1957

Parent-child relationships which affect achievement motivation of college freshmen

Lloyd Raymond Young

Iowa State College

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PARENT-CHILD RELATIONSHIPS
WHICH AFFECT ACHIEVEMENT MOTIVATION
OF COLLEGE FRESHMEN

by

Lloyd Raymond Young

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of
The Requirements for the Degree of
DOCTOR OF PHILOSOPHY

Major Subject: Rural Sociology

Approved:

Signature was redacted for privacy.

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INTRODUCTION

It is generally accepted that Americans are greatly concerned with "success," however that vague term may be defined. Some time ago the Horatio Alger stories epitomized the success-seeking that has been and is characteristic of Americans. More recently, authors such as Marquand (198) have utilized the same theme. The British cultural anthropologist Gorer (28) observed that striving behavior is one of the basic aspects of the "national character" of Americans.

However, it is apparent to even the most casual observer that the desire to "get ahead" is not equally strong in all Americans, to say nothing of all people. What accounts for the differential emphasis upon success? Why do some individuals feel a need to excel in whatever they do while others feel no such impulsion? The purpose of this dissertation is to test certain socio-psychological theories that attempt to provide answers to these questions.

This dissertation, then, is concerned with a certain kind of motivation. A comprehensive discussion of the psychological theory of motivation is beyond the scope of this paper but is readily available (58, pp. 6-96), (50, pp. 80-106). For the purpose of the present study, the definition of a motive was accepted as "the redintegration by a cue of a change in an affective situation." (58, p. 28) Stated differently, a motive is "a strong affective association, characterized by an anticipatory goal reaction and based on the past association of certain cues with pleasure or pain." (54, p. 226) In simpler words, when a stimulus redintegrates for an individual a change in an affective state—usually an increase in
pleasure or a decrease in pain—and when he makes efforts to attain the
goal associated with the desired affective state, we say he is motivated.

Since affective states are subject to many influences, there are many kinds
of motivation. For instance, the affective state of an individual is
influenced by hunger, sexual stimulation, response of other persons, et

cetera. It is proper, then, to think of hunger motivation, sexual motiva-
tion, response or affiliation motivation, and so forth. This dissertation
is concerned with still another kind of motive, the achievement motive.

For most people, success in competition with a standard of excellence
results in positive affect and failure in competition with a standard of
excellence results in negative affect. The motivation concerned with such
competition with a standard of excellence is called achievement motivation
(58, p. 147). Hereafter, achievement motivation will be abbreviated n
Achievement, as is customary in the literature.

The dimension under consideration here, n Achievement, has been
studied under a number of names. Most studies of "level of aspiration"
have been concerned with the same dimension. However, in such studies,
"level of aspiration" basically has been thought of as a temporary emo-
tional or affective state aroused under certain conditions (44), (76),
(89). For instance, many studies of "level of aspiration" have investi-
gated the relationship between perception of success or failure and "level
of aspiration." Is aspiration greater when an individual feels he is
succeeding at a task or when he feels he is failing at the same task? (76,
p. 464)

Following the lead of McClelland et al. (58), the writer has chosen a
different frame of reference. Rather than considering n Achievement as a
specific dimension of human behavior aroused under specific circumstances, it is here considered as a part of the basic personalities of individuals. Thus, \( \eta \) Achievement is considered not as a situational phenomenon, but rather as a general personality characteristic that is likely to be manifest in a variety of circumstances. Support for this approach can be found in the work of Kardiner (1940). Kardiner argued that persons in contact with the same social and cultural environment should develop similar psychic and behavioral characteristics. That bundle of characteristics associated with any configuration of social and cultural influences he called basic personality structure. Assuming that \( \eta \) Achievement may be considered as a part of basic personality structure, the question of this dissertation becomes, "Out of what kind of social and cultural milieu does the basic personality structure emerge which is characterized by high \( \eta \) Achievement?"
REVIEW OF LITERATURE

The review of literature pertinent to a particular study serves a variety of purposes. It helps delineate the problem, provides a theoretical framework from which to derive hypotheses and interpret findings, and suggests measures and methods of testing the derived hypotheses.

Since the review of literature is related to the entire study being described, it has been integrated into the entire dissertation rather than isolated into a single chapter. The reader will find related literature reviewed as the theoretical framework of the dissertation is established, as the hypotheses are derived, as the methods and procedures are developed, and as the findings are interpreted. It is felt by the writer that the review of literature will in this way serve its purposes most effectively.
THEORY AND HYPOTHESES

Anxiety Theory

The origin of *n* Achievement is not clear. One of the prominent theories that can be drawn upon to explain the origin of *n* Achievement stems from Horney (37). It was her assertion that striving behavior is often the consequence of anxiety and neurosis of the striver. Never did Horney say that all striving can be explained by anxiety, or that all anxiety results in striving behavior, but it was her contention that the two are often related. She pointed out that anxiety may result in a quest for affection, power, prestige, or possessions (37, p. 162).

Others have continued the same line of theorizing. In pointing out that persons depend upon the reactions of others for their own self-esteem, Fromm (25, p. 72) said:

> Since modern man experiences himself both as the seller and as the commodity to be sold on the market, his self-esteem depends on conditions beyond his control. If he is 'successful,' he is valuable; if he is not he is worthless. The degree of insecurity which results from this orientation can hardly be overestimated. If one feels that one's own value is not constituted primarily by the human qualities one possesses, but by one's success in a competitive market, with ever-changing conditions, one's self-esteem is bound to be shaky and in constant need of confirmation by others.

Kardiner (41, pp. 411-412) wrote:

> The socially approved goal of success is made the vehicle of compensation for all other shortcomings in pleasure and relaxor functions. As long as the individual can pretend to some goal of success or security, he can claim some self-esteem.

In one of the most exhaustive discussions of anxiety that is available, May (51, pp. 172, 182) has said:

> One means of allaying anxiety is frantic activity . . . .
Being the dominant cultural value, competitive success is likewise the dominant criterion of self-valuation; it is accepted as the means of validating the self in one's own eyes as well as in the eyes of others.

For the purpose of this study, the definition of anxiety has been taken as the apprehension cued off by a threat to some value that the individual holds essential to his existence or worth as a personality (51, p. 191). When such a threat arises, one of the defenses readily available to the individual is to plunge himself into activities involving achievement. To achieve is to reassure oneself of one's own worth as a person.

A number of research findings either support or can be explained by this theory. In summarizing a recent research study, Ohio State University sociologists Dynes et al. (21, p. 214) wrote, "Unsatisfactory interpersonal relationships in the family of orientation were significantly related to high aspirational levels and satisfactory relationships were related to lower aspirational levels." This conclusion was reached following an investigation of the relation of occupational aspiration to certain aspects of family experience of 350 Ohio State University students enrolled in introductory and advanced sociology classes. It was found that level of occupational aspiration as measured by a scale developed by Reissman (73) was positively related to students' feelings of not being wanted by their fathers, feelings that parents had shown favoritism toward another child in the family and negatively related to attachment to parents and degree of happiness in childhood. These are factors that could contribute to anxiety in the subjects which in turn could be expressed as achievement in occupational goals.

In her study of sixty upwardly mobile "outstanding unmarried career
women," Ellis (22) found through personal interviews that those respondents who were upwardly mobile showed a history of greater difficulty in their interpersonal relations than did those who were non-mobile. She measured occupational mobility by comparing occupational status of each respondent to the occupational status of the respondent's father. The measure of "difficulty in interpersonal relations" involved subjects' perception of parental rejection which took the form of favoritism for another child in the family, subjects' perception of rejection by the general community, subjects' rating of their attachment to parents as "less than average" during childhood and adolescence, and subjects' belief that they had suffered a series of humiliating experiences during childhood. All of these factors, which may be thought of as anxiety-producing, were significantly related to upward mobility and therefore support the anxiety-n Achievement hypothesis.

In a study reported by McClelland et al. (58, pp. 276-288) a psychiatrist interviewed thirty male college students from whom previous measurements of n Achievement had been obtained. On the basis of the interview data, the psychiatrist then rated each subject on a number of variables, some of which dealt with parent behavior. These variables included democratic-autocratic, acceptance-rejection, indulgence and casualness (inconsistency)-consistency attributes of child rearing. Then the subjects themselves rated their parents with regard to the same variables. A significant relationship was found between n Achievement and severity of upbringing or "felt lack of love." The largest single correlation, significant at the .01 level of confidence, was found between n Achievement and sons' perception of rejection by fathers. A fairly high relationship,
barely missing significance at the .05 level of confidence, was found between \( n \) Achievement and sons' perception of rejection by mothers. If parental rejection makes for anxiety, as will be discussed later, here again is evidence for the anxiety-\( n \) Achievement hypothesis.

Martire (19) obtained \( n \) Achievement scores* from fifty-three undergraduate and graduate volunteers. He also obtained measures of the respondents' "self" and "self-ideal" through an instrument devised by Weinberger. In this measure, subjects are asked to rate twenty-six traits in regard to their importance in personality and then rate themselves in regard to the same traits. Martire found that respondents with high \( n \) Achievement had a significantly greater discrepancy between their self-ideal and self-rating than subjects with low \( n \) Achievement. This discrepancy between self-ideal and self may well reflect anxiety as defined in the present study and thus lends support to the anxiety-\( n \) Achievement hypothesis.

In a study of twenty-nine eight to ten year old school boys in Ann Arbor, Michigan, Winterbottom (91) hypothesized that \( n \) Achievement would vary inversely with punishment administered by mothers for violations of parental restrictions. Winterbottom believed that such punishment would influence the child to fear individual accomplishment and thus lower his achievement motivation. Her data refuted the hypothesis. The result could perhaps be explained by hypothesizing that maternal punishment creates anxiety which in turn creates high \( n \) Achievement.

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*The scores were obtained from a measure developed by McClelland et al. (58, pp. 185-217). The measure will be described in greater detail in a subsequent section of this dissertation.
In light of the preceding evidence, it was determined that one hypothesis to be tested in this study would be that n Achievement varies with anxiety. The nature of the relationship was open to some question. While the evidence just discussed indicates a direct correlation between n Achievement and anxiety, there is also some evidence that extreme amounts of anxiety may serve as a block rather than an impulsion to achievement. The extremely anxious person may be so threatened by achievement situations that he wishes to avoid all contact with them. Sarason et al. (79) gave intelligence tests to seventy-two Yale students, thirty-six of whom had low anxiety according to a previously administered scale. Each subject was told that the results of his intelligence test would be compared with the aptitude test he took as a Yale freshman. Half of each group of thirty-six subjects was told that the intelligence test was designed so that it would be fairly easy for the average student to finish in the allotted time. The other half of each group was told that the test was so constructed that nobody could finish within the time limit.

Within the low anxiety group, the pressure of being told that they were expected to finish the test within the allotted time stimulated this half of the group to do significantly better work than the half that was told that they were not expected to finish. However, in the high anxiety group, there was no significant difference between those who were expected to finish and those who were not expected to finish. The entire high anxiety group did significantly poorer than the low anxiety-expected to finish group. They also did poorer than the low anxiety-not expected to finish group but the difference was not significant.

In a further experiment by Sarason et al. (79), the same intelligence
test was given to twelve low anxiety Yale students and to twelve high
anxiety Yale students. Half of each group was given instructions intended
to be ego-involving and the other half was given instructions intended not
to be ego-involving. In this experiment, there appeared to be no differ­
ence in achievement among the students who were not ego-involved, regard­
less of anxiety level. Among the ego-involved subjects, the high anxiety
group did poorer than the low anxiety group. Whether or not the difference
was significant was not reported. The indication remains, however, that
high anxiety persons may be so threatened by achievement situations, par­
ticularly if they are ego-involved, that they are unable to compete favor­
ably with low anxiety persons.

In another experiment, Mandler and Sarason (197) used forty-two
subjects from an introductory psychology course at Yale. All were non-
veteran sophomores or juniors. Twenty-one were a low anxiety group and
twenty-one a high anxiety group as determined by a previous test. Various
intelligence tests were given to the subjects. Feelings of success,
failure, and neutrality were experimentally induced by telling the subjects
how well they had done on the tests in terms of how well they "should" have
done as predicted by aptitude tests given them when they were freshmen.
Then more intelligence tests were given to see how the subjects did after
the "success," "failure," or "neutral" experience. It was concluded that
an intervening report of either success or failure elicited improved per­
formance for the low anxiety group but depressed scores for the high
anxiety group. Here again, the indication may be that high anxiety persons
are so threatened by a progress report of any kind that anxiety increases
to the degree that it is a deterrent to achievement.
With these data in mind, it seemed reasonable to hypothesize that the relation between n Achievement and anxiety would be curvilinear, n Achievement increasing positively with anxiety up to a certain point, but then falling off as anxiety increased further.

Independence Theory

To assert that all n Achievement arises from anxiety would be unreasonable. Maslow (50, pp. 199-260) wrote about "self-actualizing" people, those who had developed their capacities fully. Included in the description were historic figures, the author's personal friends, and contemporary public figures. Lest anyone criticize Maslow as being non-scientific, it should be added here that he made no claims for empirical validity, reliability, or even objectivity. He offered his discussion of "self-actualizing" people simply for whatever insights it might contain that would be of value to others. Among other traits, Maslow felt that, as compared with "average" people, "self-actualizing" persons had more accurate perceptions of reality and "more comfortable relations" with it, were less influenced by desires and fears, had fewer anxieties, were more "unthreatened and unfrightened by the unknown," were more acceptant of self and others, lacked defensiveness, were more spontaneous, more problem centered rather than ego centered, had deeper and more profound interpersonal relations, were democratic rather than authoritarian, were more creative, et cetera.

If it could be assumed that "self-actualizing" people are characterized by high achievement motivation—as seemed reasonable when it was
considered that included in the description were Lincoln, Thomas Jefferson, Einstein, Eleanor Roosevelt, Jane Addams, William James, Spinoza, Walt Whitman, Henry Thoreau, Beethoven, F. D. Roosevelt, Freud, George Washington Carver, Eugene Debs, Albert Schweitzer, Thomas Eakins, Fritz Kreisler, Goethe, and others—then it seemed imperative to find a source of n Achievement other than anxiety.

In the literature on n Achievement, there is building up considerable evidence that n Achievement is related to independence. It is unfortunate that, so far as the writer has been able to learn, those who write about independence have not defined the concept. For the purposes of this study, it was decided to define independence as the tendency to rely on one's own judgment when faced with decision-making situations. This definition seemed also to encompass the dimension which others have called by the same name.

McClelland has done a great deal of research with and writing about the achievement motive. It has been his assertion that n Achievement is closely related to independence. As theoretical evidence of this relationship, he has argued that the relation between the Protestant ethic and the spirit of capitalism first described by Max Weber can best be understood in terms of independence and n Achievement. To quote McClelland et al. (61, p. 391):

In terms of recent research on human motivation, it would appear not too far-fetched to associate the new 'spirit of capitalism' (e.g. 'the irrational sense of having done his job well') with an increase in achievement motivation (n Achievement) and the Protestant emphasis on 'self-help' for salvation with an increased stress on independence training for young children.

Empirical evidence to support this relationship between n Achievement
and independence has been accumulating. In the study previously cited, Winterbottom (91) found that mothers of children with high n Achievement differed from mothers of children with low n Achievement in the following ways.

1. They demanded independence training in such matters as the child's finding his own way around the city, doing well in competition, making his own friends, and trying new things for himself at an earlier age.

2. They gave more intense and more frequent rewards for fulfilled demands.

3. They judged their children's accomplishments more favorably and were more rewarding of their accomplishments.

Winterbottom also found that teachers of the children with high n Achievement rated these children as more independent and more persistent when faced with failure than children with low n Achievement. She concluded that "early rewarding training in independence and mastery, accompanied by few restrictions given after mastery has been attained, contributes to the development of strong achievement motivation." (91, p. 123)

In a study of sixty-seven children approximately four years of age, Baldwin (6) investigated the relationship between authoritarian and democratic control by parents and children's personality characteristics. The children were in an experimental nursery school conducted by the Fels Research Institute and were all children of intellectual parents. He found that the children of the democratic parents were more active, aggressive, fearless, planful, and more likely to be leaders in the nursery school situation. They also tended to be more cruel than average children of the
same age. Children of authoritarian parents were less aggressive, less planful, less tenacious, and less fearless than average. If, as seems reasonable, it can be assumed that children of democratic parents are more independent than children of autocratic parents, and if aggressiveness, fearlessness, and planfulness are associated with \textit{\textit{m}} Achievement, then Baldwin's study lends support to the independence-\textit{m} Achievement hypothesis.

In a study done by Asch (2, pp. 150-501), groups of seven to nine students were shown a card on which there was a line of standard length and another card on which there were three comparison lines of different lengths. The groups were instructed to choose which of the three lines was the same length as the standard. In most cases, the choice was an obvious one. However, by prearrangement with all but one student in each group, these students stated aloud that one of the comparison lines that was obviously longer or shorter than the standard line was actually the same length as the standard. Thus, the one group member not aware of the scheme was left to choose between what he perceived to be the "right" line and what the other members of his group told him was the "right" line. Even though their perceptions dictated otherwise, about one-third of the subjects yielded to group pressure and agreed that the line picked by the majority was the correct line.

A number of these same subjects were also given an \textit{\textit{m}} Achievement measure (58, p. 287). A significant relationship was found between \textit{\textit{m}} Achievement and perceptual distortion or yielding to group pressures. Those who showed independence by refusing to yield to group pressures were also those who scored high in \textit{\textit{m}} Achievement.

In still another study, McClelland and Friedman (60) applied the
scoring technique usually applied to \( \text{n} \) Achievement stories to folk tales of eight American Indian cultures. The scoring technique will be discussed later in this dissertation because it was adopted for use in the present investigation. The folk tales all concerned the same central character, Coyote, who was a trickster hero in many of the folk tales told by North American Indian tribes. Data regarding child rearing practices in the same Indian cultures were obtained. It was concluded by the authors that of the data concerning nursing, weaning, toilet training, sex training, independence training, and aggression control, the clearest relationship existed between independence training and \( \text{n} \) Achievement.

In summarizing the available studies concerning \( \text{n} \) Achievement, McClelland et al. (58, p. 328) said:

"The data we have to date strongly support the hypothesis that achievement motives develop in cultures and in families where there is an emphasis on the independent development of the individual. In contrast, low achievement motivation is associated with families in which the child is more dependent on his parents and subordinate in importance to them."

In view of these data, it was decided to test the hypothesis that \( \text{n} \) Achievement is positively related to independence.

**Social Origins of Anxiety and Independence**

While it was realized that anxiety and independence are not the only factors that could theoretically give rise to \( \text{n} \) Achievement, it was decided to be beyond the scope of the present study to include other variables.

The development of the theory thus far still did not satisfy the purpose of the study, to determine from what kind of social and cultural milieu the basic personality structure emerges which embraces high or low
n Achievement. If the above theories regarding anxiety and independence were true, the problem of this dissertation became the determination of the social factors that give rise to anxiety and independence.

It is widely accepted among social scientists that the years of childhood are the formative years so far as personality is concerned. It is also generally accepted that the primary group, particularly the family, is the basic social agency that influences the development of personality. Cooley (14, p. 24) spoke of the primary group as the "nursery of human nature." McClelland (55, p. 333) said, "Students of personality theory have always stressed the tremendous importance of child training in the development of the person's conceptions of his world." Shuben (82, p. 103) has said, "Modern dynamic psychology lays heavy emphasis on the socialization process, the process by which an individual grows from a dependent infant into an independent and dependable adult. One of the fundamental agencies of socialization is the family." Symonds (86, p. 54) concluded, "All of the signs seemed to be that basic personality is usually, if not always, formed through human relationships within the family circle." Many other writers (51, p. 210), (71, p. 157), (72, p. 1), (85, p. 679) take this same position. It seemed advisable, then, to look to the early parent-child relationships for the social origin of anxiety and independence.

It seemed reasonable to assume that a number of factors in the parent-child relation could give rise to these personality characteristics. In

*Pages 341-346 and 452-458 of this book are especially recommended as containing an excellent discussion of the reasons why childhood experiences are so important in the formation of personality.
considering the limitations of the present study, it appeared to be expedient to single out insofar as possible a single dimension in the parent-child relation which would account in part for anxiety in children and a single dimension which would account in part for independence of children.

After a careful review of previous thinking and investigations, it appeared most promising that parental acceptance would be inversely related to anxiety in children. For the purpose of this study, parental acceptance was defined as the tendency of a parent to feel and display approval of his child. Since by definition anxiety involves a threat to the worth of the self, it would seem reasonable that the withholding of parental approval during the formative years would give rise to anxiety, while the bestowal of parental approval should allay and prevent anxiety.

A small number of empirical studies lend support to this relationship. The study reported by McClelland et al. (58, pp. 276-288) and summarized earlier in this dissertation* found evidence that might be considered as supporting.

Symonds (86, pp. 90-91) studied sixty-two children, thirty-one of whom were classified by psychologists, counselors, or teachers as accepted by parents and thirty-one of whom were classified as rejected by parents. He found significantly fewer feelings of inferiority, inadequacy, and insecurity among the accepted group.

Baldwin et al. (7, pp. 67-70) summarized a number of studies conducted by the Fels Research Institute. Without describing the studies in detail, they concluded that children who were rejected by parents were highly

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*p. 7
emotional, hostile, withdrawn, and non-conforming. To the writer of the present paper, it seemed reasonable to assume that these characteristics are related to or are symptoms of anxiety.

Symonds (65, p. 683), in summarizing work done by other investigators, concluded, "Accepted children were found to face life more confidently and to have a clearer idea as to their plans and ambitions."

A careful review of the literature was also made to determine which dimension of the parent-child relationship showed greatest promise of being related to independence. It was concluded that democracy in the parent-child relation should provide the social context in which independent children develop. It is the writer's opinion that the essence of democracy lies in the freedom of each individual to participate in decision making that is relevant to himself. For the purpose of this study, democracy was defined as the tendency of a parent to allow and encourage his child to participate in individual decision making and in family decision making that is relevant to the child. Since independence has been defined as reliance on one's own judgment in decision-making situations, it would seem reasonable that decision-making training in a democratic family should enable a child to become a more independent person.

A small amount of empirical evidence also supports this relationship. In a study reported earlier in this dissertation,* Baldwin (6) found that children of democratic parents were more active, aggressive, fearless, and planful than children of autocratic parents. The inference seems safe that the children of democratic parents were more independent and self-reliant.

*pp. 13-14
than the children of autocratic parents.

Insofar as the writer knows, other studies of the relation between democracy in the home and independence of the children coming out of the home have not been done. However, the logic of the relationship still seemed convincing, and in the absence of other dimensions from which independence could be predicted, it was decided to test the hypothesis that independence varies with democracy in the individual's family of orientation.

Summary of Concepts and Hypotheses To Be Tested

To bring them together into one listing, the concepts chosen for study in this investigation were as follows:

1. Achievement motivation (n Achievement) - competition with a standard of excellence

2. Anxiety - apprehension cued off by a threat to some value that the individual holds essential to his existence or worth as a personality

3. Independence - reliance on one's own judgment when faced with decision-making situations

4. Acceptance - feeling and displaying approval of a child by his parent

5. Democracy - allowing and encouraging of a child by his parent to participate in individual decision making and in family decision making that is relevant to the child

It was hypothesized that the concepts were related in the following
Hypothesis 1. Anxiety varies inversely with acceptance.

Hypothesis 2. \( n \) Achievement varies curvilinearly with anxiety.

If \( n \) Achievement varies curvilinearly with anxiety and anxiety varies inversely with acceptance, then

Hypothesis 3. \( n \) Achievement varies curvilinearly with acceptance.

Hypothesis 4. Independence varies directly with democracy.

Hypothesis 5. \( n \) Achievement varies directly with independence.

If \( n \) Achievement varies directly with independence and independence varies directly with democracy, then

Hypothesis 6. \( n \) Achievement varies directly with democracy.
The choice of a sample for the study was severely restricted by the limited funds available for interviewing. It was necessary to choose a sample that was relatively small and readily available. It was decided, therefore, to use undergraduate students of Iowa State College as respondents.

A random sample of 11/0 male freshmen enrolled in the Division of Agriculture was drawn from the Student Directory. Limiting the sample to a single sex offered the advantage of eliminating sex differences that may exist in any of the dimensions being studied. It also eliminated complications arising due to the fact that females respond somewhat differently than males to the measure of n Achievement that was used (58, pp. 177-178).

The decision to limit the sample to students in the Division of Agriculture was made on the same basis as the decision to use only males. It was assumed that agriculture students came from a more homogeneous cultural background than the students of any other division in which a large number of males were enrolled. Choosing a sample from a relatively homogeneous cultural background was deemed desirable in order to eliminate spurious relationships that could confound the research results. For instance, evidence is accumulating that n Achievement is related to socio-economic class (38), (73), (75). Such a spurious relationship, if uncontrolled, could destroy the validity of the results of the study. Consequently, the decision was made to exercise a crude control through sampling.

Certain dangers are inherent in such controls. If the controls limit
variation in the dimensions being studied, biased results will be obtained. The writer decided, however, that limiting the sample to agriculture students would not restrict unduly the variation in the five dimensions under consideration. Freshmen were chosen because it was felt that they would show greater variation in these dimensions than upper classmen. College may be thought of as a leveling experience. Those students who are very low in achievement may be more likely to leave school than individuals with a greater amount of motivation. Similarly, the demands of college may cause a higher drop out rate among students who have more anxieties. Therefore, freshmen were chosen because they had just begun the process of selectivity imposed by four years of college experience. The selection of freshmen also exerted a rough control on age of respondents.

The sample was drawn early in the winter quarter of 1957. In the two weeks that elapsed between the time when the sample was drawn and the respondents were contacted by mail, fourteen students had either left school or moved without leaving forwarding addresses. A letter* was sent to each student telling him about the project and asking him to attend one of the group interviews.** For those students who were unable to participate during the week of interviews, two additional group interviews were held in subsequent weeks. Of the available sample of 126 students, 109 responded by coming to group interviews, representing 86.5 per cent of the available sample. One hundred four usable schedules were obtained.

*Appendix A. Note: A typographical error in the letter indicates the sample size to be 150 rather than the actual 140.

**These interviews will be described in a later section of the dissertation.
n Achievement Measure

The measure of n Achievement chosen for use in this study was developed and thoroughly described by McClelland et al. (58, pp. 97-106, 185-217). It is a projective measure in which respondents write imaginative stories about pictures that are projected onto a screen. The stories are then scored by a rather elaborate technique also developed by McClelland et al.

The theory behind projective measurements assumes that an individual projects his own needs and basic personality characteristics into ambiguous stimuli presented to him (1, p. 9). This assumption lies behind the belief of Freudian psychologists that fantasy is a good place to look for the effects of motivation (58, p. 107). Clinical psychologists assume that free association, fantasy, and other such imaginative processes reflect most sensitively the inner motivational states of the human personality (60, p. 243). The n Achievement measure rests, then, upon the assumption that individuals project their own achievement motivation into the stories they write in response to ambiguous pictorial stimuli.

In the n Achievement measure, imaginative stories are interpreted as reflecting projected n Achievement if they reveal achievement imagery involving any of the following elements.*

1. A state of need or a motive (N) on the part of any of the characters described in the story.

2. Anticipation of successful attainment of the goal (Ga+) or

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*The symbols in parentheses denote the various scoring categories. For a complete description of the scoring categories and the process of scoring the imaginative stories, see McClelland et al. (58, pp. 107-138).
anticipation of failure to attain the goal (Ga-).

3. Engaging in activity instrumental (I) to the attainment of the goal. Such activity may lead to the attainment of the goal (I+) or to failure to attain the goal (I-).

4. Obstacles or blocks (B) to progress in attaining the goal. These blocks may be located in the world at large (Bw) or may be some personal deficiency in the character himself (Bp).

5. Experiencing of strong positive and/or negative affective states by the character engaged in trying to achieve the goal. He may experience a state of positive affect (G+) in goal attainment or a state of negative affect (G-) when his goal-directed activity is thwarted or he fails.

6. Receiving of help or sympathy (Nup) by the character engaged in trying to achieve the goal from another character in the story.

Using this scoring technique, reliability coefficients of .56, .56, and .61 have been found on alternate forms* of the n Achievement measure administered five weeks apart (65, p. 292). Interscorer reliability coefficients of .89 were found when three different persons scored the same stories. Some writers claim that such measures are a better indication of reliability on projective tests than retest or split-half reliabilities (33).

The claim for validity for the n Achievement measure lies in its ability to test predictions derived from theory.** The description of the

*By "alternate forms" it is meant that different pictures were used as stimuli.

**This type of validity has been discussed by Peak (69, pp. 288-292).
validation procedure is readily available (59) and so it will not be described in detail here. To illustrate one of the claims for validity, comparisons were made of the n Achievement scores obtained from the same subjects under two different experimental conditions: (a) relaxed orientation and (b) achievement orientation. Efforts were made in the relaxed orientation to create a non-competitive atmosphere, to minimize achievement cues, and to put the subjects at ease. Under the achievement orientation, efforts were made to motivate the subjects for achievement, to create a competitive atmosphere, and to increase achievement cues. Significant differences between the subjects' scores under the two conditions were obtained. The indication is strong that the measure reflected the experimentally induced n Achievement.*

In the actual administration of the test, the following instructions are read to the respondents.

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

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

*For further discussion of the validity of the instrument, see McClelland et al. (58, pp. 161-184).
Each slide is shown for twenty seconds following which four minutes are allotted for the writing of the story. The questions asked with each story as an aid to the subjects are the standard questions used in the TAT test:

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?

The actual scoring of the n Achievement stories for the present study was done by Miss Joan Munson of the Department of Psychology of the University of Michigan. Because Professor John W. Atkinson and others of the same department are doing considerable research on the achievement motive, a team of trained scorers is maintained by the Department of Psychology. It was felt to be more desirable to hire a trained and reliable scorer than for the writer himself to attempt to become qualified to score the stories. Miss Munson has attained rank-order scoring reliabilities between .32 and .91.

Anxiety Measure

The measure of anxiety chosen for use in this study was the Test Anxiety Questionnaire developed by Sarason and others (16), (27), (47), (77), (78). This test* was felt to be especially appropriate for college students because it measures anxiety as expressed in attitudes toward testing situations. It is a self-administered paper-and-pencil test that bears the innocuous heading of "Questionnaire on Attitudes Toward Testing

*See Appendix G for a complete copy of the test.
Situations." Subjects are asked to describe their attitudes and reactions toward three types of testing situations. From these responses an anxiety score is computed according to instructions described by Mandler and Sarason (47).

Test-retest reliability of the scale, following a three and one-half month interval, was reported as .81 (27, p. 317). After a six week interval, it was found to be .82 (78, p. 811). Split-half reliability, after the Spearman-Brown correction, was .91 (78, p. 811). The product-moment correlation between the Test Anxiety Questionnaire and a Generalized Anxiety Questionnaire developed by Gordon and Sarason (27, p. 320) was reported as .468. Valid results are also claimed for the Test Anxiety Questionnaire when compared with Rorschach performance (16, p. 376).

Independence Measure

From an examination of the literature, it was apparent that no suitable measure for independence could be found. It was decided to develop a measure following the lead of Asch (2, pp. 450-501). Various modifications in his approach were necessary in order to suit the demands of the group interviews that were to be used in the present study, but the basic idea of forcing the respondent to choose between relying upon his reference group or being independent enough to rely upon his perceptions was maintained. To achieve this goal, the following procedure was used.

After the administration of the n Achievement measure previously described, these instructions were read:

*This work was described in the present dissertation on p. 14.
In the next part of the project, I am going to show you some more slides—this time of various ink blots. Surprising as it may seem to you, most people see the same things in these particular blots.

First I'll tell you what most people see in the ink blot, then it will be projected on the screen for a few seconds. You indicate on your paper whether or not you see the same thing in the ink blot. Indicate the answer which is your first choice with a one (1) and the answer which is your second choice with a two (2).

If you do not understand, be sure to ask questions now. I will not answer any questions once we start. Please do not talk with each other during the test or make any other sound or gesture which will indicate your reaction to the ink blots.

Slides made from the Rorschach ink blots were then projected on the screen. Before each slide, an imaginary interpretation was given that supposedly represented the response given by "most people" to the blot. Several responses were intentionally those that could reasonably be common responses in order to allay suspicion of the respondents.* These items were not scored. The Rorschach blots were shown in the following order: V, I, II, III, IV, VI, VII, VIII, IX, X. The interpretation given with each blot may be read in Appendix E, which is the answer sheet used by the respondents to indicate whether or not they agreed with the "consensual" responses. The answers were scored using the technique described by Coombs (15, pp. 488-533).** The total score indicated the degree to which respondents were willing to distort their perceptions in favor of the hypothetical group norms. In other words, the score derived in the test

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*Rorschach blot V was described as a bat, blot I as two elephants climbing a tree, blot III as two men lifting something heavy between them, blot VI as a bearskin rug.

**This technique is simply a device for increasing the sensitivity of scales involving a limited choice of responses by asking the subject to indicate his second as well as his first choice.
was taken as an inverse measure of independence.

**Acceptance Measure**

In most of the previous attempts to measure parental acceptance, data were gathered directly from parents (35), (36), (70), (71), (82) or from observation of parent-child interaction (7), (8), (12). Consequently, no adequate measure could be found with which to assess the child's perception of parental acceptance, especially once the child has reached college age. It was decided to construct a new instrument with which to measure parental acceptance as perceived by the college age child.

Forty-six items were chosen that appeared to reflect the dimension of acceptance.* These items were pretested using fifty-seven students enrolled in introductory sociology during fall quarter of 1956. An item analysis was done according to the modified Likert technique described by Goode and Hatt (26, pp. 275-276). Basically, this is a technique for determining the internal consistency of items and the degree to which individual items are related to the total score of all items. A "discriminative power," hereafter referred to as DP, is calculated for each item. This DP is a measure of the ability of each item to discriminate between individuals who score above the third quartile and those who score below the first quartile. According to Goode and Hatt, items to be selected for a scale should have a minimum DP of 0.50, and it is desirable for as many

*Some of these items were adapted from other scales. Several came from Swanson's Child-Parent Relationship Scale (81), several from the scale developed by Symonds (86), and several from the Guttman scale developed by Nye (66) to measure children's rejection of parents.
items as possible to reach 1.00 or higher (26, p. 276).

Of the original forty-six items, twenty were selected to be used in the final scale. Each of these items had a DP between 1.00 and 2.00. The items selected for final use are listed below. The DP attained by each item is listed in parentheses.

1. My parents expected too much from me. (1.41)
2. I talked with my parents about my problems and worries. (1.91)
3. My parents criticized me unjustly. (1.40)
4. My parents compared me unfavorably with other children. (1.10)
5. My parents wished I were a different kind of person than I was. (1.47)
6. I found less understanding at home than any other place. (1.85)
7. I knew that my parents were my friends. (1.22)
8. My parents criticized me too much. (1.62)
9. My parents nagged at me. (1.62)
10. I felt that my parents were pleased with me. (1.03)
11. My parents took an interest in the things I liked. (1.40)
12. My parents were more likely to compliment than criticize me. (1.29)
13. My parents loved me very much. (1.47)
14. My parents showed a great deal of trust in me. (1.03)
15. My parents liked to spend time with me. (1.94)
16. My parents were proud of me. (1.28)
17. My parents respected my opinion and judgment. (1.11)
18. My parents enjoyed letting me in on their "big moments." (1.72)
19. My parents cared what I thought about them. (1.16)
20. My parents enjoyed talking over their plans with me. (1.11)

For each item, the respondent was asked to rank separately his father and his mother according to a five point scale of always, often, sometimes, seldom, and never. Answers were weighted from zero to four points. By summation, scores were obtained to estimate the subject's perception of his mother's acceptance, his father's acceptance, and a total score for both parents.

The scale as it was used appears in Appendix F. It was given the innocuous label of "Parental Attitude Inventory." As will be noted by the reader, this inventory contains both the acceptance scale and the democracy scale to be described in the following section.

Democracy Measure

As in the case of acceptance, no adequate measure was found with which to estimate college students' perceptions of democratic treatment by their parents. Democracy data have been gathered from parents (7), (8), (12), (82), (86), but these techniques were considered inappropriate for the present study.

A scale to measure respondents' perception of parental democracy was designed in exactly the same manner as the acceptance scale. Thirty-four items were chosen which appeared to measure the desired dimension.* The original items were pretested on the same fifty-seven introductory sociology students. The twenty items selected for the final scale, along with

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*Several of these items were adapted from Shoben's University of Southern California Parent Attitude Survey (82).
the DP attained by each, are listed below.

1. My parents asked for my opinions as often as most parents. (1.28)
2. My parents were very strict with me. (1.13)
3. My parents talked things over with me before making major decisions. (2.00)
4. When I asked for reasons for doing things, my parents replied with "Because I said so" or an equivalent remark. (1.62)
5. My parents felt that strict discipline was good for a child. (1.60)
6. My parents would rather have had me obey them than think for myself. (1.50)
7. My parents let me have a say in making family plans. (1.35)
8. My parents felt that children should be required to take orders from parents. (1.72)
9. My parents were more strict than most parents. (1.37)
10. My parents believed that a child should do what he is told without stopping to argue about it. (1.31)
11. My parents felt that children should be allowed to make only minor decisions for themselves. (1.64)
12. My parents asked or told me to do something without telling me why. (1.41)
13. My parents encouraged me to question their commands if I felt justified in doing so. (1.62)
14. I felt free to contradict my parents. (1.35)
15. My parents felt that the children who make the best adults are
those who obey all the time. (1.38)

16. My parents "bossed" me more than most parents. (1.44)

17. My parents explained their reasons for making decisions which affected me. (1.25)

18. My parents discussed family plans with me. (1.03)

19. My parents let me help decide how the family would spend holidays. (1.41)

20. Whether I wanted to or not, I had to obey my parents. (1.37)

Scores were obtained to estimate the subject's perception of his mother's democracy, his father's democracy, and a total score for both parents. The scale as it was used appears in Appendix F, intermixed with the items from the acceptance scale.

Group Interview

All scale and answer sheets were placed on the chairs before the respondents arrived. A sheet of general instructions (Appendix B) was placed on top of the other documents and the subjects were instructed to fill in the face sheet data (Appendix C) while waiting for latecomers to arrive.

About five minutes after the designated meeting time, the subjects were welcomed verbally, instructions were gone over, and procedural questions were answered. The n Achievement measure was administered first according to the procedure previously described. The test was called "Test of Creative Imagination" (Appendix D).

Immediately following the n Achievement measure, the independence
measure (Appendix E) was given according to the procedure described earlier. Instructions for both of these tests were given verbally. Next, the respondents were referred to the written instructions prepared for the combined acceptance and democracy scales called "Parent Attitude Inventory" (Appendix F). When all subjects were finished, they were instructed to fill out the "Questionnaire on Attitudes Toward Testing Situations" which was, in fact, the anxiety measure (Appendix G). The lengthy written instructions accompanying this test were reviewed orally.

Time was allotted for subjects to go back and finish filling in the face sheet, but they were instructed not to change or add to any of the other answer sheets.

After all respondents had completed their work, the entire project was explained to them. Considerable interest was displayed by most students, particularly in the techniques of measuring the dimensions being studied. The students were asked not to discuss the study with anyone for a period of two weeks so that other respondents who had not yet participated might not be biased. Insofar as the writer knows, there were no violations of this request.

The entire interview required one hour and ten minutes.
ANALYSIS OF DATA

General Statement

The hypothesized relationships between the variables that were studied may be illustrated as in Figure 1.

Figure 1. Schematic presentation of hypothesized relationships

\[ a \] "Varies inversely with" is indicated by the symbol \[ \rightarrow \] .

\[ b \] "Varies curvilinearly with" is indicated by the symbol \[ \rightarrow \] .

\[ c \] "Varies directly with" is indicated by the symbol \[ \rightarrow \] .

Perhaps the relation between acceptance, anxiety, and \( n \) Achievement should be described again in greater detail. The theoretical considerations presented earlier indicated an inverse relation between anxiety and acceptance. A curvilinear relationship was indicated between \( n \) Achievement and anxiety, with \( n \) Achievement being greatest among individuals with moderate feelings of anxiety. Theoretically, \( n \) Achievement would be depressed in people with very low or very high anxiety. The relation between \( n \) Achievement and acceptance was predicted to be curvilinear with \( n \) Achievement greatest among individuals feeling moderate amounts of acceptance.
Individuals who felt very little acceptance were predicted to be low in n Achievement because of the high anxiety which should result from low acceptance. Individuals who felt very high acceptance were predicted to be low in n Achievement because of the absence of anxiety predicted under such circumstances.

It was determined to investigate the relationships between the variables as pairs and then, if the relationships appeared to be significant, to control out the effects of individual variables using statistical techniques. In other words, if both anxiety and independence proved to be related to n Achievement, it was planned to statistically hold one constant at a time while studying the effect of the other. It was planned to study the relation of acceptance and democracy to n Achievement in the same way.

Tests of Hypotheses

Hypothesis I. Anxiety varies inversely with acceptance.

The regression of anxiety scores on total acceptance scores (total acceptance score was defined as mother acceptance score plus father acceptance score) was calculated to test the null hypothesis that there is no relationship between anxiety and acceptance. F was less than unity, and the null hypothesis could not be refuted. The original hypothesis was not supported. Since mother acceptance scores and father acceptance scores were highly related (r = .798),* it did not appear likely that the relation between anxiety and either of the individual parental acceptance scores

*All of the correlations presented in the present study are product-moment correlation coefficients.
would lend support to the original hypothesis. This suspicion proved true when the coefficient of correlation between anxiety scores and father acceptance scores was calculated to be -.051. The coefficient of correlation between anxiety scores and mother acceptance scores was -.061. Both of these relationships were in the predicted direction but were far from reaching significance.

Hypothesis 2. \( n \) Achievement varies curvilinearly with anxiety.

The scores from the \( n \) Achievement scale and anxiety scale were plotted graphically. The evidence of a relationship of any kind was slight. However, the experience of the investigator was limited with regard to such relationships so it was decided to go ahead and calculate the quadratic regression of \( n \) Achievement scores on anxiety scores to test the null hypothesis that there is no relation between \( n \) Achievement and anxiety. \( F \) was less than unity. The null hypothesis could not be refuted and the original hypothesis was unsupported.

Hypothesis 3. \( n \) Achievement varies curvilinearly with acceptance.

The \( n \) Achievement scores and total acceptance scores were plotted graphically. There was no indication of a relationship of any kind. Since Hypothesis 3 was derived from Hypotheses 1 and 2, neither of which had been supported, further investigation of Hypothesis 3 was decided to be unwarranted. The hypothesis was unsupported.

Hypothesis 4. Independence varies directly with democracy.

The regression of independence scores on total democracy scores (total democracy score was defined as mother democracy score plus father democracy
Hypothesis 5. n Achievement varies directly with independence.

The regression of \( n \) Achievement scores on independence scores was calculated to test the null hypothesis that there is no relationship between \( n \) Achievement and independence. \( F \) was 3.14, which fell short of the 3.94 required for significance at the .05 level. The null hypothesis could not be refuted and the original hypothesis was not supported at the .05 level of confidence.

Hypothesis 6. n Achievement varies directly with democracy.

The regression of \( n \) Achievement scores on total democracy scores was calculated to test the null hypothesis that there is no relationship between \( n \) Achievement and democracy. \( F \) was less than unity. The null hypothesis was not refuted and the original hypothesis was unsupported. Since father democracy scores and mother democracy scores were highly related \( (r = .867) \), it seemed futile to investigate the relation between \( n \) Achievement scores and father and mother democracy scores independently. In order to be certain, correlation coefficients were calculated. For father democracy scores and \( n \) Achievement scores \( r = -.025 \). For mother democracy scores and \( n \) Achievement scores \( r = .085 \).
Since none of the relationships between pairs of variables proved to be significant, further investigation by means of controlling out the effects of certain variables appeared to be unwarranted.
DISCUSSION

The study described in this dissertation involved empirical testing of predictions derived from theory. When such predictions fail to test out, there are a number of possible explanations and implications.

In the first place, the theory itself may be faulty. It is possible that n Achievement, anxiety, independence, acceptance, and democracy are actually unrelated or that the relationship among these variables is different from that predicted in this study. It is also possible that the relationships previously reported in other studies are spurious ones. However, the great bulk of the theory presented in this dissertation has found considerable acceptance by social scientists as well as a considerable amount of empirical validation. To say that these theories are disproved because of the results of one small study would be folly. The negative results of the present study do indicate the need for further theoretical and empirical research to precede the general acceptance of any theory of achievement motivation.

The writer of this dissertation is unable to proffer an alternative theory which holds greater promise than those theories tested here. It is his opinion that the failure to find support for the derived predictions can be reasonably attributed to shortcomings of the study other than the theory.

The major limitation of the study was probably the measures used to operationalize the conceptual variables. It was felt that they were the best available; but, if this were true, the best may not have been good enough. The measure of n Achievement is not a precise one, as was
recognized by those who designed it. McClelland et al. (58, p. 194) have said, "The measure is, at present, unsuitable for purposes of precise prediction about the standing of individuals on n Achievement, but its stability for purposes of group comparisons is fairly well established." It is possible that the measure was not sensitive enough for the kind of comparisons made in this study.

Another difficulty may have been inherent in the use of the n Achievement measure in this study. The authors of the technique recognized that achievement motivation may have its basis in a positive striving to achieve success or in a negative striving to avoid failure (58, pp. 214-217). They also have pointed out that the projective measure may not reflect accurately achievement motivation growing out of fear of failure (58, p. 216) or, in the terms of this dissertation, achievement motivation growing out of anxiety. If such a weakness exists in the measure, the failure to find support for the hypothesized relation between anxiety and n Achievement is not surprising.

Similar criticisms may be made of the measures of independence, acceptance, and democracy. All three instruments were designed for use in the present study. The only validity that can be claimed for any of the three measures is face validity. If the theoretical predictions had been verified, the measures of the concepts would have been validated at least to a certain degree. As the results turned out, neither validity nor reliability can be claimed for these measures. Further research is being planned by the writer to establish the validity and reliability or the lack of validity and reliability of these instruments.

A further criticism of the democracy and acceptance scales is
appropriate. Both of these scales required college students to analyze parent-child interaction that occurred years earlier. The degree to which students' memories were selective or a "halo effect" had developed with the passage of time cannot be estimated. An attempt was made to encourage subjects to be objective and honest in their replies by emphasizing the anonymity of the questionnaire. Subjects were asked at no time to identify themselves. It must be recognized, however, that to admit even on an anonymous questionnaire that one was not respected by one's parents, or to reveal other comparable data, may pose a threat to the self that would produce serious distortion. The amount of such distortion cannot be estimated. The fact that many of the respondents were away from home for the first time in their lives and were not firmly settled into the college environment may have produced additional biases in their perceptions of parents' attitudes and activities.

A third explanation for the failure of the study to support the hypotheses may lie in the selection of the sample. When the study was designed, it was felt to be desirable to control on socio-economic background by limiting the sample to students in the Division of Agriculture. That the control was relatively efficient is indicated by the fact that seventy-three of the respondents came from farm families. Twenty subjects were sons of white collar workers, nine were sons of blue collar workers, and the occupations of the fathers of the other two subjects were not disclosed. With the improved vision of hindsight, this decision perhaps was an unfortunate one. The common rural background may have reduced by a critical amount the variation in the dimensions being studied. For instance, Baldwin et al. (7, pp. 55-59) found that farm families were
characterized by a casual and a non-democratic atmosphere. In their words:

This farm culture, therefore, in so far as it can be described in terms of the parent-child relationship, is casual. Children on a farm are, as a rule, neither warmly and affectionately accepted nor coldly rejected and resented. Instead they are accepted in a matter of fact way, given sufficient attention to take care of their needs, but left on their own a good deal of the time . . . Aside from the casualness of the farm home, its lack of democracy is the most characteristic feature.

In summary, it is the writer's opinion that the conceptual measures and the sample used in this study are the aspects of the research most vulnerable to criticism and most likely to explain the failure to support the hypotheses derived from social-psychological theory. Further research should be directed toward developing better measures to be used on other, more adequate populations. If the hypotheses tested here do not find support in such further research, then there will be no alternative but to look for a new and more adequate theory to explain the social, cultural, and psychological origins of achievement motivation.
SUMMARY

Americans are noted for being aggressive, striving persons. However, not all persons share this trait in the same degree. The problem of the present study has been to test certain social-psychological theories that account for such differential striving behavior.

The conceptual variable involved in striving behavior has been called achievement motivation, which is commonly abbreviated as \( n \) Achievement. Achievement motivation was defined as competition with a standard of excellence. Achievement motivation was considered as a part of the basic personality structure of individuals rather than as a temporary emotional state aroused under certain conditions.

It was hypothesized that \( n \) Achievement would vary curvilinearly with anxiety, being greatest for moderate amounts of anxiety. Anxiety was defined as apprehension cued off by a threat to some value that the individual holds essential to his existence or worth as a personality. It was hypothesized that anxiety would vary inversely with parental acceptance in the family of orientation; that is, individuals feeling the greatest amount of parental acceptance would be characterized by the least amount of anxiety. Acceptance was defined as the feeling and displaying of approval of a child by his parent. It was hypothesized also that if \( n \) Achievement varies curvilinearly with anxiety and anxiety varies inversely with acceptance, then \( n \) Achievement would vary curvilinearly with acceptance.

It was hypothesized further that \( n \) Achievement would vary directly with independence. Independence was defined as reliance on one's own judgment when faced with decision-making situations. It was hypothesized that
independence would vary with democracy in the individual’s childhood contacts in his family of orientation. Democracy was defined as the allowing and encouraging of a child by his parent to participate in individual decision making and in family decision making that is relevant to the child. It was hypothesized also that if \( n \) Achievement varies directly with independence and independence varies directly with democracy, then \( n \) Achievement would vary directly with democracy.

Data were gathered from a random sample of 1014 male freshmen enrolled in the Division of Agriculture of Iowa State College during the winter quarter of 1957. The data were gathered in a series of group interviews.

Measures for each of the conceptual variables either were developed for the present study or were adopted from the research of other investigators. Achievement motivation was measured by a projective technique developed by McClelland and others. The technique involves the writing of imaginative stories in response to pictorial stimuli. These stories are then scored for evidences of projected achievement imagery.

Anxiety was measured by use of the Test Anxiety Questionnaire developed by Sarason and others. This instrument is a paper-and-pencil test that measures anxiety as expressed in attitudes toward testing situations.

Independence was measured by a technique developed for the present study. A situation was structured so that the respondents were forced to choose between relying upon their own perceptions of stimuli presented in the form of ink blots or relying upon hypothetical group perceptions. A score representing the degree to which a respondent was willing to distort his perceptions in favor of the hypothetical group norms was derived and
was taken as an inverse measure of independence.

Acceptance and democracy were measured by scales developed for the present study. A twenty item Likert scale was constructed to measure each variable. Each respondent was asked to rate his father and his mother in regard to behavior and attitudes reflecting acceptance and democracy.

The instruments just described were used to obtain scores from each respondent for each of the five conceptual variables. Appropriate statistical techniques were employed to test the hypothesized relationships.

None of the hypothesized relationships were supported, although the hypothesis that achievement varies directly with independence fell just short of being supported at the .05 level of confidence.

The failure to find support for the hypotheses may have been due to inaccurate theory, faulty measures, poor choice of sample, or to a combination of these causes. The writer concluded that the failure to find support for the hypothesized relationships could probably best be explained by the inadequacy of the measures and the homogeneity of the sample. Further research was suggested, using other measures on other populations to test the same theories.
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APPENDIX A. LETTER INVITING STUDENTS TO PARTICIPATE IN THE STUDY
Dear Student:

Would you be willing to spend a part of one evening participating in a research project now under way? I hope you will, because that is what I am asking you to do.

Our department has drawn a random sample of 150 Agriculture Freshmen from whom we would like to obtain information, and your name is among those chosen. Instead of contacting you individually, we are asking groups of you to meet with us for approximately an hour and a half during the evening.

Would you indicate on the enclosed card which of the suggested evenings would be most convenient for you, and then plan to attend on that evening. It is very important that we obtain the needed information from each of you. If none of these evenings fits your schedule, say so on the card and I will contact you personally so that we can arrange a more suitable time.

All meetings will be held in room 117, Curtiss Hall, and will begin promptly at 7:00 p.m. They will last no later than 8:30 and will probably be through earlier. There is no preparation you must make, nor do you need any particular skills or knowledge to participate. Just bring a pen or a pencil with you.

If you have any questions, feel free to contact me. My office is in room 206, Ag Annex, and my phone number is x366.

Gratefully yours,

/s/ Lloyd Young

Lloyd Young
Instructor in Sociology
WELCOME, AND THANKS FOR COMING.

Don't let this big volume of papers frighten you. An hour and a half will be the maximum amount of time required.

GENERAL INSTRUCTIONS:

1. Do not look ahead at the answer sheets. After each section, wait for instructions before going ahead to the next section. Faster writers may have to wait for a few moments. Please be patient.

2. After finishing a section, do not go back and add to or change what you have done.

3. READ AND LISTEN TO ALL INSTRUCTIONS CAREFULLY. Feel free to ask questions if necessary.

4. You will no doubt have difficulty seeing how all the things you are asked to do fit together. For those who desire to remain for five minutes following this session, the entire research project will be explained so that you can see how your work fits into the total project.

5. At no time are you asked to identify yourself. The individual information requested is to enable us to generally describe our sample, and will in no way be used for identification purposes.

While waiting for others to arrive, go ahead and fill in the two pages of individual information.
APPENDIX C. FACE SHEET FORM
1. Age_______

2. Father's occupation (if deceased, what was his occupation?)__________

3. Were your parents ever separated by divorce, death, etc.? Yes No
   a. If yes, how old were you at the time?_______
   b. If yes, with whom have you lived since that time?

4. How many older brothers and sisters do you have?_______

5. How many younger brothers and sisters do you have?_______

6. Check which term best describes your present situation.
   a. Do not date at all ................._______
   b. Date occasionally ................._______
   c. Date regularly ................._______
   d. Going steady ......................_______
   e. Pinned ................................_______
   f. Private understanding (engaged to be engaged)..._______
   g. Engaged ................................_______
   h. Married ................................_______
   i. Divorced, widowed or separated ..........._______

7. If you date, are the girls you date mainly (check one)
   a. I. S. C. girls ......................._______
   b. Girls from other colleges..........._______
   c. Non-college girls.................._______

8. What was your grade point last quarter?_______

9. Were you (check one)
   a. Satisfied with your grade point?_______
   b. Disappointed with your grade point?_______

10. Please list below all campus organizations to which you belong. After each one, indicate any office you hold.
    a. Residence groups (fraternity, MRA, Ward System, etc.)

    b. Church groups (including YMCA)

    c. Departmental clubs
d. Others (Iowa State Singers, Winter Sports Club, Promenaders, etc.)

11. What other campus activities have you participated in? Indicate specific positions held, if it is possible to do so.
   a. Athletics (varsity and intramurals)
   b. Committees (Homecoming, Veishea, Religion in Life, Varieties, special programs such as the Christmas program, etc.)
   c. Others

12. Please check the most appropriate response:
   a. When you are with your friends, do you
      ____ 1) Make practically all the suggestions about what to do.
      ____ 2) Make many suggestions about what to do.
      ____ 3) Make an average number of suggestions about what to do.
      ____ 4) Make very few suggestions about what to do.
      ____ 5) Make no suggestions about what to do.
   b. Are your suggestions
      ____ 1) Always followed.
      ____ 2) Usually followed.
      ____ 3) Sometimes followed.
      ____ 4) Seldom followed.
      ____ 5) Never followed.
APPENDIX D. RESPONSE SHEET FOR ACHIEVEMENT MOTIVATION MEASURE
IOWA STATE COLLEGE
Department of Economics and Sociology
Test of Creative Imagination

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. RESPONSE SHEET FOR INDEPENDENCE MEASURE
INSTRUCTIONS

After the various ink blots are shown on the screen, mark (1) in front of the answer which is your first choice, and (2) in front of the answer which is your second choice.

Ink Blot 1.
  ___a. This looks exactly like a bat.
  ___b. This looks a great deal like a bat.
  ___c. This looks quite a bit like a bat.
  ___d. This looks somewhat like a bat.
  ___e. This looks just a little like a bat.
  ___f. This does not look at all like a bat.

Ink Blot 2.
  ___a. This looks exactly like two elephants climbing a tree.
  ___b. This looks a great deal like two elephants climbing a tree.
  ___c. This looks quite a bit like two elephants climbing a tree.
  ___d. This looks somewhat like two elephants climbing a tree.
  ___e. This looks just a little like two elephants climbing a tree.
  ___f. This does not look at all like two elephants climbing a tree.

Ink Blot 3.
  ___a. This looks exactly like two people on a bicycle built for two.
  ___b. This looks a great deal like two people on a bicycle built for two.
  ___c. This looks quite a bit like two people on a bicycle built for two.
  ___d. This looks somewhat like two people on a bicycle built for two.
  ___e. This looks just a little like two people on a bicycle built for two.
  ___f. This does not look at all like two people on a bicycle built for two.

Ink Blot 4.
  ___a. This looks exactly like two men lifting something heavy between them.
  ___b. This looks a great deal like two men lifting something heavy between them.
  ___c. This looks quite a bit like two men lifting something heavy between them.
  ___d. This looks somewhat like two men lifting something heavy between them.
  ___e. This looks just a little like two men lifting something heavy between them.
  ___f. This does not look at all like two men lifting something heavy between them.
Ink Blot 5.
   a. This looks exactly like a close-up of a bear's face.
   b. This looks a great deal like a close-up of a bear's face.
   c. This looks quite a bit like a close-up of a bear's face.
   d. This looks somewhat like a close-up of a bear's face.
   e. This looks just a little like a close-up of a bear's face.
   f. This does not look at all like a close-up of a bear's face.

Ink Blot 6.
   a. This looks exactly like a bearskin rug.
   b. This looks a great deal like a bearskin rug.
   c. This looks quite a bit like a bearskin rug.
   d. This looks somewhat like a bearskin rug.
   e. This looks just a little like a bearskin rug.
   f. This does not look at all like a bearskin rug.

Ink Blot 7.
   a. This looks exactly like an outline of the U. S.
   b. This looks a great deal like an outline of the U. S.
   c. This looks quite a bit like an outline of the U. S.
   d. This looks somewhat like an outline of the U. S.
   e. This looks just a little like an outline of the U. S.
   f. This does not look at all like an outline of the U. S.

Ink Blot 8.
   a. This looks exactly like two roosters fighting.
   b. This looks a great deal like two roosters fighting.
   c. This looks quite a bit like two roosters fighting.
   d. This looks somewhat like two roosters fighting.
   e. This looks just a little like two roosters fighting.
   f. This does not look at all like two roosters fighting.

Ink Blot 9.
   a. This looks exactly like a clown suit.
   b. This looks a great deal like a clown suit.
   c. This looks quite a bit like a clown suit.
   d. This looks somewhat like a clown suit.
   e. This looks just a little like a clown suit.
   f. This does not look at all like a clown suit.

Ink Blot 10.
   a. This looks exactly like a group of children playing a circle game.
   b. This looks a great deal like a group of children playing a circle game.
   c. This looks quite a bit like a group of children playing a circle game.
   d. This looks somewhat like a group of children playing a circle game.
   e. This looks just a little like a group of children playing a circle game.
f. This does not look at all like a group of children playing a circle game.
APPENDIX F. ACCEPTANCE AND DEMOCRACY MEASURES
INSTRUCTIONS

The following questions are designed to learn how students feel regarding various aspects of their relations with their parents. In answering, please remember that you are not asked to identify yourself. Also remember that there are no "good" or "bad" answers, except in the sense that any honest answer is a good answer.

These questions generally cover the period during which you were growing up. In answering each one, try to recall your feelings during this period. Then place an (X) in the appropriate column describing the way your father felt or acted, and an (X) in the appropriate column describing the way your mother felt or acted.

Be sure to answer all items.

<table>
<thead>
<tr>
<th></th>
<th>Father</th>
<th></th>
<th></th>
<th>Mother</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> My parents expected too much from me.</td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
<td>Seldom</td>
<td>Never</td>
<td>Always</td>
</tr>
<tr>
<td><strong>2.</strong> My parents asked for my opinions as often as most parents.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3.</strong> I talked with my parents about my problems and worries.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.</strong> My parents were very strict with me.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>5.</strong> My parents criticized me unjustly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6.</strong> My parents talked things over with me before making major decisions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7.</strong> My parents compared me unfavorably with other children.</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>8.</strong> When I asked for reasons for doing things, my parents replied with &quot;Because I said so,&quot; or an equivalent remark.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. My parents wished I were a different kind of person than I was.

10. My parents felt that strict discipline was good for a child.

11. My parents would rather have had me obey them than think for myself.

12. I found less understanding at home than any other place.

13. My parents let me have a say in making family plans.

14. I knew that my parents were my friends.

15. My parents felt that children should be required to take orders from parents.

16. My parents criticized me too much.

17. My parents nagged at me.

18. My parents were more strict than most parents.

19. I felt that my parents were pleased with me.

20. My parents believed that a child should do what he is told without stopping to argue about it.

21. My parents took an interest in the things I liked.

22. My parents felt that children should be allowed to make only minor decisions for themselves.

23. My parents were more likely to compliment than criticize me.

24. My parents asked or told me to do something without telling me why.

25. My parents loved me very much.
<table>
<thead>
<tr>
<th></th>
<th>Father</th>
<th></th>
<th>Mother</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>26.</td>
<td>My parents showed a great deal of trust in me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>My parents encouraged me to question their commands if I felt justified in doing so.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>28.</td>
<td>My parents liked to spend time with me.</td>
<td></td>
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<td></td>
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<tr>
<td>29.</td>
<td>I felt free to contradict my parents.</td>
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<tr>
<td>30.</td>
<td>My parents were proud of me.</td>
<td></td>
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</tr>
<tr>
<td>31.</td>
<td>My parents felt that the children who make the best adults are those who obey all the time.</td>
<td></td>
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</tr>
<tr>
<td>32.</td>
<td>My parents &quot;bossed&quot; me more than most parents.</td>
<td></td>
<td></td>
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<tr>
<td>33.</td>
<td>My parents respected my opinion and judgment.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>34.</td>
<td>My parents explained their reasons for making decisions which affected me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35.</td>
<td>My parents enjoyed letting me in on their &quot;big&quot; moments.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36.</td>
<td>My parents discussed family plans with me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37.</td>
<td>My parents cared what I thought about them.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38.</td>
<td>My parents let me help decide how the family would spend holidays.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39.</td>
<td>My parents enjoyed talking over their plans with me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40.</td>
<td>Whether I wanted to or not, I had to obey my parents.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX G. ANXIETY MEASURE
INSTRUCTIONS

This questionnaire is designed to give you an opportunity to indicate how and what you feel in regard to three types of testing situations:

a) The group intelligence or aptitude test, such as those you took upon entrance to college,
b) The course examination,
c) The individual (face-to-face) type of intelligence test.

One of the main reasons for constructing this questionnaire is the fact that very little is known about people's feelings toward the taking of various kinds of tests. We can assume that people differ in the degree to which they are affected by the fact that they are going to take a test or by the fact that they have taken a test. What we are particularly interested in here is how widely people differ in their opinions of and reactions to the various kinds of testing situations.

The value of this questionnaire will in large part depend on how frank you are in stating your opinions, feelings, and attitudes.

Each of you has taken a course examination and a group intelligence or aptitude test, but not all of you have taken an individual intelligence test. Those of you who have not taken such a test are requested to answer the relevant questions in terms of how you think you would react to them. We want to know what you think your attitudes and feelings toward such a test would be and not what you think they ought to be. Those who have taken an individual intelligence test will, of course, answer the questions in terms of what they actually experienced.

For each question there is a line or scale on the ends of which are statements of opposing feelings or attitudes. In the middle of the line you will find either the word "Midpoint" or a phrase, both of which are intended to reflect a feeling or attitude which is in-between the statements of opposing feelings described above. You are requested to put a mark (X) on that point of the line which you think best indicates the strength of your feeling or attitude about the particular question. The midpoint is only for your guidance. Do not hesitate to put a mark on any point on the line as long as that mark reflects the strength of your feeling or attitude.

THERE ARE NO "CATCH" QUESTIONS IN THIS QUESTIONNAIRE. PLEASE READ EACH QUESTION AND EACH SCALE VERY CAREFULLY.

SECTION I

The following questions relate to your attitudes toward and experience with group intelligence or aptitude tests. By group intelligence tests we
refer to tests which are administered to several individuals at a time. These tests contain different types of items and are usually paper and pencil tests with answers requiring either fill-ins or choices of several possible answers. Scores on these tests are given with reference to the standing of the individual within the group tested or within specific age and educational norms.

Please try to remember how you usually react toward these tests and how you felt while taking them.

1. How valuable do you think group intelligence tests are in determining a person's ability?

| Very valuable | Valuable in some respects | Valueless and valueless in others |

2. Do you think that group intelligence tests should be used more widely than at present to classify students?

| Should be used | Should be used less widely | Should be used more widely |

3. Would you be willing to stake your continuance in college on the outcome of a group intelligence test which has previously predicted success in a highly reliable fashion?

| Very willing | Uncertain | Not willing |

4. If you know that you are going to take a group intelligence test, how do you feel beforehand?

| Feel very unconfident | Midpoint | Feel very confident |

5. After you have taken a group intelligence test, how confident do you feel that you have done your best?

| Feel very unconfident | Midpoint | Feel very confident |

6. When you are taking a group intelligence test, to what extent do your emotional feelings interfere with or lower your performance?

| Do not interfere at all | Midpoint | Interferes a great deal |

7. Before taking a group intelligence test, to what extent are you aware of an "uneasy feeling"?
Am very much aware | Midpoint | Am not aware of it at all

**THE MIDPOINT IS ONLY FOR YOUR GUIDANCE. DO NOT HESITATE TO PUT A MARK (X) ON ANY POINT OF THE LINE AS LONG AS THAT MARK REFLECTS THE STRENGTH OF YOUR FEELING OR ATTITUDE.**

8. **While** taking a group intelligence test to what extent do you experience an accelerated heartbeat?

| Heartbeat does not accelerate at all | Midpoint | Heartbeat noticeably accelerated |

9. **Before** taking a group intelligence test to what extent do you experience an accelerated heartbeat?

| Heartbeat does not accelerate at all | Midpoint | Heartbeat noticeably accelerated |

10. **While** taking a group intelligence test to what extent do you worry?

| Worry a lot | Midpoint | Worry not at all |

11. **Before** taking a group intelligence test to what extent do you worry?

| Worry a lot | Midpoint | Worry not at all |

12. **While** taking a group intelligence test to what extent do you perspire?

| Perspire not at all | Midpoint | Perspire a lot |

13. **Before** taking a group intelligence test to what extent do you perspire?

| Perspire not at all | Midpoint | Perspire a lot |

14. In comparison with other students how often do you think of ways of avoiding a group intelligence test?

| Less often than other students | Midpoint | More often than other students |
15. To what extent do you feel that your performance on the college entrance examinations you took was affected by your emotional feelings at the time?

| A affected a great deal | Midpoint | Not affected at all |

SECTION II

The following questions relate to your attitude towards individual intelligence tests and your experience with them. By individual intelligence tests we refer to tests which are administered to one individual at a time by an examiner. These tests contain different types of items and thus present a variety of tasks. Those tasks can be both verbal and manipulative, that is, verbal or written answers to questions or manipulation of objects such as is involved in puzzles, form boards, etc. Examples of tests of this type would be the Stanford-Binet test and the Wechsler-Bellevue test. Please try to remember how you have usually reacted towards these tests or how you would expect to react to them.

16. Have you ever taken any individual intelligence tests? (encircle the appropriate answer)

Yes  No

If your answer to the above question is YES, indicate in the questions below how you do or did react to individual intelligence tests.

If your answer to the above question is NO, indicate in the following questions how you think you would react or feel about individual intelligence tests.

17. When you are taking an individual intelligence test, to what extent do (or would) your emotional feelings interfere with your performance?

| Would not interfere with it at all | Midpoint | Would interfere a great deal |

18. If you know that you are going to take an individual intelligence test, how do you feel (or expect that you would feel) beforehand?

| Would feel very unconfident | Midpoint | Would feel very confident |

19. While you are taking an individual intelligence test, how confident do you feel (or expect that you would feel) that you are doing
your best?

<table>
<thead>
<tr>
<th>Would feel very confident</th>
<th>Midpoint</th>
<th>Would feel very unconfident</th>
</tr>
</thead>
</table>

THE MIDPOINT IS ONLY FOR YOUR GUIDANCE. DO NOT HESITATE TO PUT A MARK (X) ON ANY POINT ON THE LINE AS LONG AS THAT MARK REFLECTS THE STRENGTH OF YOUR FEELING OR ATTITUDE.

20. **After** you have taken an individual intelligence test, how confident do you feel (or expect that you would feel) that you have done your best?

<table>
<thead>
<tr>
<th>Would feel very unconfident</th>
<th>Midpoint</th>
<th>Would feel very confident</th>
</tr>
</thead>
</table>

21. **Before** taking an individual intelligence test, to what extent are you (or would you be) aware of an "uneasy feeling"?

<table>
<thead>
<tr>
<th>Am not aware of it at all</th>
<th>Midpoint</th>
<th>Am very much aware of it</th>
</tr>
</thead>
</table>

22. **While** taking an individual intelligence test to what extent do you (would you) experience an accelerated heartbeat?

<table>
<thead>
<tr>
<th>Heartbeat does not accelerate at all</th>
<th>Midpoint</th>
<th>Heartbeat noticeably accelerated</th>
</tr>
</thead>
</table>

23. **Before** taking an individual intelligence test, to what extent do you (would you) experience an accelerated heartbeat?

<table>
<thead>
<tr>
<th>Heartbeat does not accelerate at all</th>
<th>Midpoint</th>
<th>Heartbeat noticeably accelerated</th>
</tr>
</thead>
</table>

24. **While** taking an individual intelligence test to what extent do you (would you) worry?

<table>
<thead>
<tr>
<th>Worry a lot</th>
<th>Midpoint</th>
<th>Worry not at all</th>
</tr>
</thead>
</table>

25. **Before** taking an individual intelligence test to what extent do you (would you) worry?

<table>
<thead>
<tr>
<th>Worry a lot</th>
<th>Midpoint</th>
<th>Worry not at all</th>
</tr>
</thead>
</table>
THE MIDPOINT IS ONLY FOR YOUR GUIDANCE. DO NOT HESITATE TO PUT A MARK (X) ON ANY POINT ON THE LINE AS LONG AS THAT MARK REFLECTS THE STRENGTH OF YOUR FEELING OR ATTITUDE.

26. While taking an individual intelligence test to what extent do you (would you) perspire?

| Would never perspire | Midpoint | Would perspire a lot |

27. Before taking an individual intelligence test to what extent do you (would you) perspire?

| Would never perspire | Midpoint | Would perspire a lot |

28. In comparison to other students, how often do you (would you) think of ways of avoiding taking an individual intelligence test?

| More often than other students | As often as other students | Less often than other students |

SECTION III

The following questions relate to your attitude toward and experience with course examinations. We refer to major examinations, such as midterms and finals, in all courses, not specifically in any one course. Try to represent your usual feelings and attitudes toward these examinations in general, not toward any specific examination you have taken. We realize that the comparative ease or difficulty of a particular course and your attitude toward the subject matter of the course may influence your attitude toward the examinations; however, we would like you to try to express your feelings toward course examinations generally.

29. Before taking a course examination, to what extent are you aware of an "uneasy feeling"?

| Am not aware of it at all | Midpoint | Am very much aware of it |

30. When you are taking a course examination, to what extent do you feel your emotional reactions interfere with or lower your performance?

| Do not interfere with it at all | Midpoint | Interfere a great deal |
THE MIDPOINT IS ONLY FOR YOUR GUIDANCE. DO NOT HESITATE TO PUT A MARK (X) ON ANY POINT ON THE LINE AS LONG AS THAT MARK REFLECTS THE STRENGTH OF YOUR FEELING OR ATTITUDE.

31. If you know that you are going to take a course examination, how do you feel beforehand?

Feel very unconfident Midpoint Feel very confident

32. After you have taken a course examination, how confident do you feel that you have done your best?

Feel very unconfident Midpoint Feel very confident

33. While taking a course examination, to what extent do you experience an accelerated heartbeat?

Heartbeat does not accelerate at all Midpoint Heartbeat noticeably accelerated

34. Before taking a course examination to what extent do you experience an accelerated heartbeat?

Heartbeat does not accelerate at all Midpoint Heartbeat noticeably accelerated

35. While taking a course examination to what extent do you worry?

Worry a lot Midpoint Worry not at all

36. Before taking a course examination to what extent do you worry?

Worry a lot Midpoint Worry not at all

37. While taking a course examination to what extent do you perspire?

Never perspire Midpoint Perspire a lot

38. Before taking a course examination to what extent do you perspire?

Never perspire Midpoint Perspire a lot
39. When, in your opinion, you feel well prepared for a course examination, how do you usually feel just before the examination?

Confident  
Midpoint  
Anxious
APPENDIX H. MEANS, RANGES, AND STANDARD DEVIATIONS OF THE SCORES
<table>
<thead>
<tr>
<th>Score</th>
<th>Mean</th>
<th>Range</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>n Achievement</td>
<td>6.8</td>
<td>0-18</td>
<td>4.1</td>
</tr>
<tr>
<td>Anxiety</td>
<td>17.5</td>
<td>1-32</td>
<td>8.0</td>
</tr>
<tr>
<td>Independence</td>
<td>8.3</td>
<td>0-32</td>
<td>7.0</td>
</tr>
<tr>
<td>Acceptance</td>
<td>119.2</td>
<td>67-157</td>
<td>19.4</td>
</tr>
<tr>
<td>Democracy</td>
<td>90.5</td>
<td>38-138</td>
<td>21.2</td>
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