving the field for reasons unrelated to success should be scored "1". Denial of success as presented in cue is scored "2" (e.g. result of cheating).

Appendix C - Additional Tables

Additional Tables

Table 13

Stepwise Multiple Regression (MR): Set C, all possible relationships; dependent variable is motive to avoid success.

Independent Variable	Multiple Correlation	
	Male	Female
Occupational Conformity Status (OCS)	.01	.06
Self-esteem (SE)	.07	.07
Anxiety (Pn)	.04	.10
Degree of occupational certainty (Sure)	.12	.03
Degree of self-satisfaction (Happy)	.14	.04
Level of future expectations (Future)	.04	.17
OCS, SE	.07	.08
OCS, Pn	.04	.11
OCS, Sure	.12	.06
OCS, Happy	.14	.07
OCS, Future	.05	.18
SE, Pn	.07	.10
SE, Sure	.15	.07
SE, Happy	.14	.09
SE, Future	.08	.19
Pn, Sure	.13	.10
Pn, Happy	.15	.11
Pn, Future	.06	.24
Sure, Happy	.20	.05
Sure, Future	.12	.17
Happy, Future	.16	.17
OCS, SE, Pn	.07	.12
OCS, SE, Sure	.15	.08
OCS, SE, Happy	.15	.11
OCS, SE, Future	.08	.19
SE, Pn, Sure	.15	.10
SE, Pn, Happy	.15	.12
SE, Pn, Future	.09	.24
OCS, Pn, Sure	.13	.11
OCS, Sure, Happy	.21	.08
OCS, Happy, Future	.16	.18
SE, Sure, Happy	.22	.09
SE, Happy, Future	.16	.19
Pn, Sure, Happy	.21	.12

Table 13 (continued)

Independent Variable	Multiple Correlation	
	Male	Female
Pn, Sure, Future	.14	.24
Pn, Happy, Future	.16	.25
Sure, Happy, Future	.22	.17
OCS, SE, Pn, Sure	.15	.12
OCS, SE, Pn, Happy	.15	.14
OCS, SE, Pn, Future	.09	.25
SE, Pn, Sure, Happy	.22	.13
SE, Pn, Sure, Future	.16	.24
Pn, Sure, Happy, Future	.22	.25
OCS, SE, Pn, Sure, Happy	.22	.14
OCS, SE, Pn Sure, Future	.16	.25
SE, Pn, Sure, Happy, Future	.22	.25
OCS, SE, Pn, Sure, Happy, Future	.22	.25

Table 14 - Correlation matrix for female humanities majors[a] and female education majors[b] on the seven variables.

		SE	Pn	MTAS	Sure	Happy	Future
OCS	Humanities	-.06	-.08	.06	.30	-.02	-.26
	Education	.15	-.08	-.15	*.24	*.26	.04
SE	Humanities		-.24	-.16	.26	*.36	-.12
	Education		*-.44	-.15	.14	.06	.20
Pn	Humanities			**.51 [c]	.03	-.30	-.25
	Education			.16	-.13	-.05	*-.27
MTAS	Humanities				-.00	-.27 [d]	-.20 [e]
	Education				-.04	.20	.22
Sure	Humanities					.34	*-.57 [f]
	Education					.20	.03
Happy	Humanities						-.03
	Education						-.00

*p<.05
**p<.01

a, n=27, r=.36, p<.05; r=.47, p<.01
b, n=73, r=.23, p<.05; r=.30, p<.01
c, z=1.70, p<.10
d, z=2.03, p<.05
e, z=1.81, p<.10
f, z=2.87, p<.01

Table 15

Means, standard deviations and t test comparisons for males and females on 'motive to avoid success' for each scoring category on the six variables.

	MTAS = 0				MTAS = 1				MTAS = 2			
	(OF) Females n = 108		(OM) Males n = 78		(IF) Females n = 24		(IM) Males n = 23		(2F) Females n = 15		(2M) Males n = 11	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
OCS	.57	.32	.76	.20	.58	.31	.75	.24	.49	.28	.77	.22
SE	2.28	2.62	2.08	2.88	2.00	2.45	2.50	3.45	1.80	2.31	.91	3.11
Pn	8.50	3.62	8.73	3.34	9.75	3.27	9.35	2.95	9.13	4.79	8.73	3.23
Sure	.80	.21	.73	.22	.77	.22	.72	.22	.79	.17	.84	.16
Happy	6.36	1.55	6.32	1.78	6.90	1.34	5.65	1.84	6.25	1.60	5.78	1.92
Future	1.41	.31	1.54	.41	1.60	.40	1.54	.34	1.52	.30	1.61	.51

Table 15 - continued

t VALUES

	t between sexes			intra-sex: female			intra-sex: male		
	OF OM	IF IM	2F 2M	OF IF	IF 2F	OF 2F	OM IM	IM 2M	OM 2M
OCS	**4.78	*2.07	**2.75	.21	.95	.90	.33	.25	.07
SE	.50	.57	.84	.48	.25	.67	.58	1.30	1.25
Pn	.44	.44	.24	1.56	.48	.61	.80	.56	.00
Sure	*2.04	.75	.64	.49	.21	.15	.10	1.39	1.40
Happy	.13	*2.50	.61	1.51	1.26	.22	1.45	.17	.85
Future	*2.40	.50	.54	*2.50	.64	1.28	.06	.43	.50

* $p < .05$
** $p < .01$

Table 16 - Means, standard deviations and t test comparisons for seniors, by sex, using 'extreme' groups on degree of occupational certainty on the seven variables.

	Seniors SURE >.70				Seniors NOT SURE <.50				t VALUES			
	(FS) Females n = 64		(MS) Males n = 25		(FNS) Females n = 24		(MNS) Males n = 24		FS MS	FNS MNS	FS FNS	MS MNS
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	t	t	t	t
OCS	.71	.29	.63	.28	.44	.28	.69	.18	1.21	**3.80	**3.98	.94
SE	2.83	2.14	3.00	2.87	.83	3.25	1.37	3.12	.19	.59	**3.34	1.90
Pn	8.53	3.17	7.88	2.79	10.13	3.39	9.04	2.91	.90	1.19	*2.06	1.43
MTAS	.29	.57	.48	.68	.40	.68	.32	.65	1.21	.40	.70	.78
Sure	.91	.09	.87	.08	.49	.11	.38	.19	1.56	*2.08	**15.90	**11.72
Happy	6.55	1.64	7.28	1.24	5.18	1.74	5.20	2.27	*2.02	.03	**3.02	**3.75
Future	1.41	.27	1.53	.42	1.47	.41	1.49	.37	1.57	.17	.87	.30

* $p < .05$

** $p < .01$

Table 17-Correlation matrix for senior males (n = 49[b]) and females (n = 88[a]) on the seven variables.

		SE	Pn	MTAS	Sure	Happy	Future
OCS	Female	.12	.03	-.08	***.43[c]	*.20	*-.19[d]
	Male	-.15	.05	-.07	-.15	.05	*.24
SE	Female		***-.31	.05	***.33	**.23[e]	-.03
	Male		***-.41	-.04	**.32	***.56	.00
Pn	Female			*.17	**-.21	-.15	***-.31
	Male			.03	**-.30	***-.42	-.11
MTAS	Female				.11	.11	-.01
	Male				.07	.01	.14
Sure	Female					***.32[f]	-.15
	Male					***.62	-.10
Happy	Female						-.04
	Male						.03

* p<.10
** p<.05
*** p<.01

a, n = 88, r = .20, p<.05; r = .26, p<.01
b, n = 49, r = .27, p<.05; r = .35, p<.01
c, z = 3.33, p<.01
d, z = 2.38, p<.05
e, z = 2.17, p<.05
f, z = 2.14, p<.05

r=.17, p<.10 (Female)

r=.23, p<.10 (Male)

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