

1954

**The effects of experimentally induced frustration on the subsequent imaginative productions of career-oriented and non-career-oriented female college students.**

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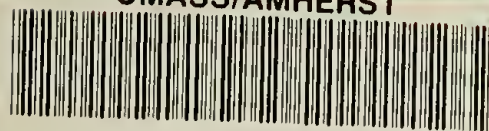
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The Effects of Experimentally Induced Frustration  
on the Subsequent Imaginative Productions of  
Career-Oriented and Non-Career-Oriented  
Female College Students

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Tolman - 1954

THE EFFECTS OF EXPERIMENTALLY INDUCED FRUSTRATION  
ON THE SUBSEQUENT IMAGINATIVE PRODUCTIONS OF CAREER-  
ORIENTED AND NON-CAREER-ORIENTED FEMALE COLLEGE STUDENTS

By

Norman G. Tolman

Thesis submitted in partial fulfillment of the  
requirements for the degree of  
Master of Science

University of Massachusetts, Amherst

1954

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## 1. THE PROBLEM

### A. General Statement

The complexity of personality is readily recognized by all individuals who attempt in any way to systematically study it. Investigation of motivation has frequently received precedence due to the desire of many psychologists to be able to predict behavior from knowledge of the response-producing forces within the personality structure. Placing stress on motivation as a behavioral determinant does not necessarily simplify the problem, however. We are aware of the fact that there are many factors operating to produce a manifold of motives. The study of motivation in a general sense thus becomes extremely complex. Recently, in an attempt to study motivation, McClelland (15) has suggested that it be studied in a more uniform manner and that investigators reduce their scope and perhaps study one motive at a time. McClelland's book, "The Achievement Motive", reports the results of these efforts. Achievement motivation has been measured and variation has been noted among individuals. The next logical step has been to experimentally manipulate conditions in an attempt to discover whether or not the achievement motive, as measured, is in any way altered.

Projective measurements of motivation have frequently been derived by asking subjects to write stories about ambiguous pictures. According to Murray (18, p.1.):



"The fact that stories collected in this way often reveal significant components of personality is dependent on the prevalence of two psychological tendencies: the tendency of people to interpret an ambiguous human situation in conformity with their past experience and present wants and the tendency of those who write stories to do likewise: draw on the fund of their experiences and express their sentiments and needs whether conscious or unconscious."

The subject thus is presented with a relatively unstructured stimulus situation wherein his responses are largely dependent on his own internal state and needs. Achievement motivation may be noted by the presence of fantasy expression of need to achieve, compete, do well, and persist.

Field (10) found sex differences in intensity of achievement motivation; he observed that females, given the same treatment, did not respond in the same way as males. It appeared that the complex of needs in the male differed from that found in the female and, as a result, measurable expressions of motivation were not similar. Davenport (7) demonstrated that need for achievement could be related to career-orientation in a female population. In general, it appeared likely that females who had strong drives to succeed in a career rather than to marry showed a greater amount of need for achievement. However, this hypothesis is in need of further verification. The indication is that females who are interested in attaining career goals show a high degree of expressed need for achievement, whereas females not desiring career goals show low need for achievement.



The present research has been directly suggested by the Davenport study and is an attempt to test further the hypothesized relationship between career-orientation and need for achievement. The desirability of noting effects of manipulation of experimental conditions on need for achievement has also been recognized and thus the structure of the present research encompasses two different treatments of the subjects. These treatments have been characterized as "frustration" and "non-frustration".

First, it will be necessary to consider how need for achievement may be expressed.

#### B. The Concept of n-Achievement and its Measurement

The first publication of the Thematic Apperception Test by Morgan and Murray appeared in 1935. The test, they said, was based on the well known fact that an individual confronted with an ambiguous social situation and required to interpret it was likely to reveal his own personality in the process. A question justifiably asked is: is the test sensitive to transitory fluctuations in the feelings and mood of the individual.... to experimentally induced changes? Investigations have demonstrated this sensitivity. Rodnik and Klebanoff (19) used the traditional T.A.T. analysis with adjusted and non-adjusted subjects at a N.Y.A. camp. The T.A.T. was given before and after "frustration" in a game of motor coordination. The poorly adjusted group showed, as a result of frustration, a marked decrease in themes of superiority of the central characters, considerable increase in themes of aggression, and a decrease



in themas dealing with "emotional states". The adjusted group, on the other hand, showed an increase in themas of "emotional states" and no decrease in superiority of the central characters. Bellak (1) "frustrated" a small group of students at Harvard by criticizing five stories written by them on the T.A.T. and offering no criticism on a remaining five. He found that subjects projected aggression into the stories as a result of this criticism. Aggression, however, is only one possible reaction to frustration, as Miller and Dollard point out. Compensation following frustration, according to Sargent (20), may not be aggressive in nature. Sargent maintains that:

"There is interoperation of both past experience and present situations as determining the form and content of resulting overt behavior.... The crucial present factor is not the situation as it exists in some objective sense, but rather as the individual defines and interprets it."

Thus it does seem possible to measure effects of experimental manipulation with a T.A.T.-like instrument. It follows that this measurement should be made as soon as possible after experimental manipulation in the event that any effect produced is of short duration. Recently such projective tests have come into use for examining more subtly underlying motivational changes following experimental manipulation. Notably, McClelland's adaptation and scoring system for the T.A.T. provides a workable tool for relating a variety of variables to need for achievement, or n-Achievement. The McClelland scoring system is a modification of the usual T.A.T. analysis and has been concerned with fewer pictures, many of which are not



included in the traditional T.A.T. series; pictures are presented in a group setting and the resulting stories are scored for rather specific categories that relate chiefly to need for achievement. An overall personality evaluation is not attempted. The treatment here has been to make for more specific understanding of one or more motives rather than a general treatment of the whole personality (15). This approach seems justifiable, if not desirable, as suggested by Combs (5):

"It is probable that any method of detailed analysis of projective materials tends to destroy the important dynamic 'wholeness' of the material under observation.... but for the purposes of research.... it is necessary to arrive at some more uniform method of attack which will lend itself to some sort of mathematical treatment."

Crandall (6) used T.A.T. pictures containing central figures of the same sex (male) and approximately the same age as his subjects. Using a combination of McClelland's scoring system and others, he found that the most formal characteristics of the thematic apperception stories fail to differentiate "frustrated" from "non-frustrated" subjects. "Only when the rater attended to the adequacy of the central character's behavior in the story and to whether the environmental presses were threatening or non-threatening was it possible to differentiate stories of "frustrated" and "non-frustrated" subjects." With this approach, Crandall found a significant "increased punishment expectancy" in the stories of the "frustrated" subjects. Punishment expectancy was the presence in the stories



of, 1.) rejecting, impeding, hostile environment and 2.) behavior directed toward defending against failure.

Murray (18) in his Manual has developed the following definition of n-Achievement: to work at something important with energy and persistence, to strive to accomplish something creditable, to get ahead in business, to persuade or lead a group, to create something. Ambition is manifest in action. McClelland's statement of n-Achievement appears to be of the same essential character with additional emphasis on the idea of "competition with a standard of excellence". With a simulated intelligence test, McClelland, Clark, Roby, and Atkinson (14) structured a failure condition with male students taking psychology courses at the University of Connecticut, New Britain State Teachers' College, Trinity College, and Wesleyan University. Relaxed (control) and failure (frustration) conditions were taken to represent a low and high degree of induced need for achievement and a comparison was made of the category shifts between these two groups. The following changes occurred at least at the .05 level of confidence: a decrease in unrelated and task achievement imagery; an increase in general achievement imagery, achievement related deprivation themes, stated needs, successful instrumental acts, anticipatory goal responses, nurturant or hostile press, and positive affective states. These variables all go toward making up a high n-Achievement score and thus indicate the relationship between "frustration" and need for achievement as expressed by the n-Achievement score and the category shifts.



Morgan (17) has related n-Achievement to academic success. Students with Honor Point Ratios\* of 2.1 to 3.0 were designated as achievers and those with Honor Point Ratios of 0.3 to 1.2 were designated as non-achievers. The achievement group scored significantly higher than the non-achievement group in achievement motivation as measured by the T.A.T. (McClelland's scoring system "C"). The distribution of n-Achievement scores for achievers appeared approximately normal, while for the non-achievers, the distribution of n-Achievement scores was bimodal with one cluster above a score of 18 and another cluster below a score of 11. Twenty percent of the achiever group scored at or below the non-achiever group median of 12, while thirty-seven percent of the non-achiever group scored above the achiever group median of 18. Some of the non-achievers seemed to have a relatively high degree of n-Achievement while others showed little n-Achievement. This would suggest that the relationship between n-Achievement and certain indications of actual achievement may not be rectilinear. It thus appears that a projective index of need for achievement may be validly related to actual achievement in group measurement.

Veroff, Wilcox, and Atkinson (21) noted that achievement scores from stories written by college women and those written by college men, when related to performance on an anagrams task were virtually identical. This added evidence to

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\*Honor Point Ratio computed according to the formula:  

$$HPR = (3A+2B+C) \div (A+B+C+D+E)$$



the notion that scoring procedures developed in studies of college age males also apply to stories written by college age females and are thus a means of obtaining a measure of achievement motivation in female college students. The same relationships were not obtained from experimental manipulation when female subjects were used, however. Veroff (21), using relaxed and achievement-oriented conditions, attempted to demonstrate differences in n-Achievement in female subjects. He found that the same experimental procedure that produced differences in n-Achievement in male subjects did not increase the mean n-Achievement score of achievement-oriented female subjects. The explanation posed by Veroff is that the mean n-Achievement score tends to be high in relaxed as well as achievement-oriented situations in females and that there thus is essentially no difference in achievement motivation in females under these two conditions. Wilcox has substantiated these findings in a replication using female college students. This suggests as a possible conclusion that females cannot show an increase in n-Achievement scores because they show maximal scores under the relaxed condition. Wilcox suggested that experimental conditions perhaps really do not effectively alter the achievement cues in the situation for females, and that the fault may have been in the experimental conditions in that a college environment itself contains so many cues that are achievement-related for females that anything remotely resembling a test



situation in this environment arouses achievement motivation. No explanation was offered as to why this relationship should not hold for males as well and all that can be said with certainty is that male-female differences in responsivity do follow from essentially the same experimental treatments.

Field (10), using relaxed and failure conditions found a significant increase in n-Achievement scores in males and no increase for females; this is consistent with earlier findings. Also, as in Veroff's study, females scored higher than did males under relaxed conditions. Instead of merely stressing failure on an academic-like task, Field has shown that n-Achievement scores in females increase when they are deprived of social success. It appears that females are responsive to induced changes in n-Achievement but that this achievement is not related to academic achievement, but, rather, social achievement.

### C. Career-Orientation

One possible answer to the dilemma is that males in our culture have a stronger drive or need for career achievement than do females and consequently males show increased responsiveness in n-Achievement to an academic-related task. It may be postulated that doing well on a test (a sub-goal) is highly related to overall success in college (an achievement-related-goal) which is later expressed in occupational achievement (the terminal-goal). Females may not perceive college in this manner at all and it may be considered as an opportunity to achieve socially rather than having competitive



occupational attributes in most cases. Thus many females may not be motivated by occupational competition to become ego-involved in test situations which would for them not be achievement-related sub-goals, and no increase in n-Achievement score would be expected. It is not clear why females show higher scores under relaxed conditions, however. It does not seem as though an academic-like task should be highly related to social achievement in females. If academic achievement were related to social achievement, it is likely that failure on the academic task would relate to social achievement in females in the same manner that failure related to career achievement in males.

It is desirable to select a group of females that show high career-motivation; these females should show differences in n-Achievement that are similar to differences shown by males; furthermore, females lacking in career-motivation would be expected not to show differences. Davenport (7), by means of a questionnaire, has obtained a weighted index of career-orientation and has shown that career-oriented girls have significantly higher n-Achievement scores than do non-career-oriented (marriage) girls. Career-oriented girls, "expressed more achievement imagery, need, instrumental activity, positive goal anticipation, and aid in attaining achievement goals in their T.A.T. stories than did marriage girls". Davenport used Freshman Home Economics females at the University of Massachusetts and noted that there were only 2 or 3 "pure"



career girls in his study. Other subjects considered in the career group evidenced a lesser degree of career-orientation in the questionnaire. There was a good deal of difficulty encountered selecting female subjects expressing high career-motivation from the available population. Davenport appears to have used groups with "low" and "medium" career-orientation as he has noted that high career-oriented subjects were generally unavailable.

Attempts have been made to frustrate subjects in the belief that frustration, in producing a temporary blocking of the desired goal, will increase the positive potential of the goal by increasing relatively the need state due to what may be perceived as deprivation. It follows that this increase in need state should therefore reach expression in fantasy and be accessible to measurement by means of the projective type test.

#### D. Frustration

Experimental frustration has been induced in a variety of ways ranging from preventing the subject from completing an assigned laboratory task to the frustration of more socially important motives. Lindzey and Riechen (11) show that it is possible to produce frustration of a social nature rather effectively in adult subjects in a laboratory experiment. They state, "The most effective 'agents' of frustration appear to



be those that block acquired or socially important motives rather than those that block organic or primary drives." Their method of inducing frustration consisted of using several stooges and one subject at a time. The subject always failed to complete the assigned task and thus prevented the group (all other members, the stooges, were successful) from receiving a financial reward. Later, introspective reports indicated extreme frustration due to the apparent failure. Unfortunately, most investigators do not have opportunity to spend such a great deal of time and effort frustrating subjects as did Lindzey and Riechen at Harvard; thus the majority of studies using frustration have been done with groups of subjects rather than with individuals.

Diggory (8), using a Carl Hollow Square Test which was insoluble, reported scores well below zero to his subjects after previously informing them that zero meant average performance. He found that the experience of failure lowered the statements of aspiration for the groups used. Even when students were urged to offer excuses for their failures, the effects of failure were not eliminated.

Billingslea and Bloom (2) report that students receiving failing grades on an exam decrease the quantity (number of words) of their subsequent note-taking relative to the quantity of note-taking of those receiving passing grades on the examination. Forty-eight hours later, however, the "frustration"



subjects return to or increase their relative note-taking over previous levels. The quantity of note-taking here might be taken roughly as an indication of the subjects' level of aspiration. Frequently, however, more difficulty is encountered in predicting the outcome of frustration. Child and Whiting (3), using the anecdotal method followed by a questionnaire, obtained reports from subjects concerning the most frustrating incidents of their lives. Their conclusions were as follows:

1. Success generally leads to a raising of the level of aspiration, and failure to a lowering.
2. The stronger the success, the greater the probability of a rise in level of aspiration; the stronger the failure, the greater the probability of a lowering.
3. Shifts in level of aspiration are in part a function of changes in the subject's confidence in his ability to obtain goals.
4. Effects of failure on level of aspiration are more varied than those of success.

McClelland and Apicella (13) frustrated subjects by reporting false scores to them on a card sorting task. The experimenter was a fellow undergraduate doing an experiment as a requirement for his course in Psychology. He was extremely insulting, belittling, and swore liberally at the subjects for "fouling up the results with such low scores", "being so damned slow", "ruining the whole experiment", etc. As a result, severely frustrated subjects gave reliably more overt reactions indicating withdrawal, attack, etc., than moderately frustrated subjects.

From the foregoing summary it is obvious that it is



possible to "frustrate" subjects in a variety of ways; there are some practical limitations however. There seems to be some advantage to "frustrating" subjects in groups since, for the time allotted, more subjects may be included in the experimental design. In this present research, frustration will be defined only as an experimental procedure. Subjects may very well perceive this experience in a variety of ways and how many subjects perceive the experimental conditions in the manner that the experimenter hopes or intends that they will is not the object of this study directly. This much can be said: by structuring conditions so that subjects may experience failure, behavioral changes are evidenced in group situations.

#### E. Hypothesis

It is obviously desirable to test further Davenport's conclusions using a more diversified group of subjects and thus the present study attempts to investigate relationships between career-orientation and n-Achievement in a more heterogeneous population. Conditions were experimentally structured in an attempt to induce some varying degree of frustration in career-oriented subjects in order to be able to observe any differences in the n-Achievement scores produced. Just what the relationship is between frustration and n-Achievement, at present, is largely a matter of conjecture.

Morgan (17) has indicated that an achievement group is significantly higher than a non-achievement group as measured by the n-Achievement score. Billingslea and Bloom (2) have



added further that failure makes for a lowering in level of aspiration. Diggory (8) and Child and Whiting (3) also add evidence to a conclusion that induced failure tends to lower and success tends to raise the level of aspiration. It seems obvious that low levels of aspiration would produce low n-Achievement scores and since frustration or failure apparently produce low levels of aspiration the relationship would be one wherein frustration would produce low n-Achievement scores. However, McClelland, Clark, Roby, and Atkinson have shown that (with males, at least) failure produces a high degree of induced need for achievement when failure is related to academic-related task-achievement. Neither Wilcox nor Veroff (21) were able to increase n-Achievement using females. Veroff, Wilcox, Field, and McClelland, et al, all found that it was possible to induce high n-Achievement in males with little difficulty. Field's female subjects did, however, show an increase in need for achievement when they were deprived of social success. Using somewhat the same approach, Davenport was unable to demonstrate any increase for females related to a different kind of social acceptance or rejection. Nevertheless, Davenport did find that females with high career-orientation did show higher n-Achievement scores.

One possible solution may be that females with high career-orientation are capable of showing differences in n-Achievement due to induced frustration or failure, and as noted earlier, females with low career-orientation would be unable to



show this shift. This might well account for the fact that investigators have been unable to obtain consistent results in attempting to induce a state of high need for achievement in females by means of various experimental manipulations. The larger the group of subjects available, the greater the certainty that could be placed on the results as it would obviously be desirable to select the extremes of a continuum of career-orientation -- non-career-orientation when attempting to experimentally induce need for achievement.

The next step, then, would seem to be that of again relating career-orientation to need for achievement in a female population; it appears necessary to verify this relationship suggested by Davenport. Furthermore, if females with high career-orientation also show high n-Achievement, the possible increase in need for achievement as a result of failure must be systematically investigated. If career-orientation and need-deprivation (failure) are directly related to n-Achievement, the prediction would be that a career-oriented-frustrated group shows higher n-Achievement than a non-career-oriented-non-frustrated group where there would be relatively little appropriate drive. The non-career-frustrated and the career-non-frustrated groups would be expected to express n-Achievement somewhere within the limits defined by the above two conditions. Thus the present research is an attempt to investigate the following hypothesis: Career-oriented females show a greater amount



of need for achievement under conditions of experimentally induced frustration than do non-career-oriented females under relaxed or non-frustration conditions.



## 2. PROCEDURES

### A. Introduction

Questionnaires were administered to a group of female subjects in order to select two groups of individuals: those showing strong desires to attain a career goal and those lacking these strong desires. Each of these groups was then divided and the resulting four sub-groups performed on an academic-like task. Two of the subgroups were given false norms in reference to the academic task; the other two subgroups were not given norms. After the academic task, all groups wrote stories on a group T.A.T. and these stories were scored for need-achievement.

### B. Subjects

The subjects used in this experiment were chosen from a group of female under-graduates enrolled in Psychology-26 (General Psychology I) for the Fall Semester of 1953, at the University of Massachusetts. Questionnaires were administered to 116 subjects originally and, of these, 76 were selected to complete the experiment. Ninety-five percent of the subjects were sophomores and the remainder were juniors and seniors.

### C. A Questionnaire Designed to Assess the Degree of Career-Orientatation

A questionnaire, somewhat similar to the one used by Davenport, was administered to the 116 subjects at mid-semester. Individual instructors teaching Psychology-26 administered the



questionnaire to their respective classes during class time; the last twenty minutes of the class periods were allowed for these administrations. Groups ranged from five to sixty-five in size. Subjects were told that the questionnaire was needed as data were being collected concerning the occupational and social interests of female college students. No mention was made by the individuals administering the questionnaire as to the specific purpose of the experiment and nothing was said about later experimental procedures. The complete instructions for the administration of the questionnaire may be found in Appendix A.

Subjects were divided on the basis of the questionnaire into groups with high and low career-orientation and an intermediate group of forty subjects was discarded and not used further in the experiment. Thus a clear dichotomy of intensity of response to the questionnaire was established. High career-oriented subjects were considered to be those who indicated an interest in doing well in college and graduate school, were willing to attend college for a long period of time in order to achieve their goals, were concerned with vocational training in preference to marriage and family life and in general were interested in being successful in an occupation as a result of their college background. Low career-oriented subjects did not indicate these interests. A copy of the questionnaire used to determine career-orientation will be found in Appendix B.



Thirteen items in this questionnaire were viewed with the hope that they could be used as indicators of career-orientation; these items were\*:

8. Have you chosen a major yet?  
no  
yes (C)

9a. Do you plan to prepare yourself for a specific vocation while at the University of Massachusetts?  
no  
yes (C)

9b. Have you attempted to receive any sort of aid which would help you decide on a vocation or occupation?  
no  
yes (C)

10. Listed below are several common reasons for going to college. Place a number 1 beside the one which best expresses your most important reason.

I am going to college in order to:

Obtain vocational training: develop skills and techniques directly applicable to my career. (C)

Develop my ability to get along with different types of people.

Obtain a basic general education and appreciation of ideas.

Develop my knowledge and interest in community and world problems.

Meet some prospect for a husband.

Help develop my moral capacities, ethical standards, and values.

Prepare myself for a happy marriage and family.

Carry out the demands and wishes of my family.

Keep up socially with my high school friends who have gone on to college.

Because I had nothing else to do.

Because I didn't want to work.

Other.

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\* The symbol "(C)" indicates the responses that were given credit in that they were believed to indicate career-orientation.



11. After college, which of the following would you most prefer doing for the rest of your life?

Career only (C)

Marriage only

Career briefly, and then marriage, but career continued; (if you checked this item) does briefly mean to you:

1 year

2 years (C)

3 years (C)

4 years (C)

Longer? (C)

Career briefly, and then marriage, but career discontinued.

Does briefly mean:

1 year

2 years

3 years

4 years

Longer?

Career and marriage. Career stopped when children arrive but resumed when children are in school.

Career and marriage. Career stopped when children arrive and never resumed after that.

Other.

12. Are you planning or considering going to graduate school?

yes (C)

no If it were possible would you desire to go?

yes (C)

no

15. Which of the following statements comes closest to your feelings concerning women working?

In general, I don't approve of women having careers.

I approve of a woman having a career if she wants one, provided she is not married.

I approve of a married woman having a career if she wants one, provided she has no children.

I approve of a married woman having a career if she wants one, provided her children are older than.....years.

I approve of a married woman having a career if she wants one, regardless of the age of her children. (C)

16a. Would you decide on a career as being more important to you if it precluded your being happily married?

yes (C)

no

16b. Would you decide on a career being more important to you after marriage, if it precluded your having children?

yes (C)

no



17. What three things or activities in your life do you expect will give you the most satisfaction?  
 Your career or occupation (C)  
 Family relations  
 Leisure time recreational activities  
 Religious beliefs or activity  
 Participation as a citizen in the affairs of your community  
 Participation in activities directed toward national or international betterment.  
 Care of your children
28. Would you accept a position which paid \$120 per month after graduation if it enabled you to gain experience which would benefit you in the future?  
 no  
 yes (If you checked "yes")....does in the future mean..  
     in 1 year  
     in 2 years (C)  
     in 3 years (C)  
     in 4 years (C)  
     Longer? (C)
29. Assume that your college curriculum is to be lengthened. What is the longest length of time that you would invest in achieving any occupational desire that you now may have?  
     5 years  
     6 years (C)  
     7 years (C)  
     8 or 9 years (C)  
     10 to 15 years (C)  
     curriculum is too long even now
30. After graduating from high school, how many years do you actually expect to spend in training for any occupation which you may be considering?  
     exactly 4 years  
     5 years (C)  
     6 years (C)  
     7 years (C)  
     8 years (C)  
     more than 8 years (C)  
     probably less than 4 years.

The experimenter and Field chose these items as they appeared to have logical validity as indicators of career-orientation. An item-analysis was done for each item and thirteen biserial  $r$ 's computed comparing each item to the number of times it was answered in a career or non-career manner with the



frequency of all other items answered in a career manner. The biserial  $r$ 's for items 8a, 9a, 9b, and 28 were .17, .27, -.11, and .04. None of these correlations were significant (with the exception of .27) at the .01 level and since the correlations were low, these items thus did not contribute to the career-orientation index and were discarded. Items 10, 11, 12, 15, 16a, 16b, 17, 29, and 30 respectively yielded correlations of .47, .61, .73, .72, .57, .73, .34, .65, and .93. The correlation .34 was significant at the .02 level, while all other correlations were significant at the .001 level. These nine items were given equal weight in determining a career-orientation score and career-orientation scores were calculated for each of the 116 original subjects.

Career-orientation scores ranged from 0 to 9, with a mean of 2.8 and a standard deviation of 1.72. Forty-three subjects scored either 0 or 1 on the career index, thirty subjects scored 2, and forty-three subjects scored 3 or above. It was thus decided to use subjects scoring 0 or 1 in the non-career group and subjects scoring 3 or above in the career group. Each of these groups was sub-divided into frustration and non-frustration conditions. The four subgroups were matched in terms of A.C.E. scores\*. These scores were tested by means of Chi Square and no differences were found so that it may be stated that the groups were equated as to A.C.E. scores. Due

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\* Percentile scores on the American Council of Education psychological examination were available for each subject.



to the difficulties involved in attempting to schedule subjects in groups as required by the experimental procedure, it was possible to obtain as a final number of subjects only 35 in the non-career group and 41 in the career group. The groups were designated non-frustrated-career, non-frustrated-non-career, frustrated-career, and frustrated-non-career and had N's of 23, 17, 18, and 18 respectively.

Near the end of the semester, subjects were scheduled for the experimental treatments of "frustration" and "non-frustration". The experimental procedures were carried out with groups as large as possible insofar as this could be arranged within the limits of the individual subject's free-time. The "non-frustration" condition was conducted in groups of 5, 19, and 16 and the "frustration" condition was conducted in groups of 12, 11, 10, and 3. Thus 40 subjects received a non-frustration treatment and 36 subjects received a frustration treatment. The non-frustration or control condition was carried out first as there seemed to be less likelihood of the subjects comparing procedures if the two conditions were not intermixed.

The time allowed for the actual "frustration" or "non-frustration" was ten minutes. Briefly, subjects were administered a series of paper and pencil tests: Anagrams, Verbal Analogies, and Number Series Tests. These tests were followed by slide presentations of the four pictures used by Field and Davenport in their respective studies; the subjects were



asked to write stories about these pictures. The first part of the test booklet included a short questionnaire asking for name, high school and college attended, estimated class standing in each, I.Q. (if known), and an estimate of intelligence; this questionnaire was utilized to enhance ego-involvement.

Instructions for the frustration and non-frustration conditions were given from memory; a complete description of the procedure may be found in Appendix C. Briefly, the frustration subjects were told that the tests measured leadership ability, intelligence, and other various capacities; that Smith College students did well on these tests and that they should be able to do well also; and that they could calculate their own scores in order to be able to compare themselves with Smith girls. After the subjects had taken the first test they were given "Smith" norms which were exceedingly high and impossible to attain (the mean score of the group was given as the tenth percentile of the Smith girls and a score of plus three standard deviations was given as the Smith mean). In like manner, spuriously high norms were quoted after the completion of the three paper and pencil tests. The experimenter always proceeded quickly to the next task after giving these norms in an attempt to prevent any overt exclamations on the part of the subjects. The experimenter conducted himself in a business-like manner and rapid production was stressed throughout. Subjects were told



that the first test predicted quite well how they would do on the entire battery\*. This was done in an attempt to induce frustration early and to later reinforce it.

The non-frustration or control subjects were told that the tests were believed to measure intelligence, leadership, etc., but that sufficient normative data were not yet available, and that they were being given these tests in order that some data might be collected for future norms. They were also asked to calculate their own scores. The paper and pencil tests were then given without further interpretation.

The same test booklets were used for both frustration and non-frustration subjects (for sample booklet, see Appendix D), and after either of the experimental treatments described above, all subjects were given the "Creative Imagination Test" wherein they were asked to write T.A.T.-like stories to the pictures projected on a screen. The procedure was the same for all subjects for the "Creative Imagination Test" and has been used frequently in earlier studies (12).

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\* There was a linear  $r$  of .61 between the first test score and the total test score. This was due largely to the mechanics of the tests themselves in that the first test was weighted heavier than the others because of the greater time allowed and the relative difficulty of the other tests.



All subjects were notified of the experimental procedures involved after termination of experimentation. Appendix E contains a copy of the letter that each subject received, informing her briefly of the experimental procedures.

A coding system was used so that in scoring n-Achievement, the experimenter was unable to identify which of the four subgroups the test booklet that he was scoring had been taken from. A master-sheet was kept listing code-numbers for the various subgroups.

#### D. Determination of the n-Achievement Score

All subjects were given the pictures described below in the following order:

1. Country scene: girl in the foreground with books, man with plow and woman against tree, both in background.  
(T.A.T.#2)
2. A boy and a girl lying on the beach.  
(Original used by Field)
3. Boy in the foreground, surgical scene in the background.  
(T.A.T.#8BM)
4. A gray-haired man looking at a younger man who is sullenly staring out into space.  
(T.A.T.#7BM)

The resulting stories were scored for n-Achievement using the McClelland Scoring System "C". A brief description of the scoring follows as abstracted by Davenport (pp. 18-20):

There are three main categories in which a story may be placed: Achievement Imagery (AI), Doubtful or Task Imagery (TI), and Unrelated Imagery (UI).



Generally speaking, a story is scored AI if someone in the story is involved in activity that explicitly (or implicitly, in the case of long-term involvement) represents competition with a standard of excellence.... If the imagery does not clearly fall under the definition of AI specified in scoring system C, or if a mere task is being performed in the story with no explicit statement of the task's relationship to an achievement goal, TI is scored. If a story contains no reference to achievement imagery, it is scored UI.

If a story is scored UI, it is scored -1 and is not scored further. If it is scored TI, it receives a score of 0 and is not scored further. If AI is decided upon, plus 1 is scored, and the story is examined for further categories, each of which adds 1. In the present system, there are the following ten subcategories:

1. Need (N)--explicit statement of desire for an achievement goal, as shown by such words as "wants", "desires", "is determined to go". N is not inferred from instrumental activity.
2. Instrumental Activity (I)--actual attempt(s) by a character to attain an achievement goal.  
 I+ = successful instrumental activity.  
 I? = activity of doubtful outcome.  
 I- = unsuccessful instrumental activity.
3. Positive goal anticipation (Ga+)--someone in a story anticipates, expects, has a feeling of surety, that an achievement goal will be attained.
4. Negative goal anticipation (Ga-)--concern by a character over possible failure, anticipation of failure, scored whenever the anticipation is not clearly positive.
5. Positive Affective States (G+)--explicit statement of affect over, or observable benefits from, attainment of an achievement goal.
6. Negative Affective States (G-)--explicit statement of negative affect over, or negative consequences of failure to attain an achievement goal.
7. Nurturant Press (Nup)--someone in the story aids or sympathises with a character engaged in achievement striving.
8. Personal Obstacle (Bp)--a barrier blocking goal attainment existing in the person striving for achievement, such as lack of confidence, inability to make decisions.



9. Environmental Obstacle (Ew)--a barrier, personal or impersonal in source, that exists in the world at large.

10. Achievement Theme (Ach Th)--scored when the major, dominant theme of a story is concern or activity directed toward an achievement goal, successful or unsuccessful.

A further summary of the scoring categories may be found in Lowell (12), and the complete scoring manual in McClelland et al (15).

The experimenter practiced scoring until reasonable reliability was obtained. Successive scorings of the n-Achievement scores for each of the four subgroups in the experimental design were subjected to t tests; none of these differences approached significance indicating that there were no differences in scoring for any of the groups. Intra-scorer reliability in rescoring is further substantiated by the linear r between successive scorings of .94. Field also scored the same set of stories in an attempt to establish inter-scorer reliability; an r of .91 was found. It was thus demonstrated that the experimenter could score the stories with considerable consistency and that these scorings agreed favorably with the scorings of another individual who was familiar with and proficient in the use of the scoring system.



### 3. RESULTS

#### A. Treatment of the Data

Relationships have been noted between the present subjects and Davenport's subjects. Likewise, comparisons have been made the two groups of subjects in n-Achievement. Finally, the hypothesis of the present study has been tested by means of an analysis of variance comparing the n-Achievement scores of the four subgroups; correlations are presented comparing career-orientation to n-Achievement.

#### B. The Subjects

It was desirable to compare the subjects used in Davenport's study with the subjects in the present experiment. Items 8a, 9a, 12, and 17 of the career-orientation questionnaire were also used by Davenport in the same form, and thus allow a comparison of the subjects on these items. Chi Squares were done comparing this data in the present study with the corresponding data from Davenport. For item 8a, Chi Square was not significant, indicating that about the same proportion in both studies had chosen a major. For item 9a, Chi Square was significant at the .05 level; there was indication that a greater proportion of the subjects used by Davenport were planning to prepare for a specific vocation. Chi Square for item 12 was significant at the .01 level; proportionately more subjects in the present study seemed to be planning to go to graduate school.



Of those who were not planning to go to graduate school, a greater number indicated that they would like to go if possible. Item 17 asked the subjects to note activities that would give them the most satisfaction. It was necessary to dichotomize responses into "Family relations" and "all other responses" as this was the only available form of Davenport's data. Relatively fewer subjects in the present study chose Family relations as the activity that would give them the most satisfaction; Chi Square was significant at the .01 level.

From the comparisons made, it is likely that the subjects used in the two studies differed in one or more variables. Since items 12 and 17 were used to measure career-orientation, it appears that the two groups of subjects differed in their level of career-orientation. Due to the unavailability of complete data for comparison, it is impossible to state more specifically the degree of this difference.

Subjects responses to the present career-orientation questionnaire are indicated in relatively complete form in Appendix F.

### C. The n-Achievement Scores

The range of n-Achievement scores for the 76 subjects was made from minus 3 to plus 12. In order to be able to compare these scores with Davenport's and in order to eliminate computations involving minus scores, all scores were increased by the constant 4. These corrected scores thus ranged from



1 to 16. All of the reported statistical data are in reference to these corrected scores; if the true score is desired for any reason, the constant 4 must be subtracted from the means.

The mean n-Achievement scores for the non-frustrated-career, non-frustrated-non-career, frustrated-career, and frustrated-non-career groups were 4.99, 5.12, 6.44, and 7.22 respectively and the standard deviations 3.39, 2.50, 2.01, and 2.88. The total mean and standard deviation for the 76 subjects was 5.63 and 2.90 respectively. This result was compared with Davenport's mean of 8.25 and standard deviation of 7.57 and the  $t$  of 2.50 was significant at the .02 level. Since the inter- and the intra-scorer reliabilities in the Davenport study and in the present study were high, and since the same scorer was used as a basis for computing inter-scorer reliability in both studies, it is likely that a real difference exists and that the n-Achievement expressed by the subjects in the Davenport study was higher than that expressed by the subjects in the present study. Moreover, a comparison of the standard deviations yields a  $t$  of 5.31 (significant beyond the .001 level) and suggests that Davenport's subjects showed far more variability. The comparisons made were between the total number of subjects in each case. If, however, comparison is made between the non-frustrated subjects used in the present study and the total number of subjects in the Davenport study the difference in means can be shown to be greater. This comparison



appears logical since Davenport did not use a frustration condition and his procedure more nearly compares with the non-frustration procedure of the present study; there is nothing to be gained by making this comparison however, as no greater reliability could be assumed from the difference\*.

#### D. Test of the Hypothesis

The n-Achievement scores of the four subgroups were compared by means of a 2 by 2 factorial analysis of variance, as suggested by Edwards (9, pp. 208-219). Results of the analysis are summarized in the following table:

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Analysis of Variance of n-Achievement in the Four Experimental Subgroups

<u>Source of Variance</u>	<u>Sum of Squares</u>	<u>Degrees of Freedom</u>	<u>Mean Square</u>	<u>F</u>
Between	9.1746	3	1.0582	.1145 <sup>x</sup>
(career)	(.1578)	(1)	.1578	.0171 <sup>x</sup>
(frustration)	(.7033)	(1)	.7033	.0762 <sup>x</sup>
(interaction)	(8.3135)	(1)	8.3135	.9000 <sup>x</sup>
Within	665.1816	72	9.2386	
Total	674.3562	75		

<sup>x</sup>not significant

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\*There is no significant difference in the means of the frustrated and non-frustrated groups and therefore the total mean seems to be the most appropriate statistic to use for comparison.



Thus it can be seen that there were no differences among the subgroups in expressed n-Achievement that could not have arisen by chance.

An attempt was made to relate n-Achievement to career-orientation disregarding differences in experimental treatment. Questionnaire items 12, 15, 16b and 30 showed the highest reliability when compared to the total questionnaire and thus should give the most exacting indication of career-orientation. A linear correlation between the number of these items responded to in a career manner and the n-Achievement score for each subject was .035. Item 30, showing the highest correspondence to the total career index, was related to the n-Achievement score for each subject by noting whether the subject responded in a career or non-career manner. The biserial  $r$  was .111, and the standard error of this correlation, .162, indicates no significance. Thus it appears that there is no predictable relationship between career-orientation and n-Achievement. Furthermore, as demonstrated by analysis of variance, there is no clear cut linear relationship between frustration and n-Achievement in this investigation. There is no increase in the achievement score as a result of interaction between frustration and career-orientation.

In order to be certain of the applicability of the foregoing statistics to the present data, it is necessary to rule out the possibility of the existence of a curvilinear relationship. For this reason correlation ratios (Eta) were



computed comparing the frequency of questions 12, 15, 16b, and 30 with n-Achievement. If X is considered as the career variable and Y as the achievement variable, then  $b_{yx} = .001$ , and it appears to be impossible to predict n-Achievement from career-orientation. However,  $b_{xy} = .40$  ( $G_{b_{xy}} = .10$ ) and it does seem possible to predict career-orientation from n-Achievement, although the relationship is not very strong.

Unfortunately the correlation ratio of .40 is likely to be spuriously high as a result of statistical artifact. For example, the career variable is divided into only five categories (0, 1, 2, 3, 4 questions answered in a career manner) and the total frequency of one of the categories is only 1 (only one subject answered all of the four questions in a career-orientation manner). The possibility of a curvilinear function operating in the present data must be ruled out. This has been further verified by Chi Square tests for linearity comparing  $r$  with the correlation ratio in each case. Both of these Chi Squares failed to reach significance indicating essentially the absence of a non-linear relationship\*. The demonstrated inappropriateness of Eta to the present set of data substantiates the application of the linear statistical treatments which have shown the absence of a significant relationship between any of the variables tested.

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$$*X^2_{b_{yx}} = .0101 \quad df=3 \quad P=.90$$

$$X^2_{b_{xy}} = 11.715 \quad df=11 \quad P=.50$$



#### 4. CONCLUSIONS

##### A. Summary of the Goals of the Present Research

The present study has attempted to relate a projective measure of behavior to two experimentally controlled variables: one directly controlled by experimental manipulation — "frustration" on an academic task; the other indirectly controlled by subject selection — "career-orientation". Specifically, it was an effort to relate n-Achievement, a projective expression of achievement striving, to conditions that were likely to alter behavior in order to note a change in n-Achievement. The earlier work by Davenport did seem to indicate that career-orientation in females was a determinant that related significantly to n-Achievement.

##### B. Career-Orientation

The index of career-orientation in this study appeared not to be related to need-Achievement; this finding, then, does not bear out Davenport's results. There are at least two possible reasons for this apparent lack of consistency: the generality of the relationship between career-orientation and n-Achievement and the strength of this relationship. These will be considered separately.

Davenport has suggested that the relationship between career-orientation and n-Achievement should be investigated with a different female population. Davenport's subjects were Home Economics Freshmen while in the present study subjects were, for



the greater part, Sophomore females taking General Psychology. It is likely that this latter group was a more heterogeneous one in that the ultimate goals of the subjects probably were somewhat more diversified as indicated by the subjects's wide choice of majors. At any rate, as noted earlier, the two groups differed significantly in their responses to several of the questionnaire items and thus there are definite indications of population differences. The failure of the two groups to respond in the same manner may be due to the lack of generality of the n-Achievement score as it applies to females; it is possible that n-Achievement scores do not mean the same thing with different groups.

The strength of the relationship must also be considered. If the relationship is not a particularly strong one, differences might well be found at one time and not at another. There is of course the possibility of a difference arising on occasion due to chance fluctuations when actually no difference exists. However, if a weak relationship does exist, the problem then becomes one of selecting appropriate extremes of the continuum of career-orientation in an attempt to observe the relationship. Experience has shown that little difficulty is encountered in selecting non-career-oriented females at the University of Massachusetts. However, it has been virtually



impossible to select a large group of career-oriented females; it appears that females here at the University of Massachusetts do not have a very high degree of career-orientation. For instance, in the present study, the distribution of career-orientation scores of the 116 subjects showed a low mean, little variation, and marked positive skew\*. Thus very few subjects showed high career-orientation. Approximately the upper and lower thirds of the career-orientation scale were taken as indications of career- and non-career-orientation respectively. While the subjects differed significantly in career-orientation as measured, the actual difference may well not have been great enough. In order to test the relationship between career-orientation and n-Achievement, it may be necessary to compare the upper and lower tenths -- or twentieths -- of the career-orientation continuum.

It is also necessary to consider the possibility that the absence of a demonstrated relationship may be an indication of the actual absence of a dependable relationship between career-orientation and n-Achievement.

### C. Need Achievement

Experimental conditions of frustration have failed to produce an increase in n-Achievement expressed by subjects as had been predicted. The conditions designed to produce an

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\* $g_1=1.23$  (McNemar, pp. 26-29)



experience of failure produced no change in projective behavior as it was scored for n-Achievement; even in non-career-oriented subjects, perceived failure would be expected ordinarily to bring to expression some increment in the n-Achievement score. Clark (4) has noted that sexual arousal inhibits sexual imagery in stories given by subjects under formal conditions. This provides an experimental basis for arguing that some of the subjects may not have been able to express their achievement concern directly because of anxiety attached to it. However, it seems that any anxiety present in the perceived failure could make for an enhancement of the achievement strivings in that fantasy expression conceivably could bring about anxiety-reduction.

Another possibility must be considered. Due to the common past experience of the subjects in taking tests and examinations, anxiety may very well become attached to any situation that remotely resembles a test situation. Enough cues may have been present to have enabled subjects to all adopt the same set: for them all to have become ego-involved in the task. The fact that some subjects were led to believe that they did poorly while others were not given this impression, may have produced little by way of a difference, as perceived by the subjects, and may only have been a difference in experimental treatments. The tasks and the experimental conditions may have been perceived as sufficiently difficult and challenging so



that all subjects felt that they had done poorly. In other words, since all subjects were engaged in a competitive academic-like task, all may have been somewhat "frustrated" and anxious. This would mean then that there actually was no non-frustration, non-failure, or relaxed condition as interpreted by the subjects. Under such conditions, maximal n-Achievement scores would have been produced by all subjects and no differences would be expected. The existence of such a set may well have overshadowed in its effect any differences in n-Achievement that would ordinarily occur due to differences in career-orientation. For this reason, it may be desirable to flunk a group of subjects on a course quiz or examination while allowing a second group to attain high scores; such failure may be more meaningful to the subjects in terms of the learned values that have become attached to course examinations in the subjects' past experiences. Such a procedure would allow a clear distinction between success and failure conditions. In the present study one must also consider the possibility that there was no frustration condition and that the subjects perceived all conditions as non-failure; although no introspective reports as such were taken after experimental manipulation, passing comments by the subjects seemed to indicate despair and displeasure and it is the feeling of the experimenter that this alternative is the most unlikely one.



Female subjects seem to show high n-Achievement even under relatively relaxed conditions. This may be due to the fact that they do not make the discrimination between relaxed and other conditions in the same way as do males. The problem may then be one of devising a relaxed or control situation that is perceived as relaxed by the subjects. In the present research, non-frustrated subjects were nevertheless required to perform at the same fixed high rate of output as frustrated subjects. This may well be an example of experimental treatments that do not make for optimally relaxed conditions.

#### D. Proposals for Future Research

The present research has not demonstrated differences as predicted by the hypothesis. This result may have been due either to the fact that no real differences exist or that the occurrence of differences has been suppressed by some experimental artifact. A determining experiment would reduce to a minimum all need arousing cues in the relaxed or non-frustration condition. This would necessarily involve experimental and control conditions that are markedly different.

The rarity of the highly career-oriented female must be anticipated by much broader questionnaire sampling originally; this may well involve sampling at several institutions. The selection of extremes of career-orientation from this wide sample is certainly indicated.



Future research could employ essentially the same experimental design as in the present research but further consideration must be given to the two problems indicated above. Also, it is necessary to be aware of differences in the expression of n-Achievement due to different experimenters. The experimenter himself is a cue and one experimenter may be perceived as generally more need arousing or anxiety producing than another. Thus the design of the decisive experiment could also include in its structure two or more experimenters, each administering separately both experimental and control conditions. The present research has also failed to demonstrate the applicability of the n-Achievement score to a female group. As implied by the discussion of generality of the n-Achievement score, future research may well have to concern itself with a refinement of the scoring procedure for n-Achievement in females. Further investigation is needed to devise a scoring procedure that would be more sensitive to changes produced by the type of variable studied here.

#### E. Summary of Results

1. Career-orientation, as indicated by a questionnaire, is not significantly related to need achievement in a female population when n-Achievement is scored using McClelland's Scoring System "C".



2. Conditions designed to induce frustration, or failure on an academic task, similarly are unrelated to n-Achievement in a female population.
3. There is no significant interaction between career-orientation and frustration that in any way significantly alters the n-Achievement score.
4. Although there is an absence of a reliable rectilinear relationship between career-orientation and n-Achievement, dependable curvilinear functions also fail to appear.
5. Further study is needed to compare the extremes of the career-orientation continuum with n-Achievement. Also there are indications that the present scoring system is not equally applicable to all female groups and that it is in need of revision and refinement.



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## APPENDIX A

INSTRUCTIONS FOR THE ADMINISTRATION OF THE  
CAREER-ORIENTATION QUESTIONNAIRE



## Instructions for Administration

Dismiss male students at half past the hour.

Pass out the questionnaire.

Instructor please read being as friendly as possible:

"This questionnaire which you now have is to be used as research information by the Guidance Office and Psychology Department. We wish to obtain information regarding the expectations and desires of the college women concerning their occupational and social goals. It is hoped that improvements may be made in the general overall program for women college students in order that their educational programs may more suitably fit their occupational and social expectations. We urge you to cooperate by filling out this questionnaire as completely and comprehensively as possible.

Some of you may have taken this questionnaire or one like it, last year. Although you have completed this before, please fill it out completely again, expressing how you feel now, so that we may have information concerning any change of response since then. Read the outside page of the questionnaire now, if you have not already <sup>done</sup> so, and go right ahead and fill in the items on the following pages.

In the event that you find a question too embarrassing or too personal, you may of course not answer; you will, however, have sufficient time to finish and you should be able to complete most of the items."



## APPENDIX B

SAMPLE COPY OF THE NOTATION USED  
TO DETERMINE CAMERA-ORIENTATION



CAREER INDEX AND OCCUPATIONAL SATISFACTION  
QUESTIONNAIRE

(Form 2 - revised)

This information will be used as part of a research project. Your personal identity and all information which you give will be kept completely confidential by means of a system for the coding of the data.

Try to answer all questions as honestly and completely as possible.

This questionnaire is not a "test".  
There is no "grade" or other mark and the only "right" answers to the questions are those which best describe your attitudes, reasons, experiences, and background.

Read every question carefully before answering; do not linger too long over any one question.



1. Name \_\_\_\_\_ Date \_\_\_\_\_
2. What is your age? \_\_\_\_\_ years, \_\_\_\_\_ months
3. To what class do you belong?
  - .....Freshman
  - .....Sophomore
  - .....Junior
  - .....Senior
4. (a) From what high school did you graduate?.....
  - (b) How many students were in your graduating class?.....
  - (c) What was your academic standing in your entire high-school graduating class? (check one)
    - .....highest tenth
    - .....next to the highest tenth
    - .....third to the highest tenth
    - .....fourth to the highest tenth
    - .....bottom half
    - .....don't know
5. In high school did you take the college preparatory curriculum?
  - .....yes
  - .....no. Which curriculum did you take?.....
6. With respect to your emotional relations with your parents, would you say that you feel:
  - .....much closer to mother than father
  - .....somewhat closer to mother than father
  - .....about the same to both
  - .....somewhat closer to father than mother
  - .....much closer to father than mother
7. Would you prefer a husband who:
  - .....is more educated than you are
  - .....has about the same amount of education as you have
  - .....is less educated than you are
  - .....amount of education makes no difference
8. (a) Have you chosen a major yet?
  - .....no
  - .....yes. What is it?.....
  - (b) Do you think you would like any specific field, (such as English or Government), though you have not made a choice?
    - .....no
    - .....yes. What is it?.....



8. (c) Have you chosen a major and later changed this choice?  
 .....no  
 .....yes. (Indicate) from what.....  
 to what.....
- (d) Do you wish to change your major?  
 .....no  
 .....yes. (Indicate) from what.....  
 to what.....
9. (a) Do you plan to prepare for a specific vocation or occupation while at the University of Massachusetts? (Such as nursing or social work)  
 .....no  
 .....yes. What vocation? (please answer in detail)  
 .....  
 .....
- (b) Have you attempted to receive any sort of aid which would help you to decide on a vocation or occupation, (from individuals whom you admired and whose help you considered of value)?  
 .....no  
 .....yes. Where?.....
10. Listed below are several common reasons for going to college. Place a number 1 beside that one which best expresses your most important reason. Place a number 2 beside the next to most important, and a number 3 beside your third most important reason.  
 Number in order of importance to you, (from 1 to 3).

I am going to college in order to:

- .....Obtain vocational training: develop skills and techniques directly applicable to my career.  
 .....Develop my ability to get along with different types of people.  
 .....Obtain a basic general education and appreciation of ideas.  
 .....Develop my knowledge and interest in community and world problems.  
 .....Meet some prospect for a husband.  
 .....Help develop my moral capacities, ethical standards and values.  
 .....Prepare myself for a happy marriage and a family.  
 .....Carry out the demands and wishes of my parents.  
 .....Keep up socially with my high school friends who have gone on to college  
 .....Because I had nothing else to do.  
 .....Because I didn't want to work.  
 .....Other. Specify.....



11. After college, which of the following would you most prefer to do for the rest of your life? Indicate two by using: 1 for your first choice; 2 for your second choice.
- .....Career only
  - .....Marriage only
  - .....Career briefly, and then marriage, but career continued.  
(if you check this item,) does "briefly" mean to you:
    - .....1 year
    - .....2 years
    - .....3 years
    - .....4 years
    - .....longer?
  - .....Career briefly, and then marriage, but career discontinued. (if you check this item) does "briefly" mean:
    - .....1 year
    - .....2 years
    - .....3 years
    - .....4 years
    - .....longer?
  - .....Career and marriage. Career stopped when children arrive but resumed when children are in school.
  - .....Career and marriage. Career stopped when children arrive and never resumed after that.
  - .....Other. Specify:.....
12. Are you planning or considering going to graduate school?
- .....yes. In what field?.....
  - .....no. If it were possible would you desire to go?
    - .....yes
    - .....no
13. If it were up to you, at what age would you like to get married?
- .....don't want to get married
  - .....years of age
  - .....years from now (indicate number of years)
  - .....now
14. Looking at things realistically, when do you think you actually will get married?
- .....don't expect to marry
  - .....years of age
  - .....years from now (indicate number)

15. Which of the following statements comes closest to your feelings concerning women working?
- .....In general, I don't approve of women having careers.
  - .....I approve of a woman having a career if she wants one, provided she is not married.
  - .....I approve of a married woman having a career if she wants one, provided she has no children.
  - .....I approve of a married woman having a career if she wants one, provided her children are older than..... years.
  - .....I approve of a married woman having a career if she wants one, regardless of the age of her children.
16. (a) Would you decide on a career as being more important to you if it precluded your being happily married?
- .....yes
  - .....no
- (b) Would you decide on a career being more important to you after marriage, if it precluded your having children?
- .....yes
  - .....no
17. What three things or activities in your life do you expect will give you the most satisfaction? Please write 1 in the space beside the most important; a 2 in the space beside the next most important; and a 3 in the space beside the third most important. Rank three:
- .....Your career or occupation
  - .....Family relations
  - .....Leisure time recreational activities
  - .....Religious beliefs or activity
  - .....Participation as a citizen in the affairs of your community
  - .....Participation in activities directed toward national or international betterment
  - .....Care of your children
18. When you get married, what would you wish your husband's monthly income to be? (indicate)
- Wish it to be \$.....per month
- .....question not applicable, do not expect to marry.
19. When you get married, what do you realistically expect your husband's monthly income to be? (indicate)
- Expect it to be \$.....per month
- .....question not applicable, do not expect to marry.
20. If you work before marrying, what do you hope to receive monthly during the first year that you work after graduation? (indicate) Hope it to be \$.....per month
- .....question not applicable, do not expect to work before marrying.



21. If you work before marrying, what do you realistically expect to receive monthly during the first year that you work after graduation? (indicate)  
Expect it to be \$.....per month  
.....question not applicable, do not expect to work before marrying.
22. If you work before marrying, what do you hope to receive monthly after you have been graduated and working for three years? (indicate) Hope it to be \$.....per month  
.....question not applicable, do not expect to work this long.
23. If you work before marrying, what do you realistically expect to receive monthly after you have been graduated and working for three years? (indicate) Expect it to be \$.....per month  
.....question not applicable, do not expect to work this long.
24. If both you and your husband work:  
(a) what do you hope your combined income annually will be?  
indicate .....  
(b) what do you realistically expect your combined income annually will be? indicate .....
25. Would you accept a position that paid you considerably more than what your husband was receiving even though this displeased him and made him feel uncomfortable?  
.....yes  
.....no
26. Would you accept a position whose duties you strongly disliked, even though it offered considerably more money than a poorer paying position which you would really enjoy filling.  
.....yes  
.....no
27. Would you choose a position with very low status which paid considerably more than a position with high status?  
.....yes  
.....no
28. Would you accept a position which paid \$120 per month after graduation if it enabled you to gain experience which would benefit you in the future?  
.....no  
.....yes (this question is continued on the next page.)

(If you checked "Yes")...does "in the future" mean..

- .....in one year
- .....in two years
- .....in three years
- .....in four years
- .....longer

29. Assume that your college curriculum is to be lengthened. What is the longest length of time that you would invest in achieving any occupational desire that you now may have? Would you come to college if you had a program before you which consisted of: (indicate the longest program that you would accept, including undergraduate and graduate study or total time you would spend in preprofessional and professional schools):

- .....5 years
- .....6 years
- .....7 years
- .....8 or 9 years
- .....10 to 15 years
- .....curriculum is too long even now

30. After graduating from high school, how many years do you actually expect to spend in training for any occupation which you may be considering? Indicate the total number of years in college (and graduate work, if any) that you expect to complete. (If you have no specific occupational choice, how long do you expect to spend in school?)

- .....exactly 4 years
- .....5 years
- .....6 years
- .....7 years
- .....8 years
- .....more than 8 years
- .....probably less than 4 years.



## APPENDIX C

INSTRUCTIONS FOR ADMINISTERING  
THE FRUSTRATION (EXPERIMENTAL) AND  
NON-FRUSTRATION (CONTROL) CONDITIONS

Instructions for administering Tests I, II, & III  
(EXPERIMENTAL)

57.

SUBJECTS ARE SEATED IN EVERY OTHER SEAT, TEST BOOKLETS ARE PASSED OUT AND E SAYS:

"Please do not open the test booklets until you are told to do so. The tests which you are taking directly indicate a person's level of intelligence. These tests have been taken from a group of tests which have been used to select girls of high administrative capacity for placement. Thus, in addition to general intelligence, they bring out an individual's capacity to organize material, the ability to evaluate crucial situations quickly and accurately; in short, these tests demonstrate whether or not a person is suited to be a leader.

At present research is being conducted to determine which educational institutions turn out the highest percentage of students with administrative qualifications as shown by superior scores on these tests. For example, it has been found that Smith College girls excel in this respect; however, we have reason to believe that the girls here at the University are also capable of achieving creditable scores. You will be allowed to calculate your own scores so that you may determine how well you do in comparison to Smith girls.

Open the test booklet now and carefully fill out the information called for on the first page. Read the instructions for Test I, Anagrams, and when you have finished look up at me."

E WAITS UNTIL ALL S's HAVE FINISHED AND SAYS:

"Do not turn the page to test I until I give you instructions to do so. Are there any questions that you have concerning how to do Test I?"

E ANSWERS QUESTIONS IF THERE ARE ANY AND THEN SAYS:

"Now turn the page to Test I and make as many different words as you can until I tell you to stop. The Key word is Generation."

E ALLOWS FOUR MINUTES FOR TEST I AND THEN SAYS:

"Stop! Everyone stop now; do not write any more words. Add up the total number of words that you have completed and enter this number in the space provided in the lower right hand corner. This is your score for Test I. Do not turn the page to Test II until you are told to do so. The mean or average score attained on Test I by Smith girls is 35. Only one girl out of ten at Smith got a score higher than 47, and only one girl out of ten got a score below 24.

Test I is the single most diagnostic test in the battery and your standing on this test may be taken as a good indication of how well you may be expected to do in the test as a whole.

Now turn the page to Test II, Verbal Analogies, read the instructions at the top and do as many as you can until I tell you to stop."

E ALLOWS THREE MINUTES FOR TEST II AND THEN SAYS:

"Stop. Do not circle any more words. Put a check beside each series which is correct. The correct answers are:"

E READS THE CORRECT ANSWERS AND THEN SAYS:



15.  
"Enter the number that you have correct in the space provided at the bottom of the page. Do not turn the page until you are told to do so.

Test III is a Number Series Test. Turn the page to Test III now, read the instructions at the top, and do as many as you can until I tell you to stop."

E ALLOWS THREE MINUTES FOR TEST III AND THEN SAYS:

"Stop. Do not circle any more numbers now. Put a check beside each series that is correct. The correct answers are:"

E READS THE CORRECT ANSWERS AND THEN SAYS:

"Enter the number that you have correct in the space provided at the bottom of the page. When you have done this, turn to the next page and enter your scores for Tests I, II, and III in the appropriate spaces as indicated. Now, total these scores. The mean or average total score for these tests attained by girls at Smith College was 59. One girl out of ten at Smith made a score higher than 72, and only one girl out of ten at Smith received a score lower than 47.

When you have totalled your scores in Tests I, II, and III, turn the page to Test IV, the Creative Imagination Test."

E READS INSTRUCTIONS FOR THE CREATIVE IMAGINATION TEST:

(SAME INSTRUCTIONS FOR ALL GROUPS)

SUBJECTS ARE SEATED IN EVERY OTHER SEAT, TEST BOOKLETS ARE PASSED OUT AND E SAYS:

"Please do not open the test booklets until you are told to do so. The tests which you are now taking are part of a series of tests which we hope to be able to use to determine how administrative capacity is distributed in the female population. Intelligence seems to be an important factor, but there are also many other factors which must be taken into consideration; we are doing this research to find out, if possible, just what factors constitute high administrative ability and what their relationship to intelligence might be. For instance, we think that these tests bring out an individual's capacity to organize material, the ability to evaluate crucial situations quickly and accurately; in short, we hope that these tests will be able to demonstrate whether or not a person is suited to be a leader.

We do not as yet have sufficient norms on these tests to know just what the scores mean and we hope that this research will determine this for us. The test has the advantage, however, of being easily administered and self-scoring. You will be asked to determine your own scores.

Open the test booklet now and carefully fill out the information called for on the first page. Read the instructions for Test I, Anagrams, and when you have finished look up at me."

E WAITS UNTIL ALL S's HAVE FINISHED AND SAYS:

"Do not turn the page to Test I until I give you instructions to do so. Are there any questions that you have concerning how to do Test I?"

E ANSWERS QUESTIONS IF THERE ARE ANY AND THEN SAYS:

"Now turn the page to Test I and make as many different words as you can until I tell you to stop. The Key word is Generation."

E ALLOWS FOUR MINUTES FOR TEST I AND THEN SAYS:

"Stop. Everyone please stop now. Add up the number of words that you have completed and enter this number in the space provided in the lower right hand corner. When you have done this, look up at me.

Now turn the page to Test II, Verbal Analogies, read the instructions at the top and do as many as you can until I tell you to stop."

E ALLOWS THREE MINUTES FOR TEST II AND THEN SAYS:

"Stop.... Please put a check beside each series that is correct. The correct answers are:"

E READS THE CORRECT ANSWERS AND THEN SAYS:

"Now enter the number that you have correct in the space provided at the bottom of the page.

Test III is a Number Series Test. Please turn the page to Test III now, read the instructions at the top, and do as many as you can until I tell you to stop."

E ALLOWS THREE MINUTES FOR TEST III AND THEN SAYS:



82.  
"Stop now. Put a check beside each series that is correct.  
The correct answers are:"

E READS THE CORRECT ANSWERS AND SAYS:

"Now enter the number that you have correct in the space provided at the bottom of the page. When you have done this, turn to the next page and enter your scores for Tests I, II, and III in the appropriate spaces as indicated, and total these scores. When you have totalled your scores for Tests I, II, and III, turn the page to Test IV, the Creative Imagination Test."

E READS INSTRUCTIONS FOR THE CREATIVE IMAGINATION TEST:  
(SAME INSTRUCTIONS FOR ALL GROUPS)

# Instructions for administering Test IV - Creative Imagination (ALL GROUPS)

E READS THE FOLLOWING INSTRUCTIONS:

"This next test is a test of your creative imagination. A number of pictures will be projected on the screen before you. You will have 20 seconds to look at each picture and then 5 minutes to make up a story about it. You are to use one page for each picture in Test IV. The same four questions are asked for each picture; they will guide your thinking and enable you to cover all the elements of the plot in the time allotted. Plan to spend about one minute on each picture. I will keep time and tell you when it is time to go on to the next question in the story. You will have a little time to finish up each story before the next picture is shown.

Obviously there are no right or wrong answers, so feel free to make up any kind of a story about the pictures that you choose. Make them vivid and dramatic for this is a test of creative imagination. Do not merely describe the picture as you see it, but tell a story about it. Work as fast as you can in order to finish in time. Make your stories interesting and your handwriting legible. Are there any questions? If you need more space to write, use the reverse side of the page.

Turn to page 1. of Test IV now; here is the first picture."

E PRESENTS THE FIRST PICTURE FOR 20 SECONDS, AND THEN SAYS:

"Now go ahead and write a story starting with question one."

AFTER ONE MINUTE, E SAYS:

"You should go on to the second question about now."

AFTER TWO MINUTES, E SAYS:

"You should go on to the third question about now."

AFTER THREE MINUTES, E SAYS:

"You should go on to the fourth question about now."

AFTER FOUR MINUTES, E SAYS:

"Finish up your story now."

AFTER FIVE MINUTES, E SAYS:

"Now turn to page 2. of Test IV. Here is the next picture."

E PRESENTS THE SECOND PICTURE FOR 20 SECONDS AND THEN SAYS:

"Now write a story starting with question one."

AFTER ONE MINUTE, E SAYS:

"You should go on to the second question now."

AFTER TWO MINUTES, E SAYS:

"You should go on to the third question now."

AFTER THREE MINUTES, E SAYS:

"You should go on to the fourth question now."

AFTER FOUR MINUTES, E SAYS:

"Finish up your story now."

AFTER FIVE MINUTES, E SAYS:

"Now turn to page 3. of Test IV. Here is the next picture."

E PRESENTS THE THIRD PICTURE FOR 20 SECONDS AND THEN SAYS:

"Start with question one now."

AFTER ONE MINUTE, E SAYS:

"Go on to the second question now."

AFTER TWO MINUTES, E SAYS:

"Go on to the third question now."

AFTER THREE MINUTES, E SAYS:

"Go on to the fourth question now."

AFTER FOUR MINUTES, E SAYS:

"Finish up your story now."

AFTER FIVE MINUTES, E SAYS:



"Now turn to page 4. of Test IV. Here is the next picture."

E PRESENTS THE FOURTH PICTURE FOR 20 SECONDS AND THEN SAYS:

"Start now."

AFTER ONE MINUTE, E SAYS:

"Go on to the next question now."

AFTER TWO MINUTES, E SAYS:

"Go on to the next question now."

AFTER THREE MINUTES, E SAYS:

"Go on to the last question now."

AFTER FOUR MINUTES, E SAYS:

"Finish up the story now."

AFTER FIVE MINUTES, E SAYS:

"Stop now. Please close your test booklets and pass them to me. The testing session is over; thank you for your cooperation. You may leave now. I will be glad to discuss the results of these tests with any of you in about three months from now, when we have finished gathering data. Feel perfectly free to come in and see me at that time."

## APPENDIX D

SAMPLE TEST BOOKLET INCLUDING  
THE RESPONSE SHEET



COMPOSITE PSYCHOLOGICAL EXAMINATION

Form 3. - College Form

(Self-scoring)

Please do not turn the page  
until you are told to do so.

This information is absolutely  
confidential. Individual  
identity will be protected.

Listen carefully for further  
instructions from the admin-  
istrator.

Name..... Age.....65.  
(Print Last, First) (Years, Months)

Grade average in High School..... (If you do not know,  
give an approximation)

Approximate grade average in college..... (At present)

High School attended..... College presently attending.....

Estimate your class standing in High School. .... out of ....

Estimate your class standing in College. .... out of ....

Your I.Q. .... (If known, from tests that you have taken  
previously, etc.)

Estimate your present intelligence. Check one:

below average	.....		
average	.....	superior	.....
above average	.....	very superior	.....

\*\*\*\*\*

## Test I

### ANAGRAMS

#### Instructions:

Make as many different words as you can using only the letters in the key word. You may use long words or short words and may indicate the names of persons, places, or slang words. In any word you may not use a letter more times than it appears in the key word.

Sample: Key Word: WASHINGTON

1. WASH
2. HANG
3. TOW
4. SIT
5. THING

etc.

Stop Here - Do not turn the page to Test I until you are told to do so.



Test I  
ANAGRAMS

66.

Key Word: GENERATION

- |         |         |         |          |
|---------|---------|---------|----------|
| 1.....  | 26..... | 51..... | 76.....  |
| 2.....  | 27..... | 52..... | 77.....  |
| 3.....  | 28..... | 53..... | 78.....  |
| 4.....  | 29..... | 54..... | 79.....  |
| 5.....  | 30..... | 55..... | 80.....  |
| 6.....  | 31..... | 56..... | 81.....  |
| 7.....  | 32..... | 57..... | 82.....  |
| 8.....  | 33..... | 58..... | 83.....  |
| 9.....  | 34..... | 59..... | 84.....  |
| 10..... | 35..... | 60..... | 85.....  |
| 11..... | 36..... | 61..... | 86.....  |
| 12..... | 37..... | 62..... | 87.....  |
| 13..... | 38..... | 63..... | 88.....  |
| 14..... | 39..... | 64..... | 89.....  |
| 15..... | 40..... | 65..... | 90.....  |
| 16..... | 41..... | 66..... | 91.....  |
| 17..... | 42..... | 67..... | 92.....  |
| 18..... | 43..... | 68..... | 93.....  |
| 19..... | 44..... | 69..... | 94.....  |
| 20..... | 45..... | 70..... | 95.....  |
| 21..... | 46..... | 71..... | 96.....  |
| 22..... | 47..... | 72..... | 97.....  |
| 23..... | 48..... | 73..... | 98.....  |
| 24..... | 49..... | 74..... | 99.....  |
| 25..... | 50..... | 75..... | 100..... |

Score.....  
(total number of words completed)

Test II  
VERBAL ANALOGIES

67.

The first two words on the left are related in some way. The third word on the left is related in like manner to one of the words on the right. For each series, circle the word on the right that is related. Start with number 1. and do as many as you can in order without skipping any.

- |   |  |
|---|--|
| 1. shoe - foot; hand -                      | thumb, glove, finger, head                             |
| 2. father - son; mother -                   | aunt, sister, child, daughter                          |
| 3. cloth - dye; house -                     | shade, paint, brush, door                              |
| 4. ring - bell; sound -                     | noise, loud, horn, sharp                               |
| 5. telephone - wire; radio -                | dial, frequency, ground, wave                          |
| 6. work - time; labor -                     | duration, finish, difficult, rate                      |
| 7. valve - pressure; release -              | explosion, quantity, full, excess                      |
| 8. same - opposite; heavy -                 | weightless, hard, light, dull                          |
| 9. test - pencil; essay -                   | paper, subject, pen, write                             |
| 10. sharp - knife; fire -                   | gun, heat, hot, cook                                   |
| 11. water - cool; oxygen -                  | incandescent, combustion, smokey,<br>cooled            |
| 12. edition - volume; chapter -             | page, paragraph, book, sentence                        |
| 13. round - circle; little -                | coarse, small, prodigious, immense                     |
| 14. sing - sang; ring -                     | rung, ringing, noise, intermittent                     |
| 15. rapid - retarded; go -                  | advance, send, revolve, return                         |
| 16. love - affection; dilaugh -             | obliterate, seduce, fear, attract                      |
| 17. live - reside; cohabit -                | house, cohabit, dwell, reflex                          |
| 18. stretch - shrink; augment -             | increase, enlarge, decrease,<br>indigenous             |
| 19. provocative - irritation;<br>specious - | provocation, enhance, decrease,<br>pleasing            |
| 20. teleology - purposes; semantic -        | meanings, linguistic, understand-<br>ing, significance |
| 21. proximity - distance; environs -        | surrounding, distant, fuse, disal                      |
| 22. instance - prohibition;<br>failure -    | section, projection, fantasy,<br>distress              |
| 23. hazard - dangers; isomorphous -         | resemblance, dissect, isomeric,<br>similarities        |
| 24. mad - sad; see -                        | forsee, tea, Lee, fee                                  |
| 25. equity - partial; eschew -              | indulge, encurst, endure, ethereal                     |

Score.....  
(number correct)

Stop here - Do not turn the page to Test III until  
you are told to do so.



Test III  
NUMBER SERIES

68.

The numbers in each series at the left proceed according to some rule. For each series, circle the next number from one of those found at the right. Do one right after the other, in order, without skipping.

Series

Next Number

1./ 2 4 6 8 10 12	10 11 12 13 14
2./ 20 19 18 17 16 15	10 12 14 15 16
3./ 10 8 11 9 12 10	9 10 11 12 13
4./ 8 11 14 17 20 23	10 13 23 25 26
5./ 27 21 23 23 19 19	15 16 17 18 19
6./ 16 17 19 20 22 23	18 20 22 24 25
7./ 2 4 3 9 4 16	4 5 6 33 35
8./ 4 6 5 8 10 9	11 12 13 17 18
9./ 19 15 11 18 14 10	10 13 16 17 20
10./ 3 1 9 3 2 0	1 3 5 7 9
11./ 12 32 52 72 92 13	23 33 43 53 63
12./ 260 132 68 36 20 12	8 6 4 2 0
13./ 915 816 717 618 519 420	432 412 402 321 312
14./ 163 253 343 272 362 452	214 231 354 381 464
15./ 1513 1614 1716 1817	1918 1919 1921 1923
16./ 1348 1937 2526 3115	3604 3696 4212 4401
17./ 3/6 5/8 4/5 6/7	5/4 4/4 2/3 1/8
18./ 2/4 3/6 5/10 6/12	10/12 9/14 7/14 8/16
19./ 1/3:X/9 1/1:X/3 3/1:	X/0 X/1 X/3 X/9
20./ 4/7:3X/9 3/7:4X/8 2/7:	2X/9 5X/9 5X/7 2X/7

Score.....  
(number correct)

Stop Here - Wait for further instructions  
from the administrator

### PROFILE CHART FOR TESTS I, II, AND III

Please enter your scores below  
in the spaces indicated.

Test I      ANAGRAMS

---

(score)

Test II      VERBAL ANALOGIES

---

(score)

Test III      NUMBER SERIES

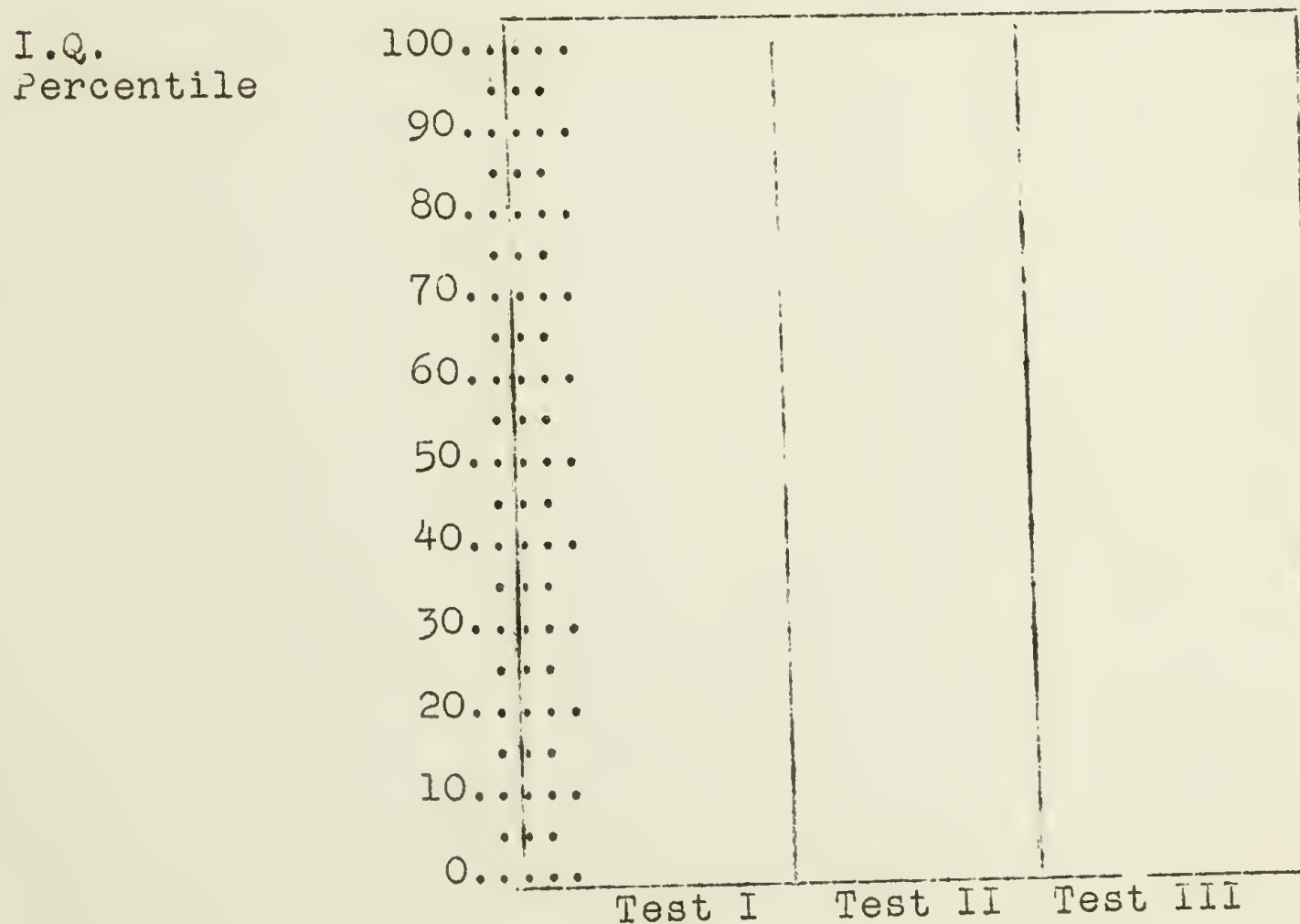
---

(score)

Total score for tests I, II, & III (total score)

\*\*\*\*\*Wait for further instructions\*\*\*\*\*Do not write\*\*\*\*\*  
\*\*\*\*\*below this line\*\*\*\*\*

(For group statistical treatment)





## Test IV

### CREATIVE IMAGINATION TEST

#### Directions

Test IV consists of four pages and is the last test.

Do not turn to page one of Test IV until you are told to do so.

Listen carefully for further instructions from the administrator.

PAGE ONE

1. What is happening? Who are the persons?

2. What has led up to this situation? That is, what has happened in the past?

3. What is being thought? What is wanted? By whom?

4. What will happen? What will be done?



PAGE TWO

1. What is happening? Who are the persons?

2. What has led up to this situation? That is, what has happened in the past?

3. What is being thought? What is wanted? By whom?

4. What will happen? What will be done?

PAGE THREE

1. What is happening? Who are the persons?

2. What has led up to this situation? That is, what has happened in the past?

3. What is being thought? What is wanted? By whom?

4. What will happen? What will be done?



PAGE FOUR

1. What is happening? Who are the persons?

2. What has led up to this situation? That is, what has happened in the past?

3. What is being thought? What is wanted? By whom?

4. What will happen? What will be done?

## APPENDIX E

COPY OF THE LETTER RECEIVED BY THE SUBJECTS  
INFORMING THEM OF THE EXPERIMENTAL PROCEDURES



Dear Subject:

This method seems to be the simplest means of contacting you, expressing appreciation for your cooperation, and informing you briefly of the purposes of the experiment in which you participated a few weeks ago.

Briefly, you will remember that you were told that you were taking a test which directly indicated your level of intelligence, capacity to organize and evaluate material, your qualifications as a leader, etc. You were then given three tests and asked to determine your scores on these: Anagrams, Verbal Analogies, and a number series. Following these, you were asked to write stories about four pictures that were projected on a screen before you: The Creative Imagination Test. ALL SUBJECTS TOOK ALL THE TESTS DESCRIBED ABOVE. However, some subjects had been placed in an experimental group and others were placed in a control group. You will no doubt be able to recall now to which group you were assigned from the descriptions of the two procedures below:

Control (neutral) Subjects were told that they were taking tests but that the norms were not yet available.... no one knew what the test scores really meant, what good they were.... this research was being done to find out.

Experimental (failure) Subjects were told that research was being done to find out which institutions turned out girls with administrative and leadership capacities as determined by high scores on these tests. Information was given suggesting that Smith College girls did especially well on these tests. Later, norms were quoted which were said to represent what most students at Smith were capable of doing. The fictitious norms which were quoted were unreasonably high and actually impossible to approach in the time allowed. Subjects were then able to compare their own standing with this so-called normative population; naturally all subjects did relatively poorly in comparison to what they were led to expect that they should be able to do. This procedure was necessary in order to attempt to induce some feeling of failure on the tests.

This research, then, actually attempts to investigate differences in failure and neutral achievements on an academic task. Differences are determined by analysis of the stories that subjects were asked to write immediately after the failure and neutral experiences. STORIES WILL BE ANALYZED AND TREATED AS GROUP DATA AND INDIVIDUAL ANONYMITY WILL BE MAINTAINED!

Needless to say, the "tests" that subjects were given do not measure much of anything; or, at least, if these tests do measure something, no one has any idea what it is.... they were devised only as part of the experimental procedure for research on the picture-story writing task. For that reason, as a subject, YOU HAVE ABSOLUTELY NO CAUSE FOR CONCERN IF YOU FEEL THAT YOU HAVE DONE POORLY ON THESE TESTS. To the best knowledge, the scores that you were asked to determine yourself were ABSOLUTELY MEANINGLESS.

If, for any reason, you wish to discuss the results of this experiment at greater length, I encourage you to feel perfectly free to come in and see me at any time.

Sincerely,

*Norman G. Tolman*

Norman G. Tolman  
Department of Psychology  
LAA Room D

## APPENDIX F

FREQUENCY OF THE SUBJECTS' RESPONSES  
TO SOME OF THE CAREER-ORIENTATION  
QUESTIONNAIRE ITEMS\*

\*Some of the subjects did not answer all of the questions summarized herein.



## FREQUENCY

6. With respect to your emotional relations with your parents, would you say that you feel:

- 12 much closer to mother than father
- 23 somewhat closer to mother than father
- 39 about the same to both
- 4 somewhat closer to father than mother
- 1 much closer to father than mother

7. Would you prefer a husband who:

- 40 is more educated than you are
- 34 has about the same amount of education as you have
- 0 is less educated than you are
- 1 amount of education makes no difference

8(a) Have you chosen a major yet?

- 14 no
- 59 yes

8(b) Do you think you would like any specific field (such as English or Government), though you have not made a choice?

- 14 no
- 28 yes

8(c) Have you chosen a major and later changed this choice?

- 42 no
- 31 yes

8(d) Do you wish to change your major?

- 52 no
- 12 yes

9(a) Do you plan to prepare for a specific vocation or occupation while at the University of Massachusetts? (Such as nursing or social work)

22 no

43 yes

9(b) Have you attempted to receive any sort of aid which would help you to decide on a vocation or occupation (from individuals whom you admired and whose help you considered of value)?

24 no

53 yes

10. Listed below are several common reasons for going to college. (Frequency of the subjects' first choice is given below.) I am going to college in order to:

35 Obtain vocational training; develop skills and techniques directly applicable to my career.

1 Develop my ability to get along with different types of people.

34 Obtain a basic general education and appreciation of ideas.

2 Develop my knowledge and interest in community and world problems.

0 Meet some prospect for a husband.

3 Help develop my moral capacities, ethical standards, and values.

1 Prepare myself for a happy marriage and family.

0 Carry out the demands and wishes of my parents.

0 Keep up socially with my high school friends who have gone on to college.

0 Because I had nothing else to do.

0 Because I didn't want to work.

0 Other.



11. After college, which of the following would you most prefer to do for the rest of your life? (Frequency of the subjects' first choice is given below)

0 Career only.

7 Marriage only.

17 Career briefly, and then marriage, but career continued. "briefly" meaning:

2 1 year

7 2 years

5 3 years

2 4 years

0 longer

27 Career briefly, and then marriage, but career discontinued. "briefly" meaning:

7 1 year

10 2 years

6 3 years

1 4 years

0 longer

12 Career and marriage. Career stopped when children arrive but resumed when children are in school.

11 Career and marriage. Career stopped when children arrive and never resumed after that.

2 Other. (Both subjects wish to resume career part-time after children arrive.)

12. Are you planning or considering going to graduate school?

25 yes

44 no If it were possible would you desire to go?

13 yes

17 no

13. If it were up to you, at what age would you like to get married?

- 1 don't want to get married
- 0 18 years of age
- 1 19 years of age
- 1 20 years of age
- 6 21 years of age
- 13 22 years of age
- 12 23 years of age
- 3 24 years of age
- 7 25 years of age and older
  
- 1 1 year from now
- 0 2 years from now
- 5 3 years from now
- 11 4 years from now
- 5 5 years from now
- 1 6 years from now
- 2 7 years from now and longer
- 6 would like to be married now

14. Looking at things realistically, when do you think you actually will get married?

- 2 don't expect to
- 0 18, 19, 20 years of age
- 5 21 years of age
- 7 22 years of age
- 10 23 years of age
- 2 24 years of age



- 4 25 years of age and older
- 4 1 year from now
- 2 2 years from now
- 10 3 years from now
- 9 4 years from now
- 5 5 years from now
- 5 6 years from now and longer

15. Which of the following statements comes closest to your feelings concerning women working?

- 0 In general, I don't approve of women having careers.
- 12 I approve of a woman having a career if she wants one, provided she is not married.
- 22 I approve of a married woman having a career if she wants one, provided she has no children.
- 31 I approve of a married woman having a career if she wants one, provided her children are older than:
  - 7 0-10 years
  - 15 11-15 years
  - 9 older than 15 years.
- 12 I approve of a married woman having a career if she wants one, regardless of the age of her children.

16(a) Would you decide on a career being more important to you if it precluded your being happily married?

- 7 yes
- 63 no

(b) Would you decide on a career being more important to you after marriage, if it precluded your having children?

- 4 yes
- 67 no

17. What three things or activities in your life do you expect will give you the most satisfaction? (Frequency of the subjects' first choice is given below.)

- 6 Your career or occupation.
- 41 Family relations
- 0 Leisure time recreational activities.
- 6 Religious beliefs or activity.
- 0 Participation as a citizen in the affairs of your community.
- 1 Participation in activities directed toward national or international betterment.
- 21 Care of your children

18. When you get married, what do you wish your husband's monthly income to be?

- 1 \$200
- 6 \$201-\$300
- 22 \$301-400
- 14 \$401-500
- 9 \$501-700
- 8 \$701 and above

19. When you get married, what do you realistically expect your husband's monthly income to be?

- 2 \$200 and below
- 14 \$201-\$300
- 25 \$301-400
- 11 \$401-500
- 4 \$501 and above
- 2 not applicable



20. If you work before marrying, what do you hope to receive monthly during the first year that you work after graduation?

- 0 \$100 and below
- 23 \$101-\$200
- 11 \$201-250
- 16 \$251-300
- 6 \$301-350
- 5 \$351-450
- 3 \$451-500
- 0 \$501 and above
- 6 not applicable

21. If you work before marrying, what do you realistically expect to receive monthly during the first year that you work after graduation?

- 1 \$100 and below
- 26 \$101-200
- 15 \$201-250
- 3 \$251-300
- 4 \$301-400
- 1 \$401 and above
- 6 not applicable

22. If you work before marrying, what do you hope to receive monthly after you have been graduated and working for three years?

- 4 \$200 and below
- 5 \$201-250
- 11 \$251-300
- 6 \$301-350
- 8 \$351-400

- 8 \$401-500
- 0 \$501-600
- 2 \$601 and above
- 19 not applicable, do not expect to work that long

23. If you work before marrying, what do you realistically expect to receive monthly after you have been graduated and working for three years?

- 5 \$200 and below
- 8 \$201-250
- 14 \$251-300
- 2 \$301-350
- 6 \$351-400
- 3 \$401-500
- 0 \$501-600
- 1 \$601 and above
- 19 not applicable, do not expect to work that long

24. If both you and your husband work:

(a) what do you hope your combined income annually will be?

- 4 \$3000 and below
- 0 \$3001-4500
- 2 \$4501-5500
- 6 \$5501-6000
- 0 \$6001-7000
- 23 \$7001-10000
- 17 \$10001 and above



(b) What do you realistically expect your combined income annually will be?

4 \$3000 and below  
 2 \$3001-4500  
 4 \$4501-5000  
 1 \$5001-5500  
 5 \$5501-6000  
 12 \$6001-7000  
 17 \$7001 and above

25. Would you accept a position that paid you considerably more than what your husband was receiving even though this displeased him and made him feel uncomfortable?

9 yes  
 65 no

26. Would you accept a position whose duties you strongly disliked, even though it offered considerably more money than a poorer paying position which you would really enjoy filling?

8 yes  
 67 no

27. Would you choose a position with very low status which paid considerably more than a position with high status?

16 yes  
 56 no

28. Would you accept a position which paid \$120 per month after graduation if it enabled you to gain experience which would benefit you in the future?

13 no  
 62 yes (this question is continued on the next page)

(If you checked "Yes").... does "in the future" mean....

- 31 in one year
- 23 in two years
- 2 in three years
- 1 in four years
- 3 longer?

29. Assume that your college curriculum is to be lengthened. What is the longest length of time that you would invest in achieving any occupational desire that you now may have? Would you come to college if you had a program before you which consisted of: (indicate the longest program that you would accept, including undergraduate and graduate study or total time you would spend in professional and preprofessional schools):

- 27 5 years
- 36 6 years
- 8 7 years
- 2 8 or 9 years
- 0 10 to 15 years
- 1 curriculum is too long even now

30. After graduating from high school, how many years do you actually expect to spend in training for any occupation which you may be considering? Indicate the total number of years in college (and graduate work, if any) that you expect to complete. (If you have no specific occupational choice, how long do you expect to spend in school?)

- 29 exactly 4 years
- 22 5 years
- 18 6 years
- 0 7 years
- 1 8 years
- 0 more than 8 years
- 5 probably less than 4 years



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