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An Investigation of the Relationship Between Level of Need for Achievement and Employment Intentions Among College Juniors and Seniors at Louisiana State University.

Aubrey Cecil Sanford
Louisiana State University and Agricultural & Mechanical College

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The Louisiana State University and Agricultural and Mechanical College, Ph.D., 1970
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AN INVESTIGATION OF THE RELATIONSHIP BETWEEN LEVEL OF NEED FOR ACHIEVEMENT AND EMPLOYMENT INTENTIONS AMONG COLLEGE JUNIORS AND SENIORS AT LOUISIANA STATE UNIVERSITY

A Dissertation

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy

in

The Department of Management and Marketing

by

Aubrey C. Sanford
B.S., University of Southern Mississippi, 1965
M.B.A., University of Southern Mississippi, 1966
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ABSTRACT

There is little factual information about whether the people attracted to business employment have relatively strong or weak common motives. In an attempt to provide more information on this question, a primary research project was undertaken to test the following hypotheses:

**Hypothesis One:** College juniors and seniors who intend to become employees of business firms have significantly higher levels of need for achievement than those who intend to enter other types of employment.

**Hypothesis Two:** College juniors and seniors who intend to become business employees have stronger and more favorable attitudes toward certain aspects of business employment than those who intend to enter other types of employment.

The data used to test the above hypotheses were gathered from 300 students (100 in each of the academic areas of business administration, engineering, and social sciences) at Louisiana State University in the fall semester of 1969. The three part questionnaire included questions designed to reveal employment intentions and selected biographical information, a modified thematic apperception test to measure the relative level of subjects'
needs for achievement, and a semantic differential test to gather attitudinal data on the achievement aspects of business employment. Data on attitudes toward the task-related, self-related, and other-related aspects of business employment were collected.

To test the first hypothesis, all subjects were divided into a high need achiever group and a low need achiever group by dividing the distribution of achievement scores at the median. The employment intentions of both groups were compared for significant differences through the use of a chi-square test of independence. The analysis indicated that there were no significant differences in the employment intentions of high and low need achievers at the .05 level. The subjects who intended to become business employees did not have significantly higher levels of need for achievement than the subjects who intend to enter other types of employment.

Because it was felt that subjects' grade-point average might influence the relationship in question, subjects were divided into a high grade-point group and a low grade-point group, and the employment intentions in the need achiever groups were compared for significant differences. Again chi-square analysis indicated no significant differences. The same result was obtained within each of the academic sub-groups.

No substantial evidence was found which supported the first hypothesis.
The test of the second hypothesis was conducted by comparing the attitudes of the subjects who intended to enter business employment with the subjects who intended to enter other types of employment. The comparisons were in terms of a "t" test of significant differences in means. The results indicated that the subjects who intended to enter business employment did have more favorable and stronger attitudes than the subjects who intended to enter other types of employment. These significant differences continued when subjects were classified by level of need for achievement, grade-point average, and a combination of level of need for achievement and grade-point average. The analysis indicated that neither grade-point average nor level of need for achievement had a substantial influence on the attitudes in question.

In almost all cases there were differences in attitudes in the predicted direction which were significant at the .05 level. This hypothesis was supported. However, neither level of need for achievement nor grade-point average seemed to exert a substantial influence on attitudes.

In summary, the analyses indicated that there were probably other variables which exerted more influence on both attitudes toward business employment and business employment intentions than the level of need for achievement, grade-point average or a combination of the two variables.
CHAPTER I

INTRODUCTION TO THE STUDY

Dealing with the problems and sources of employee motivation represents a potent tool for achieving necessary industrial and social objectives in the way of increased productivity. Morris S. Viteles.

INTRODUCTION

One of the basic problems in our society is how to motivate people to work. It is an important problem for managers directing productive activities and society as a whole. The introductory section of this chapter explains the relationship between motivation and behavior, and describes the process of managerial motivation.

Nature Of Motivation

In order to provide a foundation for subsequent discussion, it will be helpful to present a brief explanation of the nature of motivation.

"Motivation, in . . . (the) . . . traditional sense among management writers, means . . . stimulating people to action to accomplish desired goals."¹

Although this is a valid point of view, a more analytical approach results by looking at motivation from the standpoint of the individual that is motivated.

The term motivation refers to a stimulated state of the individual. "Formally, then a motive is an inner state that energizes, activates, or moves (hence "motivation"), and that directs or channels behavior toward goals."² In simple terms, a motive results in and can be inferred from purposive goal-directed behavior. The central concern here is what causes the stimulated or activated state of the individual.

All individuals have needs or motives. Any particular individual's behavior is designed to satisfy these needs or motives. That which will satisfy the need and reduce the stimulated state is referred to as the goal. The goal may be an object, condition, or activity.³

By definition then, the general result of motivation is purposive goal-directed behavior that leads to satisfaction, but the components or characteristics of such behavior vary depending upon several factors. In the absence of external constraints, the amount of energy expended, either physical or psychological, is positively related to the strength of the motive causing the


³Loc. cit.
behavior. In effect, this means that the strength of an individual's need or motive is a determinant of the level or intensity of his motivation, and ultimately the vigor of the resulting behavior.

The goal toward which behavior is directed is influenced by several factors. The goal or want of any particular individual is influenced greatly by his perceptions. In turn, the individual's perceptions of the satisfaction power of any goal are primarily a result of the learning experiences provided by his past and present environment. Since learning is a more or less continuous process and no two individuals are likely to have had the same learning experiences, the satisfaction power of particular goals varies from individual to individual, and for the same individual from time to time.

Based upon this knowledge of the nature and characteristics of the motivated state, the process of motivating employees is built.

Process Of Motivating Employees

It is obvious that business enterprises desire employees who are highly motivated to work toward the achievement of organizational objectives.

The solution to the problem of how to establish the appropriate motivation in employees is conceptually

4Berelson and Steiner, op.cit., p. 263.
5Ibid., p. 239-40.
simple. It is a matter of determining what behavior is desired of the employee, determining what the employee's wants and goals are, and then making the employee aware that it is possible for him to achieve a goal and satisfy his wants if the desired behavior is exhibited.6

This discussion is not intended to imply that motivating employees is a simple process. The degree to which the motivational process is effective depends upon several factors. First, it depends upon the strength or intensity of the employee's needs. A second, related consideration concerns the goals which business can offer to satisfy needs. Stated another way, the degree to which an employee is motivated depends upon whether the goals that are offered satisfy relatively strong or weak needs or motives.

STATEMENT OF THE PROBLEM AND HYPOTHESES

The problem of employee motivation has occupied a central place in management research during the last thirty years. Much of this effort has focused on understanding why employees behave as they do, and on how to motivate them to achieve organizational objectives.

There are, however, two different aspects to the

employee motivation problem. First, there is the problem of securing employees that can be motivated to high levels. Second, there is the problem described above of actually motivating employees to achieve organizational objectives. Much of the practical employee motivation research has focused on this second problem. The problem of securing employees that are capable of high levels of motivation has received considerably less attention. It is with this general problem area that this study deals.

Statement Of The Problem

It is generally recognized that the strength or intensity of needs and wants varies from individual to individual. Furthermore, in the absence of external constraints, the amount of energy expended on specific tasks is positively related to the strength of the appropriate motive.\(^7\) In effect, this means that individuals with strong or intense needs are capable of much higher levels of motivation than individuals with less strong needs. After reviewing much of the literature on employee motivation, it appears that this particular aspect of employee motivation has been neglected by most researchers and authors for some reason. It is probable that such neglect has not occurred because of ignorance or oversight, but because of the complexity of measuring differences in need intensity among individuals.

\(^7\) Berelson and Steiner, *op.cit.*, p. 263.
Theory Of Achievement Motivation. One of the more notable efforts in this area of motivation research is the work of David C. McClelland and John W. Atkinson. Although only one need (the achievement motive) is of concern here, a brief summary of the whole theory will be presented because it is essential in understanding the achievement motive.

According to this theory of motivation, a motive or need is based upon emotions and is an expectation of change in the individual's state of pain or pleasure. There are then only two types of inherent motives possible --the positive or approaching which is an expectation of pleasure or satisfaction, and the negative which is an expectation of pain or displeasure.

Positive and negative affect are determined by the extent to which perceptions and expectations differ. Positive affect results from small discrepancies, and negative affect from large discrepancies. In turn, expectations are a result of experience and may change as


McClelland, The Achievement Motive, op.cit., p. 28.


a result of learning.\textsuperscript{12}

All motives, other than pain or pleasure are learned, but universal problem solving experiences produce common expectations and motives.\textsuperscript{13} McClelland and Atkinson conclude that one of the most intense common motives is the achievement motive.\textsuperscript{14} The theory is not unique in this respect. Many theorists and researchers recognize the general existence of a strong achievement motive.\textsuperscript{15}

The achievement motive is just a manifestation of the need to avoid pain and seek pleasure. It represents a desire to "compete against a standard of excellence."\textsuperscript{16} According to Heckhausen:\textsuperscript{17}

In its simplest form the standard of excellence represents a classification of alternatives: passed-failed; good-bad.

\begin{itemize}
  \item passed-failed; good-bad.
\end{itemize}

Achievement motivation can, therefore, be defined as the striving to increase or keep as high as possible one's own capability in all activities in which a standard of excellence is thought to apply and where execution of such activities can, therefore, either succeed or fail.

\begin{itemize}
  \item \textsuperscript{12}\textit{Ibid.}, pp. 58-60.
  \item \textsuperscript{13}\textit{Ibid.}, pp. 77-78.
  \item \textsuperscript{14}\textit{Ibid.}, pp. 78-80.
  \item \textsuperscript{16}\textit{Ibid.}, p. 78.
  \item \textsuperscript{17}\textit{Heinz Heckhausen, The Anatomy of Achievement Motivation (New York: Academic Press, 1961), pp. 4-5.} \end{itemize}
The theory of achievement motivation asserts that a person's motive to achieve, his motive to avoid pain, and his expectation of success in some venture strongly influence the character of his motivation as it is expressed in level of aspiration, preference for risk, and willingness to put forth effort and persist in an activity.\(^8\)

The authors of this theory developed a rather reliable technique for making relative measurements of the strength of the achievement need.\(^9\) The ability to measure the level of need for achievement opened up significant research possibilities.

**Occupational Consequences Of Achievement Motivation.** McClelland conducted an extensive investigation of the social consequences of achievement motivation.\(^{20}\) Primarily, he tried to determine if there was a positive relationship between the overall level of need for achievement among people in a country and the level of economic development. His investigation generally supported the conclusion that high levels of need for achievement led to high levels of economic development.

\(^{18}\)Atkinson and Feather, *op.cit.*, p. v.


In seeking further support for this conclusion, he attempted to determine whether or not business occupations attracted more than their proportionate share of people with high levels of need for achievement. Such a situation would lend support, but is not essential, to his primary thesis.

Aside from the question of support for McClelland's thesis, this question appears to have great significance for business firms. If business firms desire highly motivated employees, they should be concerned with whether or not the employees that they attract are capable of high levels of motivation.

As it is defined, it is logical to conclude that business firms desire employees with high levels of need for achievement. The achievement motive represents "competition with a standard of excellence" and generally influences behavior in problem solving activities that can either succeed or fail in some degree. It is obvious that most business activity and employment represent situations of the type described.

There is some research which supports this assumption. This research indicated that employees with high levels of need for achievement were more successful (when success was measured by salary and length of time required to reach present position) than employees with relatively low levels of need for achievement. This is

21Ibid., pp. 267-71.
evidence that business firms value employees with high levels of need for achievement.

Based upon his own research and indirectly related research of others, McClelland concluded that business occupations do tend to attract more than their proportionate share of people with high levels of need for achievement. There is some support for this hypothesis, but the evidence is not conclusive.

From the standpoint of a firm which desires employees with high levels of need for achievement, there are several reasons why this conclusion needs further study. First, it appears that the analyses upon which McClelland's conclusion was based were not consistent in their definition of business occupations. One of the analyses defined business occupations very narrowly as managerial positions, and compared the achievement needs of managers with a matched sample of engineers who were also business firm employees.22 McClelland's own research defined business occupations much more literally, and compared the achievement needs of people in business occupations with people in other non-business occupations.23 Under the definition used in this analysis, both groups, managers and engineers, in the first study mentioned would have been classified in business occupations.

22Ibid., pp. 261-2.
23Ibid., pp. 240-53.
This methodological inconsistency does not necessarily invalidate McClelland's conclusion, but it does cast doubt upon it. It is possible that business occupations as a group attract people with higher levels of need for achievement than do most other occupations, while at the same time managerial positions attract people with even higher levels of need for achievement than do business occupations in general. However, only a small sample of business occupations were used in McClelland's analysis, and at least one of the non-managerial business occupations, sales, appeared to attract people with equally high levels of need for achievement. In light of these considerations, the conclusion deserves further investigation.

Second, from the standpoint of a business firm seeking to recruit achievement motivated employees, McClelland's analysis is cluttered. His definition of business occupations included those people who intended to go into business occupations as owners for themselves. From the viewpoint of a firm recruiting employees, the inclusion of this group obscures the conclusion that people with intense achievement needs are attracted to business occupations.

**Student Apathy Toward Business.** There is also another fundamental reason why this question deserves further investigation. Although there is no research known to this writer which explicitly states that
college graduates with high levels of need for achievement are not attracted to business occupations, there is some related information. Many business firms today rely heavily upon college graduates in various academic areas of study as an important source of employees. In the past two or three years, there has been some evidence and even more concern among leaders in the business community that the "better" college students are not going into business occupations. It has been widely publicized that many college students feel that "business is for the birds."

In the past two or three years, numerous articles discussing the existence and consequences of student apathy toward business occupations have appeared in professional journals.24

The fact of the matter is that concrete evidence in the form of empirical research is scarce, and what is available is fragmentary and inconclusive.\textsuperscript{25} Neither is there conclusive information about student attitudes toward business and business employment.

It is also true that what is meant by "better" college students has not been systematically defined in most discussions. Very little of the literature explicitly mentions achievement motivation, but it appears to this researcher that motivation to achieve is a central theme running through most of the discussions. If so, it would seem that this situation also casts doubt on the hypothesis that business occupations tend to attract people with high levels of achievement motivation.

Even if college students are not actually apathetic toward business employment, and even if the criteria used for "better" are not related to achievement motivation, there is still justification for further investigation of the issue. Many business firms do rely quite heavily upon college graduates as an important source of employees. As technology advances and firms become more complex, employees with increasingly higher levels of ability will be needed. It is highly likely that firms will rely more and more upon college graduates as a source of

such employees. 26

The point being made here is that even if McClelland's conclusion holds true for the general population, it could very well be invalid for any particular group of potential employees (in this case college graduates). Therefore, McClelland's conclusion merits study with respect to this important source of employees.

The specific question raised by this study is: do business firms attract as employees college students with needs for achievement significantly different from college students who choose other occupations and why?

Hypotheses

The preceding discussion has indicated that there is reason to question whether or not business firms attract college students with high levels of need for achievement. It has also pointed out that for many firms this group represents an increasingly important source of potential employees, and that firms value people who are highly achievement motivated. The first hypothesis of this study is:

1. College juniors and seniors who intend to become employees of business firms have significantly higher levels of need for achievement from those who intend to enter other types of employment.

This hypothesis is intended to guide an investigation and analysis that will reveal the type of college student that business firms attract. There still remains another important question, however. Why do business firms attract one type of student and not other types? The theory of achievement motivation indicates that people with high levels of need for achievement are attracted to business occupations for two primary reasons. First, they perceive business occupations as being moderately risky relative to their perception of their chances of success. Second, the nature of business activity and employment is such that it represents a situation conducive to achievement. The assumed cause and effect relationship in this explanation has already been questioned and even if it is true, it is too general to be of much value to business firms seeking to recruit achievement motivated people. Data of a more specific nature are needed. The second hypothesis of this study is intended to guide an investigation and analysis which will provide more information on this question.

Most social psychologists agree that an individual's attitudes are a major part of the mediational activity that operates between most stimulus and response patterns. Attitudes are a predisposition to respond and can be referred to as approach or avoidance tendencies. In

\[27\text{McClelland, The Achieving Society, op.cit., p. 249.}\]

\[28\text{Charles E. Osgood, George J. Suci, and Percy}\]
simple terms, attitudes are a primary determinant of the specific behaviors that an individual exhibits. Since attitudes significantly influence the actions that an individual takes, the second hypothesis of this study deals with these predispositions to respond.

2. College juniors and seniors who intend to become business employees have stronger and more favorable attitudes toward certain aspects of business employment than those who intend to enter other types of employment.

VALUE OF THE STUDY

It is believed that this study has value for several reasons. It should be of direct value to business firms seeking to recruit college graduates as employees. Second, the study should produce some useful information regarding the type of student attracted to particular academic areas of study. For example, are students with high levels of need for achievement attracted to particular academic areas of study, e.g., business, engineering, etc.? Third, the study should provide a further test of the hypothesis that business occupations tend to attract highly achievement motivated people.

Improvement Of College Recruiting

This investigation should produce information which business firms can use as a basis for improving the

recruitment of college students. It should provide descriptive information about the type of student, relative to the level of need for achievement and such other variables as grades and academic area of study, that is attracted to business employment.

If the first hypothesis is supported it should dispel some of the fear that "better" college students are not entering business employment. If the first hypothesis is not supported, the study still has value, at least then business has some idea of what type of college students they attract.

The findings developed to test the second hypothesis will also be of value whether the hypothesis is supported or not. If the first hypothesis is supported, and the second hypothesis is also supported, it should produce information which firms can use to strengthen their recruitment of high achievers. If the first hypothesis is not supported, the second hypothesis should produce information which firms can use in their attempts to alter their image in the eyes of high achievers. If the second hypothesis is not supported, then firms will know that certain aspects of business employment are important to higher achievers, and firms can alter their recruitment process accordingly.

It is this type of information that business firms need in developing and improving the recruitment of college graduates. No matter which type of college student
business firms want, they need to know what image must be developed and emphasized to attract such people.

Secondary Objectives Of The Study

The study should also have value for several related reasons. The analyses conducted should produce information about the type of student attracted to particular areas of academic study. Secondly, the study should indicate generally the relationship between need for achievement and academic performance. And obviously, the investigation should shed more light on the hypothesis that business occupations tend to attract people with high levels of need for achievement.

PREVIEW OF THE PRESENTATION

A preview of the remainder of the presentation will aid in reading, interpreting, and evaluating the study and its findings. The statement of the problem and hypotheses presented earlier in the chapter provide a logical basis for organizing the remainder of the presentation.

Chapter II provides a detailed description of the methodological aspects of the study. A thorough knowledge of the procedure and methodology employed is a necessity in interpreting and evaluating the findings presented in Chapters III, IV, and V.

Chapter III presents a descriptive analysis of the type of student that is and is not attracted to business
employment. The need achievement scores and employment intentions of students are analyzed to test the first hypothesis.

Chapter IV attempts to explain the findings presented in Chapter III. The need achievement data and semantic differential data are analyzed to test the second hypothesis with respect to the entire sample and major sub-samples.

The fifth and final chapter of the study summarizes the entire investigation, presents conclusions, and makes recommendations.
CHAPTER II

DESIGN OF THE STUDY

The purpose of this chapter is to set forth and describe the procedure and methods used in the collection and analysis of data. The selection of subjects, development of the research instrument, scoring and coding of data, and methods of analysis are all described and explained below.

PROCEDURAL OVERVIEW

The specific procedures followed in the collection and analysis of data are described in detail below; however, a brief overview will be helpful. College junior and senior males in three major academic areas of study were administered a research instrument designed to collect three types of data—(1) selected biographical data, including occupational intentions, (2) data from which the subject's level of need for achievement could be ascertained, and (3) data which revealed the subject's attitudes toward selected aspects of business employment. The need achievement scores and employment intentions data were analyzed to test the first hypothesis. The data on attitudes were analyzed to test the second hypothesis.
SELECTION OF SUBJECTS

The subjects from which data were collected were male juniors and seniors at Louisiana State University, and were selected from the general academic areas of business administration, engineering, and the social sciences.

Selection Of The General Population

Although it could not be assumed that students at Louisiana State University were representative of all college students, it was felt that the students at this institution were not unique. It is a relatively large state university and the majority of college students attend state universities as opposed to other types of higher education institutions. A breakdown of male students by state of permanent residence showed that in the spring semester of 1969 Louisiana State University had 6,928 male undergraduate students at the Baton Rouge Campus. Of this number, approximately 16 percent came from forty-one other states.¹

Selection Of Academic Areas

The subjects from which data were collected were selected from three major academic areas—business administration, engineering, and social sciences—because

¹Division of Institutional Research, Louisiana State University, Current Enrollment Summaries for Baton Rouge Campus, Spring Semester, 1969.
these appeared to be the areas from which firms had tried to recruit. These three areas have accounted for approximately 98 percent of the college graduates sought by the two hundred firms in the annual Endicott survey of college recruitment reported by the National Industrial Conference Board. It should be pointed out that the firms in this survey are relatively large, and are not exactly representative of the total population of business firms which recruit college graduates. But this survey is one of the only continuing sources of systematically collected data of this type. Information concerning the areas of academic study followed by the students which business firms seek to recruit is scarce.

For the purposes of this study, the three major academic areas were defined as follows: business administration, including those students majoring in management, marketing, finance, economics, general business, and accounting; engineering, including those students pursuing any of the various engineering fields, e.g., chemical, civil, mechanical, petroleum, etc.; and social science, composed of students majoring in psychology, sociology, anthropology and political science.

Although it did not appear that business firms


had recruited students in equal numbers from all three academic areas, subjects from each of the three major areas were included in approximately equal proportions. This procedure facilitated statistical analysis of the data, since numerous cross-classifications were involved.

Selection Of Academic Classifications

Only junior and senior level students were included in this study. These two groups were selected over other undergraduate students in general because they were much closer to actually making an employment decision. It was felt that they probably would have been exposed to more information, and would have given more thought to the subject of their career choice. Graduate students were not included. Although business firms have recruited students with graduate degrees from many academic areas, the number of graduate students sought has not been nearly as significant as the number of undergraduate students. It has been mainly in the area of business administration that firms have sought appreciable numbers of graduate students.

Selection Of Subjects Studied

Within the parameters outlined, subjects were selected by securing the permission of classroom instructors to administer the research instrument to their students. The permission of classroom instructors and

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4 Habbe, loc.cit.

5 Loc.cit.
the willingness of the student to cooperate were the ultimate criteria that determined which specific students were included.

DESIGN AND ADMINISTRATION OF THE RESEARCH INSTRUMENT

The next major methodological aspect of the study which must be explained concerns the research instrument and its administration. The development of the instrument and its administration are treated below.

Design Of The Research Instrument

The research instrument that was used to collect data from subjects had three major parts. A copy of the instrument is shown in Appendix II. The first part contained questions designed to reveal certain biographical data, and whether or not the subject intended to become an employee of a business firm. The second part collected information from which the student's relative level of need for achievement could be ascertained. The third and final part of the instrument was a semantic differential test that collected data from which the subject's attitudes toward selected aspects of business employment were determined.

Collection Of Biographical Data. The first section of the questionnaire contained nine questions designed to collect selected biographical data. Questions numbered two and four asked for sex and academic classification
respectively. These questions were included merely for the sake of convenience in administering the instrument. Questions one, three, and eight all asked for biographical information so that a more complete description of the subjects could be given. Questions five, six, and seven sought information necessary for cross-classification purposes in the analyses. Question number nine sought to reveal the subjects' employment intentions. Although this investigation was concerned only with whether the subject intended to become an employee of a business firm, it was felt that several fairly specific answers would produce more reliable, discriminating information about the subjects' employment intentions.

Assessment Of Need For Achievement. The second part of the instrument was a modified Thematic Apperception Test to measure the relative level of the subject's need for achievement. The Thematic Apperception Test is a projective testing technique developed by H. A. Murray. It involves showing subjects rather ambiguous pictures and having them tell a story about what is going on in each picture. These stories are then analyzed with respect to the particular aspect of the subject's personality under study.\(^6\)

The projective testing techniques are based upon the fundamental assumption that the subject will project

himself into the stimulus situation (picture). Further, it is assumed that in describing or responding to the stimulus, the subject indirectly reveals something about himself. The subject's responses can then be analyzed and interpreted to reveal certain aspects of his personality.⁷

McClelland and his colleagues have developed a modified Thematic Apperception Test to measure the relative strength of the need for achievement.⁸ As with the Thematic Apperception Test, the technique involves showing subjects rather vague and ambiguous pictures and having them tell a story about what is happening in the pictures. Subjects are provided four questions to stimulate their thinking in composing the story about the picture. These stories are then analyzed and scored with respect to the level of need for achievement.

The logic of this particular technique and its interpretation is that subjects with strong needs for achievement will write stories which are much more achievement oriented than subjects with weaker needs for achievement. This assumption is supported by


substantial evidence. It was found through clinical experiments that subjects in whom the achievement motive had been artificially aroused wrote more achievement oriented stories than subjects under either neutral or relaxed conditions. Based upon these facts, it is assumed that if all subjects take the test under neutral conditions, those with relatively high levels of need for achievement will write more achievement oriented stories.\textsuperscript{9}

The subjects in this study were shown pictures numbered 2, 5, and 8 in David McClelland's catalog of pictures.\textsuperscript{10} These pictures have been found to be highly effective in measuring achievement motivation in college students and have been used numerous times.\textsuperscript{11}

Development Of Semantic Differential. The third and final part of the instrument was a semantic differential test.\textsuperscript{12} The objective of this portion of the instrument was to collect data from which the

\footnotesize{\textsuperscript{9}Ibid., pp. 139-156.}

\footnotesize{\textsuperscript{10}Pictures 2 and 8 were reproduced with permission from David McClelland and others, The Achievement Motive (New York: Appleton-Century-Crofts, 1953), pp. 101-2.}


\footnotesize{\textsuperscript{12}The development of this general measuring technique is reported in Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, The Measurement Of Meaning (Urbana, Illinois: University of Illinois Press, 1957).}
subjects' attitudes toward selected aspects of business employment could be determined.

The semantic differential is a general technique of measurement, not a specific "test." It had to be constructed and adapted to the specific requirements of the investigation. This meant that appropriate concepts had to be selected and that relevant adjective scales had to be chosen.

The rationale which underlies this technique is that there is a semantic space of some unknown dimensionality. The semantic differential test defines a connotative meaning or attitude as a point in this space. Thus the test enables one to differentiate connotative meanings or attitudes among two or more individuals or groups by analyzing the position of the various attitudes in this semantic space. An example will make this explanation clearer.

The work of Osgood and his associates has shown that the EVALUATIVE and POTENCY dimensions of the semantic space are the two most important ones. The EVALUATIVE dimension signifies the extent of like or dislike for the concept under consideration. The POTENCY dimension deals with the degree or intensity of the EVALUATIVE dimension. In simple terms, the POTENCY dimension refers to how strongly the subject feels about

\[13\text{Ibid., p. 25.}\]
\[14\text{Ibid., p. 87.}\]
the EVALUATIVE dimension. Once these two dimensions are determined, the attitude can be located in semantic space and visualized or illustrated as shown in Figure II-1.

Specific concepts can be placed in this semantic space through the use of the semantic differential test. For example, assume there is a desire to analyze the differences in the attitudes of two individuals toward the College of Business Administration. By administering a semantic differential test composed of a series of bipolar adjective scales to the two individuals, an ordered pair of numbers can be obtained. This ordered pair of numbers represents the position of the attitude in the semantic space. Each number represents the position of the attitude in a given dimension. Assume that the results of the test for Individual A are (1, 7), 1 unit on the potency dimension and 7 units on the evaluative dimension, and that the results for Individual B are (7, 1), 7 units on the potency dimension and 1 unit on the evaluative dimension. These ordered pairs of numbers enable one to position the points which represent the individuals' attitudes toward the College of Business Administration as was done in Figure II-1.

The position of the two individuals' attitudes in this semantic space gives an indication of the concept's "absolute" meaning, and from this "relative" meaning can
be inferred. In the hypothetical example illustrated in Figure II-1, Individual A's attitude toward the College of Business Administration is very favorable, but he does not feel very strongly about this. In contrast, Individual B's attitude is not very favorable, but he feels very strongly about it.

Fig. 1.--Hypothetical illustration of attitudes

It follows that the same type of test can be administered to two or more groups of individuals and the same general type of interpretation made. In this case, the meaning of a concept to a group is operationally

\[15\textit{Ibid.}, \text{ pp. 318-25.}\]
defined as the averaged set of scale scores for the concept. Defining the meaning of a concept to a group in this manner makes it possible to compare two or more groups, and to determine whether or not the two groups attach statistically significantly different meaning to the concept.\textsuperscript{16}

In this investigation it was not concepts, per se, but attitudes which were considered important. The work of Osgood and his associates has indicated that attitudes are one of the major areas of meaning in general. They are evaluative in nature, and they can differ in strength or intensity. This makes it possible to extend the measurement procedures of the semantic differential to attitudes. This does not mean that the semantic differential is a completely valid and reliable instrument for revealing the attitudes of groups of people. Research does indicate that it is a relatively reliable measuring technique, and that it measures the same thing as other widely used attitude measuring devices (e.g., Thurstone scales and the Guttman scale). Consequently, the semantic differential can be used to yield quantitative information on attitudes which can be tested for significant difference.\textsuperscript{17}

Selection of the concepts which were to be evaluated by the series of adjective scales was the first step

\textsuperscript{16}Ibid., p. 88.

\textsuperscript{17}Ibid., pp. 189-98.
in designing the semantic differential. The nature of the investigation and the stated hypotheses chiefly defined the concepts that were selected.

Generally speaking, the concepts which were relevant for this study were those dealing with aspects of business employment believed to influence satisfaction of the achievement motive. It was pointed out earlier that the achievement motive represents a desire to compete against a standard of excellence where actions can succeed or fail in some degree. More specifically, as Heckhausen\(^{18}\) points out:

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 own earlier achievements), or other-related (e.g., comparison with the achievements of others, for example in competition).

Thus, there are three different aspects of achievement motivation. Using these three aspects as a guide, six concepts—two for each aspect of achievement motivation—were selected for this study.

The concepts were roughly classified as task-related concepts, self-related concepts, and other-related concepts. They are listed below.

Task-Related Concepts

T-1. "CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

T-2. "OPPORTUNITY PROVIDED BY BUSINESS FIRMS FOR

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YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

Self-Related Concepts

S-1. "THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

S-2. "OPPORTUNITY PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

Other-Related Concepts

O-1. "THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

O-2. "ABILITIES OF BUSINESS EMPLOYEES"

R-1. "YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

The first four concepts were derived from a national study of college students reported by Fortune. This study found that three of the most important influences on the occupational choice of college students were (1) the opportunity to make a worthwhile contribution to society, (2) the challenge associated with the job, and (3) the opportunity to make a full utilization of abilities. As can be seen, these three things relate generally to the task and self-related aspects of achievement motivation.

The other-related concepts were developed by the researcher after careful consideration of those aspects of business employment that would logically influence satisfaction of the other-related aspect of the

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achievement motive.

The seventh concept shown above is in many respects of a different order than the six concepts already presented. The concept was added after a pretest of the instrument indicated that without a reference point, the research results would be extremely difficult to interpret within the theory of achievement motivation.

In order to eliminate bias and interdependency among the concepts, each concept was placed on an individual page. With the concepts selected, the next step in the construction of the differential was the selection of adjective scales.

The ten scales used to locate the subjects' attitudes in semantic space were selected based upon two criteria. First, the scales were selected in light of the dimensions of semantic space to be measured. Second, the scales were relevant to most of the concepts.

Osgood and others have performed a number of factor analyses to determine what the dimensions of semantic space are, and which particular sets of bipolar adjective scales measure particular dimensions. The evaluative and potency dimensions accounted for better than eighty-five percent of the variance in attitudes in the different studies.\(^{20}\) These two dimensions were considered sufficient to locate subjects' attitudes for the purposes of this study.\(^{21}\)

\(^{20}\)Osgood, op.cit., pp. 31-75.
These same studies also indicated that certain bipolar adjective scales were maximally loaded on a given dimension across a wide variety of concepts. That is, certain adjective scales appeared to be capable of measuring a certain dimension of semantic space, e.g., evaluative, for almost any concept or attitude.22

The ten scales were selected from Osgood's list of suggested scales. Five maximally loaded scales that appeared relevant to most of the concepts were selected for the evaluative dimension and five for the potency dimension. The scales that were selected are listed below.

<table>
<thead>
<tr>
<th>Evaluative</th>
<th>Potency</th>
</tr>
</thead>
<tbody>
<tr>
<td>good—bad</td>
<td>large—small</td>
</tr>
<tr>
<td>valuable—worthless</td>
<td>strong—weak</td>
</tr>
<tr>
<td>nice—awful</td>
<td>heavy—light</td>
</tr>
<tr>
<td>fair—unfair</td>
<td>thick—thin</td>
</tr>
<tr>
<td>pleasant—unpleasant</td>
<td>deep—shallow</td>
</tr>
</tbody>
</table>

In order to prevent subjects from replying in patterns or systems, the scales were rotated horizontally on a random basis. A random number table was used to

21Ibid., pp. 191-2.

22Ibid., p. 37. It would have been preferable to develop a specific set of adjective scales for use in this study. This was prohibitive, however, because the development of even a small set of scales for use in this study would have required exhaustive experimentation and factor analyses. Because of this, scales were selected from the list suggested by Osgood. This list of fifty sets of scales has been extensively used in various types of attitude studies.
determine whether the positive or favorable end of the scale was located on the right-hand or left-hand side of the page.

Pretest Of The Instrument

The entire research instrument was pretested by administering it to fifty-six students at the University of Southern Mississippi. The fifty-six students were composed of two groups of twenty-eight students. One group was made up of business administration students who were planning to become business employees, and the second group consisted of education majors who did not intend to become business employees.

The results of the pretest showed that the instrument was capable of eliciting stories to the pictures which could be scored for achievement motivation, and that there were significant differences in the attitudes of the two groups relative to the concepts selected.

Administration Of The Instrument

The research instrument was administered to students in the classroom either by the researcher personally or by a well instructed representative of the researcher.

SCORING AND CODING OF DATA

Each of the three parts of the research instrument
was scored and coded on program paper.

**Scoring Of Need Achievement Test**

The need achievement scores for subjects were derived from a content analysis of the stories written to the three pictures. A subject's total score was the algebraic sum of the scores for each of the three pictures.

The scoring system is well defined and standardized, but it is still highly technical and requires much interpretation of story content. For this reason it was decided to have the stories scored by professional scorers. Fortunately, such a service is available. All stories used in the analysis were interpreted and scored by the Motivation Research Group at the Behavioral Science Center in Cambridge, Massachusetts. The content analysis used to score the stories was the standardized one developed by McClelland and his associates.\(^23\) It involved scoring the stories on thirteen different criteria. Eleven of the criteria indicate evidence of achievement motivation and receive +1 scores. One of the criteria is considered evidence of doubtful motivation and is scored 0. The final criteria is considered evidence of negative achievement motivation and is scored -1.

**Scoring Procedure For Semantic Differential**

The semantic differential test did not require an involved scoring procedure. The raw data were a

\(^{23}\text{McClelland, op.cit., pp. 107-38.}\)
collection of checkmarks against the seven point bipolar adjective scales. To each of the seven positions on each scale a digit was assigned. The seven positions were assigned numbers from one through seven with the numbers increasing consecutively toward the positive or favorable end of the scale. Position seven indicated a more favorable or stronger attitude than did any of the other scale positions. An individual's score on an item was a digit corresponding to the scale position that he checked. Consequently, the meaning of a concept to an individual was a set of scale scores. In turn, the meaning of a concept to a group was the average of the scale scores for individuals in the group.

Coding Of Data

All of the data collected was coded on program paper and double checked before being punched on data cards. Data cards were punched and verified at the Computer Center at the University of Southern Mississippi in Hattiesburg. The next section of this chapter describes the procedures followed in the analysis of data.

METHOD OF ANALYSIS

The data collected had to be analyzed to test the two hypotheses set forth. This section describes the conceptual framework of the analysis and the statistical techniques employed.
Procedure For Test Of First Hypothesis

The data concerning subjects' occupational intentions and their need achievement scores were analyzed to test the first hypothesis. The chief objective of this analysis was to determine whether or not there were significant differences in the achievement needs of subjects who did and subjects who did not intend to become business employees. Stated another way, the analysis sought to determine the degree of association between level of need for achievement and choice of business as an occupation. A general measure of correlation between these two variables was needed.

The more commonly used correlation and regression techniques could not be used because of the nature of the data. As is obvious, this type of analysis involved correlating an arbitrarily scaled variable with a dichotomous variable. This could not be done with the more commonly used correlation techniques.24

Moreover, the sample of subjects was not random, and it could not be assumed that the nature or shape of the distribution of the parent population was known. These restrictions made it a necessity to use the more general non-parametric statistical techniques.25


The non-parametric statistical techniques make no assumptions concerning the shape of the parent distribution or population, and are generally considered less powerful techniques of analysis than the parametric techniques. However, it should be pointed out that the parametric techniques are only more powerful when the assumptions underlying their use are valid. When these assumptions are untrue, the non-parametric techniques may be just as powerful as the parametric. Since nothing was known about the shape of the distribution of the parent population, it was felt that the assumptions of the parametric tests prohibited their use in this study.

The statistical techniques that were used in this study were the chi-square test of independence and its related measure of association, the coefficient of contingency. The chi-square test is a test of the degree of independence of categorical variables. The chi-square test involves setting up the null hypothesis that there are no differences in the categorized groups and calculating $X^2$ according to the following formula:

$$X^2 = \sum \frac{(O-E)^2}{E}$$

where

- $X^2 = \text{Chi-square value}$
- $O = \text{Observed frequencies}$
- $E = \text{Expected frequencies}$
coefficient of contingency is a measure of the degree of
contingency or dependence between variables or sets of
variables. In this sense it is a general measure of
the degree to which two sets of variables are correlated.
In this respect it is superior to the chi-square test
because it is a standardized value whose upper limit does
not vary with the number of observations.

Subjects were classified according to their occupa-
tional intentions based upon their answer to question
nine in the questionnaire. All subjects who checked
option (g), work for a private business firm, were
placed in this category. Also, those subjects that
checked (i), armed services, or (h), graduate school,
and also checked option (g), were classified as subjects
who intended to become business employees.

Subjects were classified into one of two groups
based upon their relative level of need for achievement
in one or both of two ways. In some cases subjects were
classified as high or low achievers by separating the
appropriate distribution of achievement scores at the

\[ C = \sqrt{\frac{X^2}{X^2 + N}} \]

where

- \( C \) = Coefficient of contingency
- \( X^2 \) = Chi-square value
- \( N \) = Sample size

\[ ^{28} \text{The formula for calculating the coefficient of }
\text{contingency is:} \]

\[ ^{29} \text{Mueller, loc.cit.} \]
median score. In other cases, those subjects with scores near the median were deleted and the resulting tails of the distribution were compared.

In addition to this general test of the first hypothesis, it was felt that a more intensive test would result from analyzing various cross-classifications of subjects. For example, was the relationship between need for achievement and occupational intention the same across the major academic areas; was it the same within any particular academic area for students with different grade-point averages?

To conduct such analyses it was necessary to categorize students on the basis of their academic area of study and grade-point average. The basis for categorizing students relative to academic area of study has already been pointed out. Students were classified into one of two groups based upon their grade-point average by dividing the appropriate grade-point distribution at its median.

It is obvious that the use of two categories for all of the classifications was somewhat arbitrary. Clearly, many of the characteristics upon which subjects were grouped could be divided into more than two categories. The use of only two categories for the various classifications had much to recommend it, however. Some of the variables, such as the decision to become a business employee, readily lent themselves to such a dichotomy.
Also the statistical techniques used were not strict measures of correlation, and the absolute value of their measure of association varied with the size of the contingency table. Because it was felt that the entire investigation would be more meaningful if these measures of association were comparable throughout the study, dichotomous classifications of variables which resulted in 2 x 2 contingency tables were used. It was felt that any loss of data interpretation which resulted would be more than offset by the resulting comparability of interpretations.

Procedure For Test Of Second Hypothesis

The semantic differential data were analyzed to test the second hypothesis. The primary objective of this analysis was to attempt to explain the findings presented in Chapter III. This required analysis of the semantic differential data in terms of the level of need for achievement and employment intentions for various cross-classifications. Basically, this meant that the attitudes of various groups of subjects had to be compared to determine whether or not there were significant differences.

The same criteria that were used in the first

30 The maximum value of the coefficient of contingency varies depending upon the size of the contingency table for which it is calculated. The maximum value of $C$ is $0.707$, $0.866$, $0.894$ for square tables of 2, 4, and 5 categories, respectively. The maximum value of $C$ for non-square tables is unknown.

In the analysis the calculated coefficient of contingency is standardized to a value of 1 by dividing by 0.707.
analysis for classifying subjects were used here. This was a necessity if this analysis was to be meaningfully related to the first analysis.

The statistical technique used to test for significant differences in attitudes between groups was the "t" test. The "t" test is a test of statistical significant differences in means. This particular technique was selected because it could be used to test hypotheses with unknown parameters.31

This procedure involved calculating the means and variances for the seventy possible responses (7 concepts X 10 scales) for each group used in each comparison. To

31 The "t" test involves setting up the null hypothesis that the means of the two groups come from the same population, and calculating a "t" value according to the following formula:

\[ t = \frac{x_1 - x_2}{\sqrt{\frac{(s_1^2)(n_1-1) + (s_2^2)(n_2-1)}{(n_1+n_2-2)} \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}} \]

where

- \( t \) = "t" value
- \( x_1 \) = mean of sample one
- \( x_2 \) = mean of sample two
- \( n_1 \) = size of sample one
- \( n_2 \) = size of sample two
- \( s_1 \) = standard deviation of sample one
- \( s_2 \) = standard deviation of sample two

This formula makes use of a weighted average of individual sample estimates of the standard deviations of the population. The best source for more information on situations where it is necessary to use the weighted average is Samuel B. Richmond, *Statistical Analysis* (second edition, New York: The Ronald Press, 1964), pp. 190-93.
establish any statistical significant difference in any one scale for a concept, the "t" statistic was calculated and the scale determined to be different or not different at some level of significance.

To compare the attitudes of any two groups, seventy "t" statistics (one for each scale on each concept) were calculated based on the 140 means and variances. If one scale for either of the two dimensions (evaluative or potency) was statistically significantly different, the meaning of the whole concept was considered different for the two groups compared. This followed since either of the two dimensions could position the attitude in semantic space significantly differently. Based upon this, the decision criteria were established.

**Development Of Decision Criterion**

A level of significance of .05 was used throughout this study. With respect to the Chi-Square test and Coefficient of Contingency, this criterion appeared to be the most practical. The .05 level was also used to test for significant differences in attitudes between groups. If any one scale differed at the .05 level, the attitudes of the two groups were considered different. This level of significance seemed sufficient since it required that one out of five, or twenty out of one hundred scales, had to be different to consider the attitude different. At this level of significance it would be expected that only five out of one hundred scales would differ due
All of the statistical analyses were conducted on the IBM 360 series computer in the Department of Computer Science at the University of Southern Mississippi. The last aspect of methodology which must be discussed concerns the limitations of the study.

LIMITATIONS OF THE STUDY

There were two major limitations on this study. As is usually the case, lack of adequate time and financial resources limited the scope of the study. The second limitation was imposed by the technique used to measure achievement motivation. In the spirit of scientific inquiry, the more important consequences of these limitations should be made explicit at this point.

Consequences Of Financial And Time Limitations

The first consequence was that the subjects in this study were not selected on a random basis. It was obvious that the study would have had greater value if it had been conducted using a national random sample of college students. Such a task would, however, have been tremendously difficult even for a team of researchers.

As a result, graduate students and students from all academic areas were not included in the study (notably, education, agriculture, and fine arts). Since all students were not included, the findings of the study...
cannot be applied to college students in general. It is possible that the occupational choice of students in other academic areas has already been influenced by their need for achievement. To the extent that this is true, the study does not provide a complete test of the hypotheses set forth. In defense of this limitation, all of the academic areas from which business firms desire to recruit to any appreciable extent were included.

It is also apparent that an individual's actions are influenced by more than one need. In this sense the study was not a comprehensive investigation of the determinants of occupational choice. Certainly there were other variables excluded by this study which exert an influence on the occupational decision. Such a comprehensive investigation and analysis would have been almost unmanageable. As one professor warned, a theory which explains everything is likely to explain nothing.

Moreover, the study was limited in that it did not include a follow-up analysis. Ideally, a second investigation made after the students were relatively settled in their employment choices should have been conducted. Without such a follow-up, it cannot be stated with certainty that business occupations attract and hold people with particular levels of need for achievement. Again such a follow-up was prohibitive.

Limitations Of Research Technique

It should also be pointed out that the projective
technique used to assess the level of achievement motivation limited the study in two ways.

First, the projective techniques as a group (including the one used in this study) are not universally accepted by psychologists as valid, reliable, psychological measuring tools. They are accepted by a substantial number of professional psychologists who are considered leading authorities in the field. The particular technique used in this investigation is considered reliable and valid enough for research purposes, and it is extensively used; nevertheless, this limitation should be kept in mind.

Second, the technique at its present stage of development could not be used for an analysis which included both males and females. The technique is believed to be equally valid for both females and males when analyzed as a separate group, but not together. Therefore, females were excluded from this study.

In spite of these limitations, it is felt that the study has value for the reasons already cited. However, the restrictions that the limitations impose must be kept in mind when any attempt at generalizing the results of the study is made.


SUMMARY

This chapter has described and explained the procedure that was followed in conducting this investigation. The subjects selected were male undergraduate juniors and seniors majoring in the areas of business administration, engineering, and the social sciences. The research instrument was designed based upon previous studies and logic. It was used to collect three types of information—biographical data, need achievement data, and attitudinal data. The instrument was coded and scored by experts according to predetermined criteria. The analytical procedures made use of were the chi-square test, the coefficient of contingency, and the "t" test. Lastly, the limitations of the study were pointed out.
CHAPTER III

THE RELATIONSHIP BETWEEN LEVEL OF NEED FOR ACHIEVEMENT AND BUSINESS EMPLOYMENT INTENTIONS

INTRODUCTION

One of the primary purposes of this investigation was to determine whether or not the level of the need for achievement of college students affected their employment intentions. More specifically, the first hypothesis of this study was:

Junior and senior level college males who intend to become employees of business firms have higher levels of need for achievement than those who intend to enter other types of employment.

This chapter presents a report of the analyses conducted to test the above hypothesis. The achievement need scores and the employment intentions data were analyzed to test the hypothesis. Subsequent analyses were then conducted to determine whether or not the overall grade-point average of subjects influenced the relationship between the level of need for achievement and business employment intentions.
ANALYSIS OF EMPLOYMENT INTENTIONS
BY LEVEL OF NEED FOR
ACHIEVEMENT

The objective of this analysis was to determine if subjects' levels of need for achievement were systematically related to business employment intentions. The possible existence of such a relationship was investigated with respect to the entire sample and with respect to each of the major academic areas of study represented in the sample.

Analysis Of Employment Intentions Of Entire Sample

It was felt that because of the nature of the data, the chi-square test of independence for categorical variables would be the most appropriate technique to use in testing for a relationship between the level of need for achievement and business employment intentions. The chi-square test and its related measure of association do not result in highly rigorous tests of the degree to which two variables are associated. They are somewhat general measures of the relationship which prevails between two sets of variables. As with most other statistical techniques, they do not provide any indication of which variable is the dependent one and which is the independent one. They can, however, be used to test for a relationship among arbitrarily scaled or categorized variables, such as personality traits or
attributes. The more rigid parametric correlation techniques are not valid when used for this type of data.¹

This technique required that subjects be classified into one of four mutually exclusive groups contingent upon their level of need for achievement and their intended employment. Subjects were classified as either intending to enter business employment or intending to enter other types of employment based upon their answer to question nine of the questionnaire. Subjects were classified as high or low in level of need for achievement based upon the position of their score in the total distribution of achievement scores. Subjects with scores above the median were classified as high in need for achievement. Subjects with scores below the median were classified as low in need for achievement.

Table 1 is a two dimensional contingency table in which all subjects have been classified based upon their level of need for achievement and their intended

¹It should also be pointed out that the chi-square test of independence assumes that the sample was drawn randomly. The sample in this study was not a truly random one. The assumption which underlies the use of the chi-square test is that the observations of the variables to be tested were random, not that the sample of subjects was random. Although subjects were not selected at random (see Chapter II), there was no logical reason to believe that the observations of the variables were not random. Entire classes of subjects were administered the research instrument. In addition, it was the willingness of the instructor to cooperate that determined which specific classes were included. In light of these factors it was felt that the assumption concerning randomness was met to the extent that the use of the technique would produce valid results.
employment. As the table indicates, approximately fifty-six percent of the subjects intended to enter business employment. The subjects who intended to enter business employment were relatively evenly divided between the high and low need achiever groups.

Table 1.—Contingency table for all subjects based on need for achievement and employment intentions

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go(b)</td>
<td>Nogo(c)</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>81 27.9</td>
<td>64 22.1</td>
<td>145 50.0</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>83 28.6</td>
<td>62 21.4</td>
<td>145 50.0</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>164 56.5</td>
<td>126 43.5</td>
<td>290 100.0</td>
<td></td>
</tr>
</tbody>
</table>

\(a\)Chi-square = .014, Level of Significance = .90

\(b\)Go refers to those subjects who intended to become business employees.

\(c\)Nogo refers to those subjects who did not intend to become business employees.

A chi-square analysis of the data in Table 1 indicated that the differences in the proportions of subjects with high and subjects with low levels of need for achievement were significant only at a very low level, .90. The coefficient of contingency indicated a very weak negative relationship between the level of need for achievement and business employment intentions. This evidence fell far short of what was reasonably necessary to reject the hypothesis that there were no significant differences in the employment intentions of the high and low need achievers.
In short, the analysis did not support the existence of any relationship between subjects' levels of need for achievement and business employment intentions. It was apparent that the above analysis could have been much more sensitive in its test of the hypothesis. Therefore, the subjects with achievement scores close to the median were eliminated, and the remaining data were subjected to the same analysis.\textsuperscript{2} It should be pointed out that eliminating the achievement scores near the median and subjecting the remaining tails of the distribution to the same analysis introduces a bias into the results. This procedure has the effect of attempting to force a relationship between the two variables. This does not make the analysis meaningless, however. It simply necessitates that this be kept in mind when the

\textsuperscript{2}The median was chosen as the division point because it was not affected by extreme values and seemed to produce better classifications of high and low need achievers.

Because of the shape of the distribution and the size of some of the classes, the scores deleted were not uniformly distributed about the median. If the widely used procedure of deleting the second and third quartiles had been used, the number of subjects analyzed would have been reduced substantially. This was caused by the fact that these quartile scores fell within some relatively large score classes. This meant that the entire class had to be deleted. The writer was faced with the choice of using a more acceptable procedure to analyze a few subjects or using a less acceptable procedure to analyze a larger number of subjects. In light of this, the writer felt that the second choice produced more meaningful results.

Therefore, scores on only one side of the median were deleted. It seemed logical to compare those with no motivation with those with relatively intense motivation. Accordingly, the subjects with scores of 1, 2, and 3 were those deleted.
results are interpreted. Such results must not be considered conclusive evidence that a definite relationship exists. Any significant results achieved through this procedure must be considered only as evidence that such a relationship does tend to exist. It is unfortunate that the results must be so qualified, but investigations into relatively new areas can rarely hope to conclusively prove anything. At best, most researchers hope to provide indications of particular possibilities or tendencies. Table 2 contains the proportions which resulted from this deletion process.

Table 2.—Contingency table based on need for achievement and employment intentions after deletion of 55 achievement scores near the median

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go (^b)</td>
<td>Nogo (^c)</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.  %</td>
<td>No.  %</td>
<td>No.  %</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>58 24.7</td>
<td>40 17.0</td>
<td>98 41.7</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>82 34.9</td>
<td>55 23.4</td>
<td>137 58.3</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>140 59.6</td>
<td>95 40.4</td>
<td>235 100.0</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Chi-square = .001, Level of Significance = .97

\(^b\) Go refers to those subjects who intended to become business employees.

\(^c\) Nogo refers to those subjects who did not intend to become business employees.

As can be seen, the proportions did not change substantially after eliminating fifty-five subjects with achievement scores near the median. The chi-square value
calculated for Table 2 was significant only at the .97 level. This significance level was even lower than that of Table 1, .90, which included all subjects. If the existence of the relationship in question had been obscured by subjects with achievement scores near the median, this analysis should have shown an improvement in the level at which the differences in proportions were significant. In summary, this analysis also failed to support the existence of any relationship between level of need for achievement and employment intentions.

In terms of the stated hypothesis, these analyses did not indicate that the college students who intended to become business employees had higher levels of need for achievement than those who intended to enter other types of employment. Consequently, these findings did not support McClelland's conclusion that people with high levels of need for achievement were attracted to business occupations.

At this point, some consideration of the inconsistency between the findings of this study and the findings of McClelland are in order. McClelland concluded that people with high levels of need for achievement were attracted to business occupations. He arrived at this conclusion in the following way. The theory of achieve-
ment motivation asserts that the motivation to approach any task is a multiplicative function of the strength of the motive, the probability of success in the venture, and the incentive value of successful completion of the task. Thus, individuals with strong achievement needs would be led to approach situations in which their chances of success were moderately risky.

McClelland reasoned that the incentive value of any particular occupation was a function of the prestige that society accorded to the occupation. The greater the prestige, the greater the incentive value of success in the occupation. He further reasoned that the probability of success in any occupation was inversely related to the incentive value of the occupation. Thus, the higher the prestige of the occupation, the lower the chances for success in the occupation.

Therefore, any particular individual's perception of his chances for success in any given occupation would be influenced by the relative distance between the prestige ranking of the occupation he used as a reference point and the given occupation. McClelland reasoned that an individual used the prestige ranking of his father's occupation as a reference point in determining his chances for success in any given occupation. The greater the positive distance between the reference point and any given occupation, the lower the chances of success. Based upon these beliefs, McClelland concluded that
business occupations represented the highest occupational prestige category in which the majority of people thought they had reasonable chances for success.

This study did not indicate any relationship between the level of need for achievement and business employment intentions. If McClelland's beliefs are valid, then the subjects in this study must have been using highly prestigious occupations as reference points. This is a possibility, but if this were the case, a negative relationship between the level of need for achievement and business employment intentions should have been present. More simply, if the subjects with high levels of need for achievement had had fathers engaged in highly prestigious occupations they would have perceived business as relatively easy and would not have indicated it as their intended employment. This clearly was not the case.

Are McClelland's beliefs about the reference point of subjects false, or is the theory of achievement motivation invalid? It appeared that for subjects in this study one or the other of these things must have been true. Faced with such a decision, the researcher concluded that it was McClelland's beliefs which were invalid for the subjects in this study because the theory of achievement motivation has been supported by extensive empirical and clinical research.

It is also possible that at least some of the
inconsistency of results was due to differences in the two hypotheses. There were two basic differences between McClelland's hypothesis and the hypothesis of this study. First of all, McClelland's hypothesis was formulated with the general population in mind, not just college students and especially not just select groups of college students. It is entirely possible that McClelland's hypothesis holds true for the general population, but is invalid for any particular group, such as the one in this study.

Secondly, McClelland's hypothesis was stated in terms of business occupations, not in terms of business employment. This resulted in differences in classifications of subjects. McClelland classified two groups, people who entered their family's business and people who entered business for themselves as owners, as attracted to business occupations. In this study these two groups were classified as not having business employment intentions. These two basic differences could very well have resulted in some of the inconsistency of findings.

Although no evidence was found that supported the hypothesis, it was felt that there might be offsetting differences in the various sub-groups which obscured the nature of the relationship when the entire sample was analyzed. Further analysis of various sub-classifications was therefore in order.

Analysis Of Employment Intentions Of Academic Sub-Groups

In looking for a logical basis upon which subjects
could be classified for analysis, area of academic study seemed the most important for two reasons. First, it was possible that subjects believed that people were permitted entry into certain types of employment by way of particular areas of college study; and consequently, their choice of an area of study had been influenced by their level of need for achievement.

Secondly, it appeared that business employers had sought, not just college students in general, but college students from particular areas of academic study, i.e., business administration, engineering, etc. To the extent that this was true it seemed worthwhile to attempt to determine whether there were significant differences in the achievement needs of subjects who did and subjects who did not intend to become business employees within each of the three academic areas of study represented in the sample.

Association Between Area Of Study, Employment Intentions, And Level Of Need For Achievement. To eliminate the effect of off-setting differences in the data, it was necessary to determine whether there were significant differences in employment intentions between the three groups and then attempt to determine if the differences in employment intentions could be explained by differences in the levels of need for achievement among the groups.

When subjects were classified by area of study
and employment intention, it became quite evident that there were substantial differences in the proportion in each group which intended to enter business employment. As Table 3 indicates, a much larger proportion of both engineering and business subjects intended to enter business employment than did social science subjects. More importantly, however, the differences in the proportions in Table 3 were significant at the .00 level.

Table 3.—Employment intentions of subjects classified by area of study\(^a\)

<table>
<thead>
<tr>
<th>Area of Study</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go(^b)</td>
<td>Nogo(^c)</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Bus</td>
<td>65</td>
<td>22.4</td>
<td>37</td>
<td>12.8</td>
</tr>
<tr>
<td>Eng</td>
<td>75</td>
<td>25.9</td>
<td>18</td>
<td>6.2</td>
</tr>
<tr>
<td>Soc</td>
<td>24</td>
<td>08.3</td>
<td>71</td>
<td>24.3</td>
</tr>
<tr>
<td>Totals</td>
<td>164</td>
<td>56.6</td>
<td>126</td>
<td>43.5</td>
</tr>
</tbody>
</table>

\(^a\)Chi-square = 61.959, Level of Significance = .00

\(^b\)Go refers to those subjects who intended to become business employees.

\(^c\)Nogo refers to those subjects who did not intend to become business employees.

Having determined that there were significant differences in employment intentions between the three sub-groups, analysis of the relationship between area of study and level of need for achievement was in order. It appeared possible that the differences in employment intentions between the sub-groups might be related to
differences in the levels of need for achievement between the groups.

To shed some light on this issue, subjects in all three groups were classified by their level of need for achievement. Table 4 contains the proportions which resulted from this classification. Chi-square analysis of Table 4 indicated that the differences in the proportions of high and low need achievers in the three groups were not significant at the .05 level. This analysis did not indicate that there were significant differences in the levels of need for achievement between the groups.

Table 4.—Contingency table for all subjects based on need for achievement and choice of academic area of study

<table>
<thead>
<tr>
<th>Level of Need for Achievement</th>
<th>Area of Study</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bus</td>
<td>Eng</td>
<td>Soc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
</tr>
<tr>
<td>High</td>
<td>52</td>
<td>40</td>
<td>51</td>
<td>143</td>
<td>49.7</td>
</tr>
<tr>
<td>Low</td>
<td>48</td>
<td>53</td>
<td>44</td>
<td>145</td>
<td>50.4</td>
</tr>
<tr>
<td>Totals</td>
<td>100</td>
<td>93</td>
<td>95</td>
<td>288</td>
<td>100.1</td>
</tr>
</tbody>
</table>

*aChi-square = 2.479, Level of Significance = .29

Comparison of the arithmetic means of the three respective achievement distributions revealed some fairly substantial differences. In light of this fact, a more sensitive analysis seemed in order. Accordingly, the subjects with achievement scores near the median of the total distribution of achievement scores were eliminated
from the data and the same analysis conducted. Chi-square analysis of Table 5, which resulted from the deletion process, indicated that the differences in the proportions of high and low need achievers in the three groups were still not significant at the decision level, .05. This analysis also failed to indicate that the levels of need for achievement were significantly different between the three groups.

Table 5.—Contingency table for all subjects based on need for achievement and choice of academic area of study after deleting 53 achievement scores around the median

<table>
<thead>
<tr>
<th>Level of Need For Achievement</th>
<th>Area of Study</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bus</td>
<td>Eng</td>
<td>Soc</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>36 15.3</td>
<td>28 11.9</td>
<td>34 14.5</td>
<td>98 41.7</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>47 20.0</td>
<td>52 22.1</td>
<td>38 16.2</td>
<td>137 58.3</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>83 35.3</td>
<td>80 34.0</td>
<td>72 30.7</td>
<td>235 100.0</td>
<td></td>
</tr>
</tbody>
</table>

aChi-square = 2.476, Level of Significance = .29

Moreover, the above analyses did not produce evidence that there were off-setting differences in the three groups which obscured the existence of a relationship between the level of need for achievement and business employment intentions. There were significant differences in employment intentions between the groups. The differences in employment intentions were not, however, related to differences in the levels of need for achievement in the groups.

Neither this analysis, nor the preceding analysis
produced any significant evidence that college students with high levels of need for achievement were attracted to business employment in greater proportions than students with low levels of need for achievement. It still appeared possible, however, that within any one of the three sub-groups such a situation might prevail.

Association Of Employment Intentions And Level Of Need For Achievement Within Sub-Groups. Since business firms seem to have tried to recruit college students from particular areas of study rather than in general, it seemed appropriate to test the hypothesis within each of the three major academic areas—business administration, engineering, and social science—represented in the sample. For these analyses it was felt that subjects should be classified as high or low in need for achievement based upon the position of their achievement score in their own respective achievement score distribution.4

For the past several years, students studying in the area of business administration had composed about forty percent of the college students sought by firms included in the annual Endicott Survey of College Re-

4The objective of these analyses was to attempt to determine if firms tended to attract a particular type of student with high levels of need for achievement. For example, the analysis sought to answer the following type of question. Do the engineering students who intend to enter business employment have higher levels of need for achievement than the engineering students who intend to enter other types of employment? The appropriate distribution and median was the one containing only scores of the group under consideration.
Further analysis to test the hypothesis for this sub-group was, therefore, justified.

It was expected that a large proportion of the subjects studying business administration would give business as their intended employment. Approximately sixty-four percent of the subjects gave business as their intended employment. This figure seemed surprisingly low, but further investigation revealed that a substantial number of the students who were classified as intending to enter other types of employment intended to work in their family's business or to go into business for themselves.

When subjects studying business administration were classified based on their level of need for achievement and employment intentions, the frequencies and proportions in Table 6 resulted. A chi-square analysis of Table 6 indicated that the differences in employment intentions were significant at the .56 level. The coefficient of contingency indicated a weak negative relationship, .11, between the two variables under consideration.

A second analysis with deletion of nineteen subjects whose achievement scores were near the median of the distribution did not substantially alter the findings.6

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6As with the previous deletion processes, the scores deleted were not uniformly distributed about the medians of the three distributions. The subjects with scores of 1, 2, and 3 were deleted. This was a practical
The chi-square value calculated for this table, Table 1 in Appendix III, was only .53.

Table 6.—Contingency table for business subjects based on need for achievement and occupation intention

<table>
<thead>
<tr>
<th>Employment Intentions</th>
<th>Go(^b)</th>
<th>Nogo(^c)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>High</td>
<td>32</td>
<td>31.4</td>
<td>22</td>
</tr>
<tr>
<td>Low</td>
<td>33</td>
<td>32.4</td>
<td>15</td>
</tr>
<tr>
<td>Totals</td>
<td>65</td>
<td>63.8</td>
<td>37</td>
</tr>
</tbody>
</table>

\(^a\)Chi-square = .622, Level of Significance = .56

\(^b\)Go refers to those subjects who intended to become business employees.

\(^c\)Nogo refers to those subjects who did not intend to become business employees.

Both of the above analyses failed to indicate any significant relationship between the level of need for achievement and business employment intentions among subjects who were studying business administration. Thus, the findings within this sub-group also failed to support the stated hypothesis of the study. In this respect, there were no substantial differences between this sub-group and the entire sample.

As seemed to be the case with business students, it also appeared that business firms had done substantial necessity since the medians of all three distributions were in the 0 or 1 score class, and this was a relatively large class in all three distributions.
recruiting among engineering students. This group also had comprised about forty percent of the students sought by firms in the Endicott Survey.7

Table 7 shows the proportions of subjects with high and low needs for achievement in the engineering sub-group who gave business as their intended employment. The chi-square test of differences for Table 7 indicated that the differences in the proportions of high and low need achievers were significant at the .23 level. The coefficient of contingency indicated a positive relationship between the two sets of variables of the magnitude of .17. Although this analysis did not produce evidence of a significant relationship between level of need for achievement and business employment intentions among the engineering subjects, a more sensitive analysis seemed in order.

The sixteen engineering subjects with achievement scores near the median were eliminated and the remaining data subjected to the same analysis. Chi-square analysis of the results after the deletion process shown in Table 8 indicated that the differences in the proportions were significant at the decision level (.05). The coefficient of contingency indicated a positive relationship of .22. The findings for this sub-group did support the possible existence of a positive relationship between the level of need for achievement and business employment intentions.

---

7Loc.cit.
Table 7.—Contingency table for engineering subjects based on need for achievement and employment intention

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Nogo&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>35</td>
<td>37.6</td>
<td>5</td>
<td>55.4</td>
</tr>
<tr>
<td>Low</td>
<td>40</td>
<td>43.0</td>
<td>13</td>
<td>14.0</td>
</tr>
<tr>
<td>Totals</td>
<td>75</td>
<td>80.6</td>
<td>18</td>
<td>19.4</td>
</tr>
</tbody>
</table>

<sup>a</sup>Chi-square = 1.413, Level of Significance = .23

<sup>b</sup>Go refers to those subjects who intended to become business employees.

<sup>c</sup>Nogo refers to those subjects who did not intend to become business employees.

Table 8.—Contingency table for engineering subjects based on need for achievement and employment intention after deleting 16 achievement scores around the median

<table>
<thead>
<tr>
<th>Level of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Nogo&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>27</td>
<td>33.8</td>
<td>1</td>
<td>13.8</td>
</tr>
<tr>
<td>Low</td>
<td>39</td>
<td>48.8</td>
<td>13</td>
<td>16.3</td>
</tr>
<tr>
<td>Totals</td>
<td>66</td>
<td>82.6</td>
<td>14</td>
<td>17.6</td>
</tr>
</tbody>
</table>

<sup>a</sup>Chi-square = 4.399, Level of Significance = .03

<sup>b</sup>Go refers to those subjects who intended to become business employees.

<sup>c</sup>Nogo refers to those subjects who did not intend to become business employees.

Based upon the above analyses, it was concluded that among subjects studying engineering, those who intended to become business employees did tend to have
higher levels of need for achievement than the subjects who intended to enter other types of employment. As has been pointed out above, this conclusion must be interpreted cautiously. Eliminating some of the achievement scores has the effect of attempting to force a relationship where one does not exist. Such results must be considered only an indication that a relationship may have existed. In simpler terms the analysis indicated the possibility that business tended to attract more than its proportionate share of engineering students with relatively high levels of need for achievement.

The subjects who were studying in the social science area presented an interesting group for analysis. As has already been pointed out, it was in this group that the smallest proportion of subjects intended to enter business employment (twenty-five percent compared to sixty-four and eighty-one percent). This result did not seem illogical after a little reflection. Subjects in this area of study were probably aware that business firms had not recruited heavily from among this group of college students. In fact, subjects may have selected this area of study because they thought it led to other types of employment.

Table 9 contains the proportions of social science subjects with high and low levels of need for achievement who intended to enter business employment. Chi-square analysis of Table 9 indicated that the differences in
the proportions in the table were significant only at the .77 level. The coefficient of contingency indicated a very weak positive relationship between the variables of .04. It did not appear that high levels of need for achievement were related to business employment intentions in the social science group.

Table 9.--Contingency table for social science subjects based on need for achievement and employment intentiona

<table>
<thead>
<tr>
<th>Level of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gob</td>
<td>NogoC</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>14</td>
<td>14.7</td>
</tr>
<tr>
<td>Low</td>
<td>10</td>
<td>10.5</td>
</tr>
<tr>
<td>Totals</td>
<td>24</td>
<td>25.2</td>
</tr>
</tbody>
</table>

aChi-square = .085, Level of Significance = .77
bGo refers to those subjects who intended to become business employees.

As further support for this conclusion, the analysis of Table 2 in Appendix III, which resulted from a deletion process, produced evidence of a similar nature. The differences in proportions after the deletion process were significant at an even lower level, .80.

It did not appear that any significant relationship between the level of need for achievement and business employment intentions existed among subjects studying in
the social science area. Thus, it did not appear that social science subjects with high levels of need for achievement were attracted to business as their intended employment.

In only one instance was any evidence produced which supported the hypothesis. And this was with respect to one of the sub-groups analyzed. Again, the question of whether or not there were off-setting differences in the data which obscured the existence of the relationship when the entire sample was analyzed arose. The fact that further classification and analysis had proven fruitful earlier made it seem possible that even further classification and analysis might provide more insight into the issue.

ANALYSIS OF EMPLOYMENT INTENTIONS BY GRADE-POINT AVERAGE AND LEVEL OF NEED FOR ACHIEVEMENT

Academic grades appear to have been an important variable in the recruitment of college students for many firms. Few people would deny that business firms preferred high grades to low grades. The question which arose at this point was, did the overall grade-point average of subjects affect the relationship between the subjects' levels of need for achievement and their employment intentions.

Based on a priori reasoning, it seemed logical
to conclude that subjects might have used their grade-point average as a reference point in determining their probability of success in business employment, especially since emphasis is placed on grades by business employers.

Consequently, analysis of the effect of grade-point average was in order. Subsequent analyses investigated the existence of such an effect in each of the three academic sub-groups.

**Analysis Of Effect Of Grade-Point Average For Entire Sample**

Before investigating the effect that subjects' grade-point averages had on the relationship between level of need for achievement and business employment intentions, two related questions had to be answered. The first was concerned with whether or not subjects' grade-point averages were related to their employment intentions, and the second dealt with whether or not subjects' grade-point averages were related to their levels of need for achievement.

**Association Between Grade-Point Averages And Employment Intentions.** Before proceeding to the effect that subjects' grade-point averages had on the relationship in question, it was felt that the relationship between grade-point average and employment intentions should be investigated. It was possible that subjects' grade-point averages were systematically related to business employment intentions.
Analysis of the relationship between grade-point averages and employment intentions required that subjects be classified according to the level of their overall grade-point average. Subjects were classified as having a high or low grade-point average dependent upon the position of their grade-point average in the distribution of grade-point averages of their respective academic area of study. Subjects with grade-point averages above the median of their respective distribution were classified into the high category. Subjects with averages below the median of their respective distribution were classified into the low category.

Table 10 shows the proportions which resulted when subjects were classified with respect to both grade-point average and employment intentions. The chi-square test of Table 10 indicated that the differences in the proportions of subjects in the high grade-point group and subjects in the low grade-point group who intended to enter business employment were not significant at the .05 level. The coefficient of contingency indicated a negative relationship of .08. Thus, it did not appear that subjects' grade-point averages were significantly related to business employment intentions.

8It was felt that this classification procedure would produce more meaningful results because standards of grading and, therefore, grade-point averages vary among academic areas of study.
Table 10.—Contingency table for all subjects based on grade-point average and employment intention\(^a\)

<table>
<thead>
<tr>
<th>Grade-Point Average</th>
<th>Employment Intentions</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Go(^b)</strong></td>
<td><strong>Nogo(^c)</strong></td>
<td><strong>Total</strong></td>
<td></td>
</tr>
<tr>
<td>high</td>
<td>76 26.4</td>
<td>67 22.9</td>
<td>143 49.3</td>
<td></td>
</tr>
<tr>
<td>low</td>
<td>88 30.6</td>
<td>57 20.1</td>
<td>145 50.7</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>164 57.0</td>
<td>124 43.0</td>
<td>288 100.0</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Chi-square = 1.708, Level of Significance = .20

\(^b\)Go refers to those subjects who intended to become business employees.

\(^c\)Nogo refers to those subjects who did not intend to become business employees.

Association Between Grade-Point Averages And Achievement Scores. It seemed advisable to attempt to determine if subjects' grade-point averages were related to their levels of need for achievement before proceeding with the primary issue. For example, if subjects' grade-point averages were perfectly correlated with their levels of need for achievement, there was no need to investigate the effect upon the relationship between need for achievement and employment intentions because no effect would be present.

Quite a few research studies had investigated the general relationship between grades and/or grade-point averages and level of need for achievement.\(^9\) Although

moderately high positive relationships had been found, researchers had not established any definite systematic relationship between the two variables. It was, therefore, necessary that the question be answered for this particular group of subjects.

All subjects were classified based on the level of their grade-point average and their need for achievement as is shown in Table 11. Chi-square analysis of the data in Table 11 indicated that the differences in the proportions in the table were significant only at the .51 level. The coefficient of contingency indicated the existence of a weak positive relationship between grade-point average and level of need for achievement. A second analysis conducted after deletion of achievement scores near the median did not change the level at which the differences were significant or the value of the coefficient of contingency. In fact, the analysis of these data (Table 3, Appendix III) raised the


For this analysis and that in the section immediately below, subjects were classified as high or low in need for achievement based upon the position of their score in the total distribution of achievement scores.
significance level to .52. Thus, the grade-point averages of subjects in this study were not related to their levels of need for achievement.

Table 11.—Contingency table for all subjects based on need for achievement and grade-point average

<table>
<thead>
<tr>
<th>Level of Need For Achievement</th>
<th>Grade-Point Average</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>No.</td>
<td>%</td>
<td>Low</td>
</tr>
<tr>
<td>High</td>
<td>75</td>
<td>26.0</td>
<td>69</td>
<td>24.0</td>
</tr>
<tr>
<td>Low</td>
<td>68</td>
<td>23.6</td>
<td>76</td>
<td>26.4</td>
</tr>
<tr>
<td>Totals</td>
<td>143</td>
<td>49.6</td>
<td>145</td>
<td>50.4</td>
</tr>
</tbody>
</table>

*aChi-square = .500, Level of Significance = .51

Analysis Of Achievement Scores And Employment Intentions By Grade-Point Average. To determine the effect of grade-point average on the relationship between level of need for achievement and business employment intentions, it was necessary to classify subjects into grade-point average groups and investigate the nature of the relationship within each of the grade-point average groups. Subjects were classified into grade-point groups in the same manner as in previous analyses, and the resulting groups subjected to similar analysis.

Analysis of the data for high grade-point average subjects in Table 12 indicated that the differences in the proportions of subjects with high and subjects with low levels of need for achievement were not significant anywhere close to the decision level. The differences
which were present were significant only at the .90 level. A similar analysis of the data remaining after deletion of thirty subjects with achievement scores near the median (Table 4, Appendix III) did not substantially change the results. It did not appear that a high grade-point average had any significant effect upon the relationship between need for achievement and business employment intentions.

Table 12.—Contingency table for high grade-point average subjects based on need for achievement and employment intentions$^a$

<table>
<thead>
<tr>
<th>Level of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go$^b$</td>
<td>Nogo$^c$</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>High</td>
<td>40</td>
<td>28.0</td>
<td>35</td>
</tr>
<tr>
<td>Low</td>
<td>36</td>
<td>25.2</td>
<td>32</td>
</tr>
<tr>
<td>Totals</td>
<td>76</td>
<td>53.2</td>
<td>67</td>
</tr>
</tbody>
</table>

$^a$Chi-square = .015, Level of Significance = .90

$^b$Go refers to those subjects who intended to become business employees.

$^c$Nogo refers to those subjects who did not intend to become business employees.

It could not be concluded yet, however, that the grade-point average of subjects did not affect the relationship in question. The low grade-point average subjects had not been analyzed. It did not seem safe to assume that such a potential effect would be a simple unidirectional one.
Analysis of the low grade-point average subjects in Table 13 also did not indicate that a low grade-point average had any appreciable effect upon the relationship between level of need for achievement and employment intentions. The chi-square test of Table 13 indicated that the differences were significant only at the .89 level. Analysis of the data in Table 5 in Appendix III, which contains a deletion of subjects with achievement scores near the median, did not alter the above findings significantly. It, therefore, did not appear that a low grade-point average had any effect upon the relationship between the two variables.

Table 13.—Contingency table for low grade-point average subjects based on need for achievement and employment intentions

<table>
<thead>
<tr>
<th>Level of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go(^b)</td>
<td>No.</td>
<td>%</td>
<td>Nogo(^c)</td>
<td>No.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>41</td>
<td>28.3</td>
<td>28</td>
<td>19.3</td>
<td>69</td>
</tr>
<tr>
<td>Low</td>
<td>47</td>
<td>32.4</td>
<td>29</td>
<td>20.0</td>
<td>76</td>
</tr>
<tr>
<td>Totals</td>
<td>88</td>
<td>60.7</td>
<td>57</td>
<td>39.3</td>
<td>145</td>
</tr>
</tbody>
</table>

\(^a\) Chi-square = .016, Level of Significance = .89

\(^b\) Go refers to those subjects who intended to become business employees.

\(^c\) Nogo refers to those subjects who did not intend to become business employees.

Moreover, the above analyses did not produce any evidence which indicated that the grade-point average of
subjects affected the relationship between the level of their need for achievement and their employment intentions. It, therefore, did not appear that the subjects in this study were using their grade-point average as a reference point to determine their probability of success, either in business or in other types of employment.

Although no evidence had been produced which indicated that grade-point average affected the relationship in question, it still seemed desirable to investigate the effect of grade-point average within each of the three academic sub-groups.

Analysis Of Effect Of Grade-Point Average Within Sub-Groups

As was the case with the analysis for the entire sample, it was felt that the relationship between grade-point average and employment intentions within each group should be investigated before any attempt was made to determine the effect of subjects' grade-point averages on the relationship between level of need for achievement and employment intentions in each group.

Association Of Grade-Point Average And Employment Intentions Within Sub-Groups. Subjects in all three sub-groups were classified based upon their grade-point average and their employment intentions and the three groups subjected to chi-square analyses.\textsuperscript{11} In none of

\textsuperscript{11}In the analyses which follow in this chapter, subjects in each sub-group were classified as high or low
the three sub-groups did the significance level even approach the decision criterion (see Tables 6, 7, and 8 in Appendix III). The analyses produced no evidence of a relationship between subjects' grade-point averages and their employment intentions in any of the three groups. With this question resolved, the analysis proceeded to the investigation of the effect that subjects' grade-point averages had on the relationship between level of need for achievement and business employment intentions in each sub-group.

**Analysis Of Effect Of Grade-Point Average Within Sub-Groups.** To test for the effects of grade-point average within each group, subjects in each of the three groups were classified based upon their grade-point average. In each of the three major sub-groups both the high grade-point average subjects and the low grade-point average subjects were analyzed.

Chi-square analysis of each of the three high grade-point average groups indicated that the differences in the employment intentions of the subjects with high levels of need for achievement and the employment intentions of subjects with low levels of need for achievement were not significant at the .05 level (see Tables 9, 10, and 11 in Appendix III). Within the high grade-point average subjects studying business administration, the

in need for achievement based upon the position of their achievement score in the distribution of achievement scores of their respective academic area.
differences in the proportions were significant at the .27 level. The comparable levels of significance among the high grade-point engineering and social science subjects were .56 and .18, respectively. All three groups were analyzed again after the subjects with achievement scores near the median had been eliminated. Still no significant differences appeared. No evidence was produced which indicated that a high grade-point average had any significant effect upon the relationship in question in any of the three groups.

The low grade-point average groups were analyzed in a similar manner. Again, in all three sub-groups the differences in the employment intentions of the high need achievers and the employment intentions of the low need achievers were not significant at the .05 level. The levels at which the differences that were present were significant were .77, .55, and .68, respectively, for the business administration, engineering and social science groups. The analyses after the deletion process did not significantly change these results. It, therefore, did not appear that a low grade-point average in any of the groups had any appreciable effect upon the relationship between level of need for achievement and employment intentions.

In summary, the above reported analyses did not indicate that the grade-point average of subjects in any of the three sub-groups had any effect upon the
relationship under investigation. There was no indication that subjects in any of the three groups used their grade-point average as a reference point in determining their probability of success in business employment.

CONCLUSIONS

No evidence was found that supported the hypothesis with respect to the entire sample of subjects. It did not appear that the college students in this study who intended to enter business employment had significantly higher levels of need for achievement than the students who intended to enter other types of employment.

Of the three sub-groups analyzed—business, engineering, and social science—only in the engineering group was the hypothesis supported. The analysis indicated that the engineering subjects in this study who intended to enter business employment tended to have significantly higher levels of need for achievement than the engineers who intended to enter other types of employment.

The analyses indicated that the grade-point average of subjects did not affect their employment intentions nor the relationship between the level of need for achievement and employment intentions. These results were produced when the entire sample was analyzed as well as when each of the three sub-groups was analyzed.

The next chapter reports on the analyses conducted to test the second hypothesis.
CHAPTER IV

ANALYSIS OF ATTITUDES TOWARD SELECTED ASPECTS OF BUSINESS EMPLOYMENT

INTRODUCTION

The primary purpose of this analysis was to try to provide an explanation for the findings presented in the previous chapter. The objective was to explain why some subjects intended to enter business employment and why other subjects did not intend to enter business employment. Since attitudes are a major determinant of behavior, it was felt that subjects' employment intentions might have been affected by their attitudes toward selected aspects of business employment. Thus, the analysis sought to determine whether or not there were differences in attitudes associated with differences in employment intentions.

The remainder of this chapter is devoted to a report of the analyses conducted to test the following hypothesis:

College juniors and seniors who intend to enter business employment have stronger and more favorable attitudes toward certain aspects of business employment than those who intend to enter other types of employment.
Nature Of The Attitude Data

The attitudes analyzed were associated with selected aspects of business employment. The aspects of business employment selected for study were those believed to be related to satisfaction of the achievement need. Attitudes toward the following seven aspects of business employment were analyzed:

R-1. "YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

T-1. "THE CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

T-2. "THE OPPORTUNITY PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

S-1. "THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

S-2. "OPPORTUNITY PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

O-1. "THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

O-2. "THE ABILITIES OF BUSINESS EMPLOYEES"

The attitude data were collected with a semantic differential test. Each of the above aspects of business employment constituted a concept in the semantic differential.¹

Framework For Analysis

The conceptual framework employed in testing the hypothesis involved comparing the attitudes of subjects

¹The entire research instrument is included in Appendix I.
who intended to become business employees with the attitudes of subjects who intended to enter other types of employment. The two groups were compared to determine whether or not there were any statistically significant differences in their attitudes.²

Significant differences in attitudes could have occurred in one or both of two ways in this study—favorability and/or strength. If the significant "t" score corresponded to any of the first five bipolar scales, it indicated a significant difference in the value of the concept to the two groups. When the significant "t" score was among the last five scales, it indicated a significant difference in attitude strength. A significant difference of either type was sufficient to consider the attitude different for the two groups compared.

The comparisons were made based on various classifications. The attitudinal data were analyzed first with respect to employment intention only; second, with respect to both employment intention and level of need for achievement; and lastly, with respect to grade-point

²The comparisons of attitudes were in terms of a "t" test for significant difference in means. The underlined values in the tables indicate that the concepts showed significant difference at the .05 level. The sign of the "t" score indicates which of the two groups compared had the more favorable attitude. If the first group named in the comparison had the more favorable attitude, the sign of the "t" score is positive. If the second group named in the comparison had the more favorable attitude, the sign of the "t" score is negative.
average, level of need for achievement, and employment intention.

ANALYSIS OF ATTITUDES BY EMPLOYMENT INTENTION

The objective of this part of the analysis was to determine if the attitudes of subjects who intended to become business employees differed significantly from the attitudes of subjects who intended to enter other types of employment. Additionally, the analysis sought to determine the nature of any differences which were significant. Subsequent analyses tested the hypothesis for various sub-groups in the sample.

Analysis Of Attitudes For Entire Sample

Subjects were divided into two groups based upon their employment intentions and the attitudes of the two groups were compared for significant differences. It is notable, as Exhibits 1 through 7 in Appendix IV show, that both groups generally valued and felt relatively strongly about all seven of the concepts.3

More important, however, there were significant differences in the attitudes of the two groups. As the "t" scores in Table 14 indicate, the subjects who intended to become business employees valued more highly and felt

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3Appendix IV contains semantic profiles for concepts which showed significant differences in all of the analyses conducted.
Table 14.—Computed "t" values resulting from a comparison of subjects who intend to become business employees and subjects who do not intend to become business employees

<table>
<thead>
<tr>
<th>Concepts</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>2.516</td>
<td>2.097</td>
<td>0.928</td>
<td>0.571</td>
<td>1.575</td>
<td>2.408</td>
<td>1.761</td>
<td>1.937</td>
<td>0.853</td>
<td>1.327</td>
</tr>
<tr>
<td>T-1</td>
<td>1.015</td>
<td>0.907</td>
<td>0.331</td>
<td>2.027</td>
<td>1.505</td>
<td>1.366</td>
<td>0.346</td>
<td>-0.013</td>
<td>1.264</td>
<td>0.701</td>
</tr>
<tr>
<td>T-2</td>
<td>3.654</td>
<td>3.475</td>
<td>1.942</td>
<td>3.217</td>
<td>3.449</td>
<td>2.818</td>
<td>1.783</td>
<td>1.403</td>
<td>0.299</td>
<td>1.677</td>
</tr>
<tr>
<td>S-1</td>
<td>3.976</td>
<td>2.564</td>
<td>2.848</td>
<td>2.793</td>
<td>3.483</td>
<td>2.786</td>
<td>2.433</td>
<td>0.377</td>
<td>1.160</td>
<td>1.530</td>
</tr>
<tr>
<td>S-2</td>
<td>1.180</td>
<td>1.562</td>
<td>0.151</td>
<td>1.924</td>
<td>1.989</td>
<td>0.812</td>
<td>0.740</td>
<td>-0.367</td>
<td>-0.409</td>
<td>1.437</td>
</tr>
<tr>
<td>O-1</td>
<td>2.242</td>
<td>2.275</td>
<td>1.162</td>
<td>2.850</td>
<td>2.053</td>
<td>-0.727</td>
<td>-1.064</td>
<td>-1.875</td>
<td>-1.310</td>
<td>1.110</td>
</tr>
<tr>
<td>O-2</td>
<td>1.805</td>
<td>1.901</td>
<td>-0.294</td>
<td>1.924</td>
<td>0.412</td>
<td>1.297</td>
<td>0.344</td>
<td>1.306</td>
<td>-0.229</td>
<td>2.285</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (GO'S - NOGO'S).

Degrees of Freedom: 288
Critical "t" values: ±1.96
more strongly about all seven of the concepts. The differences in attitudes were all consistent in direction and were as predicted by the hypothesis. The subjects who intended to enter business employment placed more value on and felt more strongly about the task-related, self-related, and other-related aspects of business employment. In addition, they were stronger in their beliefs about their chances for success in business employment.

These findings supported the hypothesis and, thus, indicated the existence of a positive relationship between business employment intentions and favorable attitudes toward particular aspects of business employment. The analysis did not, however, give any indication of the direction of the cause and effect relationship between the two variables. It was possible that subjects intended to enter business employment because of their favorable attitudes, but it was also possible that subjects had favorable attitudes because they intended to enter business employment. Fortunately, subsequent analyses did provide an indication of the direction of the line of causation between the two variables.

Having determined that attitudes did differ when the entire sample was analyzed, it seemed advisable to investigate the same question for each of the three academic sub-groups which comprised the sample.
Analysis Of Attitudes For Academic Sub-Groups

As was the case with the analysis of employment intentions in Chapter III, it was possible that within any one of the sub-groups the relationship between attitudes and employment intentions could differ from that of the entire sample. Because of this possibility, it seemed necessary to test for attitude differences between the groups and within each of the groups.

Analysis Of Attitude Differences Among Sub-Groups. As was shown in Chapter III, there were significant differences in the proportions of subjects who intended to become business employees in the three sub-groups. Generally, the subjects in business administration and engineering intended to enter business employment, while the subjects in social science intended to enter other types of employment. The analysis at this point sought to determine if the differences in proportions between the groups were related to differences in attitudes.

Analysis of the semantic differential data indicated that all three generally valued but did not feel overly strongly about the seven concepts. The "t" tests of the data indicated that there were, however, significant differences in attitudes among the three sub-groups. Table 15 indicates the concepts which showed significant differences when the three sub-groups were compared.

As the table indicates, the business and engineering
subjects generally had more favorable and stronger attitudes than the social science subjects. The only exception was that social science subjects felt stronger with respect to one of the self-related concepts, S-2. There was not, however, a significant difference in the evaluative dimension.

Table 15.—Concepts which showed significant differences when subjects were classified and analyzed by area of study

<table>
<thead>
<tr>
<th>Groups Compared</th>
<th>Bus--Eng</th>
<th>Bus--Soc</th>
<th>Eng--Soc</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1(^b)</td>
<td>R-1</td>
<td>R-1</td>
<td>S-2</td>
</tr>
<tr>
<td>T-1</td>
<td>T-1</td>
<td>T-1</td>
<td>T-2</td>
</tr>
<tr>
<td>T-2</td>
<td>T-2</td>
<td>T-2</td>
<td>S-1</td>
</tr>
<tr>
<td>S-2</td>
<td>S-1</td>
<td>S-2</td>
<td>O-1</td>
</tr>
<tr>
<td>O-1</td>
<td>O-1</td>
<td>O-2</td>
<td></td>
</tr>
<tr>
<td>O-2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)The complete set of "t" scores from which the table is derived are included in Tables 1, 2, and 3 of Appendix V.

\(^b\)Concepts are listed under the group which had the more favorable or stronger attitudes.

Although the above analysis was not in terms of employment intentions, it did indirectly support the second hypothesis. There were significant differences in the three groups in the proportions of subjects who intended to become business employees. The attitude analysis indicated significant differences in the three groups. Thus, the attitudinal findings indirectly supported the hypoth-
thesis and were consistent with the employment intentions analysis in Chapter III.

Analysis Of Attitude Differences Within Sub-Groups. The objective of this particular portion of the analysis was to determine whether or not there were attitudinal differences associated with differences in employment intentions within the three academic groups.

When subjects were classified by area of study and the attitudes of subjects within each group compared on the basis of employment intentions, the differences shown in Table 16 were present. Only one concept showed a significant difference among the business subjects; but as has been pointed out previously, the majority of business subjects who did not intend to become business employees intended to enter business occupations in another capacity. This would explain why few significant differences were found, since it was likely that a large majority of the business subjects had favorable and strong attitudes. In both the engineering and social science groups, the subjects who intended to enter business employment had more favorable attitudes toward the self-related and other-related aspects of business employment. In both groups the subjects who did not intend to enter business employment had stronger attitudes with respect to one concept. In both cases the differences in attitude strength were not accompanied by a difference in value placed on the concept.
Table 16.—Concepts which showed significant differences when subjects were classified by area of study and compared on the basis of employment intention\textsuperscript{a}

<table>
<thead>
<tr>
<th>Primary Group</th>
<th>Sub-Group Compared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Subjects</td>
<td>Go's - Nogo's\textsuperscript{b}</td>
</tr>
<tr>
<td></td>
<td>\textit{S-1}\textsuperscript{c}</td>
</tr>
<tr>
<td>Engineering Subjects</td>
<td>Go's - Nogo's</td>
</tr>
<tr>
<td></td>
<td>\textit{S-1} \textit{T-2}</td>
</tr>
<tr>
<td></td>
<td>\textit{O-1}</td>
</tr>
<tr>
<td>Social Science Subjects</td>
<td>Go's - Nogo's</td>
</tr>
<tr>
<td></td>
<td>\textit{S-1} \textit{O-1}</td>
</tr>
<tr>
<td></td>
<td>\textit{O-2}</td>
</tr>
</tbody>
</table>

\textsuperscript{a}The complete set of "t" scores from which this table was derived are included in tables 4, 5, and 6 of Appendix V.

\textsuperscript{b}Go's and Nogo's refer, respectively, to subjects who intended to enter business employment and subjects who did not intend to enter business employment.

\textsuperscript{c}Concepts are listed under group which had the more favorable or stronger attitudes.

Based on the above analysis it was concluded that within each of the three sub-groups, the subjects who intended to enter business employment had more favorable and stronger attitudes regarding the self-related and other-related aspects of business employment.

The evidence produced by the above analyses generally supported the second hypothesis of the study. This hypothesis had, however, been formulated based on
the assumption that the achievement need was a primary
determinant of employment intentions. Since the analysis
of employment intentions reported in Chapter III generally
did not indicate that subjects who intended to enter
business employment had significantly higher levels of
need for achievement, it was felt that further classifi­
cation and analysis of the attitude data might provide
some insight into the inconsistency between the employ­
ment intentions and attitude analyses.

ANALYSIS OF ATTITUDES BY LEVEL OF NEED
FOR ACHIEVEMENT AND EMPLOYMENT
INTENTION

The question for which answers were sought here
was, why did some subjects with high levels of need for
achievement intend to enter business employment, while
others did not, and similarly for those with low needs
for achievement? It seemed possible that specific
patterns of attitudes might be associated with high or
low levels of need for achievement. In light of this,
it seemed in order to classify subjects into two groups,
based on the level of their need for achievement, to
determine if there were differences in attitudes associated
with differences in employment intentions.

Analysis Of Attitudes For Subjects Classified By Level
Of Need For Achievement

All subjects were classified into either the high
need achiever group or low need achiever group. The attitudes of the subjects in each group were then analyzed on the basis of employment intention. 4

Analysis Of Attitude Differences Among High Need Achievers. When the attitudes of subjects with high levels of need for achievement were compared based on their employment intentions, the differences shown in Table 17 were present. Among subjects with high levels of need for achievement, those who intended to enter business employment valued more highly and felt more strongly about their chances for success and the task and self-related aspects of business employment. Thus, the results of this analysis also supported the hypothesis.

Analysis Of Attitude Differences Among Low Need Achievers. Comparison of the attitudes of the low need achievers who intended to enter business employment and the attitudes of the low need achievers who intended to enter other types of employment revealed the significant differences shown in Table 18. As the "t" scores in Table 18 indicate, the subjects with low levels of need for achievement who intended to become business employees generally valued all three aspects of business employment more highly than the subjects who intended to

4Subjects were classified as having high or low levels of need for achievement based upon their position in the total distribution of achievement scores. Subjects above the median were classified as having high levels of need for achievement. Subjects below the median were classified as having low levels of need for achievement.
Table 17.—Computed "t" values resulting from a comparison of subjects with high needs for achievement who intend to become business employees and subjects with high needs for achievement who do not intend to become business employees.

### Bipolar Scales

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>2.791</td>
<td>2.218</td>
<td>0.816</td>
<td>-0.088</td>
<td>1.306</td>
<td>3.504</td>
<td>2.641</td>
<td>2.161</td>
<td>0.850</td>
<td>0.794</td>
</tr>
<tr>
<td>T-1</td>
<td>1.887</td>
<td>1.083</td>
<td>0.892</td>
<td>1.432</td>
<td>0.252</td>
<td>1.496</td>
<td>0.647</td>
<td>-0.325</td>
<td>1.169</td>
<td>0.317</td>
</tr>
<tr>
<td>T-2</td>
<td>3.064</td>
<td>2.197</td>
<td>1.114</td>
<td>1.993</td>
<td>2.217</td>
<td>2.475</td>
<td>1.434</td>
<td>1.702</td>
<td>0.542</td>
<td>1.213</td>
</tr>
<tr>
<td>S-1</td>
<td>2.531</td>
<td>0.948</td>
<td>1.374</td>
<td>1.698</td>
<td>2.501</td>
<td>2.279</td>
<td>1.725</td>
<td>1.205</td>
<td>1.716</td>
<td>1.119</td>
</tr>
<tr>
<td>S-2</td>
<td>1.326</td>
<td>1.447</td>
<td>-0.590</td>
<td>0.528</td>
<td>0.476</td>
<td>1.479</td>
<td>0.568</td>
<td>-0.214</td>
<td>-0.410</td>
<td>1.491</td>
</tr>
<tr>
<td>O-1</td>
<td>0.431</td>
<td>-0.062</td>
<td>0.590</td>
<td>0.580</td>
<td>0.490</td>
<td>-1.446</td>
<td>-1.413</td>
<td>-1.237</td>
<td>-0.970</td>
<td>0.947</td>
</tr>
<tr>
<td>O-2</td>
<td>1.677</td>
<td>0.616</td>
<td>-1.040</td>
<td>0.750</td>
<td>-0.317</td>
<td>0.920</td>
<td>-0.078</td>
<td>-0.636</td>
<td>-0.655</td>
<td>1.741</td>
</tr>
</tbody>
</table>

**Note:** Underlined values indicate a significant difference at the .05 level of significance (HACH GO'S - HACH NOGO'S).

Degrees of Freedom: 143
Critical "t" values: ±1.96
Table 18.—Computed "t" values resulting from a comparison of subjects with low needs for achievement who intend to become business employees and subjects with low needs for achievement who do not intend to become business employees

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>0.863</td>
<td>0.882</td>
<td>0.525</td>
<td>0.867</td>
<td>0.973</td>
<td>0.013</td>
<td>0.213</td>
<td>0.745</td>
<td>0.382</td>
<td>1.124</td>
</tr>
<tr>
<td>T-1</td>
<td>-0.191</td>
<td>0.281</td>
<td>-0.416</td>
<td>1.446</td>
<td>1.830</td>
<td>0.577</td>
<td>-0.083</td>
<td>0.321</td>
<td>0.672</td>
<td>0.641</td>
</tr>
<tr>
<td>T-2</td>
<td>2.052</td>
<td>2.741</td>
<td>1.646</td>
<td>2.547</td>
<td>2.657</td>
<td>1.435</td>
<td>1.059</td>
<td>0.181</td>
<td>-0.181</td>
<td>1.138</td>
</tr>
<tr>
<td>S-1</td>
<td>3.118</td>
<td>2.775</td>
<td>2.786</td>
<td>2.288</td>
<td>2.450</td>
<td>1.619</td>
<td>1.716</td>
<td>-0.850</td>
<td>-0.120</td>
<td>1.029</td>
</tr>
<tr>
<td>S-2</td>
<td>0.286</td>
<td>0.716</td>
<td>0.491</td>
<td>2.331</td>
<td>2.318</td>
<td>0.355</td>
<td>0.459</td>
<td>-0.292</td>
<td>-0.159</td>
<td>0.545</td>
</tr>
<tr>
<td>O-1</td>
<td>2.749</td>
<td>3.188</td>
<td>1.077</td>
<td>3.561</td>
<td>2.441</td>
<td>0.468</td>
<td>-0.124</td>
<td>-1.421</td>
<td>-0.973</td>
<td>0.599</td>
</tr>
<tr>
<td>O-2</td>
<td>0.899</td>
<td>2.151</td>
<td>0.658</td>
<td>2.015</td>
<td>0.873</td>
<td>0.958</td>
<td>0.608</td>
<td>2.708</td>
<td>0.368</td>
<td>1.474</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (LACH GO'S - LACH NOGO'S).

Degrees of Freedom: 143

Critical "t" values: ±1.96
enter other types of employment. The findings produced by this analysis also supported the stated hypothesis.

More important was what the two above analyses seemed to imply. It will be recalled that the analysis reported in Chapter III for these same two groups did not indicate that there were significant differences in the employment intentions of the two groups. Here the analysis indicated that there were differences in attitudes associated with differences in employment intentions within each group; however, there did not appear to be a discernible pattern in the attitude differences which would explain why subjects were attracted to business employment in similar proportions. The subjects who intended to enter business employment in both the high need achiever group and the low need achiever group differed from the subjects who intended to enter other types of employment with respect to some of the same attitudes.

Based upon these facts it did not seem that the level of need for achievement in subjects had a substantial influence on the attitudes under consideration. The fact that the analysis in Chapter III had indicated that the level of need for achievement did not affect business employment intentions made this conclusion especially tempting. The influence of the level of need for achievement on subjects' attitudes could, however, be investigated rather easily.
Analysis Of Attitude Differences Among High And Low Need Achievers. If the level of need for achievement did not influence attitudes, then no significant differences should have been present when the attitudes of subjects with high levels of need for achievement were compared with the attitudes of subjects with low levels of need for achievement. The "t" tests of the semantic differential data for these two groups revealed the significant differences in attitudes shown in Table 19. The subjects with high levels of need for achievement felt significantly more strongly about their chances for success and about one of the task-related aspects of business employment. The low need achievers had stronger attitudes with respect to the other task-related concept. This analysis indicated that the level of need for achievement did exert some influence on subjects' attitudes.

At first thought it appeared that the findings of the attitude analysis were inconsistent with the comparable employment intentions analysis reported in Chapter III. The employment intentions analysis indicated that subjects' levels of need for achievement did not appreciably affect their employment intentions. The attitude analyses above indicated that the level of need for achievement did exert some influence on attitudes toward business employment. The most logical explanation seemed to be that there were other variables which exerted at least as much, and probably more, influence on subjects'
Table 19.--Computed "t" values resulting from a comparison of subjects with high needs for achievement and subjects with low needs for achievement

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>0.424</td>
<td>1.263</td>
<td>0.845</td>
<td>0.724</td>
<td>0.820</td>
<td>0.331</td>
<td>1.028</td>
<td>1.171</td>
<td>0.516</td>
<td>2.321</td>
</tr>
<tr>
<td>T-1</td>
<td>1.452</td>
<td>0.799</td>
<td>-0.099</td>
<td>-0.043</td>
<td>-0.212</td>
<td>1.581</td>
<td>1.548</td>
<td>2.375</td>
<td>0.238</td>
<td>-1.454</td>
</tr>
<tr>
<td>T-2</td>
<td>-1.284</td>
<td>-0.683</td>
<td>-0.363</td>
<td>-1.128</td>
<td>-0.043</td>
<td>-1.137</td>
<td>-1.330</td>
<td>-1.725</td>
<td>-1.582</td>
<td>-2.454</td>
</tr>
<tr>
<td>S-1</td>
<td>-1.175</td>
<td>-0.443</td>
<td>-0.483</td>
<td>0.117</td>
<td>0.926</td>
<td>-0.342</td>
<td>-0.785</td>
<td>-0.051</td>
<td>-0.604</td>
<td>-1.277</td>
</tr>
<tr>
<td>S-2</td>
<td>-0.719</td>
<td>-0.823</td>
<td>-0.714</td>
<td>-1.171</td>
<td>-0.448</td>
<td>0.345</td>
<td>-0.807</td>
<td>0.687</td>
<td>0.313</td>
<td>0.211</td>
</tr>
<tr>
<td>O-1</td>
<td>1.011</td>
<td>0.976</td>
<td>1.007</td>
<td>0.565</td>
<td>-0.292</td>
<td>0.610</td>
<td>1.354</td>
<td>-0.174</td>
<td>0.148</td>
<td>-1.386</td>
</tr>
<tr>
<td>O-2</td>
<td>0.916</td>
<td>1.057</td>
<td>0.607</td>
<td>0.048</td>
<td>-0.375</td>
<td>1.663</td>
<td>1.265</td>
<td>1.391</td>
<td>-0.550</td>
<td>-0.522</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HACH - LACH).

Degrees of Freedom: 288

Critical "t" values: ±1.96
employment intentions as their levels of need for achievement.

This interpretation seemed plausible, but substantial differences in attitudes were associated with differences in employment intentions in both the high need achiever group and the low need achiever group. It should be recalled that the attitudes under consideration were believed to be related to satisfaction of the achievement motive. The researcher was, therefore, placed in the position of trying to explain the existence of differences in attitudes toward the achievement aspects of business employment when the level of need for achievement did not seem to influence employment intentions.

After much thought, it appeared that there were two possible explanations of the findings. The most obvious answer was that the concepts did not relate to the achievement motive but to some other motive which exerted influence on subjects' employment intentions. This, unfortunately, was a possibility, but it seemed safe to assume that the concepts were related to more than one motive and that the achievement motive was one of them. The concepts did seem to be logically related to the achievement motive, and significant differences were present when subjects' attitudes were compared based solely on their level of need for achievement.

It was unfortunate that the concepts might have been "contaminated" by their relation to other motives;
but from a practical standpoint, it probably would have been impossible to derive "pure" concepts that related only to the achievement motive.

The second explanation, and the one which appeared more likely, was that subjects' levels of need for achievement did influence their attitudes toward the achievement aspects of business employment, but the attitudes did not exert a significant influence on the employment intentions of subjects. Both the attitude analysis and the employment intentions analysis supported this conclusion. If this were true, then how could the attitude differences associated with employment intentions be accounted for?

There appeared to be two equally probable explanations. First of all, the analysis had already indicated that the concepts were probably related to other motives as well as the achievement motive. It was, therefore, possible that the differences in attitudes which were associated with differences in employment intentions were, in part, a result of other motives. It was also possible that subjects selected their intended employment based on other criteria and then rationalized these particular attitudes to accord with their intended employment. The data did not provide the researcher with a basis for selecting one or the other of these possibilities, so selection of either one would have been pure speculation.

In either case, however, the conclusion about the
effects of the level of need for achievement on business employment intentions was the same. It appeared that subjects' employment intentions were not influenced by the levels of their need for achievement or by their attitudes toward the achievement aspects of business employment.

Although it did not appear that subjects' attitudes affected their intention to enter business employment, it still seemed possible that within any one of the three academic sub-groups different conditions might prevail. Analysis of attitudes within each of the sub-groups was, therefore, in order.

**Analysis Of Attitudes Within Sub-Groups**

The objective of these analyses was very similar to the objective of the analysis of the entire sample reported immediately above. The analyses here sought to determine whether or not patterns of attitude differences between high and low need achievers in the sub-groups could help explain why some subjects in each group were attracted to business employment, while others were not.

The investigation of such a possibility required that each of the sub-groups be analyzed. Subjects in each of the three groups were classified as high or low need achievers. In turn, the attitudes of subjects in

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5 In the analysis reported in this section subjects in each sub-group were classified as high or low in level of need for achievement based on the position
both the high and low need achiever groups were compared based on their employment intentions. In all, six different comparisons were necessary.

**Analysis Of Attitude Differences For Subjects Classified By Level Of Need For Achievement.** When subjects were classified with respect to both their area of study and their level of need for achievement, the attitude differences indicated in Table 20 were associated with differences in employment intentions. It was immediately apparent that the findings did not provide strong support for the attitude hypothesis. There were some differences in attitudes associated with differences in employment intentions, but the differences were not all in the hypothesized direction.

Among the business subjects there were no attitude differences associated with differences in employment intentions in either the high or low need achiever groups. This result could almost have been anticipated, since there were few differences present when these subjects' attitudes were compared based solely upon employment intention. Obviously, the analyses neither supported the attitude hypothesis, nor produced any pattern which might explain why some subjects in both the achievement groups were attracted to business employment.

of their achievement score in the distribution of achievement scores of their respective sub-group. Subjects above the median were classified as high in need for achievement. Subjects below the median were classified as low in need for achievement.
Table 20.—Concepts which showed significant differences when subjects were classified by area of study and need for achievement and compared based on employment intention

<table>
<thead>
<tr>
<th>Primary Group</th>
<th>Sub-Groups Compared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Subjects</td>
<td>Hach Go's - Hach Nogo's</td>
</tr>
<tr>
<td></td>
<td>None</td>
</tr>
<tr>
<td>Engineering Subjects</td>
<td>R-1&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Subjects</td>
<td>T-1</td>
</tr>
<tr>
<td></td>
<td>S-1</td>
</tr>
<tr>
<td>Social Science Subjects</td>
<td>R-1</td>
</tr>
<tr>
<td>Subjects</td>
<td>O-2</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>The complete set of "t" scores from which this table was derived are included in Tables 10, 11, 12, 13, 14 and 15 of Appendix V.

<sup>b</sup>Hach and Lach refer, respectively, to high need achievers and low need achievers. Go's and Nogo's refer, respectively, to subjects who intended to become business employees and subjects who intended to enter other types of employment.

<sup>c</sup>Concepts are listed under group with stronger or more favorable attitudes.
In the engineering group there were substantial differences in attitudes associated with differences in employment intentions in both of the achievement groups. The differences were not, however, all in the hypothesized direction. In the group with high levels of need for achievement, the subjects who intended to enter business employment generally valued more highly and felt more strongly about their chances for success and about the task and self-related aspects of business employment. The high need achievers who intended to enter other types of employment felt more strongly about the other-related aspects of business employment. The findings were of a similar nature in the group with low levels of need for achievement.

Analysis of the attitude differences shown in Table 20 for the engineering groups indicated the possibility of a definite pattern. In the group with low needs for achievement, the subjects who intended to enter business employment valued and felt more strongly about the other-related concepts. In the group with high levels of need for achievement, the opposite was true. In this group the subjects who intended to enter other types of employment had the stronger attitudes. Based only upon the evidence above, it did not seem safe to conclude that these attitude differences accounted for the differences in employment intentions among the high and low need achiever groups.
When this pattern was considered in connection with the employment intentions analysis reported in Chapter III, the above conclusion seemed more reasonable. That analysis indicated that high levels of need for achievement were related to business employment intentions in the engineering group. The attitude analysis here indicated the possibility that a definite pattern in attitudes was associated with both employment intentions and the level of need for achievement. Although the above evidence seemed to support the conclusion that the attitudes of engineering subjects influenced their employment intentions, further investigation seemed necessary to the researcher.

Significant differences in attitudes in the social science group were associated with differences in employment intentions among both the high need achievers and the low need achievers. As was found in the engineering group, the differences were not all in the predicted direction. The high need achievers who intended to enter business employment generally valued and felt more strongly about their chances for success and one of the other-related concepts. The subjects in this group who intended to enter other types of employment felt more strongly about the second other-related concept, but no difference in valuation was indicated. A very similar result occurred in the group with low levels of need for achievement.

It did not appear that there was any pattern in
the above attitude differences which was capable of explaining why some subjects in both of the social science need achiever groups intended to enter business employment while other subjects did not.

The findings for both high and low need achievers in all three sub-groups generally did not provide strong support for the attitude hypothesis. There were differences in attitudes, but the differences were not entirely consistent with the hypothesis.

The analyses above seemed to indicate that the attitudes in question might influence employment intentions in the engineering group, but not in the business and social science groups. In the hope of providing more information one way or the other, it was decided to see what effect the level of need for achievement had on the attitudes of the sub-groups.

Analysis Of Attitudes By Level Of Need For Achievement. Determining the effect of the level of need for achievement on attitudes could support either of the two findings produced by the above reported analysis. If differences in attitudes were found, it would indicate that the level of need for achievement influenced attitudes. And if the differences were consistent with the pattern found in the engineering group above, the findings would seem to support the conclusion that the attitudes in question affected employment intentions in the engineering group. If no differences were found or if the differences
found were not consistent with any pattern in the above analysis, it would appear to indicate that the attitudes did not influence employment intentions within the three groups.

The attitude differences which resulted from the three comparisons are shown in Table 21. There were some differences in attitudes associated with the level of need for achievement in each of the sub-groups. It was apparent, however, that the differences found did not support the position that attitudes affected employment intentions. The differences found in the engineering group were not consistent with the pattern found above.

It still did not appear that subjects' attitudes affected their employment intentions. It appeared that subjects' employment intentions were influenced by other variables and that the attitude differences which were associated with the level of need for achievement had no effect upon employment intentions.

Since the attitude analyses conducted had not indicated that business employment intentions were influenced by the attitudes under consideration, the question of whether or not these attitudes affected employment intentions still remained. It was possible that further classification and analysis might produce more insight into the effect that these attitudes had on business employment intentions.
Table 21.—Concepts which showed significant differences when subjects were classified by area of study and compared based on level of need for achievement\(^a\)

<table>
<thead>
<tr>
<th>Primary Group</th>
<th>Sub-Group Compared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Subjects</td>
<td>Hach - Lach(^b)</td>
</tr>
<tr>
<td></td>
<td>O-2</td>
</tr>
<tr>
<td></td>
<td>T-1(^c)</td>
</tr>
<tr>
<td></td>
<td>T-2</td>
</tr>
<tr>
<td>Engineering Subjects</td>
<td>T-1</td>
</tr>
<tr>
<td>Social Science Subjects</td>
<td>R-1</td>
</tr>
<tr>
<td></td>
<td>O-2</td>
</tr>
</tbody>
</table>

\(^a\)The complete set of "t" scores from which this table was derived are included in Tables 7, 8, and 9 of Appendix V.

\(^b\)Hach and Lach refer, respectively, to subjects with high levels of need for achievement and subjects with low levels of need for achievement.

\(^c\)Concepts are listed immediately below the group whose attitudes were more favorable or stronger.

ANALYSIS OF ATTITUDES BY GRADE-POINT AVERAGE AND EMPLOYMENT INTENTION

It seemed entirely possible that other classifications of subjects might produce patterns of attitude differences associated with employment intentions capable of explaining why some subjects did and some subjects did not intend to enter business employment. For the same reasons cited in Chapter III, the researcher felt that
classification and analysis of attitudes based on grade-point average might prove fruitful.

Analysis Of Attitudes For Subjects Classified By Grade-Point Average

All subjects were classified into two groups based upon the level of their grade-point average. The attitudes of subjects in both grade-point groups were compared based on employment intentions.

Analysis Of Attitude Differences Among High Grade-Point Subjects. When the attitudes of subjects with high grade-point averages were compared on the basis of employment intention, the differences indicated in Table 22 appeared. The high grade-point average subjects who intended to enter business employment generally valued and felt more strongly about concepts R-1, T-1, T-2, S-1, O-1, and O-2. It was noticeable that the high grade-point average subjects who were attracted to business felt better about their chances for success. Again, the findings indicated that favorable attitudes were associated with business employment intentions in the direction predicted by the attitude hypothesis.

Subjects were classified as having high or low grade-point averages by dividing each of the three grade-point distributions--business, engineering, and social science--at its own median. Subjects above the median were classified as having high grade-point averages and subjects below the median were classified as having low grade-point averages.
Table 22.—Computed "t" values resulting from a comparison of subjects with high grade-point averages who intend to become business employees and subjects with high grade-point averages who do not intend to become business employees

<table>
<thead>
<tr>
<th>Concepts</th>
<th>Bipolar Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>R-1</td>
<td>3.528</td>
</tr>
<tr>
<td>T-1</td>
<td>0.706</td>
</tr>
<tr>
<td>T-2</td>
<td>3.019</td>
</tr>
<tr>
<td>S-1</td>
<td>2.947</td>
</tr>
<tr>
<td>S-2</td>
<td>0.707</td>
</tr>
<tr>
<td>O-1</td>
<td>1.792</td>
</tr>
<tr>
<td>O-2</td>
<td>2.104</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HGPA GO'S - HGPA NOGO'S).

Degrees of Freedom: 141
Critical "t" values: ±1.96
Analysis Of Attitude Differences Among Low Grade-Point Subjects. A comparable analysis of the attitudes of subjects with low grade-point averages indicated the existence of the differences shown in Table 23. Among subjects in this group, those who intended to enter business employment placed significantly more value on concepts T-2, S-1, S-2, and O-1. Just as with the high grade-point average subjects, the findings for this group also supported the hypothesis.

Within both the high grade-point average group and the low grade-point average group there were differences in attitudes associated with differences in employment intentions. There did not, however, appear to be a discernible pattern in the differences found within the two groups. The subjects who intended to enter business employment in both groups differed with respect to many of the same concepts. With this result it seemed possible that the grade-point average of subjects might not have exerted any influence on their attitudes. This question needed further investigation.

Analysis Of Attitudes Between High And Low Grade-Point Subjects. Investigating the effect of subjects' grade-point averages on their attitudes toward the achievement aspects of business employment involved comparing the attitudes of subjects with high grade-point averages with the attitudes of subjects with low grade-point averages.
Table 23.—Computed "t" values resulting from a comparison of low grade-point subjects who intend to become business employees and low grade-point subjects who do not intend to become business employees

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>0.174</td>
<td>-0.360</td>
<td>0.507</td>
<td>0.886</td>
<td>-1.052</td>
<td>1.272</td>
<td>0.455</td>
<td>1.238</td>
<td>0.009</td>
<td>0.966</td>
</tr>
<tr>
<td>T-1</td>
<td>0.769</td>
<td>-0.179</td>
<td>0.086</td>
<td>-0.311</td>
<td>-0.009</td>
<td>1.325</td>
<td>1.187</td>
<td>-0.098</td>
<td>0.845</td>
<td>-0.366</td>
</tr>
<tr>
<td>T-2</td>
<td>2.014</td>
<td>0.793</td>
<td>0.578</td>
<td>1.954</td>
<td>2.886</td>
<td>1.990</td>
<td>1.144</td>
<td>0.829</td>
<td>-0.231</td>
<td>0.523</td>
</tr>
<tr>
<td>S-1</td>
<td>2.411</td>
<td>1.748</td>
<td>1.858</td>
<td>1.835</td>
<td>1.821</td>
<td>2.110</td>
<td>1.764</td>
<td>0.010</td>
<td>1.213</td>
<td>1.290</td>
</tr>
<tr>
<td>S-2</td>
<td>0.786</td>
<td>1.709</td>
<td>0.369</td>
<td>0.902</td>
<td>1.138</td>
<td>1.307</td>
<td>1.252</td>
<td>0.536</td>
<td>0.575</td>
<td>2.079</td>
</tr>
<tr>
<td>O-1</td>
<td>0.859</td>
<td>2.125</td>
<td>1.202</td>
<td>1.742</td>
<td>1.726</td>
<td>-1.029</td>
<td>-1.244</td>
<td>-1.445</td>
<td>-1.075</td>
<td>0.504</td>
</tr>
<tr>
<td>O-2</td>
<td>0.609</td>
<td>0.757</td>
<td>-0.591</td>
<td>0.916</td>
<td>0.042</td>
<td>-0.023</td>
<td>-0.456</td>
<td>-0.202</td>
<td>-0.547</td>
<td>0.383</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (LGPA GO'S - LGPA NOGO'S).  
Degrees of Freedom: 153  
Critical "t" values: ±1.96
Comparison of the attitudes of these two groups indicated, as shown in Table 24, that there were significant differences with respect to only two of the concepts. The subjects with low grade-point averages valued and felt more strongly about the task-related aspect of business employment. It did not appear that the grade-point average of subjects had a substantial effect upon the attitudes in this study.

When these findings were considered in conjunction with the parallel employment intentions analysis in Chapter III, a basic question arose. Why were there differences in attitudes associated with differences in employment intentions when subjects were analyzed by grade-point groups, if the grade-point average did not affect either employment intentions or attitudes appreciably? The only logical answer developed was that some other variable beside grade-point average affected subjects' employment intentions, and subjects then aligned these attitudes with their intended employment.

There was one other issue with respect to the above results which had to be solved. It appeared that the directions of the attitude differences found when subjects within the grade-point groups were compared based on employment intention were inconsistent with the directions of the attitude differences which resulted when subjects were compared based only on the level of their grade-point average. The first analysis mentioned indicated that
Table 24.—Computed "t" values resulting from a comparison of subjects with high grade-point averages and subjects with low grade-point averages

Bipolar Scales

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>0.067</td>
<td>0.083</td>
<td>0.795</td>
<td>-1.054</td>
<td>-0.976</td>
<td>-0.586</td>
<td>-0.080</td>
<td>-0.898</td>
<td>-1.134</td>
<td>-1.697</td>
</tr>
<tr>
<td>T-1</td>
<td>-1.561</td>
<td>-1.994</td>
<td>-1.368</td>
<td>-1.353</td>
<td>-2.007</td>
<td>-0.985</td>
<td>-0.472</td>
<td>-2.126</td>
<td>-0.702</td>
<td>-1.510</td>
</tr>
<tr>
<td>T-2</td>
<td>-2.556</td>
<td>-1.729</td>
<td>-2.256</td>
<td>-1.862</td>
<td>-2.151</td>
<td>-1.717</td>
<td>-0.846</td>
<td>-0.719</td>
<td>-0.476</td>
<td>-1.280</td>
</tr>
<tr>
<td>S-1</td>
<td>-1.276</td>
<td>-0.818</td>
<td>-0.244</td>
<td>-1.425</td>
<td>-0.720</td>
<td>-0.774</td>
<td>-1.566</td>
<td>-1.372</td>
<td>-1.353</td>
<td>-1.123</td>
</tr>
<tr>
<td>S-2</td>
<td>0.064</td>
<td>-0.176</td>
<td>0.028</td>
<td>-0.602</td>
<td>0.175</td>
<td>0.229</td>
<td>0.613</td>
<td>-0.458</td>
<td>-0.121</td>
<td>0.376</td>
</tr>
<tr>
<td>O-1</td>
<td>-0.701</td>
<td>-0.737</td>
<td>-1.670</td>
<td>-0.573</td>
<td>-0.319</td>
<td>0.935</td>
<td>1.302</td>
<td>0.235</td>
<td>0.869</td>
<td>0.908</td>
</tr>
<tr>
<td>O-2</td>
<td>0.088</td>
<td>-0.299</td>
<td>-0.847</td>
<td>-1.619</td>
<td>-1.397</td>
<td>-0.661</td>
<td>0.352</td>
<td>-1.807</td>
<td>-1.113</td>
<td>-1.498</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HGPA - LGPA).

Degrees of Freedom: 286

Critical "t" values: ±1.96
favorable attitudes were associated with business employment intentions. The second analysis mentioned indicated that grade-point average had a limited, but statistically significant, negative influence on attitudes toward business employment. Was it possible that grade-point average was negatively associated with attitudes toward business employment, while at the same time attitudes in both the high and low grade-point groups were positively associated with business employment intentions?

At first thought, it did not seem that the above situation was possible, but further reflection and investigation revealed that it was definitely possible. The only condition that was necessary for this situation to have occurred was for either or both of the low grade-point groups to have had more favorable attitudes than the corresponding high grade-point groups. In fact, the corresponding semantic profiles included in Appendix IV indicated that this was what happened.

Although the previously conducted attitude analyses had not shown that the three academic sub-groups differed substantially from the entire sample or among themselves, there was no reason to assume that this was true with respect to the effects of grade-point average.

Analysis Of Attitudes Within Sub-Groups

The determination of whether or not grade-point average had affected the attitudes of subjects within
each of the sub-groups required comparison of attitudes based on employment intention for the two grade-point groups in each academic area. Thus, six different comparisons were necessary.

 Analysis Of Attitude Differences For Subjects Classified By Grade-Point Average. When subjects within each sub-group were classified by their grade-point average and their attitudes compared based on employment intentions, the concepts shown in Table 25 showed significant differences. There were significant differences in attitudes in each of the six groups. All of the differences were not, however, in the direction predicted by the hypothesis.

 As the table indicates, there were substantially more significant differences in the three high grade-point average groups. The researcher was not able to detect any pattern in the findings presented in Table 25. There was no apparent pattern in the attitude differences found among subjects with high grade-point averages and subjects with low grade-point averages in each academic group. Neither did there appear to be a pattern among the three groups.

 The researcher was not able to explain the inconsistency in the direction of the attitude differences. Among all but the business subjects, there were some concepts which the subjects who intended to enter other types of employment valued more highly. As a result of
Table 25.—Concepts which showed significant differences when subjects were classified by grade-point average and compared on the basis of employment intention

<table>
<thead>
<tr>
<th>Primary Group</th>
<th>Sub-Groups Compared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>Hgpa Go's - Hgpa Nogo's</td>
</tr>
<tr>
<td></td>
<td>R-1</td>
</tr>
<tr>
<td></td>
<td>T-2</td>
</tr>
<tr>
<td>Engineering</td>
<td>T-1</td>
</tr>
<tr>
<td></td>
<td>T-2</td>
</tr>
<tr>
<td></td>
<td>S-1</td>
</tr>
<tr>
<td></td>
<td>S-2</td>
</tr>
<tr>
<td></td>
<td>O-1</td>
</tr>
<tr>
<td>Social Science</td>
<td>R-1</td>
</tr>
<tr>
<td></td>
<td>T-1</td>
</tr>
<tr>
<td></td>
<td>O-2</td>
</tr>
</tbody>
</table>

The complete set of "t" scores from which this table was derived are included in Tables 19, 20, 21, 22, 23, and 24 of Appendix V.

Hgpa and Lgpa refer, respectively, to subjects with high grade-point averages and subjects with low grade-point averages. Go's and Nogo's refer, respectively, to subjects who intended to become business employees and subjects who did not intend to enter business employment.

Concepts are listed under group whose attitudes were stronger or more favorable.
these inconsistencies, the results of this analysis did not entirely support the attitude hypothesis.

The findings produced by this analysis seemed to indicate that the grade-point average of subjects might have a substantial influence on attitudes, but that the attitudes did not have a substantial influence on employment intentions. It was felt that analysis of the effect of grade-point average alone on attitudes in each academic group might shed some light on this question.

Analysis Of Attitude Differences Between High And Low Grade-Point Groups. Table 26 shows the differences in attitudes associated with differences in the level of subjects' grade-point averages in each academic group. There were few significant differences in attitudes found. Only two concepts were significantly different in the business group, and only one concept differed in the engineering group. There were no significant differences in the attitudes of high and low grade-point subjects in the social science group.

The attitude differences which did exist indicated that the grade-point average of business and engineering subjects might have been negatively associated with attitudes toward the achievement aspects of business employment. The stronger attitudes of the subjects with low grade-point averages indicated that a high grade-point average might have had a negative effect upon favorable attitudes toward business.
Table 26.—Concepts which showed significant differences when subjects were grouped by area of study and compared on the basis of grade-point average

<table>
<thead>
<tr>
<th>Primary Group</th>
<th>Sub-Groups Compared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Subjects</td>
<td>Hgpa - Lgpa&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>T-1&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>O-1</td>
</tr>
<tr>
<td>Engineering Subjects</td>
<td>T-2</td>
</tr>
<tr>
<td>Social Science Subjects</td>
<td>None</td>
</tr>
</tbody>
</table>

<sup>a</sup>The complete set of "t" scores from which this table was derived are included in Tables 16, 17, and 18 of Appendix V.

<sup>b</sup>Hgpa and Lgpa refer, respectively, to subjects with high grade-point averages and subjects with low grade-point averages.

<sup>c</sup>Concepts are listed beneath group whose attitudes were more favorable and/or stronger.

When the number of significant differences in attitudes was considered, it did not appear that the grade-point average of subjects in each of the three groups had an appreciable effect on their attitudes. Few differences in attitudes were associated with the level of subjects' grade-point averages.

A review of the findings with respect to the effect of grade-point average within the groups indicated that some other variable must have influenced the employment intentions of subjects. There were no significant
differences found in the employment intentions of high and low grade-point average subjects, and grade-point average did not appear to have a substantial effect on attitudes. At the same time, however, there were differences in attitudes associated with differences in employment intention when subjects were analyzed by grade-point groups. It again appeared that subjects selected their intended employment first and then tended to align the attitudes investigated with their decision.

The attitude analyses had not indicated that either subjects' levels of need for achievement or their grade-point averages had any significant effect on their attitudes toward business employment. Since the analysis reported in Chapter III indicated that these two variables were not related in any systematic way, it was possible that they might interact to influence attitudes even though they did not appear to exert much influence independently.

**ANALYSIS OF ATTITUDES BY GRADE-POINT AVERAGE, LEVEL OF NEED FOR ACHIEVEMENT AND EMPLOYMENT INTENTION**

The objective of these analyses was to try to determine whether or not subjects' grade-point averages and levels of need for achievement combined to exert influence on their attitudes toward the achievement aspects of business employment. It was entirely possible that these
two variables could have interacted and affected attitudes. It was also possible that analysis of subjects' attitudes with respect to both of these variables at the same time might produce patterns of attitude differences which would indicate why some subjects were attracted to business employment and some subjects were not.

Analysis Of Attitude Differences By Employment Intention

For this analysis all subjects were classified into four groups depending upon the particular combination of grade-point average and level of need for achievement that they exhibited. Subjects' attitudes were analyzed with respect to their employment intentions.

When the attitudes of the subjects who intended to enter business employment in each group were compared to the attitudes of the subjects who did not intend to enter business employment, the differences indicated by Tables 27, 28, 29, and 30, were present. With one exception, the findings supported the hypothesis. In all but the low grade-point, high need achiever group, the subjects who intended to enter business employment had at least some attitudes which were more favorable and/or stronger than the attitudes of the remaining subjects.

---

7 In this analysis, subjects were classified as having high or low levels of need for achievement based upon the position of their achievement score in the total distribution of achievement scores. The distribution was divided at the median.

Subjects were classified as having high or low grade-point averages in the same manner as for all of the previously reported analyses.
Table 27.—Computed "t" values resulting from a comparison of high grade-point subjects with high needs for achievement who intend to become business employees and high grade-point subjects with high needs for achievement who do not intend to become business employees

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>2.307</td>
<td>2.439</td>
<td>-0.494</td>
<td>-1.395</td>
<td>1.856</td>
<td>2.972</td>
<td>2.548</td>
<td>0.793</td>
<td>0.917</td>
<td>-0.154</td>
</tr>
<tr>
<td>T-1</td>
<td>0.778</td>
<td>0.157</td>
<td>-0.170</td>
<td>0.929</td>
<td>-0.991</td>
<td>0.073</td>
<td>-1.501</td>
<td>-1.314</td>
<td>0.320</td>
<td>-0.114</td>
</tr>
<tr>
<td>T-2</td>
<td>1.966</td>
<td>2.243</td>
<td>0.576</td>
<td>0.494</td>
<td>0.375</td>
<td>1.047</td>
<td>0.449</td>
<td>0.378</td>
<td>0.091</td>
<td>0.339</td>
</tr>
<tr>
<td>S-1</td>
<td>1.644</td>
<td>0.861</td>
<td>0.884</td>
<td>0.631</td>
<td>1.571</td>
<td>1.051</td>
<td>0.777</td>
<td>0.246</td>
<td>-0.116</td>
<td>-0.663</td>
</tr>
<tr>
<td>S-2</td>
<td>0.750</td>
<td>0.341</td>
<td>-1.643</td>
<td>-0.113</td>
<td>0.538</td>
<td>0.515</td>
<td>0.271</td>
<td>-1.246</td>
<td>-1.070</td>
<td>0.094</td>
</tr>
<tr>
<td>O-1</td>
<td>0.804</td>
<td>-0.396</td>
<td>-0.182</td>
<td>0.884</td>
<td>-0.165</td>
<td>-1.154</td>
<td>-1.097</td>
<td>-1.637</td>
<td>-1.064</td>
<td>-0.217</td>
</tr>
<tr>
<td>O-2</td>
<td>1.329</td>
<td>0.681</td>
<td>-1.070</td>
<td>0.079</td>
<td>-1.422</td>
<td>0.745</td>
<td>0.394</td>
<td>-0.332</td>
<td>-1.357</td>
<td>0.918</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HGPA HACH GO'S - HGPA HACH NOGO'S).

Degrees of Freedom: 73

Critical "t" values: ±2.00
Table 28.—Computed "t" values resulting from a comparison of high grade-point subjects with low needs for achievement who intend to become business employees and high grade-point subjects with low needs for achievement who do not intend to become business employees

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>2.696</td>
<td>2.358</td>
<td>1.671</td>
<td>1.159</td>
<td>2.328</td>
<td>0.338</td>
<td>0.882</td>
<td>1.408</td>
<td>0.988</td>
<td>1.060</td>
</tr>
<tr>
<td>T-1</td>
<td>0.323</td>
<td>1.551</td>
<td>0.509</td>
<td>3.336</td>
<td>3.587</td>
<td>0.607</td>
<td>0.327</td>
<td>1.386</td>
<td>0.837</td>
<td>2.060</td>
</tr>
<tr>
<td>T-2</td>
<td>2.321</td>
<td>3.956</td>
<td>2.393</td>
<td>2.812</td>
<td>2.052</td>
<td>1.479</td>
<td>1.229</td>
<td>1.425</td>
<td>0.825</td>
<td>1.949</td>
</tr>
<tr>
<td>S-1</td>
<td>2.549</td>
<td>1.983</td>
<td>2.310</td>
<td>2.047</td>
<td>2.623</td>
<td>1.087</td>
<td>1.101</td>
<td>0.070</td>
<td>0.046</td>
<td>1.092</td>
</tr>
<tr>
<td>S-2</td>
<td>0.242</td>
<td>0.105</td>
<td>0.512</td>
<td>2.248</td>
<td>1.476</td>
<td>-1.136</td>
<td>-1.012</td>
<td>-0.647</td>
<td>-0.522</td>
<td>-0.148</td>
</tr>
<tr>
<td>O-1</td>
<td>1.702</td>
<td>1.696</td>
<td>0.185</td>
<td>2.308</td>
<td>1.354</td>
<td>0.391</td>
<td>0.0</td>
<td>-0.365</td>
<td>-0.691</td>
<td>1.477</td>
</tr>
<tr>
<td>O-2</td>
<td>1.655</td>
<td>2.209</td>
<td>0.845</td>
<td>1.987</td>
<td>1.532</td>
<td>1.700</td>
<td>0.941</td>
<td>2.811</td>
<td>1.444</td>
<td>2.638</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HGPA LACH GO'S - HGPA LACH NOGO'S).

Degrees of Freedom: 66
Critical "t" values: ±2.00
Table 29.—Computed "t" values resulting from a comparison of low grade-point subjects with high needs for achievement who intend to become business employees and low grade point subjects with high needs for achievement who do not intend to become business employees

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>1.153</td>
<td>0.239</td>
<td>1.076</td>
<td>0.731</td>
<td>-0.395</td>
<td>1.725</td>
<td>1.029</td>
<td>1.556</td>
<td>-0.026</td>
<td>0.768</td>
</tr>
<tr>
<td>T-1</td>
<td>1.254</td>
<td>0.623</td>
<td>0.735</td>
<td>0.768</td>
<td>0.609</td>
<td>1.258</td>
<td>1.665</td>
<td>0.363</td>
<td>0.679</td>
<td>0.344</td>
</tr>
<tr>
<td>T-2</td>
<td>1.829</td>
<td>0.729</td>
<td>0.482</td>
<td>1.510</td>
<td>1.856</td>
<td>1.781</td>
<td>0.974</td>
<td>1.610</td>
<td>0.191</td>
<td>0.809</td>
</tr>
<tr>
<td>S-1</td>
<td>1.323</td>
<td>0.238</td>
<td>0.749</td>
<td>1.103</td>
<td>1.296</td>
<td>1.566</td>
<td>1.037</td>
<td>0.794</td>
<td>1.276</td>
<td>1.398</td>
</tr>
<tr>
<td>S-2</td>
<td>0.521</td>
<td>0.993</td>
<td>0.037</td>
<td>0.329</td>
<td>-0.244</td>
<td>0.981</td>
<td>0.057</td>
<td>0.109</td>
<td>0.099</td>
<td>1.687</td>
</tr>
<tr>
<td>O-1</td>
<td>-1.035</td>
<td>-0.122</td>
<td>0.411</td>
<td>-0.249</td>
<td>0.310</td>
<td>-1.759</td>
<td>-1.775</td>
<td>-0.966</td>
<td>-1.021</td>
<td>0.952</td>
</tr>
<tr>
<td>O-2</td>
<td>0.707</td>
<td>-0.085</td>
<td>-0.917</td>
<td>0.320</td>
<td>0.208</td>
<td>0.077</td>
<td>-0.692</td>
<td>-1.192</td>
<td>-0.172</td>
<td>0.974</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (LGPA HACH GO'S - LGPA HACH NOGO'S).

Degrees of Freedom: 69
Critical "t" values: ±2.00
Table 30.—Computed "t" values resulting from a comparison of low grade-point subjects with low needs for achievement who intend to become business employees and low grade point subjects with low needs for achievement who do not intend to become business employees

Bipolar Scales

<p>| | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>-1.485</td>
<td>-1.201</td>
<td>-0.872</td>
<td>-0.057</td>
<td>-1.529</td>
<td>-0.750</td>
<td>-0.905</td>
<td>-0.217</td>
<td>-0.414</td>
</tr>
<tr>
<td>T-1</td>
<td>-0.879</td>
<td>-1.787</td>
<td>-1.160</td>
<td>-1.710</td>
<td>-1.241</td>
<td>-0.344</td>
<td>-0.830</td>
<td>-0.922</td>
<td>0.032</td>
</tr>
<tr>
<td>T-2</td>
<td>0.123</td>
<td>-0.283</td>
<td>-0.331</td>
<td>0.494</td>
<td>1.396</td>
<td>0.270</td>
<td>0.043</td>
<td>-1.264</td>
<td>-1.231</td>
</tr>
<tr>
<td>S-1</td>
<td>1.663</td>
<td>1.763</td>
<td>1.460</td>
<td>1.040</td>
<td>0.789</td>
<td>0.854</td>
<td>0.959</td>
<td>-1.493</td>
<td>-0.121</td>
</tr>
<tr>
<td>S-2</td>
<td>0.039</td>
<td>0.816</td>
<td>-0.067</td>
<td>0.500</td>
<td>1.496</td>
<td>0.358</td>
<td>1.484</td>
<td>0.206</td>
<td>0.154</td>
</tr>
<tr>
<td>O-1</td>
<td>1.895</td>
<td>2.541</td>
<td>0.865</td>
<td>2.415</td>
<td>1.817</td>
<td>0.084</td>
<td>-0.306</td>
<td>-1.456</td>
<td>-0.907</td>
</tr>
<tr>
<td>O-2</td>
<td>-0.398</td>
<td>0.728</td>
<td>-0.228</td>
<td>0.412</td>
<td>-0.692</td>
<td>-0.544</td>
<td>-0.237</td>
<td>0.644</td>
<td>-1.199</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (LGPA LACH GO'S - LGPA LACH NOGO'S).

Degrees of Freedom: 74
Critical "t" values: ±2.00
The researcher was not able to find any significant pattern in the attitude differences with respect to either grade-point average or level of need for achievement. As can be seen in Table 31, the concepts which showed differences did not appear in any recognizable pattern.

Although the results of these analyses did provide some support for the attitude hypothesis, it appeared that particular combinations of grade-point average and level of need for achievement might have had varied effects upon subjects' attitudes. In some groups, it appeared that the two variables had little effect, while in one group it appeared possible that the effect was substantial. To provide more information on this issue, further analysis was required.

**Analysis Of Attitude Differences By Level Of Need For Achievement And Grade-Point Average**

The objective of this analysis was to investigate the combined effect of selected combinations of grade-point average and level of need for achievement on subjects' attitudes. The results from such an analysis might produce a better indication of the effect of the two variables on subjects' attitudes.

Subjects were divided into two grade-point groups, and the attitudes of subjects in each group were compared based on the level of their need for achievement.

Comparison of the attitudes of high and low need achievers in both grade-point groups produced the
Table 31.—Concepts that showed significant differences when subjects were classified on the basis of grade-point average and need for achievement and compared on the basis of employment intention

<table>
<thead>
<tr>
<th>Primary Group</th>
<th>Sub-Groups Compared</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Grade-Point Subjects</td>
<td>Hach Go's - Hach Nogo's(^a)</td>
</tr>
<tr>
<td></td>
<td>R-1(^b)</td>
</tr>
<tr>
<td></td>
<td>T-2</td>
</tr>
<tr>
<td>Low Grade-Point Subjects</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Abbreviations used in the table refer to the following groups: Hach refers to subjects with high levels of need for achievement; similarly, Lach refers to low levels of need for achievement. Go's and Nogo's refer, respectively, to subjects who did and subjects who did not intend to become business employees.

\(^b\)Concepts are listed under group which had the more favorable or stronger attitudes.
significant differences indicated in Tables 32 and 33. In the high grade-point group, the high need achievers had more favorable attitudes toward their chances for success and the task-related aspects of business employment. In the low grade-point group, the low need achievers had more favorable and stronger attitudes on concepts T-1, T-2, and S-1. It appeared that the combination of high grade-point average and high levels of need for achievement and the combination of low grade-point average and low levels of need for achievement produced more favorable attitudes toward the achievement-related aspects of business.

The researcher could find no logical explanation for the pattern of attitude differences shown in the summary table, Table 34. It appeared that in the low grade-point group, the positive effect of a low grade-point average found earlier in the analysis had dominated. While in the high grade-point group, the positive effect of a high level of need for achievement dominated.

The above analyses again indicated that subjects' employment intentions were not affected significantly by the two variables, grade-point average and level of need for achievement. There were attitude differences associated with employment intentions, and there were attitude differences associated solely with the selected combinations of the two variables. The employment intentions analysis reported in Chapter III did not indicate that
Table 32.—Computed "t" values resulting from a comparison of high grade-point subjects with high needs for achievement and high grade-point subjects with low needs for achievement

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>1.057</td>
<td>1.612</td>
<td>1.483</td>
<td>1.141</td>
<td>1.845</td>
<td>1.901</td>
<td>2.138</td>
<td>1.923</td>
<td>0.996</td>
<td>3.343</td>
</tr>
<tr>
<td>T-1</td>
<td>2.301</td>
<td>2.112</td>
<td>1.452</td>
<td>1.820</td>
<td>1.656</td>
<td>3.129</td>
<td>2.291</td>
<td>1.747</td>
<td>1.083</td>
<td>0.785</td>
</tr>
<tr>
<td>T-2</td>
<td>-0.084</td>
<td>0.869</td>
<td>0.307</td>
<td>0.629</td>
<td>1.513</td>
<td>0.087</td>
<td>-0.078</td>
<td>-0.004</td>
<td>-0.488</td>
<td>-0.672</td>
</tr>
<tr>
<td>S-1</td>
<td>-0.190</td>
<td>0.361</td>
<td>-0.027</td>
<td>0.209</td>
<td>0.981</td>
<td>-0.059</td>
<td>0.051</td>
<td>-0.324</td>
<td>-1.399</td>
<td>0.626</td>
</tr>
<tr>
<td>S-2</td>
<td>0.278</td>
<td>-0.014</td>
<td>0.371</td>
<td>-0.085</td>
<td>1.085</td>
<td>1.371</td>
<td>-0.047</td>
<td>0.708</td>
<td>1.759</td>
<td>1.700</td>
</tr>
<tr>
<td>O-1</td>
<td>0.675</td>
<td>0.293</td>
<td>1.544</td>
<td>0.454</td>
<td>0.494</td>
<td>-0.187</td>
<td>0.221</td>
<td>-0.384</td>
<td>-0.243</td>
<td>-0.553</td>
</tr>
<tr>
<td>O-2</td>
<td>0.767</td>
<td>0.808</td>
<td>0.905</td>
<td>0.363</td>
<td>0.886</td>
<td>1.027</td>
<td>0.819</td>
<td>1.643</td>
<td>-0.011</td>
<td>0.835</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HGPA HACH - HGPA LACH).

Degrees of Freedom: 141
Critical "t" values: ±1.96
Table 33.—Computed "t" values resulting from a comparison of low grade-point subjects with high needs for achievement and low grade-point subjects with low needs for achievement

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>R-1</td>
</tr>
<tr>
<td>T-1</td>
</tr>
<tr>
<td>T-2</td>
</tr>
<tr>
<td>S-1</td>
</tr>
<tr>
<td>S-2</td>
</tr>
<tr>
<td>O-1</td>
</tr>
<tr>
<td>O-2</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (LGPA HACH - LGPA LACH).
Degrees of Freedom: 143
Critical "t" values: ±1.96
Table 34.—Concepts which showed significant differences when subjects were grouped by grade-point average and compared on the basis of need for achievement

<table>
<thead>
<tr>
<th>Primary Group</th>
<th>Sub-Groups Compared</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Grade-Point Subjects</td>
<td>Hach - Lach&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>R-1&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>T-1</td>
</tr>
<tr>
<td>Low Grade-Point Subjects</td>
<td>T-1</td>
</tr>
<tr>
<td></td>
<td>T-2</td>
</tr>
<tr>
<td></td>
<td>S-1</td>
</tr>
</tbody>
</table>

<sup>a</sup>Hach and Lach refer, respectively, to subjects with high levels of need for achievement and subjects with low levels of need for achievement.

<sup>b</sup>Concepts are listed under the groups whose attitudes were stronger or more favorable.

There were significant differences in the employment intentions of subjects classified by the same selected combinations of the two variables. It again appeared that some other variable(s) had dominated subjects' employment intentions and that subjects had rationalized the attitudes in this study to accord with their intended employment.

CONCLUSIONS

The analysis and interpretation of findings generally supported the hypothesis that subjects who intend to become business employees have stronger and
more favorable attitudes toward business employment than subjects who intend to enter other types of employment.

Support for the hypothesis was especially strong when the entire sample of subjects was analyzed. Attitude differences were present in the predicted direction when subjects were compared on the basis of employment intention. The positive relation between favorable attitudes and business employment intentions continued to exist when subjects were analyzed by level of need for achievement, level of grade-point average, and various combinations of the two variables.

The analysis of attitudes within the three academic sub-groups—business administration, engineering, and social science—only partially supported the attitude hypothesis. In most of the analyses there were attitude differences associated with business employment intentions. In many cases, however, at least some of the attitude differences were not in the predicted direction.

The fact that the results supported the hypothesis with respect to the entire sample and partially with respect to each of the three sub-groups does not tell the complete story. The attitude analyses reported above indicated that subjects' attitudes toward business employment were influenced to some extent by their level of need for achievement, their grade-point average, and a combination of the two factors. The employment intentions analysis reported in Chapter III did not indicate that
significant differences in employment intentions were associated with either of the two factors, or with the combination of the two factors. It appeared that the attitude influences were not carried over into employment intentions. It appeared that subjects' employment intentions were influenced by other variables and possibly other attitudes.

The fact that there were differences in attitudes, in the predicted direction, associated with differences in employment intentions indicated that subjects probably selected their intended employment and then aligned these attitudes with their employment decision.

This conclusion seemed to apply with equal force to both the entire sample and to all three of the academic sub-groups.

The following chapter summarizes the entire study, presents conclusions, and makes recommendations.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

Research has produced a great deal of knowledge about the nature of motivation in general and about the motivation to work. There still remain, however, many questions for which there are inadequate answers.

The Problem And Hypotheses

Available research indicates that the degree to which employees are motivated to perform their jobs depends primarily upon two related but different factors—the extent of need satisfaction which results from such performance, and the intensity or strength of the need being satisfied. Quite a lot more is known about the first factor than is known about the second one. This aspect of employee motivation has been ignored by all but a few researchers.

David C. McClelland and his colleagues have produced the most significant research in this area. McClelland's research indicates that the achievement motive is one of the most intense common motives. This
motive represents "a desire to compete against a standard of excellence." In a very extensive investigation of the social consequences of achievement motivation, McClelland became concerned with the occupational consequences of the level of achievement motivation. Based upon his own research and indirectly related research of others, McClelland concluded that people with high levels of need for achievement were attracted to business occupations.

This conclusion is obviously of interest to business firms. To the extent that this is true, it means that people attracted to business occupations are capable of higher levels of motivation than the population in general.

There were several reasons why this conclusion deserved further study. First of all, along with the presence of some methodological inconsistencies, the conclusion was based on the findings from a relatively small sample. Secondly, the conclusion was formulated with the general population in mind, and it was possible that it was invalid for any particular sub-group such as college students. This particular group was singled out because it represented an increasingly important potential source of employees for many business firms. There was one other reason why the conclusion needed further investigation. It appeared that many people believed that many of the "better" college students were apathetic
toward business and business employment. Thus, it appeared that further investigation was in order.

Accordingly, two hypotheses were developed to guide an empirical study which would provide more information on this question. The first hypothesis of this study was:

College juniors and seniors who intend to become employees of business firms have significantly higher levels of need for achievement than those who intend to enter other types of employment.

The second hypothesis was formulated with the aim of providing at least some explanation for the findings produced by the first hypothesis. The second hypothesis was:

College juniors and seniors who intend to become business employees have stronger and more favorable attitudes toward certain aspects of business employment than those who intend to enter other types of employment.

Testing these two hypotheses required the collection and analysis of empirical data.

Methodology Of The Study

In order to test the two hypotheses, data concerning the employment intention, level of need for achievement, and attitudes of college students had to be collected and analyzed.

Collection Of Data. Data was collected from three hundred male juniors and seniors at Louisiana State University during the fall semester of 1969. The sample included approximately one hundred subjects from each of
the academic areas of business administration, engineering, and social science.

The instrument used to collect the data was a three part questionnaire. The first part of the instrument was a standard questionnaire which collected data on employment intention and other selected biographical data. The second part of the instrument was a modified Thematic Apperception Test that collected data from which subjects' levels of need for achievement were ascertained. The third and final part of the instrument was a semantic differential test which collected data that would reveal subjects' attitudes toward the achievement aspects of business employment.

Framework For Analysis. To test the first hypothesis, it was necessary to analyze the employment intentions data and the achievement need scores to determine if high levels of need for achievement were positively related to business employment intentions. Because of the nature of the data, the chi-square test of independence for categorical variables and its related measure of association, the coefficient of contingency, were used for these analyses.

To test the second hypothesis, it was necessary to compare the attitudes of subjects who intended to enter business employment with the attitudes of subjects who intended to enter other types of employment. The statistical technique used to test for significant
differences in attitudes was the "t" test of significant
difference in means.

The decision criterion used for the determination
of significant differences in both the employment inten­
tions analysis and the attitude analysis was the .05
level of significance.

Analysis Of Employment Intentions By Achievement Scores
And Grade-Point Average

The relationship between the level of subjects'
needs for achievement and their intention to enter business
employment was investigated within the entire sample of
subjects and within each of the three academic sub-groups.
Subsequent analyses investigated the effect of subjects' grade-point averages on the relationship in question.

Analysis Of Employment Intentions By Level Of
Need For Achievement. For the first analysis all sub­
jects were classified into one of four mututally exclusive
groups based upon the level of their need for achievement
and their intention to become a business employee. Sub­
jects were classified as having high or low levels of
need for achievement by dividing the total distribution
of achievement scores at the median. Subjects were
classified as either intending to enter business emplo­
ment or intending to enter other types of employment
based on their answer to question nine of the research
instrument.

Chi-square analysis of the resulting four groups
indicated that subjects' employment intentions were relatively independent of their levels of need for achievement. The levels at which the differences in employment intentions of subjects were significant was very low. Consequently, no evidence was produced which indicated that subjects who intended to enter business employment had higher levels of need for achievement than subjects who intended to enter other types of employment.

The findings did not support the first hypothesis of this study, and they were, therefore, inconsistent with McClelland's conclusion. Some of the inconsistency may have been the result of methodological differences which produced different classification procedures, but it was not likely that this factor was entirely responsible for the contradictory findings. It was the researcher's opinion that some of McClelland's assumptions were not valid for this particular group of subjects.

The theory of achievement motivation indicates that the total motivation to approach any situation is a multiplicative function of the strength of the motive, the incentive value of success of the undertaking, and the perceived probability of success. The theory further indicates that the incentive value of successful performance is inversely related to the probability of success. The higher the incentive value, the greater the risk and conversely. Individuals with high levels
of need for achievement would then be attracted to situations involving a moderate degree of risk or where they had reasonable chances for success.

McClelland reasoned that people with high levels of need for achievement were attracted to business occupations in the following way. He assumed that the incentive value of any occupation was a function of the prestige accorded to the occupation. The higher the prestige, the greater the incentive value and the less probable the chances for success. He further assumed that the perceived risk associated with any given occupation was a function of the relative distance between the individual's reference occupation and the given occupation. He believed that individuals used their father's occupation as a reference point. Thus, business occupations represented the highest occupational prestige category that the majority of people had reasonable chances of success in.

Although no formal analysis was made, there was no reason to believe that subjects in this study were using highly prestigious occupations as reference points. It seemed possible that such a select group as college students might not be highly influenced by their father's occupation and might use some other reference point in determining their chances for success in a given occupation. This possibility was investigated later in the analysis.
Analysis of the data at another level also failed to support the hypothesis. Chi-square analysis indicated that there were significant differences (at the .01 level) in the employment intentions of subjects in the three academic sub-groups. A much larger proportion of business subjects and engineering subjects intended to enter business employment than did social science subjects.

The differences in the levels of need for achievement in the groups were not significant at the .05 level. It did not appear that the proportions of subjects with business employment intentions in the groups were related to the levels of need for achievement in the groups.

Subsequent analyses were conducted to test the hypothesis within the three academic sub-groups. Each of the sub-groups was analyzed to determine if there were significant differences in the levels of need for achievement based on employment intentions.

Significant differences in the employment intentions of subjects with high levels of need for achievement and subjects with low levels of need for achievement occurred in only one of the sub-groups. The chi-square analysis of the engineering group indicated that the differences in the employment intentions of the high and low need achievers in the engineering group were significant at the .23 level. The similar analysis conducted after deletion of sixteen subjects with
achievement scores near the median indicated that the differences were significant at the .03 level. Inspection of the two sets of data indicated that high levels of need for achievement tended to be positively related to business employment intentions. The comparable analyses of the business and social science groups did not indicate the existence of a positive relationship between level of need for achievement and business employment intentions in either group. In both groups neither the analysis which included all subjects in the group, nor the deletion analysis, indicated that there were differences at the .05 level in the employment intentions of high and low need achievers.

Since the findings had not, for the most part, supported the hypothesis, attention was turned at this point to testing the hypothesis in cross-classifications of the sample.

Analysis Of Employment Intentions By Level Of Need For Achievement And Grade-Point Average. In their recruitment of college students, business firms seem to value high grade-point averages. Because of this, it seemed possible that the grade-point average of subjects might affect the relationship between level of need for achievement and business employment intentions. To test for such an effect, analyses of achievement scores and employment intentions data within groups of subjects classified by grade-point average were in order.
Again, all subjects were classified by their level of need for achievement and the level of their grade-point average and subjected to the same type analysis. Subjects were classified as having high or low grade-point averages by dividing each of the grade-point average distributions for the three academic areas of study at the median of the distribution.

Before proceeding to test the hypothesis among the high grade-point average subjects and among the low grade-point average subjects, it seemed desirable to see if grade-point averages were related to either employment intentions or level of need for achievement. Chi-square analysis did not indicate that subjects' grade-point averages were significantly related to either their employment intention or their level of need for achievement.

Chi-square analysis of the achievement scores and employment intentions in the high grade-point average group indicated that subjects' levels of need for achievement were not related to their employment intentions. The differences in employment intentions in the two need achiever groups were not significant at the .05 level. Analysis of the data after deleting thirty subjects with achievement scores near the median raised the significance level to only .62. It did not appear that a high grade-point average affected the relationship between need for achievement and employment intention.
The comparable analysis of the low grade-point average subjects produced results similar to those above. In this group, the differences in the employment intentions of the high and low need achievers were significant at the .89 level. The analysis conducted after deletion of achievement scores near the median raised the significance level to .58. Thus, it did not appear that the level of need for achievement was related to the employment intention of subjects in the low grade-point average group. Consequently, it was concluded that a low grade-point average did not affect the relationship in question. Additionally, it did not appear that subjects' grade-point averages had any effect in the analysis.

A parallel analysis of the effects of grade-point average was conducted within each of the three academic sub-groups. In these analyses subjects were classified as high or low in need for achievement by dividing each of the three achievement distributions at their respective median. And, again, it seemed wise to see if grade-point averages were related to business employment intentions before investigating the effect of grade-point average.

The grade-point averages of subjects did not seem to be related to employment intentions in either the business, engineering or social science group. The differences in the employment intentions of high and low need achievers were not significant anywhere near the .05 level in any of the sub-groups.
The analyses conducted to determine if grade-point average affected the relationship between need for achievement and employment intention did not indicate that grade-point average had an appreciable effect in any of the three sub-groups. The hypothesis was not supported in any of the high or low grade-point groups. In each case, the levels at which the differences in employment intentions were significant were very low. The analyses conducted after deleting scores near the median raised the levels at which the differences were significant, but none of the deletion analyses indicated a significant difference even at the .10 level.

The analyses above did not produce substantial results which supported the hypothesis. The results for the entire sample did not indicate that subjects who intended to become business employees had higher levels of need for achievement than the subjects who intended to enter other types of employment. The tests of the hypothesis within each of the three academic sub-groups indicated that the hypothesis received support only among engineering subjects.

It did not appear that the grade-point average of subjects affected the relationship between need for achievement and employment intention in either the entire sample or in any of the three academic sub-groups. The next set of analyses were conducted to test the second hypothesis.
Analysis Of Attitudes By Employment Intention, Level Of Need For Achievement, And Grade-Point Average

The objective of this analysis was to determine if the subjects who intended to enter business employment had more favorable and/or stronger attitudes toward business employment than the subjects who intended to enter other types of employment. Subsequent analyses were conducted to determine the effect of level of need for achievement, grade-point average, and a combination of the two variables on attitudes. The attitude analyses were conducted at the level of the entire sample and for each of the three academic sub-groups.

The attitudes chosen for study were those dealing with the achievement aspects of business employment. Based upon research and logic, seven attitudes were selected for investigation. The attitude data were collected by means of a semantic differential test. Each of the seven aspects of business employment constituted a concept in the differential. Data were collected for the following seven concepts.

<table>
<thead>
<tr>
<th>Code</th>
<th>Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1.</td>
<td>&quot;YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE&quot;</td>
</tr>
<tr>
<td>T-1.</td>
<td>&quot;CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY&quot;</td>
</tr>
<tr>
<td>T-2.</td>
<td>&quot;OPPORTUNITY PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY&quot;</td>
</tr>
<tr>
<td>S-1.</td>
<td>&quot;THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS&quot;</td>
</tr>
</tbody>
</table>
S-2. "OPPORTUNITY PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

O-1. "THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

O-2. "ABILITIES OF BUSINESS EMPLOYEES"

Analysis Of Attitudes By Employment Intention. The first step in testing the attitude hypothesis was to see if the seven concepts showed significant differences associated with differences in employment intention. The subjects were divided into two groups based upon whether they intended to enter business employment or not, and the attitudes of the two groups were compared by means of a "t" test. The analysis indicated that there were significant differences at the .05 level in attitudes with respect to all seven concepts. The subjects who intended to enter business employment generally had more favorable and stronger attitudes than the subjects who intended to enter other types of employment. The results of this analysis supported the attitude hypothesis.

Since there were significant differences in employment intentions among the three academic sub-groups, the attitudes of the three groups were compared to determine if the groups also had different attitudes. The "t" tests indicated that there were significant differences in attitudes in all three comparisons. The business subjects had more favorable and stronger attitudes than the engineering subjects on concepts R-1, T-1, T-2, S-2, O-1, and O-2. The engineering subjects had more favorable
and stronger attitudes than the social science subjects with respect to concepts R-1, T-1, T-2, S-1, and 0-1. The business subjects also had more favorable and stronger attitudes than the social science subjects with respect to all seven concepts. The pattern of these attitude differences was consistent with the pattern of employment intentions differences; therefore, the results of this analysis indirectly supported the attitude hypothesis.

The attitude hypothesis was also tested in each of the three academic sub-groups. In each case at least some attitude differences were associated with differences in employment intention. The differences were not, however, all in the predicted direction. There was no apparent discernible pattern in the attitude differences. When the three sub-groups were analyzed separately, the findings did not produce strong support for the hypothesis in any of the three groups.

The attitudinal analysis did indicate that the subjects who intended to become business employees had more favorable and stronger attitudes than subjects who intended to enter other types of employment when the entire sample was considered. Thus, the attitudinal findings did support the stated hypothesis. When the hypothesis was tested in each of the three academic sub-groups, the findings only partially supported the hypothesis.
Analysis Of Attitudes By Level Of Need For Achievement And Employment Intention. Analysis of the attitude data and the employment intentions data for subjects classified by level of need for achievement was considered in order. It was possible that such an analysis might reveal patterns of attitude differences associated with employment intention.

All subjects were classified into two groups based upon the level of their need for achievement. Subjects were classified into a high need achiever group and a low need achiever group by dividing the total distribution of achievement scores at the median. The attitudes of subjects within each group were then compared based upon employment intention.

The comparison of attitudes in both need achiever groups indicated that significant differences in attitudes were present. In the high need achiever group, the subjects who intended to become business employees had significantly more favorable and stronger attitudes on concepts R-1, T-2, and S-1. In the low need achiever group, the subjects who intended to enter business employment had significantly more favorable attitudes on concepts T-2, S-1, S-2, O-1, and O-2. These analyses did support the hypothesis, but they did not produce any pattern of attitudes which might be associated with the level of need for achievement. It did not appear that the levels of subjects' needs for achievement had a
significant influence on the attitudes in question.

To determine the influence of level of need for achievement on attitudes, another analysis was required. The attitudes of the entire group of high need achievers were compared with the attitudes of the entire group of low need achievers. Only two significant differences in attitudes resulted. The high need achiever group had stronger beliefs about concept R-1. The low need achiever group was stronger in its belief about concept T-2. No logical explanation could be found for the inconsistent direction of the two attitude differences. It did not appear that subjects' levels of need for achievement had an appreciable effect upon their attitudes.

In the researcher's opinion this indicated that subjects' employment intentions and attitudes toward business employment were not significantly influenced by their level of need for achievement. It was possible that the favorable attitude differences associated with business employment intentions were created by rationalization after subjects selected business employment for other reasons.

It was possible that the above concepts were not related to the achievement motive. Logic and the existence of at least some attitude differences associated with the level of need for achievement indicated that the concepts were probably related to the achievement motive.
and other motives.

A similar attitude analysis was conducted in each of the three academic sub-groups. Subjects in each group were divided into two need achiever groups. The attitudes of subjects in each of the resulting six groups were compared based upon employment intention. Significant differences in attitudes were present in the two engineering groups and in the social science group, but not in the two business groups. The attitude differences associated with employment here were not consistent in direction. There was no significant pattern in the differences either within academic groups or among the groups. Thus, the findings here were not all consistent with the attitude hypothesis.

When the high need achievers and the low need achievers in each group were compared to analyze the sole effect of level of need for achievement on attitudes, the results indicated no substantial effect. Few significant differences in attitudes were found in each academic sub-group.

The attitude analyses generally supported the hypothesis when the entire sample was considered. In light of the employment intentions findings, it appeared that the levels of subjects' needs for achievement did not appreciably influence either their attitudes or their employment intentions. This suggested to the researcher that there were other variables which influenced other
attitudes and exerted more influence on employment intentions than the level of need for achievement.

**Analysis Of Attitudes By Grade-Point Average And Employment Intentions.** It seemed possible that subjects' grade-point averages might influence the attitudes under investigation. If this were true, then analysis of attitude differences associated with employment intentions within grade-point average groups might produce patterns of attitudes capable of partially explaining employment intentions.

All subjects were grouped into either a high grade-point group or a low grade-point group and the attitudes in each group were compared based on employment intention. In both groups, the subjects who intended to enter business employment had more favorable and stronger attitudes. Significant differences were present on concepts R-1, T-1, T-2, S-1, O-1, and O-2, in the high grade-point group. Significant differences in the low grade-point group occurred on concepts T-2, S-1, S-2, and O-1. The two grade-point groups differed with respect to some of the same concepts, and no apparent pattern was present in the differences between the two grade-point groups.

A follow-up analysis was conducted to determine the sole effect of grade-point average on attitudes. The analysis indicated that subjects' attitudes were not substantially influenced by their grade-point average.
Only one concept showed a significant difference in attitudes.

The parallel analyses conducted for each of the three academic sub-groups did not produce results which were substantially different from those for the entire sample, with one exception. In both the engineering group and the social science group, there were a few attitude differences associated with employment intentions which were contrary to the direction predicted by the hypothesis. Otherwise, the results in each sub-group were similar to the results for the entire sample.

Again, the attitude findings for the entire sample supported the hypothesis, but were not very explanatory. It did not appear that subjects' grade-point averages affected their attitudes substantially. It should be recalled that this same factor was not related to employment intentions either. It appeared that this variable did not affect either attitudes or employment intentions. It still appeared that there were other variables and other attitudes which affected employment intentions more significantly.

Analysis Of Attitudes By Grade-Point Average, Level Of Need For Achievement, And Employment Intentions. It seemed possible that subjects' grade-point averages and levels of need for achievement might interact to influence attitudes, so the combined effects of these two variables were investigated.
For this analysis all subjects were classified into one of the following four groups.

1. High grade-point average and high level of need for achievement.
2. High grade-point average and low level of need for achievement.
3. Low grade-point average and high level of need for achievement.
4. Low grade-point average and low level of need for achievement.

Subjects' attitudes in each group were then compared based on employment intentions.

In all but the low grade-point group with high levels of need for achievement, there were significant differences in the predicted direction. Only one concept (0-1) showed a significant difference in the other low grade-point group. In the high grade-point high need achiever group, the subjects who intended to enter business employment valued concepts R-1 and T-2 more highly than the subjects who intended to enter other types of employment. In the high grade-point low need achiever group, the subjects who intended to enter business employment valued all of the concepts more highly than the other subjects. Again, the attitudinal findings provided support for the hypothesis.

Because it appeared that the above combinations of grade-point average and need for achievement might have had different effects on attitudes, the attitudinal effects that the two combinations of these two variables
had was investigated. The attitudes of subjects with high grade-point averages and high levels of need for achievement were compared with the attitudes of subjects with high grade-point averages and low levels of need for achievement. A similar analysis was conducted in the low grade-point average group. The results were most surprising. In the high grade-point group, the high need achievers valued concepts R-1 and T-1 more highly than the low need achievers. In the low grade-point group, the low need achievers valued concepts T-1, T-2, and S-1, more highly than the high need achievers. The researcher could offer no logical explanation for these results.

It appeared that the two combinations of grade-point average and need for achievement had some effect on attitudes, but the employment intentions analysis indicated that they did not affect employment intentions. It still appeared that there were other attitudes and other variables which exerted a more important influence on subjects' employment intentions.

Conclusions

It is believed that this study justified the following conclusions, at least for the subjects included in this study.

1. Subjects' levels of need for achievement were not substantially related to more favorable and/or stronger attitudes toward the achievement aspects of business employment or to business employment intentions.
In most cases there were few significant differences in attitudes associated with differences in the level of need for achievement. And in only one of the sub-groups was there any indication that high levels of need for achievement might be related to business employment intentions. It thus appeared that the level of subjects' needs for achievement might exert a small influence on attitudes but that it did not appreciably affect their employment intentions.

2. Subjects' grade-point averages were not substantially related to either more favorable or stronger attitudes toward the achievement aspects of business employment or to business employment intentions. In most of the cases analyzed, some significant differences in attitudes were associated with the level of subjects' grade-point averages, but in no case did more than two concepts show differences. Where the differences did occur, it appeared that grade-point average was negatively associated with attitudes toward business. Although there were at least some differences in attitudes associated with grade-point average, in no case analyzed were there any significant differences in employment intentions associated with subjects' grade-point averages. This variable did not seem to have an appreciable effect upon either attitudes or employment intentions.

3. Selected combinations of level of grade-point
average and level of need for achievement were not related to either favorable and/or strong attitudes toward the achievement aspects of business employment or to business employment intentions. When subjects were classified by grade-point, there were few significant differences in the attitudes of the high and low need achievers in either grade-point average group. In no case were there any significant differences in the employment intentions of these same classifications of subjects. It did not appear that these two variables interacted to exert a substantial effect upon either attitudes or employment intentions.

4. Subjects in the three academic sub-groups (business administration, engineering, and social science) did not differ significantly from the entire sample or among themselves with respect to the above conclusions. Both the employment intentions analyses and the attitude analyses in all three groups produced results similar to that for the entire sample.

5. There were significant differences in both the employment intentions and attitudes of subjects within the three academic sub-groups. A much larger proportion of subjects in both the engineering group and the business administration group intended to enter business employment than in the social science group. In addition, both of these groups had stronger and more favorable attitudes toward business employment. It
appeared that subjects' areas of study were related to both attitudes and employment intentions. This does not, however, mean that this variable itself influences either attitudes or employment intentions. It is possible that some other variable influenced both attitudes and employment intentions, and subjects chose their area of study in light of their intended employment.

6. There were no significant differences in the levels of need for achievement in the three academic sub-groups. It did not appear that subjects' levels of need for achievement were related to or had influenced their choice of one of the three areas of study.

7. Favorable and strong attitudes toward the achievement aspects of business employment were associated with business employment intentions. In almost all cases analyzed those subjects who intended to enter business employment had significantly stronger and more favorable attitudes than the subjects who intended to enter other types of employment.

8. It appeared that subjects' employment intentions were influenced by variables other than either level of need for achievement or grade-point average. If this were true, subjects had either rationalized their attitudes toward the achievement aspects of business employment or the variable(s) influencing employment intentions had influenced
subjects' attitudes toward the achievement aspects of business employment.

Since the first and primary hypothesis of this study was not supported and obviously had to be rejected, the first question which arises is, was the research design at fault? This is clearly a possibility with any research project, and hindsight is always much better than foresight.

It should be kept in mind that a hypothesis is a proposition which the researcher seeks to prove or disprove or at least support or fail to support. It is entirely possible that the results failed to support the hypothesis because no relationship between level of need for achievement and business employment intentions exists among male college students, especially those in this study. After all, there was reasonable doubt about the validity of the hypothesis or the study would not have been justified in the first place.

It is also possible that a positive relationship might exist between level of need for achievement and business employment intentions for the general population, but not for a select group in this population. This is even more plausible in light of the fact that other studies have found that college students tend to have significantly higher levels of need for achievement than the general population. If this is true it means that this study dealt with only a limited range of
level of need for achievement. Within such a limited range, the relationship might not show up or might be very difficult to detect.

The researcher does not contend that this investigation was perfect or near perfect. No empirical study ever is. He does feel, however, that the methodology of the study was sound, that the results produced were valid, and that the conclusions drawn were supported.

Based on the conclusions stated above, the following recommendations are made.

RECOMMENDATIONS

The recommendations stemming from this study logically fall into two classes—those for further research and those for business firms recruiting college students.

Recommendations For Further Research

Without establishing any priorities, the following recommendations for further research are made.

1. A follow-up study needs to be conducted to determine if subjects do, in fact, enter their intended employment and remain in it for any length of time. It is possible that college students with high levels of need for achievement are attracted to business employment after they enter the employment world. It seems entirely possible that subjects find that their perceptions about
various types of employment are inaccurate and change employment.

2. More studies need to be conducted to determine what variables and related attitudes exert influence on the employment decisions of college students. There is at present very little factual information concerning the determinants of college students' employment decisions.

3. The determinants of college students' academic area of study needs to be investigated. At present, there is no good conceptual explanation of why students choose one area of study over another area. These types of studies may provide some insight into the employment decision also.

4. Studies investigating the effect that various areas of academic study have on both attitudes toward business employment and employment decisions need to be conducted. It is possible that students' attitudes and employment decisions are influenced by their learning experiences, and if this is true, different areas of academic study may have different effects on both of those variables.

5. Studies investigating the possibility of changing students' attitudes toward particular types of employment need to be conducted. If attitudes do influence employment intentions, it is of little value if the determining attitudes cannot be influenced.
6. More studies concerning the actual performance of high need achievers in the business world need to be conducted. It is a distinct possibility that either high or low levels of need for achievement may not result in high levels of performance in business employment, especially in particular types of jobs.

7. Lastly, more studies similar to this one need to be made. These studies should seek to determine if the results produced by this study hold for other students at other colleges and universities. It is possible that the results might differ depending upon the geographic section of the country, the philosophy of the educational institution, and various other factors.

The list of recommendations could continue, but those pointed out are sufficient to show the general direction and areas where more facts are needed.

Recommendations For Business Firms

Based upon the findings of this study, the following recommendations are made to business firms.

1. If business firms desire to employ college students with high levels of need for achievement, it appears that they must adopt and use some measurement technique which will allow them to identify people with relatively high levels of need for achievement. This study did not indicate that firms could assume that they were attracting highly achievement oriented college students.
2. If business firms want to attract more college students with high grade-point averages, they must appeal to attitudes other than those investigated in this study. Subjects' grade-point averages were not found to have a substantial influence on either attitudes or employment intentions.

It is hoped that the findings of this study will provide a basis for achieving two general objectives. First, it is hoped that the study will stimulate further research in the area. Secondly, it is hoped that this study will provide a basis for helping firms employ the type of college students they want.
BIBLIOGRAPHY

Books


Articles


Miscellaneous

Division of Institutional Research, Louisiana State University, Current Enrollment Summaries for Baton Rouge Campus, Spring Semester, 1969.
APPENDIX I

Please answer all questions honestly. Use checks to answer where appropriate.

1. Age________________

2. Sex  M____F____

3. Permanent home address_______________________________________

4. Academic Classification:  Freshman________
                        Sophomore_______
                        Junior________
                        Senior________
                        Other________

5. Occupation of Father__________________________________________

6. Overall grade-point average on 4.0_______________________________

7. Major area of study___________________________________________

8. Member of Social Fraternity    Yes____ No____

9. Check the following answer which best describes what you intend to do when you get your Bachelor degree.

   IMPORTANT: If you check either (h) graduate school or (i) armed service and these are temporary, please place another check by what you intend to do after fulfilling these obligations.

   a.  ____go into business for yourself
   b.  ____work in your family's business
   c.  ____teach
   d.  ____work in a civil service job
   e.  ____work in other government jobs
   f.  ____social welfare work
   g.  ____work for a private business firm
   h.  ____go to graduate school
   i.  ____go into armed services
   j.  ____other
INSTRUCTIONS

Read carefully before turning the page

An important asset for anyone is imagination. This test gives you an opportunity to use your imagination, to show how you can create ideas and situations by yourself.

On the following pages you are to write out some brief stories that you make up on your own. In order to help you get started there are a series of pictures that you can look at and build your stories around. When you have finished reading these instructions, you should turn the page, look at the first picture briefly, then turn the page again and write a story suggested by the picture. To help you cover all the elements of a story plot in the time allowed, you will find four questions spaced out over the page. They are:

1. What is happening? Who are the people?
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?

Your over-all time for each story is only 5 minutes. So plan to spend only about a minute on each of these questions, but remember that the questions are only guides for your thinking and need not be answered specifically in so many words. That is, the story should be continuous, not a set of answers to questions. Do not take over 5 minutes per story. I will keep time and tell you when to go on to the next picture.

Do not worry about whether there are right and wrong kinds of stories to write because in fact any kind of story is all right. What you have a chance to show here is how you think on your feet, how quickly you can imagine a situation and write out a story about it. What story you write doesn't matter. So don't try to figure out exactly what is going on in the pictures. They are vague and suggestive of many things on purpose. Don't describe them. They are just to help give you an idea to write about.

Make your stories interesting and dramatic. Show that you have an understanding of human nature and can make up interesting stories about people and human relationships.

If you have read these instructions carefully and understood them, turn the page, look at the picture briefly, then turn the page again and write the story suggested to you by the picture. Don't take more than 5 minutes. Then turn the page, look at the next picture briefly, write out the story it suggests, and so on through the booklet.
Just look at the picture briefly (10-15 seconds), turn the page and write out the story it suggests.
Work rapidly. Don't spend over 5 minutes on this story.

1. What is happening? Who are the people?

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?

When you have finished your story or your time is up, turn to the next picture. If you haven't quite finished, go on anyway. You may return at the end to complete this story.
Just look at the picture briefly (10-15 seconds), turn the page and write out the story it suggests.
Work rapidly. Don't spend over 5 minutes on this story.

1. What is happening? Who are the people?

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?

When you have finished your story or your time is up, turn to the next picture. If you haven't quite finished, go on anyway. You may return at the end to complete this story.
Just look at the picture briefly (10-15 seconds), turn the page and write out the story it suggests.
Work rapidly. Don't spend over 5 minutes on this story.

1. What is happening? Who are the people?

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?

When you have finished your story or your time is up, turn to the next picture. If you haven't quite finished, go on anyway. You may return at the end to complete this story.
INSTRUCTIONS

One purpose of this study is to measure the meaning of certain concepts to students. In order to accomplish this objective you are asked to judge these concepts against a series of descriptive scales. In taking this test, please make your judgments on the basis of what these things mean to you. On each page you will find a different concept to be judged and beneath it a set of scales.

Here is how you are to use these scales:

If you think the concept at the top of the page is very closely related to one end of the scale, place your mark in the following manner.

or

If you think the concept is quite closely related to one end of the scale (but not extremely), mark as follows:

or

If the concept seems only slightly related to one side (but is not neutral), mark as illustrated below:

or

The extreme toward which you mark depends upon which extreme seems the most characteristic of the proposition being judged. If you think the concept is neutral with respect to a particular scale or that a given scale is completely irrelevant, place your mark in the middle space.


IMPORTANT: Please mark in the center of the space.


None of the concepts will be repeated, so please do not look back and forth through the items and do not try to remember how you marked associated items in the questionnaire. Make each item a separate and independent judgment.

You are encouraged to work at a fairly high rate of speed. Do not be puzzled over individual items; it is your first impression that is important. On the other hand, please work carefully so that your true impressions may be revealed.

The concluding pages of the questionnaire are designed to obtain some extremely important data.
"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

bad :___:___:___:___:___:___:___: good
worthless :___:___:___:___:___:___:___: valuable
nice :___:___:___:___:___:___:___: awful
unfair :___:___:___:___:___:___:___: fair
pleasant :___:___:___:___:___:___:___: unpleasant
large :___:___:___:___:___:___:___: small
strong :___:___:___:___:___:___:___: weak
light :___:___:___:___:___:___:___: heavy
thick :___:___:___:___:___:___:___: thin
shallow :___:___:___:___:___:___:___: deep
"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad :____:____:____:____:____:____:____: good
worthless :____:____:____:____:____:____:____: valuable
nice :____:____:____:____:____:____:____: awful
unfair :____:____:____:____:____:____:____: fair
pleasant :____:____:____:____:____:____:____: unpleasant
large :____:____:____:____:____:____:____: small
strong :____:____:____:____:____:____:____: weak
light :____:____:____:____:____:____:____: heavy
thick :____:____:____:____:____:____:____: thin
shallow :____:____:____:____:____:____:____: deep
"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

bad :___:____:____:____:____:____:____: good
worthless :___:____:____:____:____:____:____: valuable
nice :___:____:____:____:____:____:____: awful
unfair :___:____:____:____:____:____:____: fair
pleasant :___:____:____:____:____:____:____: unpleasant
large :___:____:____:____:____:____:____: small
strong :___:____:____:____:____:____:____: weak
light :___:____:____:____:____:____:____: heavy
thick :___:____:____:____:____:____:____: thin
shallow :___:____:____:____:____:____:____: deep
"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

bad :____:____:____:____:____:____:____:____: good
worthless :____:____:____:____:____:____:____:____: valuable
nice :____:____:____:____:____:____:____:____: awful
unfair :____:____:____:____:____:____:____:____: fair
pleasant :____:____:____:____:____:____:____:____: unpleasant
large :____:____:____:____:____:____:____:____: small
strong :____:____:____:____:____:____:____:____: weak
light :____:____:____:____:____:____:____:____: heavy
thick :____:____:____:____:____:____:____:____: thin
shallow :____:____:____:____:____:____:____:____: deep
"OPPORTUNITY PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

bad : __:___:___:__ : good
worthless : ___:___:__ : valuable
nice : ___:___:___:___:___:___:___:___: awful
unfair : ___:___:___:___:___:___:___:___: fair
pleasant : ___:___:___:___:___:___:___:___: unpleasant
large : ___:___:___:___:___:___:___:___: small
strong : ___:___:___:___:___:___:___:___: weak
light : ___:___:___:___:___:___:___:___: heavy
thick : ___:___:___:___:___:___:___:___: thin
shallow : ___:___:___:___:___:___:___:___: deep
"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad :____:____:____:____:____:____:____:____: good
worthless :____:____:____:____:____:____:____:____: valuable
nice :____:____:____:____:____:____:____:____: awful
unfair :____:____:____:____:____:____:____:____: fair
pleasant :____:____:____:____:____:____:____:____: unpleasant
large :____:____:____:____:____:____:____:____: small
strong :____:____:____:____:____:____:____:____: weak
light :____:____:____:____:____:____:____:____: heavy
thick :____:____:____:____:____:____:____:____: thin
shallow :____:____:____:____:____:____:____:____: deep
"ABILITIES OF BUSINESS EMPLOYEES"

bad :____:____:____:____:____:____:____: good

worthless :____:____:____:____:____:____:____: valuable

nice :____:____:____:____:____:____:____: awful

unfair :____:____:____:____:____:____:____: fair

pleasant :____:____:____:____:____:____:____: unpleasant

large :____:____:____:____:____:____:____: small

strong :____:____:____:____:____:____:____: weak

light :____:____:____:____:____:____:____: heavy

thick :____:____:____:____:____:____:____: thin

shallow :____:____:____:____:____:____:____: deep
### APPENDIX II

#### APPENDIX II-1

Distribution of Achievement Scores For Business Subjects

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Number = 102  
Mean = 2.36  
Median = 1.75  
Standard Deviation = 2.95
APPENDIX II-2

Distribution of Achievement Scores
For Engineering Subjects

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Number = 93
Mean = 1.80
Median = .35
Standard Deviation = 2.47
## APPENDIX II-3

**Distribution of Achievement Scores**  
For Social Science Subjects

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Number = 95  
Mean = 2.52  
Median = 1.19  
Standard Deviation = 3.02
APPENDIX II-4

Distribution of Grade Point Averages
For Business Subjects

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*Maximum 4.0

Number = 102
Mean = 2.43
Median = 2.48
Standard Deviation = .37
### APPENDIX II-5

Distribution of Grade Point Averages
For Engineering Students

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*Maximum 4.0

Number = 93
Mean = 2.58
Median = 2.45
Standard Deviation = .50
APPENDIX II-6

Distribution of Grade Point Averages
For Social Science Subjects

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<tr>
<td>3.2</td>
<td>8</td>
</tr>
<tr>
<td>3.3</td>
<td>4</td>
</tr>
<tr>
<td>3.4</td>
<td>3</td>
</tr>
<tr>
<td>3.5</td>
<td>1</td>
</tr>
<tr>
<td>3.7</td>
<td>1</td>
</tr>
<tr>
<td>3.9</td>
<td>1</td>
</tr>
</tbody>
</table>

*Maximum 4.0

Number = 95
Mean = 2.64
Median = 2.56
Standard Deviation = 0.47
APPENDIX II-7

Distribution of Achievement Scores for All Subjects

<table>
<thead>
<tr>
<th>Achievement Score</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>-3</td>
<td>1</td>
</tr>
<tr>
<td>-2</td>
<td>2</td>
</tr>
<tr>
<td>-1</td>
<td>39</td>
</tr>
<tr>
<td>0</td>
<td>96</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>4</td>
<td>34</td>
</tr>
<tr>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>4</td>
</tr>
</tbody>
</table>

Number = 290
Mean = 2.26
Median = .64
Standard Deviation = 3.04
Table III-1. Contingency table for business subjects based on need for achievement and employment intention after deleting 19 achievement scores near the median.

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go(^b)</td>
<td>No.</td>
<td>%</td>
<td>Nogo(^c)</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>22</td>
<td>26.5</td>
<td>14</td>
<td>16.9</td>
<td>36</td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>33</td>
<td>39.8</td>
<td>14</td>
<td>16.9</td>
<td>47</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>55</td>
<td>66.3</td>
<td>28</td>
<td>33.8</td>
<td>83</td>
</tr>
</tbody>
</table>

\(^a\)Chi-square = .403, Level of Significance = .53

\(^b\)Go refers to those subjects who intend to become business employees.

\(^c\)Nogo refers to those subjects who do not intend to become business employees.
Table III-2. Contingency table for social science subjects based on need for achievement and employment intention after deleting 23 achievement scores near the median\textsuperscript{a}

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go\textsuperscript{b}</td>
<td>Nogo\textsuperscript{c}</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>High</td>
<td>9</td>
<td>12.5</td>
<td>25</td>
<td>34.7</td>
<td>34</td>
</tr>
<tr>
<td>Low</td>
<td>10</td>
<td>13.9</td>
<td>28</td>
<td>38.9</td>
<td>38</td>
</tr>
<tr>
<td>Totals</td>
<td>19</td>
<td>26.4</td>
<td>53</td>
<td>73.6</td>
<td>72</td>
</tr>
</tbody>
</table>

\textsuperscript{a}Chi-square = .064, Level of Significance = .80

\textsuperscript{b}Go refers to those subjects who intend to become business employees.

\textsuperscript{c}Nogo refers to those subjects who do not intend to become business employees.
Table III-3. Contingency table for all subjects based on need for achievement and grade-point averages after deleting 55 achievement scores near the median.

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Grade Point Average</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>No.</td>
<td>%</td>
<td>Low</td>
<td>No.</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>50</td>
<td>21.5</td>
<td>47</td>
<td>20.2</td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>63</td>
<td>27.0</td>
<td>73</td>
<td>31.3</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>113</td>
<td>48.5</td>
<td>120</td>
<td>51.5</td>
</tr>
</tbody>
</table>

*aChi-square = .47, Level of Significance = .52*
Table III-4. Contingency table for high grade-point average subjects based on need for achievement and employment intention after deleting 30 achievement scores near the median.

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th>Go</th>
<th>Nogo</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>31</td>
<td>27.4</td>
<td>19</td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>35</td>
<td>30.0</td>
<td>28</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>66</td>
<td>57.4</td>
<td>47</td>
</tr>
</tbody>
</table>

\(^a\)Chi-square = .248, Level of Significance = .62

\(^b\)Go refers to those subjects who intend to become business employees.

\(^c\)Nogo refers to those subjects who do not intend to become business employees.
Table III-5. Contingency table for low grade-point average subjects based on need for achievement and employment intention after deleting 25 achievement scores near the median\(^a\)

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go(^b)</td>
<td>Nogo(^c)</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>High</td>
<td>27</td>
<td>22.5</td>
<td>20</td>
<td>16.7</td>
<td>47</td>
</tr>
<tr>
<td>Low</td>
<td>47</td>
<td>39.2</td>
<td>26</td>
<td>21.7</td>
<td>73</td>
</tr>
<tr>
<td>Totals</td>
<td>74</td>
<td>61.7</td>
<td>46</td>
<td>38.4</td>
<td>120</td>
</tr>
</tbody>
</table>

\(^a\)Chi-square = .326, Level of Significance = .58

\(^b\)Go refers to those subjects who intend to become business employees.

\(^c\)Nogo refers to those subjects who do not intend to become business employees.
Table III-6. Contingency table for business subjects based on grade-point average and employment intention

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go^b</td>
<td>Nogo^c</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>33 32.4</td>
<td>20 19.6</td>
<td>53 52.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>32 31.4</td>
<td>17 16.7</td>
<td>49 48.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>65 63.8</td>
<td>37 36.3</td>
<td>102 100.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

^aChi-square = .013, Level of Significance = .91

^bGo refers to those subjects who intend to become business employees.

^cNogo refers to those subjects who do not intend to become business employees.
Table III-7. Contingency table for engineering subjects based on grade-point average and employment intentions$^a$

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Go$^b$</th>
<th>Nogo$^c$</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>High</td>
<td>33</td>
<td>35.5</td>
<td>9</td>
</tr>
<tr>
<td>Low</td>
<td>42</td>
<td>45.2</td>
<td>9</td>
</tr>
<tr>
<td>Totals</td>
<td>75</td>
<td>80.7</td>
<td>18</td>
</tr>
</tbody>
</table>

$^a$Chi-square = .038, Level of Significance = .84

$^b$Go refers to those subjects who intend to become business employees.

$^c$Nogo refers to those subjects who do not intend to become business employees.
Table III-8. Contingency table for social science subjects based on grade-point average and employment intention$^a$

<table>
<thead>
<tr>
<th>Grade Point Average</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go$^b$</td>
<td>Nogo$^c$</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>10</td>
<td>10.8</td>
<td>38</td>
<td>40.9</td>
</tr>
<tr>
<td>Low</td>
<td>14</td>
<td>15.1</td>
<td>31</td>
<td>33.3</td>
</tr>
<tr>
<td>Totals</td>
<td>24</td>
<td>25.9</td>
<td>69</td>
<td>74.2</td>
</tr>
</tbody>
</table>

$^a$Chi-square = .801, Level of Significance = .63

$^b$Go refers to those subjects who intend to become business employees.

$^c$Nogo refers to those subjects who do not intend to become business employees.
Table III-9. Contingency table for high grade-point average business subjects based on level of need for achievement and employment intention

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go</td>
<td>Nogo</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>15</td>
<td>28.3</td>
<td>13</td>
<td>24.5</td>
</tr>
<tr>
<td>Low</td>
<td>18</td>
<td>34.0</td>
<td>7</td>
<td>13.2</td>
</tr>
<tr>
<td>Totals</td>
<td>33</td>
<td>62.3</td>
<td>20</td>
<td>37.7</td>
</tr>
</tbody>
</table>

\(^a\)Chi-square = 1.205, Level of Significance = .27

\(^b\)Go refers to those subjects who intend to become business employees.

\(^c\)Nogo refers to those subjects who do not intend to become business employees.
Table III-10. Contingency table for high grade-point average engineering subjects based on level of need for achievement and employment intention

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>High</td>
<td>17</td>
</tr>
<tr>
<td>Low</td>
<td>16</td>
</tr>
<tr>
<td>Totals</td>
<td>33</td>
</tr>
</tbody>
</table>

<sup>a</sup>Chi-square = .350, Level of Significance = .56

<sup>b</sup>Go refers to those subjects who intend to become business employees.

<sup>c</sup>Nogo refers to those subjects who do not intend to become business employees.
Table III-11. Contingency table for high grade-point average social science subjects based on level of need for achievement and employment intention

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go^b</td>
<td>Nogo^c</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>8</td>
<td>16.7</td>
<td>19</td>
<td>39.6</td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
<td>04.2</td>
<td>19</td>
<td>39.6</td>
</tr>
<tr>
<td>Totals</td>
<td>10</td>
<td>20.9</td>
<td>38</td>
<td>79.2</td>
</tr>
</tbody>
</table>

^aChi-square = 1.805, Level of Significance = .18

^bGo refers to those subjects who intend to become business employees.

^cNogo refers to those subjects who do not intend to become business employees.
Table III-12. Contingency table for high grade-point average business subjects based on level of need for achievement and employment intention after deletion of subjects with achievement scores near the median.

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go^b</td>
<td>Nogo^c</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.  %</td>
<td>No.  %</td>
<td>No.  %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>10 23.2</td>
<td>8 18.6</td>
<td>18 41.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>18 41.9</td>
<td>7 16.3</td>
<td>25 58.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>28 65.1</td>
<td>15 34.9</td>
<td>43 100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

^aChi-square = .627, Level of Significance = .51

^bGo refers to those subjects who intend to become business employees.

^cNogo refers to those subjects who do not intend to become business employees.
Table III-13. Contingency table for high grade-point average engineering subjects based on level of need for achievement and employment intention after deletion of subjects with achievement scores near the median.

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Go\textsuperscript{b}</th>
<th>Nogo\textsuperscript{c}</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>High</td>
<td>14</td>
<td>38.9</td>
<td>1</td>
</tr>
<tr>
<td>Low</td>
<td>15</td>
<td>41.7</td>
<td>6</td>
</tr>
<tr>
<td>Totals</td>
<td>29</td>
<td>80.6</td>
<td>7</td>
</tr>
</tbody>
</table>

\textsuperscript{a}Chi-square = 1.464, Level of Significance = .22

\textsuperscript{b}Go refers to those subjects who intend to become business employees.

\textsuperscript{c}Nogo refers to those subjects who do not intend to become business employees.
Table III-14. Contingency table for high grade-point average social science subjects based on level of need for achievement and employment intention after deletion of subjects with achievement scores near the median.  

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Nogo&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>High</td>
<td>7</td>
<td>20.6</td>
<td>10</td>
<td>29.4</td>
<td>17</td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
<td>05.9</td>
<td>15</td>
<td>44.1</td>
<td>17</td>
</tr>
<tr>
<td>Totals</td>
<td>9</td>
<td>26.5</td>
<td>25</td>
<td>73.5</td>
<td>34</td>
</tr>
</tbody>
</table>

<sup>a</sup>Chi-square = 2.418, Level of Significance = .12

<sup>b</sup>Go refers to those subjects who intend to become business employees.

<sup>c</sup>Nogo refers to those subjects who do not intend to become business employees.
Table III-15. Contingency table for low grade-point average business subjects based on level of need for achievement and employment intentions

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go(^b)</td>
<td>No.</td>
<td>%</td>
<td>Nogo(^c)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>17</td>
<td>34.7</td>
<td>9</td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>15</td>
<td>30.6</td>
<td>8</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>32</td>
<td>65.3</td>
<td>17</td>
</tr>
</tbody>
</table>

\(^a\)Chi-square = .083, Level of Significance = .77

\(^b\)Go refers to those subjects who intend to become business employees.

\(^c\)Nogo refers to those subjects who do not intend to become business employees.
Table III-16. Contingency table for low grade-point average engineering subjects based on level of need for achievement and employment intention

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go^b No. %</td>
</tr>
<tr>
<td>High</td>
<td>18 35.3</td>
</tr>
<tr>
<td>Low</td>
<td>24 47.1</td>
</tr>
<tr>
<td>Totals</td>
<td>42 82.4</td>
</tr>
</tbody>
</table>

^aChi-square = .600, Level of Significance = .55

^bGo refers to those subjects who intend to become business employees.

^cNogo refers to those subjects who do not intend to become business employees.
Table III-17. Contingency table for low grade-point average social science subjects based on level of need for achievement and employment intention

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Nogo&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>6</td>
<td>13.3</td>
<td>17</td>
<td>37.8</td>
</tr>
<tr>
<td>Low</td>
<td>8</td>
<td>17.8</td>
<td>14</td>
<td>31.1</td>
</tr>
<tr>
<td>Totals</td>
<td>14</td>
<td>31.1</td>
<td>31</td>
<td>68.9</td>
</tr>
</tbody>
</table>

<sup>a</sup>Chi-square = .178, Level of Significance = .68

<sup>b</sup>Go refers to those subjects who intend to become business employees.

<sup>c</sup>Nogo refers to those subjects who do not intend to become business employees.
Table III-18. Contingency table for low grade-point average business subjects based on level of need for achievement and employment intention after deletion of subjects with achievement scores near the median

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go(^b)</td>
<td>Nogo(^c)</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>12 30.0</td>
<td>6 15.0</td>
<td>18 45.0</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>15 37.5</td>
<td>7 17.5</td>
<td>22 55.0</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>27 67.5</td>
<td>13 32.5</td>
<td>40 100.0</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Chi-square = .056, Level of Significance = .81

\(^b\)Go refers to those subjects who intend to become business employees.

\(^c\)Nogo refers to those subjects who do not intend to become business employees.
Table III-19. Contingency table for low grade-point average engineering subjects based on level of need for achievement and employment intention after deletion of subjects with achievement scores near the median.

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go\textsuperscript{b}</td>
<td>Nogo\textsuperscript{c}</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>High</td>
<td>13</td>
<td>29.5</td>
<td>0</td>
<td>00.0</td>
</tr>
<tr>
<td>Low</td>
<td>24</td>
<td>54.5</td>
<td>7</td>
<td>15.9</td>
</tr>
<tr>
<td>Totals</td>
<td>37</td>
<td>84.0</td>
<td>7</td>
<td>15.9</td>
</tr>
</tbody>
</table>

\textsuperscript{a}Chi-square = 2.007, Level of Significance = .15

\textsuperscript{b}Go refers to those subjects who intend to become business employees.

\textsuperscript{c}Nogo refers to those subjects who do not intend to become business employees.
Table III-20. Contingency table for low grade-point average social science subjects based on level of need for achievement and employment intention after deletion of subjects with achievement scores near the median

<table>
<thead>
<tr>
<th>Level Of Need For Achievement</th>
<th>Employment Intentions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Go(^b)</td>
</tr>
<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>High</td>
<td>2</td>
</tr>
<tr>
<td>Low</td>
<td>8</td>
</tr>
<tr>
<td>Totals</td>
<td>10</td>
</tr>
</tbody>
</table>

\(^{a}\)Chi-square = 2.120, Level of Significance = .14

\(^{b}\)Go refers to those subjects who intend to become business employees.

\(^{c}\)Nogo refers to those subjects who do not intend to become business employees.
APPENDIX IV

SEMANTIC PROFILES FOR CONCEPTS WHICH SHOWED SIGNIFICANT DIFFERENCES
EXHIBIT IV-1

Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

bad  good
worthless  valuable
awful  nice
unfair  fair
unpleasant  pleasant
small  large
weak  strong
light  heavy
thin  thick
shallow  deep

Legend:  GO'S
-------- NOGO'S
EXHIBIT IV-2
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

Legend: ----- GO'S
         --- NOGO'S
EXHIBIT IV-3
Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS
FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION
TO SOCIETY"

bad -- good
worthless -- valuable
awful -- nice
unfair -- fair
unpleasant -- pleasant
small -- large
weak -- strong
light -- heavy
thin -- thick
shallow -- deep

Legend: — GO'S
-------- NOGO'S
EXHIBIT IV-4

Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

- bad ---- good
- worthless ---- valuable
- awful ---- nice
- unfair ---- fair
- unpleasant ---- pleasant
- small ---- large
- weak ---- strong
- light ---- heavy
- thin ---- thick
- shallow ---- deep

Legend: —— GO'S
-------- NOGO'S
EXHIBIT IV-5
Self-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

Legend: —— GO'S
-------- NOGO'S
EXHIBIT IV-6

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

Legend:  —— GO'S  
         —— NOGO'S
EXHIBIT IV-7
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

Legend:  —— GO'S
         ——— NOGO'S
EXHIBIT IV-8
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad    good
worthless    valuable
awful    nice
unfair    fair
unpleasant    pleasant
small    large
weak    strong
light    heavy
thin    thick
shallow    deep

Legend:   HACH
          LACH
EXHIBIT IV-9

Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

bad —— good
worthless —— valuable
awful —— nice
unfair —— fair
unpleasant —— pleasant
small —— large
weak —— strong
light —— heavy
thin —— thick
shallow —— deep

Legend: —— HACH
— —— LACH
EXHIBIT IV-10
Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

bad  good
worthless  valuable
awful  nice
unfair  fair
unpleasant  pleasant
small  large
weak  strong
light  heavy
thin  thick
shallow  deep

Legend:    HACH
--- LACH
EXHIBIT IV-11

Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

bad  good
worthless  valuable
awful  nice
unfair  fair
unpleasant  pleasant
small  large
weak  strong
light  heavy
thin  thick
shallow  deep

Legend:  —— HACH GO'S
         —— HACH NOGO'S
EXHIBIT IV-12
Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

| bad | . . . . | . . . . . | good |
| worthless | . . . . | . . . . . | valuable |
| awful | . . . . | . . . . . | nice |
| unfair | . . . . | . . . . . | fair |
| unpleasant | . . . . | . . . . . | pleasant |
| small | . . . . | . . . . . | large |
| weak | . . . . | . . . . . | strong |
| light | . . . . | . . . . . | heavy |
| thin | . . . . | . . . . . | thick |
| shallow | . . . . | . . . . . | deep |

Legend: —— HACH GO'S
-------- HACH NOGO'S
"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

bad . . . . . . . . . . . . good
worthless . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . large
weak . . . . . . . . . . . . strong
light . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . deep

Legend: ——— HACH GO'S
——— — HACH NOGO'S
EXHIBIT IV-14
Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

<table>
<thead>
<tr>
<th>bad</th>
<th>worthless</th>
<th>awful</th>
<th>unfair</th>
<th>unpleasant</th>
<th>small</th>
<th>weak</th>
<th>light</th>
<th>thin</th>
<th>shallow</th>
<th>good</th>
<th>valuable</th>
<th>nice</th>
<th>fair</th>
<th>pleasant</th>
<th>large</th>
<th>strong</th>
<th>heavy</th>
<th>thick</th>
<th>deep</th>
</tr>
</thead>
</table>

Legend:  
- LACH GO'S
- LACH NOGO'S
### EXHIBIT IV-15

**Self-Related Profile One**

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

<table>
<thead>
<tr>
<th>bad</th>
<th></th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>worthless</td>
<td></td>
<td>valuable</td>
</tr>
<tr>
<td>awful</td>
<td></td>
<td>nice</td>
</tr>
<tr>
<td>unfair</td>
<td></td>
<td>fair</td>
</tr>
<tr>
<td>unpleasant</td>
<td></td>
<td>pleasant</td>
</tr>
<tr>
<td>small</td>
<td></td>
<td>large</td>
</tr>
<tr>
<td>weak</td>
<td></td>
<td>strong</td>
</tr>
<tr>
<td>light</td>
<td></td>
<td>heavy</td>
</tr>
<tr>
<td>thin</td>
<td></td>
<td>thick</td>
</tr>
<tr>
<td>shallow</td>
<td></td>
<td>deep</td>
</tr>
</tbody>
</table>

**Legend:**

- —— LACH GO'S
- —— LACH NOGO'S
EXHIBIT IV-16

Self-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

bad . . . . . . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . . . . deep

Legend:  LACH GO'S
-------- LACH NOGO'S
EXHIBIT IV-17
Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

Legend: —— LACH GO'S
 —— LACH NOGO'S
EXHIBIT IV-18
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

bad ________________ good
worthless ________________ valuable
awful ________________ nice
unfair ________________ fair
unpleasant ________________ pleasant
small ________________ large
weak ________________ strong
light ________________ heavy
thin ________________ thick
shallow ________________ deep

Legend: ——— LACH GO'S
——— LACH NOGO'S
EXHIBIT IV-19
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad .. good
worthless .. valuable
awful .. nice
unfair .. fair
unpleasant .. pleasant
small .. large
weak .. strong
light .. heavy
thin .. thick
shallow .. deep

Legend: ——— HGPA
———- LGPA
EXHIBIT IV-20
Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

<table>
<thead>
<tr>
<th>Scale</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>bad</td>
<td>good</td>
</tr>
<tr>
<td>worthless</td>
<td>valuable</td>
</tr>
<tr>
<td>awful</td>
<td>nice</td>
</tr>
<tr>
<td>unfair</td>
<td>fair</td>
</tr>
<tr>
<td>unpleasant</td>
<td>pleasant</td>
</tr>
<tr>
<td>small</td>
<td>large</td>
</tr>
<tr>
<td>weak</td>
<td>strong</td>
</tr>
<tr>
<td>light</td>
<td>heavy</td>
</tr>
<tr>
<td>thin</td>
<td>thick</td>
</tr>
<tr>
<td>shallow</td>
<td>deep</td>
</tr>
</tbody>
</table>

Legend:    HGPA
          LGPA
EXHIBIT IV-21
Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

bad     . . . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . . . valuable
awful    . . . . . . . . . . . . . . . . . . . . . nice
unfair   . . . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . . pleasant
small    . . . . . . . . . . . . . . . . . . . . . large
weak     . . . . . . . . . . . . . . . . . . . . . strong
light    . . . . . . . . . . . . . . . . . . . . . heavy
thin     . . . . . . . . . . . . . . . . . . . . . thick
shallow  . . . . . . . . . . . . . . . . . . . . . deep

Legend:       HGPA GO'S
              --- HGPA NOGO'S
EXHIBIT IV-22

Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad . . . . . . . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . . . . . . . . . deep

Legend: —— HGPA GO’S
—— HGPA NOGO’S
EXHIBIT IV-23
Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

bad  . . . . . . . . . . . . good
worthless  . . . . . . . . . valuable
awful  . . . . . . . . . . . nice
unfair  . . . . . . . . . . . fair
unpleasant  . . . . . . . . pleasant
small  . . . . . . . . . . . large
weak  . . . . . . . . . . . strong
light  . . . . . . . . . . . heavy
thin  . . . . . . . . . . . thick
shallow  . . . . . . . . . . . deep

Legend: ——— HGPA GO'S
-------- HGPA NOGO'S
EXHIBIT IV-24

Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

bad . . . . . . . . . . . . . good
worthless . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . deep

Legend: —— HGPA GO'S
——— HGPA NOGO'S
EXHIBIT IV-25

Other-Related Profile Two

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad . . . . . . . . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . . . . . . . . deep

Legend: ——— HGPA GO'S
        ——— HGPA NOGO'S
EXHIBIT IV-26
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

bad . . . . . . . . . . . . good
worthless . . . . . . . . . . valuable
awful . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . pleasant
small . . . . . . . . . . . . large
weak . . . . . . . . . . . . strong
light . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . deep

Legend: —— HGPA GO'S
——— HGPA NOGO'S
EXHIBIT IV-27
Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

bad . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . deep

Legend: —— LGPA GO'S
-------- LGPA NOGO'S
EXHIBIT IV-28

Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

Legend:    LGPA GO'S
- - - - LGPA NOGO'S
EXHIBIT IV-29
Self-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

bad . . . . . . . . . . . . . good
worthless . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . deep

Legend: ——— LGPA GO'S
——— LGPA NOGO'S
EXHIBIT IV-30

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

Legend: ——— LGPA GO'S
        ——— LGPA NOGO'S
"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

Legend:  

--- HGPA HACH

--- HGPA LACH
EXHIBIT IV-32
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad .................. good
worthless ................ valuable
awful ................ nice
unfair ................ fair
unpleasant ............... pleasant
small ................ large
weak ................ strong
light ................ heavy
thin ................ thick
shallow ................ deep

Legend: —— HGPA HACH
        —— HGPA LACH
EXHIBIT IV-33
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad . . . . . . . . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . . . . . . . . deep

Legend: ─── LGPA HACH
--------- LGPA LACH
EXHIBIT IV-34

Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

bad          good
worthless    valuable
awful        nice
unfair       fair
unpleasant   pleasant
small        large
weak         strong
light        heavy
thin         thick
shallow      deep

Legend:   LGPA HACH
          LGPA LACH
EXHIBIT IV-35
Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

Legend: ——— LGPA HACH
—— — LGPA LACH
EXHIBIT IV-36

Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

Legend: — — HGPA HACH GO'S

--- HGPA HACH NOGO'S
EXHIBIT IV-37

Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

bad . . . . . . . . . . . . . good
worthless . . . . . . . . . . . valuable
awful . . . . . . . . . . . nice
unfair . . . . . . . . . . . fair
unpleasant . . . . . . . . . pleasant
small . . . . . . . . . . . large
weak . . . . . . . . . . . strong
light . . . . . . . . . . . heavy
thin . . . . . . . . . . . thick
shallow . . . . . . . . . . . deep

Legend: —— HGPA HACH GO'S
——— HGPA HACH NOGO'S
Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

Legend:  —— HGPA LACH GO'S
         ——— HGPA LACH NOGO'S
EXHIBIT IV-39

Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad .................................................. good
worthless ............................................ valuable
awful ................................................... nice
unfair .................................................. fair
unpleasant .......................................... pleasant
small .................................................. large
weak ................................................... strong
light ................................................... heavy
thin ..................................................... thick
shallow .............................................. deep

Legend:  — HGPA LACH GO'S
         —— HGPA LACH NOGO'S
EXHIBIT IV-40

Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS
FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION
TO SOCIETY"

bad . . . . . . . . . good
worthless . . . . . . . . valuable
awful . . . . . . . . . . nice
unfair . . . . . . . . . . fair
unpleasant . . . . . . . . pleasant
small . . . . . . . . . . large
weak . . . . . . . . . . strong
light . . . . . . . . . . heavy
thin . . . . . . . . . . thick
shallow . . . . . . . . . deep

Legend: ——— HGPA LACH GO'S
       ——— HGPA LACH NOGO'S
EXHIBIT IV-41

Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

bad ... good
worthless ... valuable
awful ... nice
unfair ... fair
unpleasant ... pleasant
small ... large
weak ... strong
light ... heavy
thin ... thick
shallow ... deep

Legend: — HGPA LACH GO'S
-------- HGPA LACH NOGO'S
EXHIBIT IV-42
Self-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

<table>
<thead>
<tr>
<th>bad</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>worthless</td>
<td>valuable</td>
</tr>
<tr>
<td>awful</td>
<td>nice</td>
</tr>
<tr>
<td>unfair</td>
<td>fair</td>
</tr>
<tr>
<td>unpleasant</td>
<td>pleasant</td>
</tr>
<tr>
<td>small</td>
<td>large</td>
</tr>
<tr>
<td>weak</td>
<td>strong</td>
</tr>
<tr>
<td>light</td>
<td>heavy</td>
</tr>
<tr>
<td>thin</td>
<td>thick</td>
</tr>
<tr>
<td>shallow</td>
<td>deep</td>
</tr>
</tbody>
</table>

Legend:  ——— HGPA LACH GO'S
         ——— HGPA LACH NOGO'S
EXHIBIT IV-43

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . deep

Legend: ——— HGPA LACH GO'S
——— HGPA LACH NOGO'S
EXHIBIT IV-44
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

bad  . . . . . . . . . . . . . . . . . . . good

worthless  . . . . . . . . . . . . . . . . . . . valuable

awful  . . . . . . . . . . . . . . . . . . . nice

unfair  . . . . . . . . . . . . . . . . . . . fair

unpleasant  . . . . . . . . . . . . . . . . . . pleasant

small  . . . . . . . . . . . . . . . . . . large

weak  . . . . . . . . . . . . . . . . . . strong

light  . . . . . . . . . . . . . . . . . . heavy

thin  . . . . . . . . . . . . . . . . . . thick

shallow  . . . . . . . . . . . . . . . . . . deep

Legend: —— HGPA LACH GO'S

——— HGPA LACH NOGO'S
EXHIBIT IV-45
Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad
worthless
awful
unfair
unpleasant
small
weak
light
thin
shallow

good
valuable
nice
fair
pleasant
large
strong
heavy
thick
deep

Legend: — LGPA LACH GO'S
-------- LGPA LACH NOGO'S
EXHIBIT IV-46

Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

bad ........................................ good
worthless ................................... valuable
awful ....................................... nice
unfair ...................................... fair
unpleasant ................................ pleasant
small ...................................... large
weak ....................................... strong
light ...................................... heavy
thin ........................................ thick
shallow ................................... deep

Legend: ——— BUS
——— ENG
EXHIBIT IV-47
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad . . . . . . . . . . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . . . . . . . . deep

Legend: —— BUS
——— ENG
EXHIBIT IV-48
Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

bad . . . . . . . . . . . . . good
worthless . . . . . . . . . . valuable
awful . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . fair
unpleasant . . . . . . . . . pleasant
small . . . . . . . . . . . . large
weak . . . . . . . . . . . . strong
light . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . thick
shallow . . . . . . . . . . . deep

Legend:  ------ BUS
-- --- ENG
"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

bad . . . . . . . . . . . . . good
worthless . . . . . . . . . . . valuable
awful . . . . . . . . . . . nice
unfair . . . . . . . . . . . fair
unpleasant . . . . . . . . . pleasant
small . . . . . . . . . large
weak . . . . . . . . . strong
light . . . . . . . . heavy
thin . . . . . . . . thick
shallow . . . . . . . . deep

Legend:  —— BUS
         ——— ENG
EXHIBIT IV-50
Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG
EMPLOYEES OF BUSINESS FIRMS"

Legend: --- BUS
-------- ENG
EXHIBIT IV-51

Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

<table>
<thead>
<tr>
<th>bad</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>worthless</td>
<td>valuable</td>
</tr>
<tr>
<td>awful</td>
<td>nice</td>
</tr>
<tr>
<td>unfair</td>
<td>fair</td>
</tr>
<tr>
<td>unpleasant</td>
<td>pleasant</td>
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<tr>
<td>small</td>
<td>large</td>
</tr>
<tr>
<td>weak</td>
<td>strong</td>
</tr>
<tr>
<td>light</td>
<td>heavy</td>
</tr>
<tr>
<td>thin</td>
<td>thick</td>
</tr>
<tr>
<td>shallow</td>
<td>deep</td>
</tr>
</tbody>
</table>

Legend:  ——— BUS
         ——— ENG
EXHIBIT IV-52
Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

bad . . . . . . . . . . . . . . . . . . . goods
worthless . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . . deep

Legend: ——— BUS
——— SOC
EXHIBIT IV-53

Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad --- good
worthless --- valuable
awful --- nice
unfair --- fair
unpleasant --- pleasant
small --- large
weak --- strong
light --- heavy
thin --- thick
shallow --- deep

Legend:  —— BUS
          ——— SOC
EXHIBIT IV-54

Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

bad  . . . . . . .  good
worthless  . . . . . .  valuable
awful  . . . . . .  nice
unfair  . . . . . .  fair
unpleasant  . . . . . .  pleasant
small  . . . . . .  large
weak  . . . . . .  strong
light  . . . . . .  heavy
thin  . . . . . .  thick
shallow  . . . . . .  deep

Legend:  ——— BUS
          ——— SOC
EXHIBIT IV-55
Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

Legend:  --- BUS
         --- SOC
EXHIBIT IV-56
Self-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

bad . . . . . . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . . . . . deep

Legend: —— BUS
—— SOCI
EXHIBIT IV-57

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

<table>
<thead>
<tr>
<th>Term</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>bad</td>
<td>-</td>
</tr>
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<td>worthless</td>
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</tr>
<tr>
<td>awful</td>
<td>-</td>
</tr>
<tr>
<td>unfair</td>
<td>-</td>
</tr>
<tr>
<td>unpleasant</td>
<td>-</td>
</tr>
<tr>
<td>small</td>
<td>-</td>
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<tr>
<td>weak</td>
<td>-</td>
</tr>
<tr>
<td>light</td>
<td>-</td>
</tr>
<tr>
<td>thin</td>
<td>-</td>
</tr>
<tr>
<td>shallow</td>
<td>-</td>
</tr>
<tr>
<td>good</td>
<td>-</td>
</tr>
<tr>
<td>valuable</td>
<td></td>
</tr>
<tr>
<td>nice</td>
<td>-</td>
</tr>
<tr>
<td>fair</td>
<td>-</td>
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<tr>
<td>pleasant</td>
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<td>large</td>
<td>-</td>
</tr>
<tr>
<td>strong</td>
<td>-</td>
</tr>
<tr>
<td>heavy</td>
<td>-</td>
</tr>
<tr>
<td>thick</td>
<td>-</td>
</tr>
<tr>
<td>deep</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:  ——— BUS
         ——— SOC
EXHIBIT IV-58
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

bad ................................................. good
worthless ............................................. valuable
awful .................................................. nice
unfair .................................................. fair
unpleasant ........................................... pleasant
small .................................................. large
weak ................................................... strong
light ................................................... heavy
thin ...................................................... thick
shallow ................................................ deep

Legend:  ——— BUS
         ——— SOC
EXHIBIT IV-59

Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

bad  --  good
worthless  ---  valuable
awful  -------  nice
unfair  --------  fair
unpleasant  -------  pleasant
small  --------  large
weak  -------  strong
light  -------  heavy
thin  -------  thick
shallow  -------  deep

Legend:  ---- ENG
         --- SOC
EXHIBIT IV-60
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad ............................................ good
worthless ...................................... valuable
awful ....................................... nice
unfair ....................................... fair
unpleasant ................................... pleasant
small ......................................... large
weak ......................................... strong
light ......................................... heavy
thin ........................................ thick
shallow ...................................... deep

Legend:  ------ ENG
--------- SOC
"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

Legend:  

--- ENG  

--- SOC
EXHIBIT IV-62
Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

Legend:  ENG
----------
SOC
EXHIBIT IV-63

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad - good
worthless - valuable
awful - nice
unfair - fair
unpleasant - pleasant
small - large
weak - strong
light - heavy
thin - thick
shallow - deep

Legend:  _______ ENG
_________ SOC
EXHIBIT IV-64
Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

Legend: ——— BUS GO'S
         ——— BUS NOGO'S
EXHIBIT IV-65

Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS
FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION
TO SOCIETY"

bad • • • • • • • • • • • good
worthless • • • • • • • • • • valuable
awful • • • • • • • • • • nice
unfair • • • • • • • • • • fair
unpleasant • • • • • • • • • • pleasant
small • • • • • • • • • • large
weak • • • • • • • • • • strong
light • • • • • • • • • • heavy
thin • • • • • • • • • • thick
shallow • • • • • • • • • • deep

Legend: ——— ENG GO’S
        ——— ENG NOGO’S
EXHIBIT IV-66
Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

bad . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . deep

Legend: —— ENG GO'S
         ——— ENG NOGO'S
EXHIBIT IV-67
Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad ........................................... good
worthless ..................................... valuable
awful .......................................... nice
unfair .......................................... fair
unpleasant ..................................... pleasant
small .......................................... large
weak ........................................... strong
light .......................................... heavy
thin ........................................... thick
shallow ....................................... deep

Legend: ______ ENG GO'S
-------- ENG NOGO'S
EXHIBIT IV-68
Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

bad . . . . . . . . . . . good
worthless . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . deep

Legend: —— SOC GO'S
--------- —— SOC NOGO'S
EXHIBIT IV-69

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG
EMPLOYEES OF BUSINESS FIRMS"

bad .......................... good
worthless .......................... valuable
awful .......................... nice
unfair .......................... fair
unpleasant .......................... pleasant
small .......................... large
weak .......................... strong
light .......................... heavy
thin .......................... thick
shallow .......................... deep

Legend:  ——— SOC GO'S
         ———— SOC NOGO'S
EXHIBIT IV-70
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

bad • • • • • • • • • • • good

worthless • • • • • • • • • • • valuable

awful • • • • • • • • • • • nice

unfair • • • • • • • • • • • fair

unpleasant • • • • • • • • • • • pleasant

small • • • • • • • • • • • large

weak • • • • • • • • • • • strong

light • • • • • • • • • • • heavy

thin • • • • • • • • • • • thick

shallow • • • • • • • • • • • deep

Legend: —— SOC GO'S

— —— SOC NOGO'S
EXHIBIT IV-71
Reference Profile One

"YOUR CHANCES OF SUCCESS AS
A BUSINESS EMPLOYEE"

bad . . . . . . . . . . . . good
worthless . . . . . . . . . . . valuable
awful . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . pleasant
small . . . . . . . . . . . . large
weak . . . . . . . . . . . . strong
light . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . deep

Legend: ——— BUS HACH GO'S
-------- BUS HACH NOGO'S
EXHIBIT IV-72

Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

Legend:  --- ENG HACH GO'S
         ---- ENG HACH NOGO'S
EXHIBIT IV-73
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad . . . . . . . . . . . . good
worthless . . . . . . . . . . valuable
awful . . . . . . . . . . . nice
unfair . . . . . . . . . . . fair
unpleasant . . . . . . . . . pleasant
small . . . . . . . . . . . large
weak . . . . . . . . . . . . strong
light . . . . . . . . . . . heavy
thin . . . . . . . . . . . thick
shallow . . . . . . . . . . . deep

Legend:  ——— ENG HACH GO'S
         ——— ENG HACH NOGO'S
EXHIBIT IV-74

Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

Legend: ——— ENG HACH GO'S
        ——— ENG HACH NOGO'S
EXHIBIT IV-75

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad -- good
worthless -- valuable
awful -- nice
unfair -- fair
unpleasant -- pleasant
small -- large
weak -- strong
light -- heavy
thin -- thick
shallow -- deep

Legend:  ——— ENG HACH GO'S
        ——— ENG HACH NOGO'S
EXHIBIT IV-76
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

bad . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . pleasant
small . . . . . . . . . . . . large
weak . . . . . . . . . . . . strong
light . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . deep

Legend: ——— ENG HACH GO'S
          ——— ENG HACH NOGO'S
EXHIBIT IV-77

Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS
EMPLOYEES BY THEIR JOBS"

bad . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . deep

Legend: ——— ENG LACH GO'S
——— ENG LACH NOGO'S
EXHIBIT IV-78

Self-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

<table>
<thead>
<tr>
<th>bad</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>worthless</td>
<td>valuable</td>
</tr>
<tr>
<td>awful</td>
<td>nice</td>
</tr>
<tr>
<td>unfair</td>
<td>fair</td>
</tr>
<tr>
<td>unpleasant</td>
<td>pleasant</td>
</tr>
<tr>
<td>small</td>
<td>large</td>
</tr>
<tr>
<td>weak</td>
<td>strong</td>
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<tr>
<td>light</td>
<td>heavy</td>
</tr>
<tr>
<td>thin</td>
<td>thick</td>
</tr>
<tr>
<td>shallow</td>
<td>deep</td>
</tr>
</tbody>
</table>

Legend:  ENG LACH GO'S
         ENG LACH NOGO'S
EXHIBIT IV-79

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad --- good
worthless --- valuable
awful --- nice
unfair --- fair
unpleasant --- pleasant
small --- large
weak --- strong
light --- heavy
thin --- thick
shallow --- deep

Legend: —— ENG LACH GO'S

—— ENG LACH NOGO'S
EXHIBIT IV-80
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

bad . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . deep

Legend: ——— ENG LACH GO'S
——— ENG LACH NOGO'S
"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

bad → good
worthless → valuable
awful → nice
unfair → fair
unpleasant → pleasant
small → large
weak → strong
light → heavy
thin → thick
shallow → deep

Legend: ——— SOC HACH GO'S
——— SOC HACH NOGO'S
EXHIBIT IV-82

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad . . . . . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . . . . . . . . . deep

Legend: —— SOC HACH GO'S
        —— —— SOC HACH NOGO'S
EXHIBIT IV-83
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

bad       . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . valuable
awful     . . . . . . . . . . . . . . . . . . . nice
unfair    . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . pleasant
small     . . . . . . . . . . . . . . . . . . . large
weak      . . . . . . . . . . . . . . . . . . . strong
light     . . . . . . . . . . . . . . . . . . . heavy
thin      . . . . . . . . . . . . . . . . . . . thick
shallow   . . . . . . . . . . . . . . . . . . . deep

Legend:  —— SOC HACH GO'S
         ——— SOC HACH NOGO'S
EXHIBIT IV-84

Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

<table>
<thead>
<tr>
<th>bad</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>worthless</td>
<td>valuable</td>
</tr>
<tr>
<td>awful</td>
<td>nice</td>
</tr>
<tr>
<td>unfair</td>
<td>fair</td>
</tr>
<tr>
<td>unpleasant</td>
<td>pleasant</td>
</tr>
<tr>
<td>small</td>
<td>large</td>
</tr>
<tr>
<td>weak</td>
<td>strong</td>
</tr>
<tr>
<td>light</td>
<td>heavy</td>
</tr>
<tr>
<td>thin</td>
<td>thick</td>
</tr>
<tr>
<td>shallow</td>
<td>deep</td>
</tr>
</tbody>
</table>

Legend:  -----  SOC LACH GO'S
          -----  SOC LACH NOGO'S
EXHIBIT IV-85

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad ........................................ good
worthless ................................ valueable
awful ........................................ nice
unfair ......................................... fair
unpleasant .................................. pleasant
small ......................................... large
weak .......................................... strong
light ......................................... heavy
thin ........................................... thick
shallow ...................................... deep

Legend:    ——— SOC LACH GO'S
            ———— SOC LACH NOGO'S
EXHIBIT IV-86
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

Legend: ——— SOC LACH GO'S
-------- SOC LACH NOGO'S
EXHIBIT IV-87
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad ........................................ good
worthless ..................................... valuable
awful .......................................... nice
unfair ......................................... fair
unpleasant .................................... pleasant
small .......................................... large
weak ........................................... strong
light .......................................... heavy
thin ............................................ thick
shallow ....................................... deep

Legend:  --- BUS HACH
---------- BUS LACH
EXHIBIT IV-88
Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad ________________________________ good
worthless ___________________________ valuable
awful ______________________________ nice
unfair ______________________________ fair
unpleasant __________________________ pleasant
small ______________________________ large
weak ______________________________ strong
light ______________________________ heavy
thin ______________________________ thick
shallow ___________________________ deep

Legend: ——— BUS HACH
——— BUS LACH
EXHIBIT IV-89
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad ............................................... good
worthless ......................................... valuable
awful ................................................ nice
unfair ............................................... fair
unpleasant ......................................... pleasant
small ................................................ large
weak ................................................ strong
light ............................................... heavy
thin ................................................ thick
shallow ........................................... deep

Legend:  —  ENG HACH
         —  —  ENG LACH
EXHIBIT IV-90
Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

bad . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . deep

Legend:  ——— SOC HACH

——— SOC LACH
EXHIBIT IV-91
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

bad . . . . . . . . . . good
worthless . . . . . . . valuable
awful . . . . . . . . . nice
unfair . . . . . . . . fair
unpleasant . . . . . . pleasant
small . . . . . . . . large
weak . . . . . . . . . . strong
light . . . . . . . . heavy
thin . . . . . . . . . . thick
shallow . . . . . . deep

Legend: ——— SOC HACH
------- SOC LACH
EXHIBIT IV-92
Reference Profile One

"YOUR CHANCES OF SUCCESS AS
A BUSINESS EMPLOYEE"

bad . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . valuable
awful . . . . . . . . . . . nice
unfair . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . pleasant
small . . . . . . . . . . . large
weak . . . . . . . . . . . strong
light . . . . . . . . . . . heavy
thin . . . . . . . . . . . thick
shallow . . . . . . . . . deep

Legend: ——— BUS HGPA GO'S
——— BUS HGPA NOGO'S
EXHIBIT IV-93
Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

bad . . . . . . . . . . . good

worthless . . . . . . . . . . . valuable

awful . . . . . . . . . . . . nice

unfair . . . . . . . . . . . fair

unpleasant . . . . . . . . . pleasant

small . . . . . . . . . . . large

weak . . . . . . . . . . . strong

light . . . . . . . . . . . heavy

thin . . . . . . . . . . . thick

shallow . . . . . . . . . . deep

Legend: ——— BUS HGPA GO'S

——— BUS HGPA NOGO'S
EXHIBIT IV-94

Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

bad . . . . . . . . . . . . . . good
worthless . . . . . . . . . . valuable
awful . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . pleasant
small . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . deep

Legend: ——— BUS LGPA GO'S
         ——— BUS LGPA NOGO'S
EXHIBIT IV-95
Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

<table>
<thead>
<tr>
<th>bad</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>worthless</td>
<td>valuable</td>
</tr>
<tr>
<td>awful</td>
<td>nice</td>
</tr>
<tr>
<td>unfair</td>
<td>fair</td>
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<tr>
<td>unpleasant</td>
<td>pleasant</td>
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<tr>
<td>small</td>
<td>large</td>
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<tr>
<td>weak</td>
<td>strong</td>
</tr>
<tr>
<td>light</td>
<td>heavy</td>
</tr>
<tr>
<td>thin</td>
<td>thick</td>
</tr>
<tr>
<td>shallow</td>
<td>deep</td>
</tr>
</tbody>
</table>

Legend:  
--- ENG HGPA GO'S
-------- ENG HGPA NOGO'S
EXHIBIT IV-96

Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad . . . . . . . . . . . . good
worthless . . . . . . . . . . valuable
awful . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . pleasant
small . . . . . . . . . . . . large
weak . . . . . . . . . . . . strong
light . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . deep

Legend:  —— ENG HGPA GO'S
             ——— ENG HGPA NOGO'S
EXHIBIT IV-97
Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

Legend: ENG HGPA GO'S
--- ENG HGPA NOGO'S
EXHIBIT IV-98
Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

Legend:  —— ENG HGPA GO'S
         ——— ENG HGPA NOGO'S
EXHIBIT IV-99
Self-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

bad . . . . . . . . . . . good
worthless . . . . . . . . . valuable
awful . . . . . . . . . . . nice
unfair . . . . . . . . . . . fair
unpleasant . . . . . . . . . pleasant
small . . . . . . . . . . . large
weak . . . . . . . . . . . strong
light . . . . . . . . . . . heavy
thin . . . . . . . . . . . thick
shallow . . . . . . . . . . . deep

Legend: ——— ENG HGPA GO'S
         ———— ENG HGPA NOGO'S
EXHIBIT IV-100

Reference Profile One

"YOUR CHANCES OF SUCCESS AS A BUSINESS EMPLOYEE"

bad . . . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . . . deep

Legend: —— SOC HGPA GO'S

——— SOC HGPA NOGO'S
EXHIBIT IV-101
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

- bad ... good
- worthless ... valuable
- awful ... nice
- unfair ... fair
- unpleasant ... pleasant
- small ... large
- weak ... strong
- light ... heavy
- thin ... thick
- shallow ... deep

Legend: --- SOC HGPA GO'S
--- --- SOC HGPA NOGO'S
EXHIBIT IV-102
Self-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO UTILIZE YOUR ABILITIES TO THE FULLEST"

bad . . . . . . . . . . good
worthless . . . . . . . . . . valuable
awful . . . . . . . . . . nice
unfair . . . . . . . . . . fair
unpleasant . . . . . . . . . . pleasant
small . . . . . . . . . . large
weak . . . . . . . . . . strong
light . . . . . . . . . . heavy
thin . . . . . . . . . . thick
shallow . . . . . . . . . . deep

Legend: —— SOC HGPA GO'S
———— SOC HGPA NOGO'S
EXHIBIT IV-103

Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

bad . . . . . . . . . . . good
worthless . . . . . . . . . valuable
awful . . . . . . . . . . . nice
unfair . . . . . . . . . . . fair
unpleasant . . . . . . . . . pleasant
small . . . . . . . . . . . large
weak . . . . . . . . . . . strong
light . . . . . . . . . . . heavy
thin . . . . . . . . . . . thick
shallow . . . . . . . . . . . deep

Legend: ——— SOC HGPA GO'S
——— SOC HGPA NOGO'S
EXHIBIT IV-104

Self-Related Profile One

"THE CHALLENGE PROVIDED BUSINESS EMPLOYEES BY THEIR JOBS"

bad . . . . . . . . . . . . good
worthless . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . large
weak . . . . . . . . . . . . strong
light . . . . . . . . . . . . heavy
thin . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . deep

Legend: —— SOC LGPA GO'S
-------- SOC LGPA NOGO'S
EXHIBIT IV-105

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

bad .................... good
worthless ................ valuable
awful .................... nice
unfair .................... fair
unpleasant ............... pleasant
small .................... large
weak .................... strong
light .................... heavy
thin .................... thick
shallow ................ deep

Legend: ——— SOC LGPA GO'S
---------- SOC LGPA NOGO'S
EXHIBIT IV-106
Other-Related Profile Two

"ABILITIES OF BUSINESS EMPLOYEES"

bad . . . . . . . . . . . . . . . . . . good
worthless . . . . . . . . . . . . . . . . valuable
awful . . . . . . . . . . . . . . . . . . nice
unfair . . . . . . . . . . . . . . . . . . fair
unpleasant . . . . . . . . . . . . . . . pleasant
small . . . . . . . . . . . . . . . . . . large
weak . . . . . . . . . . . . . . . . . . strong
light . . . . . . . . . . . . . . . . . heavy	hin . . . . . . . . . . . . . . . . . . . thick
shallow . . . . . . . . . . . . . . . . . deep

Legend: ——— SOC LGPA GO'S
——— SOC LGPA NOGO'S
EXHIBIT IV-107
Task-Related Profile One

"CONTRIBUTION THAT BUSINESS MAKES TO SOCIETY TODAY"

bad ........................................... good
worthless ........................................... valuable
awful ........................................... nice
unfair ........................................... fair
unpleasant ........................................... pleasant
small ........................................... large
weak ........................................... strong
light ........................................... heavy
thin ........................................... thick
shallow ........................................... deep

Legend:  ——— BUS HGPA
         ——— BUS LGPA
EXHIBIT IV-108

Other-Related Profile One

"THE AMOUNT OF COMPETITION AMONG EMPLOYEES OF BUSINESS FIRMS"

<table>
<thead>
<tr>
<th>bad</th>
<th>good</th>
</tr>
</thead>
<tbody>
<tr>
<td>worthless</td>
<td>valuable</td>
</tr>
<tr>
<td>awful</td>
<td>nice</td>
</tr>
<tr>
<td>unfair</td>
<td>fair</td>
</tr>
<tr>
<td>unpleasant</td>
<td>pleasant</td>
</tr>
<tr>
<td>small</td>
<td>large</td>
</tr>
<tr>
<td>weak</td>
<td>strong</td>
</tr>
<tr>
<td>light</td>
<td>heavy</td>
</tr>
<tr>
<td>thin</td>
<td>thick</td>
</tr>
<tr>
<td>shallow</td>
<td>deep</td>
</tr>
</tbody>
</table>

Legend:  ——— BUS HGPA
         ——— BUS LGPA
EXHIBIT IV-109
Task-Related Profile Two

"OPPORTUNITIES PROVIDED BY BUSINESS FIRMS FOR YOU TO MAKE A WORTHWHILE CONTRIBUTION TO SOCIETY"

bad . . . . . . . . . . . good
worthless . . . . . . . . . valuable
awful . . . . . . . . . . . . nice
unfair . . . . . . . . . . . fair
unpleasant . . . . . . . . pleasant
small . . . . . . . . . . . large
weak . . . . . . . . . . . strong
light . . . . . . . . . . . heavy
thin . . . . . . . . . . . thick
shallow . . . . . . . . . . deep

Legend:  ——— ENG HGPA
          ——— ENG LGPA
### Table V-1. Computed "t" values resulting from a comparison of business subjects and engineering subjects

#### Bipolar Scales

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>2.028</td>
<td>1.116</td>
<td>1.814</td>
<td>2.050</td>
<td>-0.072</td>
<td>1.184</td>
<td>0.032</td>
<td>1.896</td>
<td>0.592</td>
<td>0.740</td>
</tr>
<tr>
<td>T-1</td>
<td>2.214</td>
<td>2.103</td>
<td>0.411</td>
<td>0.498</td>
<td>1.148</td>
<td>0.191</td>
<td>-0.549</td>
<td>0.514</td>
<td>1.394</td>
<td>1.146</td>
</tr>
<tr>
<td>T-2</td>
<td>-0.195</td>
<td>0.542</td>
<td>1.292</td>
<td>0.240</td>
<td>-0.323</td>
<td>0.260</td>
<td>2.111</td>
<td>-0.117</td>
<td>0.792</td>
<td>0.739</td>
</tr>
<tr>
<td>S-1</td>
<td>-0.298</td>
<td>1.535</td>
<td>1.674</td>
<td>-1.540</td>
<td>1.237</td>
<td>0.277</td>
<td>0.808</td>
<td>0.345</td>
<td>0.540</td>
<td>1.124</td>
</tr>
<tr>
<td>S-2</td>
<td>1.160</td>
<td>1.543</td>
<td>-0.501</td>
<td>0.626</td>
<td>-0.119</td>
<td>2.044</td>
<td>0.737</td>
<td>1.750</td>
<td>1.362</td>
<td>1.859</td>
</tr>
<tr>
<td>O-1</td>
<td>1.615</td>
<td>0.906</td>
<td>1.048</td>
<td>0.535</td>
<td>-0.849</td>
<td>2.550</td>
<td>1.574</td>
<td>2.135</td>
<td>1.327</td>
<td>1.595</td>
</tr>
<tr>
<td>O-2</td>
<td>2.924</td>
<td>3.220</td>
<td>2.935</td>
<td>1.763</td>
<td>2.555</td>
<td>3.282</td>
<td>2.549</td>
<td>2.619</td>
<td>2.182</td>
<td>2.083</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (BUS - ENG).

Degrees of Freedom: 193

Critical "t" values: ±1.96
Table V-2. Computed "t" values resulting from a comparison of business subjects and social science subjects

Bipolar Scales

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>4.144</td>
<td>3.266</td>
<td>2.315</td>
<td>2.420</td>
<td>2.086</td>
<td>3.146</td>
<td>2.379</td>
<td>3.278</td>
<td>1.479</td>
<td>1.595</td>
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<td>T-1</td>
<td>2.760</td>
<td>2.728</td>
<td>0.450</td>
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<td>2.433</td>
<td>0.531</td>
<td>-0.709</td>
<td>-0.095</td>
<td>1.596</td>
<td>1.423</td>
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<tr>
<td>S-2</td>
<td>0.919</td>
<td>1.742</td>
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<td>1.743</td>
<td>1.532</td>
<td>0.109</td>
<td>-0.235</td>
<td>0.768</td>
<td>2.217</td>
</tr>
<tr>
<td>O-1</td>
<td>3.270</td>
<td>2.304</td>
<td>2.908</td>
<td>2.394</td>
<td>2.751</td>
<td>2.033</td>
<td>0.187</td>
<td>0.622</td>
<td>0.955</td>
<td>2.386</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (BUS - SOC).
Degrees of Freedom: 195
Critical "t" values: ±1.96
Table V-3. Computed "t" values resulting from a comparison of engineering subjects and social science subjects

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>2.108</td>
<td>2.150</td>
<td>0.547</td>
<td>0.311</td>
<td>2.049</td>
<td>1.909</td>
<td>2.151</td>
<td>1.294</td>
<td>0.858</td>
<td>0.872</td>
</tr>
<tr>
<td>T-1</td>
<td>0.524</td>
<td>0.673</td>
<td>0.011</td>
<td>2.169</td>
<td>1.216</td>
<td>0.304</td>
<td>-0.132</td>
<td>-0.596</td>
<td>0.200</td>
<td>0.326</td>
</tr>
<tr>
<td>S-2</td>
<td>-0.222</td>
<td>0.238</td>
<td>0.677</td>
<td>0.642</td>
<td>1.717</td>
<td>-0.352</td>
<td>-0.588</td>
<td>-1.989</td>
<td>-0.654</td>
<td>0.447</td>
</tr>
<tr>
<td>O-1</td>
<td>1.711</td>
<td>1.380</td>
<td>1.754</td>
<td>1.836</td>
<td>3.698</td>
<td>-0.341</td>
<td>-1.251</td>
<td>-1.459</td>
<td>-0.382</td>
<td>0.868</td>
</tr>
<tr>
<td>O-2</td>
<td>-0.224</td>
<td>-0.431</td>
<td>0.066</td>
<td>1.243</td>
<td>-0.108</td>
<td>-0.069</td>
<td>-0.829</td>
<td>0.325</td>
<td>0.035</td>
<td>1.755</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (ENG - SOC).

Degrees of Freedom: 186
Critical "t" values: ±1.96
Table V-4. Computed "t" values resulting from a comparison of business subjects who intend to become business employees and business subjects who do not intend to become business employees

<table>
<thead>
<tr>
<th>Concepts</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>1.516</td>
<td>0.875</td>
<td>-0.586</td>
<td>-0.353</td>
<td>0.956</td>
<td>0.645</td>
<td>0.423</td>
<td>1.124</td>
<td>0.322</td>
<td>0.792</td>
</tr>
<tr>
<td>T-1</td>
<td>-0.560</td>
<td>-1.068</td>
<td>0.193</td>
<td>0.240</td>
<td>-0.555</td>
<td>0.179</td>
<td>0.297</td>
<td>-0.144</td>
<td>0.577</td>
<td>0.039</td>
</tr>
<tr>
<td>T-2</td>
<td>1.507</td>
<td>0.898</td>
<td>1.018</td>
<td>1.497</td>
<td>1.376</td>
<td>1.494</td>
<td>1.045</td>
<td>1.590</td>
<td>0.481</td>
<td>1.945</td>
</tr>
<tr>
<td>S-1</td>
<td>1.139</td>
<td>-0.464</td>
<td>1.754</td>
<td>0.610</td>
<td>1.140</td>
<td>-0.055</td>
<td>-0.177</td>
<td>-0.697</td>
<td>2.078</td>
<td>-0.049</td>
</tr>
<tr>
<td>S-2</td>
<td>0.240</td>
<td>0.765</td>
<td>-0.749</td>
<td>1.194</td>
<td>1.371</td>
<td>0.597</td>
<td>0.957</td>
<td>0.427</td>
<td>0.579</td>
<td>0.132</td>
</tr>
<tr>
<td>O-1</td>
<td>0.797</td>
<td>0.640</td>
<td>-0.931</td>
<td>-0.364</td>
<td>-1.008</td>
<td>-0.398</td>
<td>0.559</td>
<td>-0.088</td>
<td>0.416</td>
<td>0.180</td>
</tr>
<tr>
<td>O-2</td>
<td>1.016</td>
<td>0.115</td>
<td>-1.712</td>
<td>0.042</td>
<td>-0.560</td>
<td>0.807</td>
<td>-0.172</td>
<td>-0.030</td>
<td>0.263</td>
<td>0.831</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (GO'S - NOGO'S).
Degrees of Freedom: 100
Critical "t" values: ±1.98
Table V-5. Computed "t" values resulting from a comparison of engineering subjects who intend to become business employees and engineering subjects who do not intend to become business employees

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>-0.672</td>
<td>-0.228</td>
<td>0.681</td>
<td>0.185</td>
<td>-0.762</td>
<td>0.020</td>
<td>-0.992</td>
<td>0.380</td>
<td>-0.385</td>
<td>-0.769</td>
</tr>
<tr>
<td>T-1</td>
<td>0.629</td>
<td>0.974</td>
<td>0.236</td>
<td>0.169</td>
<td>1.441</td>
<td>1.757</td>
<td>1.368</td>
<td>0.582</td>
<td>0.748</td>
<td>-0.098</td>
</tr>
<tr>
<td>T-2</td>
<td>0.446</td>
<td>1.152</td>
<td>-0.263</td>
<td>0.490</td>
<td>0.960</td>
<td>-0.392</td>
<td>-0.277</td>
<td>-1.829</td>
<td>-0.769</td>
<td>-2.196</td>
</tr>
<tr>
<td>S-1</td>
<td>0.826</td>
<td>0.705</td>
<td>0.843</td>
<td>1.669</td>
<td>2.410</td>
<td>-0.631</td>
<td>0.824</td>
<td>-0.870</td>
<td>-1.887</td>
<td>0.321</td>
</tr>
<tr>
<td>S-2</td>
<td>1.109</td>
<td>1.693</td>
<td>0.785</td>
<td>0.891</td>
<td>1.837</td>
<td>0.928</td>
<td>0.447</td>
<td>1.060</td>
<td>0.358</td>
<td>1.923</td>
</tr>
<tr>
<td>O-1</td>
<td>1.797</td>
<td>0.504</td>
<td>1.447</td>
<td>3.270</td>
<td>1.845</td>
<td>1.172</td>
<td>1.054</td>
<td>-0.109</td>
<td>-1.170</td>
<td>0.973</td>
</tr>
<tr>
<td>O-2</td>
<td>1.125</td>
<td>1.191</td>
<td>0.776</td>
<td>0.746</td>
<td>1.860</td>
<td>0.011</td>
<td>0.298</td>
<td>0.164</td>
<td>-1.052</td>
<td>-0.166</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (ENG Go'S - ENG NOGO'S).

Degrees of Freedom: 91
Critical "t" values: ±2.00
Table V-6. Computed "t" values resulting from a comparison of social science subjects who intend to become business employees and social science subjects who do not intend to become business employees

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>1.330</td>
<td>0.819</td>
<td>0.713</td>
<td>0.468</td>
<td>0.543</td>
<td>1.634</td>
<td>1.585</td>
<td>0.499</td>
<td>0.678</td>
<td>1.312</td>
</tr>
<tr>
<td>T-1</td>
<td>0.778</td>
<td>0.735</td>
<td>0.100</td>
<td>1.136</td>
<td>0.662</td>
<td>0.507</td>
<td>-0.652</td>
<td>0.119</td>
<td>0.656</td>
<td>0.759</td>
</tr>
<tr>
<td>T-2</td>
<td>1.226</td>
<td>1.107</td>
<td>0.672</td>
<td>0.983</td>
<td>1.688</td>
<td>1.115</td>
<td>0.825</td>
<td>0.674</td>
<td>-0.851</td>
<td>0.795</td>
</tr>
<tr>
<td>S-1</td>
<td>2.163</td>
<td>1.632</td>
<td>0.349</td>
<td>0.305</td>
<td>1.503</td>
<td>2.435</td>
<td>2.135</td>
<td>0.419</td>
<td>-0.188</td>
<td>1.095</td>
</tr>
<tr>
<td>S-2</td>
<td>1.001</td>
<td>0.184</td>
<td>-0.663</td>
<td>0.860</td>
<td>-0.968</td>
<td>0.076</td>
<td>0.398</td>
<td>-0.576</td>
<td>-1.699</td>
<td>0.763</td>
</tr>
<tr>
<td>O-1</td>
<td>-0.005</td>
<td>1.420</td>
<td>0.036</td>
<td>1.326</td>
<td>0.355</td>
<td>-2.150</td>
<td>-2.495</td>
<td>02.599</td>
<td>-2.345</td>
<td>-0.052</td>
</tr>
<tr>
<td>O-2</td>
<td>1.029</td>
<td>2.310</td>
<td>-0.168</td>
<td>1.592</td>
<td>-0.816</td>
<td>1.039</td>
<td>0.848</td>
<td>1.759</td>
<td>-0.524</td>
<td>1.553</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (SOC GO'S - SOC NOGO'S).

Degrees of Freedom: 93
Critical "t" values: ±2.00
Table V-7. Computed "t" values resulting from a comparison of business subjects with high needs for achievement and business subjects with low needs for achievement.

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>-1.925</td>
<td>-1.230</td>
<td>-0.595</td>
<td>-1.021</td>
<td>-1.695</td>
<td>-0.353</td>
<td>-0.435</td>
<td>-0.036</td>
<td>-1.464</td>
<td>0.966</td>
</tr>
<tr>
<td>T-1</td>
<td>1.036</td>
<td>1.110</td>
<td>-0.411</td>
<td>0.037</td>
<td>0.510</td>
<td>1.989</td>
<td>1.225</td>
<td>2.284</td>
<td>0.110</td>
<td>-2.654</td>
</tr>
<tr>
<td>T-2</td>
<td>-0.384</td>
<td>-0.035</td>
<td>-0.718</td>
<td>-0.810</td>
<td>0.745</td>
<td>0.564</td>
<td>-0.587</td>
<td>-1.154</td>
<td>-1.275</td>
<td>-2.599</td>
</tr>
<tr>
<td>S-1</td>
<td>-0.384</td>
<td>0.292</td>
<td>-0.549</td>
<td>-0.278</td>
<td>0.210</td>
<td>-0.442</td>
<td>-0.118</td>
<td>0.310</td>
<td>0.566</td>
<td>-1.039</td>
</tr>
<tr>
<td>S-2</td>
<td>-0.543</td>
<td>-1.285</td>
<td>-0.804</td>
<td>-1.224</td>
<td>-0.166</td>
<td>0.595</td>
<td>-0.428</td>
<td>0.333</td>
<td>0.261</td>
<td>0.248</td>
</tr>
<tr>
<td>O-1</td>
<td>0.254</td>
<td>0.495</td>
<td>1.296</td>
<td>-0.649</td>
<td>0.425</td>
<td>0.903</td>
<td>0.921</td>
<td>-0.115</td>
<td>0.524</td>
<td>-0.846</td>
</tr>
<tr>
<td>O-2</td>
<td>0.580</td>
<td>-0.433</td>
<td>0.846</td>
<td>0.530</td>
<td>0.513</td>
<td>2.360</td>
<td>0.916</td>
<td>1.756</td>
<td>0.886</td>
<td>0.611</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (BUS HACH - BUS LACH).
Degrees of Freedom: 100
Critical "t" values: \pm 1.98
Table V-8. Computed "t" values resulting from a comparison of engineering
subjects with high needs for achievement and engineering subjects with low
needs for achievement

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>1.362</td>
<td>1.545</td>
<td>0.310</td>
<td>0.646</td>
<td>1.559</td>
<td>0.582</td>
<td>0.697</td>
<td>-0.280</td>
<td>0.491</td>
<td>0.358</td>
</tr>
<tr>
<td>T-1</td>
<td>2.511</td>
<td>1.716</td>
<td>0.392</td>
<td>-0.368</td>
<td>0.066</td>
<td>1.841</td>
<td>0.606</td>
<td>0.167</td>
<td>0.084</td>
<td>-0.211</td>
</tr>
<tr>
<td>T-2</td>
<td>0.517</td>
<td>0.518</td>
<td>0.075</td>
<td>-0.395</td>
<td>0.212</td>
<td>-0.217</td>
<td>-1.097</td>
<td>-0.281</td>
<td>0.017</td>
<td>-0.074</td>
</tr>
<tr>
<td>S-1</td>
<td>0.048</td>
<td>0.194</td>
<td>-0.485</td>
<td>0.911</td>
<td>0.875</td>
<td>0.919</td>
<td>0.254</td>
<td>0.977</td>
<td>-0.857</td>
<td>-0.219</td>
</tr>
<tr>
<td>S-2</td>
<td>-0.045</td>
<td>-0.007</td>
<td>-0.973</td>
<td>-1.645</td>
<td>-0.901</td>
<td>0.605</td>
<td>-0.434</td>
<td>0.565</td>
<td>0.220</td>
<td>0.524</td>
</tr>
<tr>
<td>O-1</td>
<td>0.430</td>
<td>-0.377</td>
<td>-0.035</td>
<td>0.587</td>
<td>-0.230</td>
<td>-0.436</td>
<td>0.927</td>
<td>-0.734</td>
<td>-0.746</td>
<td>0.057</td>
</tr>
<tr>
<td>O-2</td>
<td>0.743</td>
<td>1.394</td>
<td>-0.961</td>
<td>-1.277</td>
<td>-1.346</td>
<td>-0.409</td>
<td>0.117</td>
<td>-1.554</td>
<td>-1.085</td>
<td>-0.466</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05
level of significance (ENG HACH - ENG LACH).

Degrees of Freedom: 91
Critical "t" values: ±2.00
Table V-9. Computed "t" values resulting from a comparison of social science subjects with high needs for achievement and social science subjects with low needs for achievement

<table>
<thead>
<tr>
<th>Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bipolar Scales</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>R-1</td>
</tr>
<tr>
<td>T-1</td>
</tr>
<tr>
<td>T-2</td>
</tr>
<tr>
<td>S-1</td>
</tr>
<tr>
<td>S-2</td>
</tr>
<tr>
<td>O-1</td>
</tr>
<tr>
<td>O-2</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (SOC HACH - SOC LACH).

Degrees of Freedom: 93

Critical "t" values: ±2.00
Table V-10. Computed "t" values resulting from a comparison of business subjects with high needs for achievement who intend to become business employees and business subjects with high needs for achievement who do not intend to become business employees

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>1.097</td>
<td>1.428</td>
<td>-0.975</td>
<td>-0.354</td>
<td>0.776</td>
<td>1.375</td>
<td>1.804</td>
<td><strong>2.930</strong></td>
<td>0.756</td>
<td>1.299</td>
</tr>
<tr>
<td>T-1</td>
<td>0.651</td>
<td>-0.932</td>
<td>-0.211</td>
<td>-0.074</td>
<td>-1.551</td>
<td>0.300</td>
<td>0.034</td>
<td>0.753</td>
<td>0.684</td>
<td>-0.058</td>
</tr>
<tr>
<td>T-2</td>
<td>1.394</td>
<td>0.062</td>
<td>0.198</td>
<td>0.831</td>
<td>0.670</td>
<td>1.201</td>
<td>0.475</td>
<td><strong>1.413</strong></td>
<td>-0.017</td>
<td>1.214</td>
</tr>
<tr>
<td>S-1</td>
<td>0.815</td>
<td>-0.816</td>
<td>1.168</td>
<td>0.0</td>
<td>0.802</td>
<td>0.428</td>
<td>1.065</td>
<td>0.341</td>
<td>1.748</td>
<td>0.873</td>
</tr>
<tr>
<td>S-2</td>
<td>0.895</td>
<td>1.634</td>
<td>-0.386</td>
<td>0.812</td>
<td>0.978</td>
<td>1.338</td>
<td>0.424</td>
<td>0.359</td>
<td>0.216</td>
<td>0.665</td>
</tr>
<tr>
<td>O-1</td>
<td>0.953</td>
<td>0.490</td>
<td>-0.251</td>
<td>-1.435</td>
<td>-1.068</td>
<td>0.643</td>
<td>0.863</td>
<td>1.079</td>
<td>1.502</td>
<td>0.960</td>
</tr>
<tr>
<td>O-2</td>
<td>1.083</td>
<td>-0.474</td>
<td>-1.210</td>
<td>0.537</td>
<td>0.583</td>
<td>1.341</td>
<td>-0.198</td>
<td>0.051</td>
<td>0.310</td>
<td>0.392</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (BUS HACH GO'S - BUS HACH NOGO'S).

Degrees of Freedom: 52
Critical "t" values: ±2.02
Table V-11. Computed "t" values resulting from a comparison of business subjects with low needs for achievement who intend to become business employees and business subjects with low needs for achievement who do not intend to become business employees.

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>0.785</td>
<td>-0.877</td>
<td>0.085</td>
<td>-0.292</td>
<td>0.294</td>
<td>-0.627</td>
<td>-1.028</td>
<td>-1.095</td>
<td>-0.569</td>
<td>0.085</td>
</tr>
<tr>
<td>T-1</td>
<td>-1.269</td>
<td>-0.483</td>
<td>0.557</td>
<td>0.406</td>
<td>1.065</td>
<td>0.260</td>
<td>0.551</td>
<td>-0.701</td>
<td>0.171</td>
<td>-0.291</td>
</tr>
<tr>
<td>T-2</td>
<td>0.602</td>
<td>1.376</td>
<td>1.283</td>
<td>1.229</td>
<td>1.439</td>
<td>1.000</td>
<td>1.008</td>
<td>0.562</td>
<td>0.636</td>
<td>1.305</td>
</tr>
<tr>
<td>S-1</td>
<td>0.747</td>
<td>0.242</td>
<td>1.278</td>
<td>0.979</td>
<td>0.859</td>
<td>-0.698</td>
<td>-1.603</td>
<td>-1.700</td>
<td>1.264</td>
<td>-1.278</td>
</tr>
<tr>
<td>S-2</td>
<td>-0.883</td>
<td>-1.242</td>
<td>-0.975</td>
<td>0.719</td>
<td>0.959</td>
<td>-0.528</td>
<td>0.969</td>
<td>0.290</td>
<td>0.694</td>
<td>-0.553</td>
</tr>
<tr>
<td>O-1</td>
<td>0.150</td>
<td>0.779</td>
<td>-0.966</td>
<td>0.880</td>
<td>-0.243</td>
<td>-1.035</td>
<td>0.134</td>
<td>-1.512</td>
<td>-0.940</td>
<td>-1.015</td>
</tr>
<tr>
<td>O-2</td>
<td>0.359</td>
<td>0.884</td>
<td>-1.110</td>
<td>-0.597</td>
<td>-1.637</td>
<td>0.034</td>
<td>0.138</td>
<td>0.182</td>
<td>0.165</td>
<td>1.039</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (BUS LACH GO'S - BUS LACH NOGO'S).

Degrees of Freedom: 51

Critical "t" values: ±2.02
Table V-12. Computed "t" values resulting from a comparison of engineering subjects with high needs for achievement who intend to become business employees and engineering subjects with high needs for achievement who do not intend to become business employees

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>0.795</td>
<td>-0.656</td>
<td>2.378</td>
<td>0.244</td>
<td>-0.059</td>
<td>1.832</td>
<td>0.443</td>
<td>0.548</td>
<td>0.318</td>
<td>-0.094</td>
</tr>
<tr>
<td>T-1</td>
<td>-0.637</td>
<td>-0.491</td>
<td>0.624</td>
<td>0.176</td>
<td>0.620</td>
<td>2.050</td>
<td>3.210</td>
<td>0.806</td>
<td>2.400</td>
<td>0.043</td>
</tr>
<tr>
<td>T-2</td>
<td>0.319</td>
<td>0.646</td>
<td>-0.430</td>
<td>-0.187</td>
<td>0.054</td>
<td>0.221</td>
<td>0.612</td>
<td>-0.956</td>
<td>0.823</td>
<td>-1.580</td>
</tr>
<tr>
<td>S-1</td>
<td>0.078</td>
<td>-0.708</td>
<td>0.334</td>
<td>2.117</td>
<td>3.154</td>
<td>-0.531</td>
<td>-1.404</td>
<td>-0.558</td>
<td>0.332</td>
<td>-1.114</td>
</tr>
<tr>
<td>S-2</td>
<td>0.262</td>
<td>0.293</td>
<td>-0.537</td>
<td>-0.278</td>
<td>0.132</td>
<td>0.444</td>
<td>-0.456</td>
<td>-0.097</td>
<td>-0.277</td>
<td>-0.094</td>
</tr>
<tr>
<td>O-1</td>
<td>-1.571</td>
<td>-1.274</td>
<td>0.351</td>
<td>1.758</td>
<td>0.487</td>
<td>-1.232</td>
<td>-1.460</td>
<td>-0.997</td>
<td>-2.137</td>
<td>-1.627</td>
</tr>
<tr>
<td>O-2</td>
<td>-0.557</td>
<td>-1.269</td>
<td>-0.708</td>
<td>-0.619</td>
<td>0.0</td>
<td>-1.063</td>
<td>-1.101</td>
<td>-1.275</td>
<td>-2.760</td>
<td>-1.290</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (ENG HACH GO'S - ENG HACH NOGO'S).
Degrees of Freedom: 38
Critical "t" values: ±2.02
Table V-13. Computed "t" values resulting from a comparison of engineering subjects with low needs for achievement who intend to become business employees and engineering subjects with low needs for achievement who do not intend to become business employees

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>-1.306</td>
<td>-0.180</td>
<td>-0.598</td>
<td>-0.025</td>
<td>-1.047</td>
<td>-1.268</td>
<td>-1.500</td>
<td>0.176</td>
<td>-0.712</td>
<td>-0.908</td>
</tr>
<tr>
<td>T-1</td>
<td>0.527</td>
<td>0.972</td>
<td>-0.183</td>
<td>0.156</td>
<td>1.288</td>
<td>0.732</td>
<td>-0.276</td>
<td>0.175</td>
<td>-0.575</td>
<td>-0.107</td>
</tr>
<tr>
<td>T-2</td>
<td>0.240</td>
<td>0.860</td>
<td>-0.062</td>
<td>0.744</td>
<td>1.042</td>
<td>-0.562</td>
<td>-0.429</td>
<td>-1.480</td>
<td>-1.320</td>
<td>-1.595</td>
</tr>
<tr>
<td>S-1</td>
<td>0.924</td>
<td>1.169</td>
<td>0.864</td>
<td>0.682</td>
<td>0.903</td>
<td>-0.586</td>
<td>1.989</td>
<td>-0.845</td>
<td>2.167</td>
<td>1.053</td>
</tr>
<tr>
<td>S-2</td>
<td>1.240</td>
<td>1.949</td>
<td>1.622</td>
<td>1.861</td>
<td>2.409</td>
<td>0.735</td>
<td>0.995</td>
<td>1.280</td>
<td>0.587</td>
<td>1.401</td>
</tr>
<tr>
<td>O-1</td>
<td>3.212</td>
<td>1.538</td>
<td>1.453</td>
<td>2.696</td>
<td>1.890</td>
<td>2.790</td>
<td>1.886</td>
<td>0.532</td>
<td>-0.175</td>
<td>1.939</td>
</tr>
<tr>
<td>O-2</td>
<td>1.589</td>
<td>2.097</td>
<td>1.163</td>
<td>1.563</td>
<td>2.382</td>
<td>0.733</td>
<td>0.987</td>
<td>1.159</td>
<td>0.443</td>
<td>0.692</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (LACH GO'S - LACH NOGO'S).

Degrees of Freedom: 51
Critical "t" values: ±2.02
Table V-14. Computed "t" values resulting from a comparison of social science subjects with high needs for achievement who intend to become business employees and social science subjects with high needs for achievement who do not intend to become business employees

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concepts</td>
</tr>
<tr>
<td>1  2  3  4  5  6  7  8  9  10</td>
</tr>
<tr>
<td>R-1  1.444  1.322  0.961 -0.034  0.185  2.268  1.508  0.804  0.630  0.491</td>
</tr>
<tr>
<td>T-1  0.628  0.747  1.380  1.355  0.315 -0.396 -0.640 -1.076 -0.384  0.571</td>
</tr>
<tr>
<td>T-2  0.574  0.567  0.664  0.692  1.039  0.612  0.910  0.462 -0.760  0.004</td>
</tr>
<tr>
<td>S01  0.897  0.424 -0.064 -0.091  0.660  1.258  0.949  0.205  0.023  0.315</td>
</tr>
<tr>
<td>S-2  1.098  0.446 -0.057  0.958 -0.930  0.477  0.996  0.054 -0.908  1.159</td>
</tr>
<tr>
<td>O-1  -0.224  0.091  0.141  0.585 -0.405 -1.772 -1.899 -1.736 -2.072  0.091</td>
</tr>
<tr>
<td>O-2  2.109  2.258  0.355  1.374 -1.043  1.239  1.406  0.384 -0.379  2.338</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HACH GO'S - HACH NOGO'S).

Degrees of Freedom: 49
Critical "t" values: ±2.02
Table V-15. Computed "t" values resulting from a comparison of social science
subjects with low needs for achievement who intend to become business employees
and social science subjects with low needs for achievement who do not intend
to become business employees

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>0.314</td>
<td>-0.167</td>
<td>-0.138</td>
<td>0.678</td>
<td>0.458</td>
<td>-0.051</td>
<td>0.683</td>
<td>-0.302</td>
<td>0.157</td>
<td>1.214</td>
</tr>
<tr>
<td>T-1</td>
<td>0.545</td>
<td>0.363</td>
<td>-1.124</td>
<td>0.347</td>
<td>0.687</td>
<td>1.670</td>
<td>-0.352</td>
<td>1.187</td>
<td>1.293</td>
<td>0.496</td>
</tr>
<tr>
<td>T-2</td>
<td>1.418</td>
<td>1.185</td>
<td>0.229</td>
<td>0.750</td>
<td>1.419</td>
<td>1.331</td>
<td>0.195</td>
<td>0.631</td>
<td>-0.263</td>
<td>1.407</td>
</tr>
<tr>
<td>S-1</td>
<td>2.566</td>
<td>2.432</td>
<td>0.785</td>
<td>0.632</td>
<td>1.534</td>
<td>2.666</td>
<td>2.641</td>
<td>0.553</td>
<td>-0.252</td>
<td>1.375</td>
</tr>
<tr>
<td>S-2</td>
<td>0.328</td>
<td>-0.213</td>
<td>-1.079</td>
<td>0.153</td>
<td>-0.514</td>
<td>-0.391</td>
<td>-0.578</td>
<td>-0.897</td>
<td>-1.489</td>
<td>-0.125</td>
</tr>
<tr>
<td>O-1</td>
<td>0.139</td>
<td>1.897</td>
<td>-0.177</td>
<td>1.336</td>
<td>1.097</td>
<td>-1.274</td>
<td>-1.652</td>
<td>2.113</td>
<td>-1.132</td>
<td>-0.061</td>
</tr>
<tr>
<td>O-2</td>
<td>-0.772</td>
<td>0.884</td>
<td>-0.716</td>
<td>0.808</td>
<td>-0.108</td>
<td>0.015</td>
<td>-0.387</td>
<td>2.139</td>
<td>-0.266</td>
<td>-0.074</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05
level of significance (LACH GO'S - LACH NOGO'S).
Degrees of Freedom: 42
Critical "t" values: ±2.02
Table V-16. Computed "t" values resulting from a comparison of business subjects with high grade-point averages and business subjects with low grade-point averages

Bipolar Scales

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>1.164</td>
<td>0.338</td>
<td>0.050</td>
<td>-0.340</td>
<td>0.996</td>
<td>1.060</td>
<td>-0.485</td>
<td>0.131</td>
<td>0.063</td>
<td>-1.420</td>
</tr>
<tr>
<td>T-1</td>
<td>-2.319</td>
<td>-1.036</td>
<td>-0.731</td>
<td>-0.565</td>
<td>-0.940</td>
<td>-0.824</td>
<td>-1.005</td>
<td>-0.904</td>
<td>-0.057</td>
<td>0.482</td>
</tr>
<tr>
<td>T-2</td>
<td>-0.696</td>
<td>0.079</td>
<td>-1.567</td>
<td>-0.283</td>
<td>0.120</td>
<td>0.333</td>
<td>0.402</td>
<td>0.089</td>
<td>0.707</td>
<td>0.318</td>
</tr>
<tr>
<td>S-1</td>
<td>-0.214</td>
<td>-0.221</td>
<td>0.036</td>
<td>-0.275</td>
<td>0.693</td>
<td>-0.983</td>
<td>-0.853</td>
<td>-0.758</td>
<td>-1.261</td>
<td>-0.809</td>
</tr>
<tr>
<td>S-2</td>
<td>0.095</td>
<td>0.200</td>
<td>0.490</td>
<td>0.915</td>
<td>1.489</td>
<td>0.893</td>
<td>0.971</td>
<td>0.125</td>
<td>0.174</td>
<td>0.944</td>
</tr>
<tr>
<td>O-1</td>
<td>-1.905</td>
<td>-1.782</td>
<td>-2.221</td>
<td>-1.483</td>
<td>0.342</td>
<td>0.666</td>
<td>1.155</td>
<td>0.980</td>
<td>1.232</td>
<td>0.733</td>
</tr>
<tr>
<td>O-2</td>
<td>-0.828</td>
<td>-0.256</td>
<td>-1.098</td>
<td>-1.001</td>
<td>-0.880</td>
<td>-0.639</td>
<td>0.511</td>
<td>-1.382</td>
<td>-0.035</td>
<td>-0.158</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HGPA - LGPA).

Degrees of Freedom: 100

Critical "t" values: ±1.98
Table V-17. Computed "t" values resulting from a comparison of engineering subjects with high grade-point averages and engineering subjects with low grade-point averages

<table>
<thead>
<tr>
<th>Concepts</th>
<th>Bipolar Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>R-1</td>
<td>1.317</td>
</tr>
<tr>
<td>T-1</td>
<td>-0.468</td>
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<tr>
<td>T-2</td>
<td>-2.269</td>
</tr>
<tr>
<td>S-1</td>
<td>-0.866</td>
</tr>
<tr>
<td>S-2</td>
<td>0.045</td>
</tr>
<tr>
<td>O-1</td>
<td>0.581</td>
</tr>
<tr>
<td>O-2</td>
<td>-0.145</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HGPA - LGPA).

Degrees of Freedom: 91

Critical "t" values: ±1.99
Table V-18. Computed "t" values resulting from a comparison of social science subjects with high grade-point averages and social science subjects with low grade-point averages

**Bipolar Scales**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>-0.674</td>
<td>-0.558</td>
<td>1.223</td>
<td>-0.185</td>
<td>-1.947</td>
<td>-0.542</td>
<td>-0.619</td>
<td>-0.333</td>
<td>-0.844</td>
</tr>
<tr>
<td>T-1</td>
<td>-0.409</td>
<td>-1.738</td>
<td>-0.924</td>
<td>-1.271</td>
<td>-0.993</td>
<td>-0.722</td>
<td>0.038</td>
<td>-1.779</td>
<td>-0.425</td>
</tr>
<tr>
<td>T-2</td>
<td>-1.533</td>
<td>-1.098</td>
<td>-0.415</td>
<td>-1.137</td>
<td>-1.244</td>
<td>-0.306</td>
<td>-0.382</td>
<td>-0.241</td>
<td>0.326</td>
</tr>
<tr>
<td>S-1</td>
<td>-0.964</td>
<td>-0.605</td>
<td>0.382</td>
<td>-0.554</td>
<td>-0.993</td>
<td>-0.203</td>
<td>-1.189</td>
<td>-1.564</td>
<td>-0.401</td>
</tr>
<tr>
<td>S-2</td>
<td>-0.125</td>
<td>-0.145</td>
<td>0.776</td>
<td>-0.827</td>
<td>-0.251</td>
<td>0.205</td>
<td>0.003</td>
<td>-0.832</td>
<td>0.495</td>
</tr>
<tr>
<td>O-1</td>
<td>-0.106</td>
<td>0.358</td>
<td>1.002</td>
<td>0.909</td>
<td>0.870</td>
<td>0.526</td>
<td>0.102</td>
<td>-0.692</td>
<td>-0.694</td>
</tr>
<tr>
<td>O-2</td>
<td>0.915</td>
<td>-0.116</td>
<td>-0.313</td>
<td>-1.238</td>
<td>-0.730</td>
<td>0.277</td>
<td>0.948</td>
<td>-0.353</td>
<td>-1.385</td>
</tr>
</tbody>
</table>

**Note:** Underlined values indicate a significant difference at the .05 level of significance (HGPA - LGPA).

Degrees of Freedom: 93
Critical "t" values: ±2.00
Table V-19. Computed "t" values resulting from a comparison of business subjects with high grade-point averages who intend to become business employees and business subjects with high grade-point averages who do not intend to become business employees

<p>| | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>2.369</td>
<td>1.894</td>
<td>-0.621</td>
<td>0.056</td>
<td>1.993</td>
<td>0.480</td>
<td>-0.166</td>
<td>0.629</td>
<td>0.176</td>
</tr>
<tr>
<td>T-1</td>
<td>-1.134</td>
<td>-1.187</td>
<td>-0.235</td>
<td>-0.048</td>
<td>-1.207</td>
<td>-0.135</td>
<td>-1.001</td>
<td>-0.502</td>
<td>0.571</td>
</tr>
<tr>
<td>T-2</td>
<td>1.546</td>
<td>1.819</td>
<td>0.950</td>
<td>1.814</td>
<td>0.447</td>
<td>0.935</td>
<td>1.094</td>
<td>1.904</td>
<td>1.101</td>
</tr>
<tr>
<td>S-1</td>
<td>0.944</td>
<td>-1.007</td>
<td>0.367</td>
<td>1.014</td>
<td>0.826</td>
<td>0.104</td>
<td>-0.088</td>
<td>0.280</td>
<td>1.387</td>
</tr>
<tr>
<td>S-2</td>
<td>-0.065</td>
<td>0.162</td>
<td>-1.053</td>
<td>1.123</td>
<td>1.557</td>
<td>0.288</td>
<td>0.390</td>
<td>-0.212</td>
<td>-0.045</td>
</tr>
<tr>
<td>O-1</td>
<td>1.165</td>
<td>0.357</td>
<td>-1.250</td>
<td>0.173</td>
<td>-1.099</td>
<td>0.643</td>
<td>0.721</td>
<td>0.375</td>
<td>0.055</td>
</tr>
<tr>
<td>O-2</td>
<td>1.143</td>
<td>0.548</td>
<td>-1.473</td>
<td>-0.333</td>
<td>-1.369</td>
<td>0.849</td>
<td>0.746</td>
<td>0.763</td>
<td>0.271</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HGPA GO'S - HGPA NOGO'S).

Degrees of Freedom: 51

Critical "t" values: ±2.02
Table V-20. Computed "t" values resulting from a comparison of business subjects with low grade-point averages who intend to become business employees and business subjects with low grade-point averages who do not intend to become business employees

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>-0.327</td>
<td>-0.816</td>
<td>-0.169</td>
<td>-0.649</td>
<td>-0.508</td>
<td>0.485</td>
<td>0.952</td>
<td>0.988</td>
<td>0.299</td>
<td>1.746</td>
</tr>
<tr>
<td>T-1</td>
<td>0.595</td>
<td>-0.277</td>
<td>0.435</td>
<td>0.419</td>
<td>0.612</td>
<td>0.489</td>
<td>1.844</td>
<td>0.290</td>
<td>0.235</td>
<td>-0.601</td>
</tr>
<tr>
<td>T-2</td>
<td>0.423</td>
<td>-0.600</td>
<td>0.425</td>
<td>0.161</td>
<td>1.620</td>
<td>1.225</td>
<td>0.412</td>
<td>0.295</td>
<td>-0.481</td>
<td>0.274</td>
</tr>
<tr>
<td>S-1</td>
<td>0.682</td>
<td>0.344</td>
<td>2.082</td>
<td>-0.117</td>
<td>0.824</td>
<td>-0.237</td>
<td>-0.200</td>
<td>-1.210</td>
<td>1.521</td>
<td>-0.114</td>
</tr>
<tr>
<td>S-2</td>
<td>0.437</td>
<td>0.883</td>
<td>0.036</td>
<td>0.684</td>
<td>0.630</td>
<td>0.594</td>
<td>0.979</td>
<td>0.784</td>
<td>0.867</td>
<td>0.741</td>
</tr>
<tr>
<td>O-1</td>
<td>-0.417</td>
<td>0.838</td>
<td>-0.148</td>
<td>-0.936</td>
<td>-0.278</td>
<td>-1.006</td>
<td>0.186</td>
<td>-0.398</td>
<td>0.584</td>
<td>-0.185</td>
</tr>
<tr>
<td>O-2</td>
<td>0.186</td>
<td>-0.446</td>
<td>-0.995</td>
<td>0.369</td>
<td>0.479</td>
<td>0.255</td>
<td>-0.885</td>
<td>-0.958</td>
<td>0.102</td>
<td>-1.023</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (LGPA GO'S - LGPA NOGO'S).

Degrees of Freedom: 47
Critical "t" values: ±2.02
Table V-21. Computed "t" values resulting from a comparison of engineering subjects with high grade-point averages who intend to become business employees and engineering subjects with high grade-point averages who do not intend to become business employees

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>R-1</td>
<td>-2.784</td>
</tr>
<tr>
<td>T-1</td>
<td>-0.505</td>
</tr>
<tr>
<td>T-2</td>
<td>-0.113</td>
</tr>
<tr>
<td>S-1</td>
<td>-0.974</td>
</tr>
<tr>
<td>S-2</td>
<td>0.627</td>
</tr>
<tr>
<td>O-1</td>
<td>0.889</td>
</tr>
<tr>
<td>O-2</td>
<td>1.258</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HGPA GO'S - HGPA NOGO'S).

Degrees of Freedom: 40
Critical "t" values: ±2.02
Table V-22. Computed "t" values resulting from a comparison of engineering subjects with low grade-point averages who intend to become business employees and engineering subjects with low grade-point averages who do not intend to become business employees

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>-0.977</td>
<td>-0.942</td>
<td>0.212</td>
<td>0.313</td>
<td>-0.532</td>
<td>-0.515</td>
<td>-0.904</td>
<td>-0.214</td>
<td>-0.402</td>
<td>-0.597</td>
</tr>
<tr>
<td>T-1</td>
<td>0.067</td>
<td>-0.350</td>
<td>-0.442</td>
<td>-1.606</td>
<td>-0.474</td>
<td>1.854</td>
<td>1.505</td>
<td>0.140</td>
<td>0.605</td>
<td>-0.114</td>
</tr>
<tr>
<td>T-2</td>
<td>-1.041</td>
<td>-1.240</td>
<td>-2.647</td>
<td>0.085</td>
<td>0.141</td>
<td>-1.073</td>
<td>-0.626</td>
<td>-1.441</td>
<td>-1.044</td>
<td>-2.047</td>
</tr>
<tr>
<td>S-1</td>
<td>-1.011</td>
<td>-1.075</td>
<td>-1.978</td>
<td>-0.019</td>
<td>-0.084</td>
<td>-0.978</td>
<td>-0.358</td>
<td>-0.610</td>
<td>-0.883</td>
<td>-0.355</td>
</tr>
<tr>
<td>S-2</td>
<td>-0.604</td>
<td>0.249</td>
<td>-0.339</td>
<td>0.034</td>
<td>1.139</td>
<td>1.077</td>
<td>0.596</td>
<td>0.883</td>
<td>0.060</td>
<td>0.845</td>
</tr>
<tr>
<td>O-1</td>
<td>0.778</td>
<td>-0.309</td>
<td>0.016</td>
<td>1.499</td>
<td>0.420</td>
<td>0.833</td>
<td>0.646</td>
<td>0.271</td>
<td>0.194</td>
<td>-0.030</td>
</tr>
<tr>
<td>O-2</td>
<td>0.505</td>
<td>0.477</td>
<td>0.333</td>
<td>0.184</td>
<td>1.217</td>
<td>-0.742</td>
<td>-0.690</td>
<td>-0.054</td>
<td>-1.299</td>
<td>-0.102</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (LGPA GO'S - LGPA NOGO'S).

Degrees of Freedom: 49
Critical "t" values: ±2.02
Table V-23. Computed "t" values resulting from a comparison of social science subjects with high grade-point averages who intend to become business employees and social science subjects with high grade-point averages who do not intend to become business employees.

<table>
<thead>
<tr>
<th>Bipolar Scales</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>1.427</td>
<td>1.331</td>
<td>1.671</td>
<td>-0.266</td>
<td>1.492</td>
<td>1.613</td>
<td>2.089</td>
<td>0.567</td>
<td>1.941</td>
<td>1.439</td>
</tr>
<tr>
<td>T-1</td>
<td>1.219</td>
<td>0.936</td>
<td>-0.204</td>
<td>2.333</td>
<td>2.107</td>
<td>0.231</td>
<td>-0.163</td>
<td>0.0</td>
<td>0.312</td>
<td>1.126</td>
</tr>
<tr>
<td>T-2</td>
<td>0.475</td>
<td>1.280</td>
<td>0.398</td>
<td>-0.052</td>
<td>0.513</td>
<td>0.296</td>
<td>0.135</td>
<td>-0.009</td>
<td>-0.352</td>
<td>-0.114</td>
</tr>
<tr>
<td>S-1</td>
<td>0.419</td>
<td>0.706</td>
<td>0.110</td>
<td>-1.065</td>
<td>0.284</td>
<td>0.387</td>
<td>-0.357</td>
<td>-1.538</td>
<td>-1.330</td>
<td>-1.139</td>
</tr>
<tr>
<td>S-2</td>
<td>-0.622</td>
<td>-1.891</td>
<td>-1.137</td>
<td>0.317</td>
<td>-1.013</td>
<td>-0.993</td>
<td>-1.196</td>
<td>-2.180</td>
<td>-1.908</td>
<td>-0.029</td>
</tr>
<tr>
<td>O-1</td>
<td>-0.645</td>
<td>-0.285</td>
<td>-0.304</td>
<td>1.132</td>
<td>-0.211</td>
<td>-2.492</td>
<td>-2.600</td>
<td>-2.760</td>
<td>-1.859</td>
<td>-0.859</td>
</tr>
<tr>
<td>O-2</td>
<td>2.609</td>
<td>2.409</td>
<td>0.736</td>
<td>1.583</td>
<td>0.774</td>
<td>2.100</td>
<td>1.161</td>
<td>2.464</td>
<td>-1.258</td>
<td>1.769</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (HGPA GO'S - HGPA NOGO'S).

Degrees of Freedom: 46
Critical "t" values: ±2.02
Table V-24. Computed "t" values resulting from a comparison of social science subjects with low grade-point averages who intend to become business employees and social science subjects with low grade-point averages who do not intend to become business employees

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>0.466</td>
<td>-0.169</td>
<td>-0.200</td>
<td>0.870</td>
<td>-1.236</td>
<td>0.717</td>
<td>0.224</td>
<td>0.262</td>
<td>-0.654</td>
<td>0.219</td>
</tr>
<tr>
<td>T-1</td>
<td>0.134</td>
<td>0.036</td>
<td>0.130</td>
<td>-0.525</td>
<td>-0.945</td>
<td>0.345</td>
<td>-0.675</td>
<td>0.037</td>
<td>0.497</td>
<td>-0.066</td>
</tr>
<tr>
<td>T-2</td>
<td>1.108</td>
<td>0.424</td>
<td>0.576</td>
<td>1.054</td>
<td>1.510</td>
<td>1.128</td>
<td>0.890</td>
<td>1.026</td>
<td>-0.759</td>
<td>1.113</td>
</tr>
<tr>
<td>S-1</td>
<td>2.413</td>
<td>1.545</td>
<td>0.538</td>
<td>1.310</td>
<td>1.711</td>
<td>2.878</td>
<td>3.083</td>
<td>1.629</td>
<td>0.496</td>
<td>2.144</td>
</tr>
<tr>
<td>S-2</td>
<td>1.673</td>
<td>1.639</td>
<td>-0.075</td>
<td>0.590</td>
<td>-0.659</td>
<td>0.731</td>
<td>1.146</td>
<td>0.850</td>
<td>-0.372</td>
<td>1.191</td>
</tr>
<tr>
<td>O-1</td>
<td>0.179</td>
<td>2.129</td>
<td>0.257</td>
<td>0.940</td>
<td>0.478</td>
<td>-1.511</td>
<td>-1.885</td>
<td>-1.606</td>
<td>-2.464</td>
<td>0.402</td>
</tr>
<tr>
<td>O-2</td>
<td>-0.256</td>
<td>1.111</td>
<td>-0.955</td>
<td>0.430</td>
<td>-2.109</td>
<td>-0.365</td>
<td>0.271</td>
<td>-0.050</td>
<td>-0.103</td>
<td>0.224</td>
</tr>
</tbody>
</table>

Note: Underlined values indicate a significant difference at the .05 level of significance (LGPA GO'S - LGPA NOGO'S).

Degrees of Freedom: 43
Critical "t" values: ±2.02
VITA

Aubrey C. Sanford, the son of the late A. Cecil Sanford and Velma Mae Saxton, was born in Yazoo City, Mississippi, on March 25, 1942, and was graduated from Benton High School in Benton, Mississippi, in June, 1960.

The writer enrolled in Holmes Junior College in Goodman, Mississippi, in September, 1960 and received the Associate of Arts degree in June, 1963. He then enrolled in the University of Southern Mississippi in Hattiesburg and received the Bachelor of Science degree in June, 1965. While serving as a Graduate Fellow, he completed the Master of Business Administration degree in August, 1966.

The following nine months were spent teaching in the Management Department at the University of Southern Mississippi in Hattiesburg, and in June, 1967 the writer enrolled in Louisiana State University to pursue the Doctoral degree in Management. From June, 1967 to August, 1969 the writer served as a half-time teaching assistant. In September, 1969 he returned to the University of Southern Mississippi as an Assistant Professor in the Department of Management and is presently a candidate for the Doctor of Philosophy degree in Management.
Candidate: Aubrey C. Sanford

Major Field: Management

Title of Thesis: An Investigation of the Relationship Between Level of Need for Achievement and Employment Intentions Among College Juniors and Seniors at Louisiana State University

Approved:

[Signatures]

Major Professor and Chairman

Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures]

Date of Examination:

June 24, 1970