N-ACHIEVEMENT MOTIVATION OF MALE NAVAHO INDIAN STUDENTS
AS MEASURED BY AN ACCULTURATED N-ACHIEVEMENT SCALE

by

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ABSTRACT

N-ACHIEVEMENT MOTIVATION OF MALE NAVAHO INDIAN STUDENTS
AS MEASURED BY AN ACCULTURATED N-ACHIEVEMENT SCALE

by

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Utah State University, 1971

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The problem which formed the basis of this research was to answer the question: "Can an acculturated version of McClelland's original n-Achievement scale be significantly more effective in measuring n-Achievement motivation of male Navaho Indian subjects than McClelland's original n-Achievement scale?" An answer to this question would hopefully be reason enough for using an acculturated n-Achievement scale to provide new information relative to the Navaho Indian's need to achieve.

The major underlying objective of this study was to develop a more effective projective scale than McClelland in measuring a Navaho Indian's n-Achievement motivation. This objective was not reached; however, the acculturated scale did elicit a measure of n-Achievement motivation comparable to the original McClelland scale.

No significant differences were obtained on the three specific hypothesis; all were accepted, indicating that both the acculturated scale and the original scale seem to discriminate about equally well on n-Achievement motivation of male Navaho Indian subjects.

(65 pages)
CHAPTER I
INTRODUCTION

Background

The education of Navaho Indian children presents one of the most challenging problems within the educational system of America today, a challenge that is being met by the Navaho Tribe, the U.S. Bureau of Indian Affairs, and educators from throughout the country. For years, the language barrier has been recognized as a major problem in the education of the Navaho Indian child. However, Navaho educators state that another challenging problem within their educational system is the apparent lack of achievement motivation on the part of the Navaho child. In discussing Navaho values, Kluchohn and Leighton (1947) state that the Navaho's "lack of stress upon the success goal has its basis in childhood training but is reinforced by various patterns of adult life; therefore, individual success is not emphasized as being of value." The learning factor which this investigator became interested in, therefore, was the achievement motivation of Navaho Indian students and how it could be effectively measured.

The statement above by Kluchohn and Leighton led this investigator to ask: "Does a lack of achievement motivation really exist within the Navaho culture?" To answer this question, the writer investigated the literature and from this basis developed a proposal to answer certain basic questions concerning achievement motivation of Navaho Indian students.
Purpose

A review of the literature (See Chapter II) revealed that achievement motivation has been: 1) defined and measured, 2) assessed and measured in numerous cultural groups, including the Navaho culture, and 3) that it exists in the Navaho culture. However, the question this thesis purports to study is: "Can achievement motivation of Navaho Indian subjects be measured by using an acculturated version of McClelland's original n-Achievement scale?" By acculturated, it is meant that the n-Achievement scale would be designed by using similar stimulus picture background scenes and settings as in the original n-Achievement scale developed by McClelland (McClelland, et al. 1953; Atkinson, 1958), however, using male Navaho subjects as the central figure on a set of four pictures. In the studies cited in the review of literature, (Lowell, 1950; Reboussin and Goldstein, 1966; and Michener, 1967) the stimulus cues did not measure n-Achievement by using picture stimuli cues similar in background and setting as those used in the original n-Achievement series. It, therefore, occurred to this investigator that McClelland's original n-Achievement stimuli pictures may not be a valid scale for Navaho Indian subjects in eliciting a measure of n-Achievement because of cultural elements affecting interpretation of the picture cues. It has been assumed in this study that the amount of projection elicited by pictures can be increased by expanding the similarity between the subjects and the figures shown on the pictures. The use of the developed acculturated picture series for Navaho Indian subjects, having distinctive external characteristics, is, therefore, based on this assumption. At present, there is no projective n-Achievement scale comparable in background scenes or setting as McClelland's original n-Achievement scale designed for use with Navaho Indian subjects. The lack of
such a projective device was the problem which formed the basis of this research. The problem was to answer the question: "Can an acculturated version of McClelland's original n-Achievement scale be significantly more effective in measuring n-Achievement motivation of male Navaho Indian subjects than McClelland's original n-Achievement scale?"

An answer to the above question would hopefully be reason enough for using the proposed acculturated n-Achievement scale to provide new information relative to the Navaho Indian's need to achieve. Such information might thus be utilized by Navaho Indian educators to develop programs which could better motivate the Navaho Indian student, as well as provide vocational and educational counseling for those Navaho Indian students who indicate a strong need to achieve as measured by the proposed projective device.

The major purpose of this study was to develop and compare this proposed acculturated n-Achievement scale with McClelland's original n-Achievement scale on the basis of the scored responses of male Navaho Indian students and their expressed n-Achievement motivation from these instruments.

Definitions

As an aid to understanding the terminology used in this research, the reader is referred to Appendix I, "A Scoring Manual for the Achievement Motive."

Objectives and Hypothesis

The specific research objective of this study was to determine if any difference existed between Navaho Indian's expressed n-Achievement motivation as measured by the proposed acculturated n-Achievement scale
versus McClelland's original n-Achievement scale. (Refer to page 22 for a description of the two scales.)

The major hypothesis examined in this study were:

1) The total mean score on n-Achievement motivation of male Navaho Indian students given the acculturated n-Achievement scale will be the same as the total mean score on n-Achievement motivation given McClelland's original n-Achievement scale.

The objective of hypothesis no. 1, due to the nature of the subjects and the acculturated scale, is stating that the acculturated scale will be as good an indicator of n-Achievement motivation of Navaho Indian subjects as McClelland's original scale. This hypothesis, however, includes an alternative hypothesis which must consider the possibility that the acculturated scale will not assess n-Achievement motivation of Navaho Indian subjects as well as McClelland's original scale or will measure n-Achievement motivation of Navaho Indian subjects better than McClelland's original scale. In actuality, then, this null hypothesis is stating that the acculturated scale will measure n-Achievement motivation of male Navaho Indian subjects as well as or significantly different from the original scale, meaning that this study will be attempting to develop a better projective scale measuring n-Achievement motivation of male Navaho Indians.

2) The total mean score on n-Achievement motivation for the acculturated picture #1B will be the same as the total mean score on n-Achievement motivation for McClelland's original picture #B. This same hypothesis applies also for pictures #2H, #3A, and #4G of the acculturated scale as compared respectively with pictures H, A, and G of McClelland's original scale.
The objective of hypothesis #2, in essence, is stating the same thing as hypothesis #1, but in hypothesis #2, the emphasis is upon comparing which of the pictures on both scales would measure n-Achievement more effectively; i.e., the picture which, due to the "cue value," (Atkinson, 1958) elicits the greatest number of n-Achievement scores. The emphasis of hypothesis #2 is to determine: 1) which of the pictures on both scales is the best picture, and 2) which of the pictures of the acculturated scale is the best picture eliciting n-Achievement responses from male Navaho Indian subjects.

3) The total mean score on Achievement Imagery (AI) for the acculturated picture #1B will be the same as the total mean score on Achievement Imagery (AI) for McClelland's original picture #B. This same hypothesis applies also for pictures #2G, #3A, and #4G of the acculturated scale as compared respectively with Pictures A, H, and G of McClelland's original scale.

The objective of hypothesis #3, like hypothesis #1 and #2, is stating that there will be a difference between the two scales, but in hypothesis #3, the emphasis is upon comparing which of the pictures on both scales will measure Achievement Imagery (AI) more effectively; i.e., which picture will elicit the greatest number of achievement imagery scores. The emphasis of this hypothesis is to determine: 1) which picture, on both scales, contains the greatest number of references to an achievement goal, and 2) which of the pictures of the acculturated scale contains the greatest number of references to an achievement goal. The underlying reasoning for this hypothesis is that male Navaho Indian students who make a reference to an achievement goal emphasizing success in competition with some standard of excellence, a unique accomplishment, a long-term
Involvement may not score in the sub-categories (Need, Instrumental Activity, etc.) due to their limited expressive-written vocabulary. Therefore, a picture may be only scored under achievement imagery and none of the other sub-categories thus greatly affecting the total n-Achievement score for that picture as well as the entire scale.

Limitations

In conducting research of this nature, one of the factors often overlooked is the stability in measuring motivation from one occasion to another. Crucial to this stability factor is the selection of subjects. Consequently, this research design considered very carefully just what subjects to use as a sample. Factors such as whether the subjects should be volunteer or non-volunteer, of the same or different sex, of high school or post-high school age level, were considered. Care was also taken to test the same kind of subjects obtained in the same way under the same kind of test conditions.

Since this research dealt with Navaho culture, the availability of the subjects also became an important factor. The present study holding to the scientific methodology, therefore, defined as its population randomly selected male Navaho Indian graduating seniors, aged 18-22, attending Intermountain Indian School at Brigham City, Utah, during the 1969-1970 school year.

The random sample was demanded since the subjects in the defined population differed greatly in their 1) use and command of the English language, 2) reading level, and 3) exposure to education; i.e., the amount of schooling at the secondary school level. The subjects for this study, therefore, had a mean age of 20, a mean grade equivalent reading
level of 7.36, and were part of the 1969-1970 graduating class of the Intermountain Indian School.

In the event of further research, Chapter III on Methodology indicates the step-by-step procedure used to conduct the actual test sessions. In Chapter II, the reader will find a review of related literature, while Chapter IV delineates the analysis and interpretation of data. Chapter V provides a summary and discussion of the results. The scoring manual for the achievement motive is found in Appendix I. In Appendix II is a reproduction of the four (4) original n-Achievement series pictures, and in Appendix III is a reproduction of the four (4) acculturated n-Achievement series pictures.
CHAPTER II
REVIEW OF THE LITERATURE

Theory of Motivation

It has not been the intention of this writer to make a complete review of the theories of motivation, but rather to examine briefly motivation in order to set the stage for an examination of achievement motivation as it is defined and measured in order to answer the basic questions asked in Chapter I.

A complete theory of motivation will not be presented in this thesis paper; however, the term "refers to the interaction dynamics of many factors in a given person-environment relationship involving goal-directed experiences and behavior (Heckhausen, 1967)." According to Heckhausen (1967), there must be a distinction made between normative and situational states of motivation. The reason is that "the same strength of motivation in different people may be traced to different normative states in combination with different aroused states of motivation. Furthermore, different strengths of motivation may also be based on the same normative states in combination with different states of arousal." Experimentally, the problem then is to isolate or at least control the lasting as well as the situational components of motivation. The personality characteristics associated with motivation are usually found in the normative state; therefore, the experimenter can control arousal conditions and can try to keep normative and arousal conditions constant or vary them systematically. Heckhausen (1967) also suggests that a distinction be made between potential motivation and actual motivation, as "potential motivation is a normative state which determines . . .
how (in relation to the self) a given category of life situations has to be constituted to be satisfactory for a certain person. Actual motivation (or an aroused motive) consists of an expectation linking present and future states of being." The level of motivation in a particular person at a particular time, therefore, appears to be a function of two major factors: 1) the situation, and 2) the enduring strength of the motive in the individual personality.

McClelland (Atkinson, 1958) suggests that in studying motivation, one should start with general ideas as to the nature of the variable or motive being measured, try to get a measure of it, and then determine whether he has succeeded on the basis of whether the motive being measured meets the following criterion: (Atkinson, 1958, Chapter I)

1. The measure of a motive should sensitively reflect the presence or absence of a motive or its variations in strength (p. 9). Ideally, a motivational variable should be under experimental control so that it can be manipulated independently of all other correlated factors, and its "pure" effects detected (p. 14).

2. The measure of a motive should reflect variations in only that motive; that is "if A (variations in motive strength) leads to C (some behavioral signs), then C can be used to infer the presence of A, if and only if A is the one way to produce C (p. 14)."

3. The measure of a motive should give the same reading for an individual or group under the same or nearly the same condition (p. 18). In short, it should be reliable.

4. The measure of a motive should have relational fertility (p. 20). By relational fertility, it is meant that the motive "should correlate with many other variables or account for much of the variance in human behavior (p. 20)." This should not be confused with validity, but should be thought of as the method of "assessing the validity of the measure in terms of the number and extend of its connections to other theoretically related variables, among which may be the 'truer' measure (see reference #85 in Atkinson, 1958) that determine its
validity, not that it happens to correlate with something which may be regarded as a 'truer' measure (p. 20)."

McClelland (1953) states that motives are common to all men (animals) to the extent that conditions can be identified which will give rise regularly to effective change either through biological or cultural arrangements. McClelland (1953) defines a motive as the "learned result of pairing cues and effect or the conditions which produced effect."

These statements above have in no way defined any particular motive, yet from the literature, it is evident that one must determine the difference between an affiliation motive, a hunger motive, or an achievement motive. To aid in this process of distinguishing one motive from another, McClelland (1953) suggests the "motives should be distinguishable primarily in terms of the types of action, in so far as they exist, which confirm those expectations in varying degrees and thus yield positive or negative affect."

Defining Achievement Motivation

From the information above is laid the foundation for a theoretical conception of what constitutes a motive. Now, what about a definition for achievement motivation? What ultimate criterion can be followed to obtain a reliable measure of this particular motive? What scoring system has been developed for use with achievement motivation?

The behavioral sequence of the achievement motive is explained by Atkinson and his associates (Atkinson, 1958) as follows:

We . . . perceive the behavioral sequence originating when an individual experiences a state of need or a motive (N). He may also be anticipating successful attainment of his goal (Ga+) or anticipating frustration and failure (Ga-). He may engage in activity instrumental (I) to the attainment of his goal which may lead to the attainment of the goal (I+) or not (I-). Sometimes his goal-directed activity will be blocked. The obstacle or block (B) to his
progress may be located in the world at large (Bw) or it may be some personal deficiency in himself (Bp). He may experience strong positive and negative affective states while engaged in solving his problem, i.e., in attempting to gratify his motive. He is likely to 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. Often someone will help or sympathize with him --/nurturant press (Nup)/ -- aiding him in his goal-directed behavior. This, in brief, is our analysis of the behavioral sequence. It is presented schematically in Figure 1.

Figure 1. Position of scoring categories in the adjustive behavioral sequence.
McClelland (1953) further aids in clarifying what is meant by achievement motivation by stating:

Expectations are built out of universal experiences with problem solving — with learning to walk, talk, read, write, perform chores, and so forth. The expectations also involve standards of excellence with respect to such tasks . . . . So everyone has the rudiments of an achievement motive. But stronger achievement motives probably require for most (though not necessarily all) children some structuring of performance standards, some demands by parents and surrounding culture. The child must begin to perceive performance in terms of standards of excellence so that discrepancies of various sorts from this perceptual frame of reference can produce positive or negative affect. Such a frame of reference is absolutely essential, but by itself is not a motive . . . . What then becomes crucial in scoring stories for achievement motivation is detecting affect in connection with evaluation. A boy may have an achievement frame of reference, perhaps because of stress on achievement by his parents. He may write often of "successful businessmen," on contests for prizes, and so on, but unless there is some sign of affect over performance we cannot be sure that he is personally involved, that he sees his own performance in terms of these standards, that the effective results which defines a motive theoretically is really present. Thus, we look in the stories for some sign of involvement such as directly stated affect ("He wants to become a successful businessman."). Thus, our scoring definition for n-Achievement is ultimately consistent with our theoretical conception of what constitutes a motive.

The "generic" definition then of achievement motivation is that the individual's goal, as expressed in his written story, is to be successful in terms of "competition with some standard of excellence." In its simplest form, the standard of excellence represents a classification of alternatives; i.e., passed-failed; good-bad. "Moreover, standards of excellence may be task-related (e.g., degree of perfection as the result of performance) or self-related (e.g., comparison with one's earlier achievements) or other-related (e.g., comparison with achievement of others, for example, in competition)." (Heckhausen, 1967). Achievement
motivation, therefore, can be defined as "the striving to increase, to keep as high as possible, one's own capability in all activities in which a standard of excellence is thought to apply and where the execution of such activities can, therefore, either succeed or fail."

(Heckhausen, 1967). The individual may fail, in this story, to achieve his goal, but his concern over competition with a standard of excellence still enables one to identify the goal sought as an achievement goal.

As expressed by McClelland (Atkinson, 1968), "Competition with a standard of excellence is perhaps most clear when one of the characters [in the story] is engaged in competitive activity (other than pure aggression) where winning or doing as well as or better than someone else is the primary concern."

**Measuring Achievement Motivation**

The question as to how achievement motivation can be evaluated or measured was examined. Research findings reported here are based mainly on the opinion that the Thematic Apperception Test (TAT) method is suitable. (Murray, 1938; McClelland, et al., 1953; Atkinson, 1958). However, before a measure can be obtained, the above mentioned potential motivation needs situational arousal. This means that the strength and kind of potential motivation can best be revealed only when motivation is activated; i.e., aroused under standardized conditions. According to Heckhausen (1967), the TAT method employs three tactics in order to measure the motivational potential of the individual: "1) The subject remains unaware of the true aim of the test. 2) The inner motives of experience and behavior are 'trapped' in the fantasy stories rather close to the source before they become less recognizable because of a number of further psychological factors and external reasons which all affect their final manifestations.
in behavior. 3) The TAT method allows a wide latitude within which person-environment relationships, referred to in the material produced under aroused conditions, can be apperceived and elaborated in most individual manner." At present, there are many modifications of the TAT approach developed by Murry (1938) and now only four to six pictures (Atkinson, 1958) are used in a group test. During administration, an effort is made to promote a neutral or slightly relaxed atmosphere. This is accomplished by stating in the instructions, prior to administration, that the test about to be taken is a test of "creative imagination," and that there are "no right or wrong" answers. A picture is then projected on a screen for a set length of time, and the subjects are then asked to answer the four basic suggestions written on the prepared forms. These suggestions are: Tell what is happening. Tell what happened before. Tell what the people are thinking and feeling. Tell what will be the outcome or what will happen next. The evaluation of the stories is accomplished by means of a scoring key that determines which statements relate to various content categories and, therefore, are to be scored as points that finally are totaled to provide a final score for all the stories written by a subject. Aside from the pictures used and the standardized test condition, the scoring key is the most important part of the method that has been tested and validated (Hackhausen, 1967).

**Scoring System for Achievement Motivation**

The scoring system for the achievement motive was developed by McClelland, Atkinson, Clark, and Lowell (1953), and detailed descriptions explaining the scoring manual for the achievement motive are found in Chapter IV, McClelland, 1953; and Chapter 12, Atkinson, 1958. (See Appendix #1 of this thesis for the abridged description.) By using this scoring
manual, one can determine whether the story is achievement-oriented, e.g.,
whether the story contains some reference to competition with a standard
of excellence or statements about a long-term achievement goal, etc. By
following such a procedure, various content areas in the story can be
scored. The final scores obtained in this manner have been called by
McClelland and his co-workers n-Achievement motivation (n-Ach.).

Selection of Subjects and Pictures

The following investigators of achievement motivation, Atkinson,
(1958), Veroff (1961), McClelland and Associates (1953), and Lindzey
(1961) "view the behavior evidenced in stories told to pictures as a
joint function of a subject's enduring motivational predisposition and
his current life situation, including the momentary testing situation, as
well as the situations portrayed in the pictures used as stimuli. The
pictures are assumed to operate as cues that elicit in the subject rea-
tions that are based upon his past experiences in settings similar to
those portrayed in the pictures." (Veroff, Feld, and Crockett, 1966).
There are numerous accounts cited in the literature in which the pictorial
figures possess the same distinctive characteristics as the subjects for
whom the test was designed. Many of these researchers of the achieve-
ment motive have generally assumed that the "closer the situation being
portrayed in the picture to the life situation of the individual, the more
readily he can identify with the characters in the story and hence the more
likely the motive measure will be a good estimate of motivational be-
havior in the person's on-going daily activity (Veroff, 1961)."

"Valid measurement of the achievement motive would ideally require
the selection of pictures that depict situations for which persons from
widely differing social backgrounds have the same achievement expectancies.
The research goal is difficult, if not impossible, to attain. However, as Atkinson (1958) has pointed out, since the index of motive strength is usually based upon the imagery from a series of pictures, "we need only assume that the average strength of a particular expectancy (e.g., the expectancy of achievement or power, etc.) aroused by all the pictures in the series is approximately equal for all subjects . . . . This condition is likely to be approximated when the situations portrayed in the pictures are representative of a wide variety of the life situations in which people can satisfy the particular motive." (Veroff, 1966).

"Because both the clinical and typical cross-cultural uses of thematic apperceptive techniques are designed to tap unconscious as well as conscious needs, the problem of defining ideal pictures to use is quite complicated. From the time of the first development of the Thematic Apperception Test as a clinical device, psychologists have suggested" . . . (Veroff, 1966) different approaches with regards to the pictures used. Murray (1938) suggested that at least one card should be chosen showing a figure of approximately the same age and sex as the subject. Tomkins (1947), on the other hand, has proposed that the TAT may be interpreted most meaningfully by taking into account the psychological distance of the stimulus from the subject, and Thompson (1949), adhering to Murray's suggestion, believes the more the subject will identify with the figure, and accordingly, be likely to produce more meaningful material.

"The TAT has been modified to match subjects and pictures," (Alexander and Anderson, 1957; Henry, 1947; Lessa and Spiegelman, 1954; Weisskoph and Dunlevy, 1952). The unmodified TAT has also been used in other cross-cultural researches, (Caudill, 1949; Thompson, 1949). According to Henry (1956), it is "probable that the criterion of
culture-appropriateness (for selecting pictures) need imply only appropria
teness to the general culture area rather than to any specific
subgroup in the culture." Lindzey (1961) emphasized the need for stimu-
lus constancy in order to compare groups of subjects but points out that
constancy of meaning and value rather than objective stimulus constancy
is the issue. (Veroff, et al., 1966). This substantial amount of evi-
dence indicates that the closer the stimulus of the projective device is
to the subject's cultural background, the better the identification, thus
forming a major basis for this study.

Achievement Motivation of Navaho Subjects

Having now answered the basic questions regarding a definition of
achievement motivation, how it is measured, and application to other
cultures, one can turn to the original question: Is there an apparent
lack of motivation within the Navaho culture? From the literature,
the following investigators have been concerned with measuring the
achievement motivation of Navaho subjects by using projective devices.
(Lowell, 1950; Reboussin and Goldstein, 1966; and Michener, 1967). These
studies were conducted as follows:

1) Lowell (1950) measured n-Achievement under two conditions
(neutral and achievement-oriented) in a group of 21 ninth-grade Navaho
Indian boys. In this study, two forms of eight written suggestions
(verbal cues) were used instead of picture cues. This was done in order
to surmount the problems of specific cultural content in picture stimu-
li. This study suggested three important tentative conclusions: (1) that
the scoring system developed by McClelland et al. (1953) and used by Lowell
(1950) "is sufficiently general to pick up differences in induced achieve-
ment motivation in a group of subjects whose way of life, dominant thought
pattern, system of values, and so on, are markedly different." (2) "That
achievement motivation exists in different intensities and can be measured in the same way in different cultures." (3) The positive results obtained "suggest the need for thorough investigation of the particular merits and limitations of the two kinds of cues."

2) In the study of Reboussin and Goldstein (1966), 39 Navaho Indian students at Haskell Institute in Lawrence, Kansas, were given the French Test of Insight. This is a projective test in which ten simple sentences, rather than pictures, are the stimuli. The scores of the Navaho Indian students were then compared with white university students on an established measure of n-Achievement in order to verify previous statements that achievement motivation is not emphasized in the Navaho culture. The conclusion of this study was that the Navaho Indian students attending Haskell Institute have a higher n-Achievement than the white university students. However, the highly select nature of these Navaho Indian students may have accounted for the results, according to the author.

3) The purpose of Michener's (1967) research was to investigate the validity and applications of a new test and scoring manual for n-Achievement motivation designed specifically for use among American Indian high school students. For this study, a set of five pictures were used to illustrate potential achievement situations appropriate of Indian subjects. The selected situations, represented by pictures drawn by a Navaho artist, are: 1) employment, 2) education, 3) urban life, 4) group values, and 5) monetary utilities. Using these pictures, Michener was able to get a measure of n-Achievement motivation from the Indian subjects he tested. The end results of Michener's study were 1) the successful development of a set of pictures depicting Navaho
Indian values, which can be used with Navaho Indian subjects to get a measure of n-Achievement motivation; and 2) the development of a "Scoring Manual for the Test of Need Achievement for Navaho Indians (Michener, 1967)."

This review of the literature suggests that achievement motivation has been defined and measured in the middle-class white culture, assessed and measured in other cultures, and that n-Achievement motivation exists in the Navaho culture. The review also indicates that no other researcher has attempted to conduct an experiment which compares an acculturated version of McClelland's original n-Achievement scale with the original n-Achievement scale in measuring n-Achievement Motivation of male Navaho Indian subjects.
Sample

Approximately 1700 Navaho Indian students were enrolled at Intermountain School, Brigham City, Utah, during the 1969-70 school year. One hundred-sixty four of this total population were Navaho male Indian students who were considered as being eligible for graduation. From this population, 60 Navaho Indian seniors were selected by the following randomized procedure:

1) Names of the Navaho male Indian students considered eligible for graduation were written on separate slips of paper, of the same size and shape.

2) These names were then placed into a large container and mixed extremely well.

3) A friend of the investigator was then asked to draw, blindfolded, 60 names from the large container.

In obtaining an equal number of subjects for a Control group and an Experimental group, the following procedure was followed:

1) All randomized Navaho male Indian subjects selected were assigned a number from 1 to 60.

2) The investigator then used "The Table of Random Numbers" and blindly selected a number. This number selected the page, column, and row in "The Table of Random Numbers." This determined the starting point necessary in selection of each group.

3) The direction of movement on "The Table of Random Numbers" was predetermined as being lateral. From this randomized starting point, moving laterally, the first thirty (30) numbers between 1 and 60 were selected as being the experimental group. The remaining thirty (30) were considered the control group.

After the 60 subjects were assigned their respective groups, ten (10) additional names were selected by the same randomized procedure as referred to above as "extra" subjects in case some of the "original"
subjects were absent during the testing date. This proved to be valuable since two (2) of the Experimental Group subjects and three (3) of the Control Group subjects were unavailable due to their being involved in a "work-study" program at the Intermountain School.

After assigning the subjects their respective groups, a final check was made to determine if the two groups were comparable, i.e., relative to the subjects' academic abilities. This comparison was determined by:

1) Examining each group's mean score on the reading grade placement level as measured by the California Achievement Test. This test was administered to each subject in the Fall of 1969.

2) Examining whether these mean scores were comparable with the total mean reading grade placement score of all Navaho male Indian graduating seniors from which the subjects were taken.

In this manner, it was determined that the Navaho Indian subjects drawn for this study were representative of the Navaho male Indian graduating population attending Intermountain School during the 1969-1970 school year. (Table 1)

Table 1. Mean Reading Scores (grade level) from the California Achievement Tests. Administered, September, 1969, to the Navaho test subjects (seniors in High School).

<table>
<thead>
<tr>
<th></th>
<th>Experimental</th>
<th>Control</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Test Subjects</td>
<td>7.44 (30)</td>
<td>7.23 (30)</td>
<td>7.33 (60)</td>
</tr>
<tr>
<td>(Random Sample)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(60 subjects)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extra Test Subjects</td>
<td>8.08 (5)</td>
<td>7.88 (5)</td>
<td>7.98 (10)</td>
</tr>
<tr>
<td>(Random Sample)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(10 subjects)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual Test Subjects</td>
<td>7.33 (30)</td>
<td>7.39 (30)</td>
<td>7.36 (60)</td>
</tr>
<tr>
<td>(Random Sample)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(60 subjects)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Navaho Male Seniors</td>
<td>--</td>
<td>--</td>
<td>7.11 (164)</td>
</tr>
<tr>
<td>High Graduating Class</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(164 subjects)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Construction of the n-Achievement Scales

The acculturated n-Achievement scale proposed in this study was essentially a reproduction of the four (4) original n-Achievement series pictures used for measuring n-Achievement. (Atkinson, 1958).

See Appendix II. Namely:


3) Father-son. Picture A of the original n-Achievement series. Source: Card 7BM from TAT.

4) Boy with a vague operation scene in background. Picture G of the original n-Achievement series. Source: Card 8 BM from TAT.

As proposed, the acculturated n-Achievement scale was a reproduction of the four (4) original n-Achievement stimulus pictures. The pictures were developed from photographs and artist sketches to produce the same effects as the original n-Achievement pictures; however, Navaho Indian subjects as well as Navaho oriented background scenes were used. Namely:

1) Two Navaho men in a shop working at a machine, Picture #1B.

2) Navaho boy in a checked shirt at a desk, an open book in front of him. Picture #2H.

3) Navaho father and son. Picture #3A.

4) Navaho boy with vague operation scene in the background. Picture #2G. (See Appendix III)

Gathering Data

Through the cooperation of the Social Studies Department and the administrative personnel of Intermountain School, testing arrangements were made. Two testing days were required: one day for the Experimental
Group, which was given the proposed acculturated n-Achievement scale, and one day for the Control Group which was given McClelland's original n-Achievement scale. The approximate time required to establish rapport, to give the instructions, and to administer the n-Achievement scales was 45 to 50 minutes, i.e., the equivalent of a class period. Five separate class periods each testing day were required to test the subjects, the reason being the randomized nature of the population made it so that the subjects' attendance in the social studies classes was also random. For each test period, there were from five to eight students available for testing. In establishing rapport and a neutral or relaxed condition, (Atkinson, 1958) prior to administering the n-Achievement scales, the following instructions were given verbatim to each group.

Good morning (or afternoon, depending on the time of day). My name is Mr. Ivory, and I am here today because I understand that you boys are very good storytellers. Therefore, you boys have been selected to tell me some stories. Now, it would take too long if we all told stories out loud, so I've brought along some paper on which I would like to have you write some stories for me. Of course, it is sort of hard to just make up a story, so I am going to give you a little help.

I have some pictures here that I am going to show you, and for each picture, I want you to make up a story, using your creative imagination. Each picture will be shown on the screen. Because we don't have much time, I have written some suggestions on the paper that has been given you in order to help you get a complete story for me. Look at the suggestions I have written on each page.

1. Tell what is happening.
2. Tell what happened before.
3. Tell what the people are thinking and feeling.
4. Tell what will happen next.

If you will answer each of these suggestions as you write your story from the pictures shown on the screen, you will be able to finish this period. You have about 10 minutes per picture. I will tell you when there are two minutes left in order for you to finish your story. There are no right or wrong answers, so make up any kind of story about what you see. Remember to think about the kind of story you want to write as you read each suggestion.
Each picture was then projected on the screen for a period of ten minutes in a semi-darkened room by the use of an opaque projector. The subjects were seated from ten to fifteen feet away from the screen thus enabling them to observe very carefully the details of each picture. Subjects were then asked to spend approximately two minutes to answer each suggestion for each picture. After eight minutes, the subjects were reminded that they had two minutes to complete each picture. The same procedure was repeated for each of the four pictures, thus requiring one class period. When one group had completed the four pictures, another group entered for the same procedure. In this manner, an entire day was taken to test the Control Group and an additional day to test the Experimental Group. Through this process, the test data was acquired.

Description of Scoring Procedures

The procedures for scoring the proposed studies of n-Achievement protocols (stories) were divided into three (3) sessions: first, the scoring system; second, teaching the method of content analysis scoring for n-Achievement to two U.S.U. psychology students; and third, scoring the total proposed research protocols.

1) The scoring system: The exact method of computing the n-Achievement score proposed in this study can be done by what McClelland (1953) refers to as "scoring system C." (See Appendix I). This system has been empirically derived and subsequently used with respect to diverse population, including some of a cross-cultural nature. (Atkinson, 1958; Brown, 1965; McClelland, et al., 1953; and Michener, 1967). Therefore, this method was used for scoring the protocols of both the experimental acculturated n-Achievement scale and the original n-Achievement scale used in this study. (For complete details on the scoring manual and the scoring
system "C" refer to Chapter 12 in Atkinson, J.W., Motives in the Fantasy, Action and Society; and pp. 147-151 in McClelland, D.C., The Achievement Motive.)

2) Teaching the method of content analysis scoring: Teaching this system of content analysis scoring, as it has been developed for n-Achievement, can be carried out by researchers other than the originators of the system. Learning this scoring system requires a period of training. For this study, two Utah State University psychology students were trained as scorers. As an incentive for the students asked to learn this scoring procedure and for scoring the total research protocols, a fee of $2.50 per hour, per person, was paid. Computed on an hourly basis, four hours were needed for learning the terminology of the scoring manual, six hours in training and practice sessions, and between ten and twelve hours were required for scoring the research protocols. (Each protocol was checked twice.) During the training period, the scoring system was learned only with the aid of the scoring manual and the specially compiled sets of practice materials. (See Chapter 12 in Atkinson, 1958; and Appendix I; Smith and Feld in Atkinson, 1958, for a complete description.)

As was proposed, the practice material had to do with the n-Achievement motive, and included the following: 1. A detailed study and comprehension of the scoring manual. 2. A "Self test" on the scoring manual for the n-Achievement motive. 3. A description of the pictures used to elicit the practice stories. 4. Practice scoring of the four sets of practice stories (30 stories in a set). and 5. Comparing scoring with the expert scoring on the practice stories.

The scorers, by using McClelland's scoring system, first studied the scoring manual (Atkinson, 1958, Chapter 12); next, without consulting the manual, answered the questions on the "Self-test." The purpose
was to make sure that the scorers had mastered the scoring definitions. When it was confirmed that each scorer knew the scoring manual and the definitions, he was instructed to begin his practice scoring and continue practicing until he could score stories as McClelland and his associates scored them. This process required the actual scoring of practice stories found in the Appendix (Atkinson, 1958) without knowing what the correct scores were. A check was then made between the training scorer and the scores given in the Appendix I. When considerable disagreement was found, it was necessary for the scorers to re-examine each story and then read, from the manual, the author's justification for each category scored. By following this process of scoring practice sets, the scorers learned the scoring system in approximately 10 to 12 hours. The scorers were then given a complete set of stories to score (Set B). Upon completing their scoring, they were checked against the "Expert" scoring, and a rank-order correlation was computed to determine the amount of agreement with the "Expert" on Set B stories. The results are reported in Table 2.

Table 2. Percentage agreement in Scoring Imagery and Rank-Order Correlations on n-Achievement obtained by Trained Scorers and Experts. (Set B)

<table>
<thead>
<tr>
<th>Scorer</th>
<th>%*</th>
<th>Rho**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scorer #1 (John)</td>
<td>.94</td>
<td>.90</td>
</tr>
<tr>
<td>Scorer #2 (Perry)</td>
<td>1.00</td>
<td>.98</td>
</tr>
<tr>
<td>Expert</td>
<td>.93</td>
<td>.95</td>
</tr>
</tbody>
</table>

* %* = percent imagery agreement. This index is computed as follows: 2 (number of agreements between Scorer and Expert on the presence of Imagery) # of times Scorer scored imagery present + # of times Expert scored imagery present (Atkinson, 1958).

**Rho = rank-order correlation between trained scorer and expert on total score assigned each story. (Downie & Heath, 1959).
These correlations indicate that by using this training procedure, which entails only about 10 to 12 hours of independent study and practice, high interjudge scoring reliabilities can be obtained on projective test data. The reliabilities obtained by the scorers trained for this study compare favorably with those reported in the literature for experimental use of "Scoring System C" (Atkinson, 1958), and, therefore, it can be concluded that the conscientious use of the training procedures and materials described in this study and contained in the Appendix of Atkinson's book, Motives in Fantasy, Action and Society, will enable a researcher, and/or independent scorers, to learn to score TAT-type protocols for n-Achievement with interjudge scoring reliabilities acceptable for research purposes. (Median of .87 being acceptable for n-Achievement) Atkinson, 1958).

3) Scoring Total research protocols: This proposed research, with an N of 60, had a total of 240 protocols; i.e., 4 protocols written by each subject. By using two scorers, this gave 120 protocols scored per scorer. Working independently, from 8 to 10 hours were spent per scorer, scoring their assigned 120 protocols. Each protocol was checked twice to insure accuracy. To prevent scorer bias, the scorers were given no indication as to whether they were scoring a protocol from the experimental or control group. This was accomplished by mixing all 60 sets of written protocols, then randomly dividing these 60 sets between the two scorers. Four reliability checks were made during the scoring sessions; one at the beginning, two mid-way through, and one at the end of the scoring sessions. The reliabilities reported (Refer to Table 3) are indicative of the reliabilities cited in the literature as being acceptable for scorer competence (Atkinson, 1958).
Table 3. Reliability Check made by trained scorers on the total n-Achievement motivation score obtained from stories written by 8 male Navaho subjects drawn at random from the sample population (N=60).

<table>
<thead>
<tr>
<th>Checks</th>
<th>Subject</th>
<th>Scorer</th>
<th>Total n-Achievement Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Control Group</td>
<td>John</td>
<td>0</td>
</tr>
<tr>
<td>#1</td>
<td></td>
<td>Perry</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>#2</td>
<td>John</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perry</td>
<td>9</td>
</tr>
<tr>
<td>#3</td>
<td>Control Group</td>
<td>John</td>
<td>12</td>
</tr>
<tr>
<td>#4</td>
<td>Experimental Group</td>
<td>John</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perry</td>
<td>7</td>
</tr>
<tr>
<td>#5</td>
<td>Experimental Group</td>
<td>John</td>
<td>12</td>
</tr>
<tr>
<td>#6</td>
<td></td>
<td>Perry</td>
<td>13</td>
</tr>
<tr>
<td>#7</td>
<td>Control Group</td>
<td>John</td>
<td>2</td>
</tr>
<tr>
<td>#8</td>
<td>Experimental Group</td>
<td>John</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perry</td>
<td>0</td>
</tr>
</tbody>
</table>

Percent Agreement = .88 This index is computed as follows:
\[
\frac{2 \times (\text{number of agreements between Scorer 1 and Scorer 2 on the presence of Imagery}) + \text{# of times Scorer 1 scored imagery percent} \times \text{# of times Scorer 2 scored Imagery present}}{\text{total score assigned each story.}}
\]

\[Rho = .987 = \text{rank-order correlation between trained Scorer 1 and Scorer 2 on total score assigned each story.}\]
Treatment of Data

Upon completion of the scoring of the 60 sets of protocols, they were returned to their original grouping and a tally sheet was made from which the information necessary for the statistical computation was obtained.
CHAPTER IV
ANALYSIS AND INTERPRETATION OF DATA

This chapter presents the analysis and interpretation of the data which were gathered to determine whether any difference existed between the expressed n-Achievement motivation of male Navaho Indian subjects on the acculturated scale as compared to the original scale.

Analysis of Data: Hypothesis #1

Table 4 represents the comparison made between the total mean score of the two scales. Hypothesis #1 stated that the acculturated n-Achievement scale would be the same as the original n-Achievement scale. This hypothesis was accepted on the basis that the acculturated scale did measure n-Achievement motivation of male Navaho Indian subjects as well as McClelland's original scale, but not significantly different (positively or negatively). Thus, the acculturated scale proved to be just as effective in measuring n-Achievement motivation of male Navaho Indian subjects as the original scale.

Table 4. Total mean n-Achievement scores: Original n-Achievement scale vs. Acculturated n-Achievement scale.

<table>
<thead>
<tr>
<th>Scale</th>
<th>X</th>
<th>S.D.</th>
<th>*t</th>
<th>&gt;.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original</td>
<td>5.13</td>
<td>5.07</td>
<td>.348</td>
<td></td>
</tr>
<tr>
<td>Acculturated</td>
<td>5.60</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Dixon and Massey, 1957.

Analysis of Data: Hypothesis #2

Table 5 shows the comparison of the total mean n-Achievement score by
pictures between the two scales. The purpose of this comparison was to
determine which of the pictures in a given set of two yielded a signifi-
cantly different response of n-Achievement motivation. Null hypothesis
#2 stated that the total mean score on the n-Achievement motivation for
the acculturated pictures #1B, #2H, #3A, and #4G would be the same as
pictures #B, #H, #A, and #G respectively of the original n-Achievement
scale. This hypothesis was accepted as there was no significance at the
.05 level on any picture. However, Table 5 indicates that the mean score
for picture #4G would rank as the second best picture for the acculturated
scale, rather than ranking fourth as picture #G does on the original
scale. The t statistic on Table 5 also indicates that picture #4G is
significantly different from picture #G at the .10 level of significance,
thus indicating a higher n-Achievement identification on picture #4G
between this particular set of two pictures.

Table 5. Total mean n-Achievement scores by pictures: Acculturated vs.
original n-Achievement scales.

<table>
<thead>
<tr>
<th>Original Scale</th>
<th>Acculturated Scale</th>
<th>Mean Score (n-Achievement)</th>
<th>Mean Score (n-Achievement)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture #B</td>
<td>Picture #1B</td>
<td>2.23</td>
<td>2.16</td>
<td>-.136</td>
<td>&gt; .05</td>
</tr>
<tr>
<td>Picture #H</td>
<td>Picture #2H</td>
<td>1.36</td>
<td>1.13</td>
<td>-.600</td>
<td>&gt; .05</td>
</tr>
<tr>
<td>Picture #A</td>
<td>Picture #3A</td>
<td>.80</td>
<td>.86</td>
<td>.127</td>
<td>&gt; .05</td>
</tr>
<tr>
<td>Picture #G</td>
<td>Picture #4G</td>
<td>.70</td>
<td>1.43</td>
<td>1.650</td>
<td>&lt; .10^</td>
</tr>
</tbody>
</table>

*Significant different at .10 level of significance.
Analysis of Data: Hypothesis #3

Table 6 shows the frequencies of types of Achievement Imagery appearing in the stories written by the 60 Navaho Indian subjects on both scales. The purpose of this comparison was to determine which picture in a given set of two would elicit the greatest number of Achievement Imagery scores; i.e., which picture contained the greatest number of references to an achievement goal. Close examination of Table 6 indicates that picture #B of the Original scale elicited 23 Achievement Imagery responses, while the comparative picture, #1B, on the acculturated scale elicited only 18 Achievement Imagery responses. Similarly, picture #4G of the acculturated scale elicited 19 Achievement Imagery responses, which is the same number of responses as #H of the Original Scale.

Table 6. Frequencies of types of Achievement Imagery responses.

<table>
<thead>
<tr>
<th>(Pictures)</th>
<th>Original Scale</th>
<th>Acculturated Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30 Students</td>
<td>30 Students</td>
</tr>
<tr>
<td></td>
<td>4 Stories Each</td>
<td>4 Stories Each</td>
</tr>
<tr>
<td>Achievement Imagery</td>
<td>#B  23</td>
<td>#1B  18</td>
</tr>
<tr>
<td></td>
<td>#H  19</td>
<td>#2B  13</td>
</tr>
<tr>
<td></td>
<td>#A  13</td>
<td>#3B  13</td>
</tr>
<tr>
<td></td>
<td>#G  13</td>
<td>#4B  19</td>
</tr>
<tr>
<td></td>
<td>Tot.  68</td>
<td>Tot.  63</td>
</tr>
<tr>
<td>Doubtful Imagery</td>
<td>#B  4</td>
<td>#1B  9</td>
</tr>
<tr>
<td></td>
<td>#H  4</td>
<td>#2B  10</td>
</tr>
<tr>
<td></td>
<td>#A  3</td>
<td>#3B  3</td>
</tr>
<tr>
<td></td>
<td>#G  14</td>
<td>#4B  4</td>
</tr>
<tr>
<td></td>
<td>Tot.  14</td>
<td>Tot.  24</td>
</tr>
<tr>
<td>Unrelated Imagery</td>
<td>#B  3</td>
<td>#1B  4</td>
</tr>
<tr>
<td></td>
<td>#H  6</td>
<td>#2B  7</td>
</tr>
<tr>
<td></td>
<td>#A  14</td>
<td>#3B  14</td>
</tr>
<tr>
<td></td>
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Table 7 shows the comparison made between each of the pictures used on the two scales relative to the mean achievement Imagery score for each picture. Hypothesis #3 states that the total mean score on Achievement Imagery (AI) for the acculturated scale pictures #1B, #2H, #3A, and #4G would be the same as Pictures #B, #H, #A, and #G respectively of the original n-Achievement scale. This comparison was made to determine response of Achievement Imagery; i.e., which pictures per set elicited the greatest number of Achievement Imagery responses. Null Hypothesis #3 was accepted as there was no significant difference on any set of pictures.

<table>
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<tr>
<th>Original Scale</th>
<th>Mean Score (Achievement Imagery)</th>
<th>Acculturated Scale</th>
<th>Mean Score (Achievement Imagery)</th>
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<td>Picture #2H</td>
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<td>.43</td>
<td>Picture #3A</td>
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<td>.000</td>
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<tr>
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<td>.43</td>
<td>Picture #4G</td>
<td>.63</td>
<td>.286</td>
<td>&gt; .05</td>
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CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

The main purpose of this study was to determine whether any difference existed between Navaho Indian subjects' expressed n-Achievement motivation as determined from written stories measured by a specifically designed acculturated n-Achievement scale as compared with written stories of Navaho Indian subjects on an original n-Achievement scale developed by McClelland and associates. Experimental evidence (McClelland, et al., 1953) has revealed that the selection of pictures for a projective n-Achievement scale is one of the important determinants of the n-Achievement score obtained. Other important determinants are the cues of everyday life situations and specific situational cues which affect the level of achievement motivation of a test subject. Using this reasoning, the acculturated n-Achievement scale was developed to favorably compare with the original n-Achievement scale developed by McClelland. Therefore, the acculturated scale pictures retained the same or similar background scenes as the original scale pictures, but used as the central figure or figures Navaho Indian subjects.

The focus of this study was to determine whether:

1) an acculturated n-Achievement scale could measure n-Achievement motivation of Navaho Indian subjects as well as McClelland's original n-Achievement scale.

2) the pictures of the acculturated n-Achievement scale could measure n-Achievement motivation of Navaho Indian subjects as well as the pictures of McClelland's original n-Achievement scale.

3) the pictures of the acculturated n-Achievement scale could assess achievement imagery as well as the pictures of McClelland's original n-Achievement scale.

Analyzeation of the content of the imaginative stories written by the
Navaho Indian subjects on both the acculturated and original n-Achievement scales was accomplished by utilizing two trained scorers and McClelland's scoring system C. The scorers were given the prescribed preparation in order to utilize the scoring system within the pre-determined limits. The scorers then scored their randomly assigned protocols. A tally sheet was made from which the statistical computation was determined.

Discussion

A major underlying objective of this study was to develop a more effective projective scale than McClelland in measuring a Navaho Indian's expressed n-Achievement motivation. This objective was not reached; however, the acculturated scale did elicit a measure of n-Achievement motivation comparable to the McClelland scale. Even though the results obtained were not statistically significant, the investigator attempted to examine possible reasons why the acculturated scale did not prove to be a better projective instrument for Navaho Indian subjects.

Observations made during the testing sessions and during the scoring of the written protocols provided the greatest number of cues as to why significant differences were not obtained. For example, the Navaho Indian subjects were observed in the test sessions to verbalize in Navaho more frequently about the pictures with each other when using the acculturated scale as compared to the pictures on the original scale. No measurable evidence of this can be stated, however, as this was strictly an observation made by the examiner during the testing sessions.

Further observations made by the trained scorers during the scoring of the written protocols indicated references to the difficulty scorers had in accurately and objectively adhering to McClelland's scoring manual because of the Navaho Indian students' limited written English vocabulary.
These observations, therefore, led this investigator to postulate the following question: Could significant results have been obtained had the Navaho Indian subjects been given the test instructions in Navaho with the opportunity to verbalize in Navaho their projected impressions? These verbal impressions could have then been recorded, translated, and scored as outlined for this study. It would appear that greater acculturation would be achieved utilizing this approach. However, the answer to the above question can only be answered by further research.

Another observation postulated by the examiner as to why the acculturated scale did not prove to be a better instrument was that the Navaho Indian subjects used for this study may not have been a true representative sample of the Navaho Indian population. As mentioned previously, the Navaho Indian subjects for this study were senior high school students attending Intermountain Indian School, Brigham City, Utah. At the Intermountain School, the curriculum is primarily remedial and vocationally oriented. Thus, the school's population consists mainly of Navaho Indian students considered academically below their peers attending high schools on the Navaho reservation and other Navaho boarding schools off the reservation. Therefore, it can be hypothesized that a broader cross section sample, using Navaho Indian students from high schools on as well as off the reservation, may result in significant differences between the acculturated and original scales. This hypothesis, however, can only be tested by additional research.

From the data obtained, there is one aspect of the acculturated scale that does warrant mentioning. This aspect is that picture #4G of the acculturated scale provided the greatest amount of discrimination for the Navaho Indian subjects on n-Achievement motivation. However, this evidence
does not indicate whether this discrimination was provided by the cue value of picture #4G or by the everyday thought processes, "everyday cues, conditioned by past affective experiences in connection with achievement," (McClelland, 1953). Nevertheless, the Navaho Indian subjects taking the acculturated test seemed to respond more favorably to picture #4G as compared with picture #G in terms of standards of excellence ... "aroused expectancies of satisfying that particular motive (achievement) through some kind of action" (Atkinson, 1958).

Conclusion

From the evidence found in this study, all three hypothesis were accepted, indicating that both sets of pictures seem to discriminate about equally well on n-Achievement motivation of Navaho Indian subjects attending Intermountain Indian School. The results, therefore, suggest that the acculturated n-Achievement scale would measure n-Achievement motivation of male Navaho Indian subjects as well as the original scale. Thus, the evidence indicates that Navaho Indian subjects do equally as well on either scale. In conclusion, the specific implication of this study appears to be that regardless of which n-Achievement scale is used, Navaho Indian subjects do express the need to achieve using a projective device.
BIBLIOGRAPHY


APPENDIX I

A SCORING MANUAL FOR THE ACHIEVEMENT MOTIVE¹

David C. McClelland, John W. Atkinson, 
Russel A. Clark, and Edgar L. Lowell

Relation of Scoring Categories to the 
Adjustive Behavioral Sequence

Our classification of many of the aspects of the behavior and ex- 
periences of characters in imaginative stories reveals an implicit ac- 
ceptance of the kind of descriptive categories elaborated on by many 
different psychological theorists in conceptualizing adjustive overt 
behavior. Thus, we perceive the behavioral sequence originating when 
an individual experiences a state of need or a motive (N). (The symbols 
in parenthesis are used throughout to denote the various scoring cate- 
gories.) He may also be anticipating successful attainment of his goal 
(Ga+) or anticipating frustration and failure (Ga-). He may engage in 
activity instrumental (I) to attainment of his goal which may lead to the 
attainment of the goal (I+) or not (I-). Sometimes his goal-directed 
activity will be blocked. The obstacle or block (B) to his progress may 
be located in the world at large (Bw) or it may be some personal defi- 
ciency in himself (Bp). He may experience strong positive and negative 
affective states while engaged in solving his problem; i.e., in attempting 
to gratify his motives. He is likely to experience a state of positive 
affect (G+) in goal attainment, or a state or negative affect (G-) when

¹ As abridged in Motives in Fantasy, Action and Society by John W. Atkinson, Copyright (c) 1958 by Litton Educational Publishing, Inc., by permission of Van Nostrand Reinhold Company.
his goal-directed activity is thwarted or he fails. Often someone will help or sympathize with him -- nurturant press (nup) -- aiding him in his goal-directed behavior. This, in brief, is our analysis of the behavior sequence. It is presented schematically in Figure 1. Note that the five states an individual may experience (Need, Positive or Negative Anticipatory Goal States, Positive or Negative Affective States) are located within the person in this diagram. Instrumental Activity is denoted by the arrows suggestive of trials and errors in the problem-solving attempt. A Block (which also may be located within the person) is denoted as a barrier that must be overcome if the goal is to be obtained. The symbol for Nurturant Press is another person with an arrow in the direction of the goal indicating aid of some sort. And finally, the goal is indicated by a plus sign. The goal defines whether or not the various anticipations, affective states, instrumental acts, and so forth of the person are achievement-related or are related to some other motive. Presumably, these categories may be used to describe the behavioral sequence no matter what the goal of the individual. For this reason, major attention must be directed to the definition of what constitutes an achievement goal.

![Figure 1](image-url)

Figure 1. Position of the scoring categories in the adjustive behavioral sequence.
DEFINITION OF ACHIEVEMENT IMAGERY (AI)

The scorer must first decide whether or not the story contains any reference to an achievement goal which would justify his scoring the sub-categories (Need, Instrumental Activity, and so on) as achievement-related. By achievement goal is meant success in competition with some standard of excellence. That is, the goal of some individual in the story is to be successful in terms of competition with some standard of excellence. The individual may fail to achieve this goal, but the concern over competition with a standard of excellence still enables one to identify the goal sought as an achievement goal. This, then, is our generic definition of n-Achievement.

Competition with a standard of excellence is perhaps most clear when one of the characters is engaged in competitive activity (other than pure aggression where winning or doing as well as or better than someone else is the primary concern. Often, however, competition with a standard of excellence is evident in the concern of one of the characters with how well a particular task is being done, regardless of how well someone else is doing. Any use of adjectives of degree (good, better, best) will qualify so long as they evaluate the excellence of performance. Stories are scored for Achievement Imagery only when one of the criteria listed below is met. Although competition with a standard of excellence is implicit in all three criteria, as pointed out above, the phrase is used to denote the first criterion in which concern over how well the activity is being done is more explicit.

1. **Competition with a standard of excellence.**

   a. One of the characters in the story is engaged in some competitive activity (other than pure cases of aggression) where winning or doing
as well as or better than others is actually stated as the primary concern. Wanting to win an essay contest, or an apprentice wanting to show the master that he, too, can fix the machine, are typical examples.

b. If one of the characters in the story is engaged in some competitive activity (other than pure cases of aggression), but the desire to win or do as well as or better than others is not explicitly stated, then (1) affective concern over goal attainment, and (2) certain types of Instrumental Activity are considered as indicating that the desire to compete successfully with a standard of excellence is implicit in the story. Examples of (1) would be: "The boy wins the essay contest and feels proud." An example of (2) would be: "The boy is working very carefully on his essay." 1

c. Often the standard of excellence involves no competition with others but meeting self-imposed requirements of good performance. In this case, in order to score for AI what is needed are words to the effect that a good, thorough, workmanlike job, and so forth, is desired, or statements showing the effective concern or Instrumental Activity that will allow such an inference. Typical examples are: "The boy is studiously and carefully preparing his homework." "The boy is worried because he cannot grasp the meaning in the textbook assignment."

1 Stories are not always scored for Achievement Imagery (AI) when the evidence of the affective concern is largely negative. When a person is in achievement-related difficulty, it is normal to experience negative affect (G-). This is not enough to justify scoring Achievement Imagery. There must be independent evidence as a positive achievement orientation. The story must indicate, either by direct statement of need (N) or by a sufficiently descriptive instrumental activity (I), that the person stays in the field and is realistically concerned about overcoming the deficiency. In most cases, both G- and N must appear, or G- paired with a clearcut achievement-related instrumental act.
In the above criteria, distinction is made between statements of intensity and quality of instrumental acts. Working hard, or working fast would be evidence of concern over achievement only when excellence at the task demanded speed or intense effort. But one may work hard to complete a task for reasons other than personal achievement. For instance, "The boy is working hard to finish his homework," may indicate only that he wants to go out and play or perhaps that he is late with his term paper and is rushing to get it in. In neither of these examples is there evidence of concern over a standard of excellence, and so there is no basis for scoring Achievement Imagery. However, a statement such as "He is working slowly with great thoroughness" implies concern with accuracy, a standard of excellence. In this instance and in ones like it, Achievement Imagery would be scored.

2. Unique accomplishment. One of the characters is involved in accomplishing other than a run-of-the-mill daily task which will mark him as a personal success. Inventions, artistic creations, and other extraordinary accomplishments fulfill this criterion. There need be no explicit statement of concern over the outcome or direct statement that a good job is wanted when someone is working on a new invention or is in the process of doing something unique which will be generally accepted as a personal accomplishment. Here we make the inference that the individual is competing with a standard of excellence and that unless his goal is reached, he will also experience feelings of failure.²

²The manual focuses attention chiefly on the distinction between the story in which two men are simply working at a machine versus two inventors in the process of developing something new and socially useful. The scorer, however, must be sensitive to what would constitute a unique accomplishment in other fields of endeavor. For example, a boy practicing at the piano versus the young composer struggling with a new composition, a reporter finishing an article versus a reporter getting the beat on everyone else, etc.
3. **Long-term involvement.** One of the characters is involved in attainment of long-term achievement goals. Being a success in life, becoming a machinist, doctor, lawyer, successful businessman, and so forth, are all examples of career involvement which permit the inference of competition with a standard of excellence unless it is made explicit that another goal is primary, e.g., food for the kids, personal security.³

Often, one of the characters may be involved in attainment of some limited achievement goal, i.e., a specific task. When rather routine and limited tasks or performances are shown definitely to be related to long-term achievement interests, Achievement Imagery is scored. Studying for an exam would not be scored unless there was evidence of concern over doing well or over the possibility of failure as outlined under criterion (1) listed above, or unless the exam were explicitly related to "going on to medical school" or "graduating from college" — both being long-term achievement goals. The relationship of a specific task to a long-term achievement goal must be clearly stated and not inferred by the scorer when it does not fulfill criterion (1) above.

It is worth noting that we are able to include long-term involvement as evidence of achievement motivation only because we have knowledge that in contemporary American society, success in the career usually demands successful competition with a standard of excellence. Not everyone can be a doctor, lawyer, successful businessman, or expert machinist. Attainment of these goals is accompanied by feelings of personal success which

³If other motives are contributing to the striving toward a long-term achievement but are not primary, so that some part of the striving is attributable to n-Achievement, Achievement Imagery should be scored.
we believe to be historically related to the pleasure associated with independent accomplishment in early childhood in which reward (hence pleasure) is contingent upon mastery, vs. doing a good job.

In scoring the stories of other cultures without knowledge of the culture, it would be necessary to adhere to the criterion of an explicit statement of concern over successful competition with a standard in order to define the achievement goals of that culture. Only with growing knowledge of the culture could other criteria be added which involve the inference that competition with a standard of excellence is inherent in certain cultural activities.

Only stories which fulfill at least one of these three criteria are scored for the achievement-related subcategories.

DOUBTFUL ACHIEVEMENT IMAGERY (TI)

Stories containing some references to achievement but which fail to meet one of the three criteria for Achievement Imagery are scored Doubtful Achievement Imagery (TI) and are not scored further for achievement-related subcategories. The TI chosen as a symbol for this category indicates that most frequently the stories to be classified as doubtful are ones in which one of the characters is engaged in a commonplace task or solving a routine problem. Whenever there is doubt about whether or not one of the three criteria for Achievement Imagery has been met, the story is not totally unrelated to achievement. It is classified TI.

UNRELATED IMAGERY (UI)

Stories in which there is no reference to an achievement goal are scored unrelated and not scored further. The difference between a story TI and one scored UI is simply that the TI story usually contains reference to some commonplace task goal and often contains other task-related sub-
categories, but fails to meet one of our three criteria for scoring Achievement Imagery; whereas the story scored UI fails to have any reference whatsoever to achievement.

The three imagery categories (UI, TI, AI) comprise a continuum of increasing certainty that the story contains imagery related to achievement motivation. Often the scorer may feel that a story that must be scored TI because it fails to meet any one of the criteria for AI, should have been scored for AI and the other achievement-related subcategories as well. Our experience indicates that while undoubtedly some achievement stories are lost according to the present criteria, in the long run, rigid adherence to the stated criteria is the only means of assuring high scorer reliability. The rational for distinguishing between stories with doubtful achievement imagery and those unrelated to achievement will become clear when the method of computing the n-Achievement score is discussed.

STATED NEED FOR ACHIEVEMENT (N)

Someone in the story states the desire to reach an achievement goal. Expressions such as "He wants to be a doctor," "He wants to finish the painting," "He hopes to succeed" are the clearest examples. Very strong indications of the presence of the motive in phrases like "He is determined to get a good mark" are also scored. The accomplishment desired may be specific, "He wants to finish the invention," or it may be more general and altruistic, "He wants to be of service to mankind." Need is scored only once per story, even when it appears more than once in varying forms. Need is not inferred from Instrumental Activity. It may seem quite obvious to the scorer that the characters who are working furiously toward an achievement goal must want to succeed. Need is scored, however, only when there is a definite statement of motivation by one of the characters.
INSTRUMENTAL ACTIVITY WITH VARIOUS OUTCOMES
(I+, I?, I-)

Overt or mental activity by one or more of the characters in the story indicating that something is being done about attaining an achievement goal is considered Instrumental Activity and is scored I+, I?, or I- to indicate whether the outcome of the Instrumental Activity is successful, doubtful, or unsuccessful. Instrumental Activity is scored only once per story even though there may be several instrumental acts stated. The outcome symbol scored reflects the net effect of all the instrumental acts which have occurred. There must be an actual statement of activity within the story independent of both the original statement of the situation and the final outcome of the story. If the first sentence of a story describes such a situation as "Two men are working on a new invention" and there is no further statement of Instrumental Activity in the story, I would not be scored. Neither would I be scored if a story went on with a statement of Instrumental Activity and ended "They will finish the invention."

The instrumental act sometimes may be successful even though the overall outcome of the story is not a success. Also, a statement of Instrumental Activity within the story in the past tense may be scored so long as it is more than a statement of the outcome of previous instrumental acts. For example, after the statement of the situation "Two men are working on an invention," a statement such as "They have worked diligently night and day in the past with repeated trials yielding only failures"  

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4Covert or mental activity such as thinking about how to attain the goal, planning, scheming, etc., should be scored I if instrumental to the attainment of an achievement goal.
may appear. It would be scored I and then +, ?, or -, depending upon the rest of the story. However, if after the statement of the situation, a statement such as "They completed two important phases of their work yesterday" appeared, I would not be scored. This is considered as a description of the outcome of previous acts with no word indicating actual striving.

ANTICIPATORY GOAL STATES (Ga+, Ga-)

Someone in the story anticipates goal attainment or frustration and failure. The Anticipatory Goal State is scored positive (Ga+) when someone is thinking about the success he will achieve, expects that the invention will work, dreams of himself as a great surgeon. The Anticipatory Goal State is scored negative (Ga-) when someone is worried about failure, is concerned over the possibility that the invention won't work, expects the worst, or is wondering whether or not he will succeed. Both Ga+ and Ga- may be scored in the same story, but each may be scored only once. The Ga- category includes all achievement-related anticipations that are not clearly positive. Thus, doubtful statements such as "He is wondering what the outcome will be" are scored Ga-.

Achievement-related anticipations must be related to the achievement goal of the story.  

OBSTACLES OR BLOCKS (Bp, Bw)

Stories are scored for obstacles when the progress of goal-directed

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5 Distinction between instrumental thought (I) and goal anticipation (Ga+). When a person is thinking or planning or wondering how to attain the goal, score I. When he is dreaming or pondering about the completion of his task, e.g., whenever he has a mental picture of the circumstances which define the attainment of the goal, score Ga+. Recollecting a past goal state or goal activity is also scored Ga+ since we have no past-oriented category for thought processes.

6 Bp stands for "block within the person;" Bw stands for "block in the world," i.e., external to the person.
activity is blocked or hindered in some way. Things do not run smoothly. There are obstacles to be overcome before the goal may be attained. The obstacles may be previous deprivation, i.e., failure, which must be overcome before further progress towards the goal is possible, or the obstacle may be present environmental or personal factors. If the obstacle is located within the individual (lack of confidence, a conflict to overcome, inability to make decisions, responsibility for some breakdown in equipment, or some past failure), it is scored Personal Obstacle (Bp). When the block to be overcome is part of the environment, i.e., when it may be located in the world at large such as: "The invention was almost finished when the gasket broke," "His family couldn't afford to send him to medical school," "Competition was too keen for him"; or when there is some doubt about whether it is located in the individual or in the world, Environmental Obstacle (Bw) is scored. Both Bp and Bw may occur and be scored in the same story, but each is scored only once per story.

NUTURANT PRESS (NUP)

Forces in the story, personal in source, which aid the character in the story who is engaged in on-going achievement-related activity are scored Nuturant Press (Nup). (Someone aids, sympathizes with, or encourages the person striving for achievement.) The assistance must be in the direction of the achievement goal and not merely incidental to it. For example, "The experienced machinist is trying to straighten things out for the apprentice and is encouraging him" Nuturant Press must always be considered from the point of view of the character or characters in the story who are striving for achievement.
AFFECTIVE STATES (G+, G-)

Affective (emotional) states associated with goal attainment, active mastery, or frustration of the achievement-directed activity are scored G. When someone in the story experiences (1) a positive affective state associated with active mastery or definite accomplishment ("He enjoys painting," "He is proud of his accomplishment," "They are satisfied with their invention,"), or (2) definite objective benefits as a result of successful achievements which allow the inference of positive affect ("His genius is acknowledged by millions," "The people are proud of the inventor," "Fame and fortune were his," "He received a raise in pay"), G+ is scored. G+ indicates more than mere successful Instrumental Activity. "He works his way through college and becomes a doctor" is scored I+. Positive Affect (G+) would be scored only when a statement of positive affect was included; i.e., "He becomes a successful doctor and experiences a deep sense of satisfaction," or if there were adequate indications of objective benefits associated with his success from which positive affect might be inferred with little doubt; i.e., "He becomes a famous surgeon." This is another example of an arbitrary distinction which was necessary to make in order to insure an objective scoring system. Positive Affect may occur within the story, or it may be associated with the outcome of the story. It is scored only once per story and should be scored when there is a definite statement of positive affect associated with the achievement-directed activity or a statement of objective benefits above and beyond the statement of successful instrumental activity.  

7Affective states. Any affective word, positive or negative, associated with activity, attainment, or nonattainment will be scored G+ or G- unless it is scored Ga+ or Ga-. G+ can come in the middle of the story when positive affect regarding progress toward the goal is evidenced. For example: "He is interested in his work."
When someone in the story experiences (1) negative affective state associated with failure to attain an achievement goal ("He is disturbed over his inability," "He is discouraged about the past failures," "He is disgusted with himself," "He is despondent, mad, and sorry"), or (2) the objective concomitants of complete failure and deprivation which allow inference of negative affect ("He became a drunken bum," "He became a laughing stock of the community"), G- is scored. As in the case of positive affect, negative affect must not be inferred merely from the unsuccessful outcome of instrumental activity. Negative Affect may occur within the story or at the end, but it is scored only once per story.\(^8\)

Both positive and Negative Affect may appear in the same story in which case both are scored.

Mere mention of famous persons is not sufficient evidence for scoring G+. The Affective State categories are only scored when associated with the achievement-related activities of the story, as in the case with all subcategories.

**ACHIEVEMENT THEMA (ACH TH)**

Achievement Thema (Ach Th) is scored when the Achievement Imagery is elaborated in such a manner that it becomes the central plot or thema of the story. Striving for an achievement goal and eventual attainment of the goal may be the central plot of the story. On the other hand, the plot may be primarily concerned with someone who is in need-related difficulty and never does succeed. In any case, the decision to be made by the scorers is whether or not the whole story is an elaboration of the

\(^8\) G- can be scored on the basis of negative affect over an obstacle which causes lack of progress toward the goal.
achievement behavior sequence. If there is a major counter plot, or if there is any doubt about the achievement imagery being central to the plot, Ach Th is not scored.
APPENDIX II

ORIGINAL n-ACHIEVEMENT SERIES PICTURES

Two men ("inventors") in a shop working at a machine. Picture B of the original n-Achievement series.

Father-son. Picture A of the original n-Achievement series.

Boy with a vague operation scene in background. Picture G of the original n-Achievement series.
APPENDIX III

ACCULTURATED n-ACHIEVEMENT SERIES PICTURES

Picture #1B. Two Navaho men in a shop working at a machine.

Picture #2H. Navaho boy in a checked shirt at a desk, an open book in front of him.
Picture #3A. Navaho father and son

Picture #2G. Navaho boy with a vague operation scene in the background.
VITA

Rex C. Ivory

Candidate for the Degree of

Master of Science

Thesis: N-Achievement Motivation of Male Navaho Indian Students as Measured by an Acculturated n-Achievement Scale.

Major Field: Counseling Psychology

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