CHAPTER III

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n Achievement and Anxiety

Brody (1963) obtained a correlation of .05 (N=31, n.s.) between n Achievement and Test Anxiety scores. The thematic apperceptive measure of n Achievement (McClelland, et al., 1953) and Test Anxiety Questionnaire (Mandler and Sarason, 1953) were used for measuring n Achievement and Test Anxiety respectively in the subjects.

Atkinson and Litwin (1960) found an insignificant negative relationship (r = -.15, N=47) between n Achievement and Test Anxiety. Test of Insight developed by French (1955b, 1958) was used to measure n Achievement and Mandler-Sarason (1962) Test Anxiety Questionnaire was used for measuring Test Anxiety in the subjects. The subjects were male students enrolled in a sophomore-junior level psychological course at the University of Michigan.

An insignificant correlation (r = .09, N=185) between n Achievement and Debilitating Anxiety scores was obtained by Mahone (1960). The subjects in this study were drawn from introductory course in psychology, French and mathematics at the University of Michigan. These were volunteers from a larger group of approximately 330 male subjects who had participated in another research. The thematic apperceptive measure of n Achievement was used to measure n Achievement and Alpert Debilitating Anxiety Scale (Alpert and Haber, 1960) was used for measuring achievement anxiety in the subjects.
Feather (1963a) found a correlation of .13 (N=120 n.s.) between n Achievement and Debilitating Anxiety scores. Achievement motivation in the subjects was measured using the thematic apperception test, administered under neutral conditions and Debilitating Anxiety scores were obtained by using the Achievement Anxiety Test (Alpert and Haber, 1960).

A correlation of -.22 (n.s.) between n Achievement and Test Anxiety scores was obtained by Bartlett and Smith (1966) for 31 eight to ten-year-old boys. Test Anxiety scores were obtained by administering Test Anxiety Scale for Children (Sarason, et al., 1960) and n Achievement in the subjects was determined by using word cues as used by Winterbottom (1968). Test Anxiety Scale was administered individually in this study whereas usually it is administered to a group.

Atkinson and O'Connor (1966) obtained a rank-order correlation of .12 (N=35) between n Achievement and Test Anxiety. The n Achievement measure developed by McClelland, et al. (1953) and the Mandel-Sarason (1952) Test Anxiety Questionnaire (TAQ) provided measures of n Achievement and Test Anxiety.

Smith (1966) found positive insignificant correlation between n Achievement and Test Anxiety (r=.11, N=125). n Achievement scores were obtained from the thematic apperceptive measure administered according to the standard procedure (McClelland, et al., 1963) and Test Anxiety scores were obtained from Mandel-Sarason (1952) Test Anxiety Questionnaire.

The rank-order correlation of -.005 (n.s.) between n Achievement and Test Anxiety scores was obtained by Litwin (1966).
for 78 subjects. The subjects in this study were men enrolled in an introductory psychology course at the University of Michigan. Thematic apperceptive stories and short form of the TAQ provided measures of n Achievement and Test Anxiety. The short form was the first of the three parts of the TAQ.

Raphaelson (1957) investigated the relationship among TAQ, MAS, and n Achievement scores. The product-moment correlation between n Achievement and TAQ was -.43 (N=24, p<.05), and between n Achievement and MAS was -.25 (N=25, n.s.). The thematic apperceptive measure developed by McClelland et al. (1953) and Mandler-Sarason TAQ and Taylor Manifest Anxiety Scale (1953) provided measures for n Achievement, Test Anxiety, and Manifest Anxiety respectively. The thematic apperceptive measure was administered under achievement-oriented conditions. The subjects were volunteer male students enrolled in various schools in the University of Michigan.

Caron (1963) obtained an insignificant correlation (r = .10, N=279, p < .20) between n Achievement and Test Anxiety. The subjects were sophomores enrolled in the college preparatory programme of three comparable suburban public schools. The thematic apperceptive measure developed by McClelland et al. (1953) and Mandler-Sarason TAQ provided measures of n Achievement and Test Anxiety respectively.

Using 619 subjects, 249 men and 370 women, McEachie et al. (1963) obtained correlations of -.11 (for men) and -.08 (for women) between n Achievement and Test Anxiety (TAT) scores. The
measure of n Achievement was TAT-type measure of McClelland, et al. (1953).

In the theory of achievement motivation, the achievement motive is stated to have two basic aspects 'motive to achieve' - an approach motive, and 'motive to avoid failure' - an avoidance motive. It is assumed that the measure of n Achievement indicates the strength of a motive to approach success and Test Anxiety score indicates the strength of a motive to avoid failure. The kind of learning experiences which are thought to be related to the development of the positive motive to achieve and the negative motive to avoid failure are incompatible. In a study by Winterbottom (1958), it was found that high n Achievement in the subjects was related to the earliness of parental demands for independence and mastery. The mothers of boys with high n Achievement gave more affective rewards for their sons' accomplishments as compared to the mothers of the boys with low n Achievement. Research on the origins of Test Anxiety by Sarason, et al. (1960) suggests that high test anxiety results from parental practices involving (a) critical evaluations of the child's performance, (b) love contingent on success, and (c) encouragement of dependent behaviour. Thus, as n Achievement and Test Anxiety are acquired through processes of reward and punishment they should be negatively related. But as pointed out by Bartlett and Smith (1966), the various combinations of child-rearing practices are possible. For example, the parents who set very high standards for the child and reward his success, may also punish his failures. In that
case these two motives cannot be strongly correlated. On this
basis as well as on the basis of findings of studies by Atkinson
and Litwin (1960), Atkinson and O'Connor (1966), Bartlett and
Smith (1966), small but negative correlation between n Achieve-
ment and Test Anxiety is expected.

n Achievement and Intelligence

Using Negro, White, and Puerto Rican 5th and 7th
graders from two schools in low socio-economic areas of a
large New England city as subjects, Mingione (1968) found that
group intelligence test scores did not correlate with n Achieve-
ment scores. As a measure of n Achievement, she used six topic
sentences and Otis Self-scoring Inventory was used as a measure
of IQ. An abbreviated scoring system was followed for scoring
the stories.

Using "Test of Insight" (French, 1955b, 1958) for
measuring n Achievement and Armed Forces Qualifications Test
(AFQT) for intelligence, French (1955a) obtained a correlation
of .12 (N=100, n.s.) between intelligence and n Achievement
scores.

An insignificant correlation (r=.08) between "doodle"
Achievement and Otis IQ scores was obtained by McClelland
(1958), for 24 eight-and nine-year olds from a third grade
class in a Connecticut manufacturing city.

Bartlett and Smith (1966) found a correlation of .17
between n Achievement and intelligence scores of 31 eight to
ten-year-old boys. This magnitude of correlation is statistically
insignificant. The subjects in this study were third and fourth graders with upper-middle or upper class socioeconomic status (as indicated by the occupations of fathers). Kuhlmann-Anderson IQ was obtained from the school records and achievement scores were obtained from stories told by the subjects to word cues adapted from the study by Winterbottom (1958). No time limit was imposed but the children were interrupted if the story became too lengthy. As is obvious, findings of this study are confined to subjects from upper-middle and upper-class.

Bruckman (1966) obtained positive and highly significant correlations between achievement scores and IQ levels of the primary school boys and girls aged nine to eleven years. Correlations of .25 (N=294) and .47 (N=173) were obtained for boys and girls respectively. Both these values are significant beyond .01 level. Achievement scores were obtained by using McClelland's thematic apperception measure administered under achievement-oriented conditions and IQ of each subject was based on data derived from school records of tests administered routinely by the school system in selecting pupils for secondary school placement. Throughout the schools IQ level had been assessed by the Verbal Reasoning Test of the National Foundation for Educational Research II-Plus Test. The single exception was the third form of one school in which the Simplex Intelligence Test was used.
Smith (1964) found \( r = .02 \) (n.s.) correlation between n Achievement and intelligence scores. The subjects were 146 students in introductory psychology class. Achievement motivation in the subjects was assessed with Form II of the Test of Insight (French, 1955a, 1958) and intelligence was measured with Otis Gamma Group Intelligence Test (Form A).

Positive significant correlation \( (r = .40, N=232) \) between n Achievement and intelligence scores was obtained by Robinson (1964). The sample consisted of children who were in their last term at primary school. The final selection for secondary schools had been completed at least three weeks before the present experiment was done. The sample was not random as the subjects were from the higher streams of their primary schools.

When the sample was restricted to the pupils having an IQ of over 105 in the third grade, Meyer, et al. (in Heckhausen, 1967) found a positive significant correlation of .50 between n Achievement and intelligence scores. Significant correlation \( (r = .42, N=30) \) between n Achievement and Scholastic Aptitude Test scores was obtained by McClelland, et al. (1953).

Caron (1963) obtained insignificant correlation between n Achievement and intelligence scores. In this study intelligence in the subjects was measured with California Test of Mental Maturity and scores for n Achievement were obtained from the thematic apperception measure developed by McClelland, et al. (1953). The subjects were sophomores from three comparable suburban Public Schools, enrolled in college preparatory programme.
Several other studies which report positive insignificant relationship between n Achievement and intelligence are by Mahone (1960), Shell (1967), Krumboltz and Farquhar (1957), Hayashi, Okamoto, and Habu (1962), Weisz, Wertheimer, and Grossbeck (1958), and McKeachie, et al. (1963). Some of the other investigations which report positive significant correlations between these two variables are by Kagan and Moss (1958), Robinson (1961), and French and Thomas (1958).

Concerning the relationship between n Achievement and intelligence, as is evident from the related literature reviewed here, both positive significant and positive insignificant relationships have been obtained. To the best of the knowledge of the investigator, there are not many studies in which negative correlation has been obtained. Reports of negative correlation between n Achievement and intelligence have, therefore, been ignored.

McClalland, et al. (1953) have argued that n Achievement develops out of growing expectations. It has been stated by them that when expectations of a person about something are confirmed he gets pleasure, but when these expectations become certainties and confirmation is 100 percent the person loses his interest and feels bored. The prerequisite for getting pleasure is that moderate degree of novelty becomes ever greater as expectations catch up with it. To build up expectations about objects of a more and more complex nature and then confirm them requires superior intelligence on the part of the
subject. It is implied in this discussion that intelligence is a prerequisite for the development of a high level of n Achievement. On the basis of this discussion as well as on the basis of findings of Bruckman (1966), Mehta (1967) and Jayasuria (in Bruckman, 1966), it was hypothesized that there will be a positive significant correlation between n Achievement and intelligence.

n Achievement and Sex

Results obtained by Veroff (in McClelland, et al., 1953) indicated that high school girls' mean n Achievement score in response to three pictures containing male characters was higher than the high school boys' in both neutral and achievement-oriented conditions. Under neutral conditions the girls' mean n Achievement score was significantly higher than boys' (t=3.26, p<.01) and under achievement-oriented conditions the same superiority appeared but it was not statistically significant.

In this study, and in another study by Veroff, Wilcox, and Atkinson (1953), it was observed that achievement-involving instructions did not produce an increase in n Achievement scores of female subjects, meaning thereby that the performance of female subjects on the n Achievement test could not be compared to that of the males.

In a sample of 383 subjects, 204 boys and 179 girls, of primary school, Bruckman (1966) obtained insignificant differences between the mean n Achievement scores for boys and
n Achievement scores were obtained from an adapted thematic apperceptive measure administered under achievement-oriented conditions. Shell (1957) obtained similar findings using 5th and 7th grade boys and girls. Girls were found to be having as strong achievement motivation as boys. Achievement scores were obtained from the thematic apperceptive measure developed by McClelland, et al. (1953).

Desai (1970) found boys' mean n Achievement score to be higher than that of the girls. The mean n Achievement score for boys was 6.01 (N=735) and for girls was 5.48 (N=265). Slight superiority in boys' mean score was observed but the difference was not statistically significant.

Gupta (1970) obtained different findings from those of Desai. Superiority in girls' mean n Achievement score was observed. The mean n Achievement score for the girls was 10.52 (N=100) and for the boys was 6.38 (N=100). The t of difference between sexes was significant at the .01 level. Subjects were from two government higher secondary schools, one for the boys and one for the girls. Six TAT-type pictures developed by Mehta (1967) on the theoretical model of McClelland, et al. (1953), were used to assess n Achievement.

In a study by Sinha (1967), higher mean n Achievement score was obtained in the case of male subjects. The mean n Achievement score for boys was 4.67 (N=9) and for girls was 3.33 (N=7). There was, it may be noted, a very slight superiority in the boys' mean score, but the sex difference did not approach
statistical significance. The achievement scores were obtained from contents of an essay in which subjects had to write about their aspirations, limitations and what they would like to teach their children. The projective measure used in this study for getting achievement scores is different from the projective methods used in other studies on achievement motivation.

Cobb's (1954) findings showed that the wishes of boys exceeded those of girls in the direction of personal achievement and aggrandizement, while the wishes of girls exceeded those of boys in the direction of social and family relations and personal characteristics. The different concerns of boys and girls as shown in Cobb's study can be understood in terms of different role expectations from the two sexes. In many of the present societies, differential roles are expected of boys and girls. Parents have expectations from daughters different from those from sons. Regarding the roles of girls Rossi has stated: "expected role is integrative and adaptive, turned inward toward the world of family and kin, not outward to the world of occupational success" (Rossi, 1965, p. 507). There is a possibility that in an orthodox culture, the differential role to be played by boys and girls would be more strongly emphasized. Therefore, in the context of the Indian culture, it was expected that the boys would manifest a greater need for achievement than the girls.
n Achievement and Social Class

Bruckman (1966) obtained positive significant product-moment correlation between social class membership and n Achievement scores. Correlations of .14 (N=204, p<.05) and .20 (N=179, p<.01) were obtained for the boy and girl groups respectively. The correlations between n Achievement and social class dropped to insignificant values when intelligence was controlled. The subjects were primary school boys and girls aged nine to eleven years. Social class membership was based on fathers' occupations. The occupations were coded according to the prestige scale of occupations developed by Hall-Jones (1950), with slight modification.

The relationship between n Achievement and social class membership was studied by Rosen (1956), in 120 white male subjects aged 14 to 16 years, from two large Public high schools. Using Hollinghead's (1953) index of social position, he found that individuals coming from middle-class tend to have considerably higher need achievement scores than individuals in the lower strata. Achievement motivation in the subjects was assessed with the thematic apperceptive measure developed by McClelland, et al. (1953).

Douvan (1956) found that middle class subjects are achievement-oriented as compared to the working class subjects. The mean n Achievement scores for working class under the two reward conditions showed greater variation than did the means for middle-class subjects (t=2.31, p<.02). The subjects were adolescents in the senior year of high school in a medium-sized
midwestern community. Two types of indices were used in defining subjects' class position. The first was an occupation index derived from school records and a questionnaire in which subjects were asked to describe their fathers' work and conditions of employment. The second index was a subjective class assignment based on a variation of Centres' technique. n Achievement in the subjects was measured with McClelland's projective test for achievement motivation.

Lieberman's (1963) results revealed that there was no significant difference between the n Achievement levels of high and middle class subjects. The subjects were 125 upper class Private school boys and 109 middle class Public high school boys.

Findings obtained by Mehta (1969) revealed that n Achievement in the subjects was not related to their social class membership ($F= .22$, $df=2$ and $840$, n.s.). The subjects were from different government higher secondary schools in Delhi. Kuppuswamy's (1962) socio-economic status scale was used to determine social class of the subjects. In this scale three factors: education, occupation, and income of father are taken into consideration for determining social class of the children. When these three components were taken separately, significant values of $F$ were obtained for education ($F=2.85$, $df=6$ and $837$, $p<.01$) and occupation ($F=4.93$, $df=5$ and $837$, $p<.01$) and insignificant value of $F$ was obtained for income ($F=1.83$, $df=4$ and $153$, n.s.). These results indicated that n Achievement in subjects was related to their fathers' education and occupation.
Achievement motivation was measured with an adapted version of McClelland's apperceptive measure (Mehta, 1967).

Using 120 students of Saugar University (India), Srivastava and Tiwari (1967) studied n Achievement in high, middle, and low social classes. Social class membership was based on Verma's (1962) socio-economic status scale and n Achievement was measured with four Murray's TAT cards. The results indicated that (i) the upper-class possessed a higher degree of n Achievement than the lower-class but the difference is not significant (CR=.335, n.s.) (ii) middle-class members possess higher degree of n Achievement than the upper-class, but the difference is not significant (CR=1.16, n.s.) (iii) the difference between lower and middle class for n Achievement is significant (CR=2.509).

Sociologists' discussion of characteristics of high, middle, and low social classes indicates that middle class families value achievement more as compared to those of high and low social class families. The families of middle class are of the opinion that to maintain one's position or to achieve higher social position one must use one's abilities and adopt the codes of behaviour approved by the dominant element. Therefore, middle class parents give training of hard work and conformity to their children. Results of researches by Winterbottom (1953), Douvan (1956), and Rosen (1956) have shown that middle class child-rearing practices are related to the development of high n Achievement.
Keeping in view the findings of the above mentioned studies, as well as the present set-up of our society in which the middle class adult requires a high degree of competitive performance to face demands imposed on him, it was hypothesized that middle class subjects will have higher n Achievement as compared to upper or low class subjects.

Achievement and Vocational Aspirations

Mahone (1960) found that subjects who are relatively high in "fear of failure" have unrealistic vocational choices with respect to both ability and interest. The vocational choices of failure-motivated subjects are either above or below their ability. These persons choose those occupations which are not related to the kinds of gratification that they desire and hope to find in their vocations. The major hypothesis that subjects who are relatively high in fear of failure have unrealistic vocational choices has also been supported by findings obtained by Atkinson and O'Connor (in Atkinson and Feather, 1966) among male high school students above median intelligence.

Higher level of aspiration in success-motivated persons (High n Achievement-Low Test Anxiety) was observed in a study by Burnstein (1963). In a cross-sectional study by Lambert and Klineberg (1963) it was found that boys' career aspirations are higher in countries with higher n Achievement.
Relationship between n Achievement and occupational level of aspiration was also studied by Minor and Neel (1958). They found that subjects with high n Achievement have a higher occupational level of aspiration. The results obtained by Morris (1964) highlighted the unrealistic nature of the vocational choices of individuals who are relatively high in "fear of failure."

According to Atkinson's (1957, p.364) theory of motivational determinants of risk-taking behaviour: "... when there are alternatives which differ in difficulty, the choice of level of aspiration by persons more disposed to avoid failure is diametrically opposite to that of persons more disposed to seek success. The person more motivated to achieve should prefer a moderate risk. His level of aspiration will fall at the point where his positive motivation is strongest, at the point where the odds seem to be 50-50. The fearful person, on the other hand, must select a task even though all the alternatives are threatening to him. He prefers the least threatening of the available alternatives: either the task which is so easy that he cannot fail or the task which is so difficult that failure would be no cause for self-blame and embarrassment."

Applying this theory to vocational aspirations, the subjects in whom the dominant motive is to avoid failure would aspire either to a vocation which they are certain of attaining (underaspiration) or to a vocation which is considered as
difficult of attainment (overaspiration) - both unrealistic. The success-motivated persons, on the other hand, would choose vocations of intermediate difficulty levels i.e., realistic.

On the basis of Atkinson's theory as well as on the basis of the results obtained by Mahone (1960) and Morris (1964), it was hypothesized that subjects with High n Achievement and Low Test Anxiety will have realistic vocational aspirations and subjects with Low n Achievement and High Test Anxiety will have unrealistic vocational aspirations.