

1974

## Guidance Index: development and validation

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Guidance Index:

Development and validation

by

John Laird Thompson

A Dissertation Submitted to the  
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Iowa State University  
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1974

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## INTRODUCTION

The guidance movement as it is known today developed as a result of the discomposed societal conditions existing in this country at the turn of the century. Rockwell and Rothney (56, p. 349) have noted "it was born in the welter and confusion, reform, utopian idealism, and defenses of the status quo which were rampant in the late 19th and early 20th centuries". The United States at the time was undergoing a rapid change from an agrarian and rural society to one of industrialization and urbanization. The impact of this societal restructuring was far-reaching and often very conflict-producing, particularly affecting youth preparing to enter the world of work.

Concomitantly, certain significant individuals engaged in social and educational affairs recognized the plight of youth as they prepared to enter the labor force. Notable among these was Frank Parsons, an astute observer and critic of the social milieu of that era. Parsons, cognizant of the special vocational concerns of youth, designed and developed in 1909 a program of services in an attempt to meet their express needs. This "first organized program" of vocational guidance services, called the Vocational Guidance Bureau of Boston, had as its primary goal to provide assistance to youth engaged in the process of selecting a vocation. Parsons suggested that through the Bureau's offerings, youth could enhance their vocational choice making via a three-step process of (1) gaining an understanding about their abilities and interests; (2) obtaining knowledge of the requirements for success in a vocation; and (3) learning how to relate the two.

Guidance as a movement has grown rapidly and extensively over the past 60 years. It has evolved from a program of services oriented to matching men and jobs to one which is a "process of helping individuals achieve the self-understanding and self-direction necessary to make the maximum adjustment to school, home, and community" (48a, p. 7). The latter definition implies that contemporary guidance is broader than the original concept intended and has been designed to meet the omnibus vocational, educational, and personal-social needs of youth. However, the original purpose of guidance, meeting the vocational guidance needs of youth, has not been deemphasized nor has it lost its importance. To the contrary, vocational guidance has expanded greatly since the turn of the century. "Today with hundreds of new careers available because of new developments in science, technology, and international relations, the need for vocational guidance is just as insistent, if not more so" (52, p. 257).

Vocational guidance has received a great amount of attention and rhetorical and financial support since its inception. It is considered a high priority in our culture that as many of our populace as possible receive education and training commensurate with their interests and abilities, enter appropriate occupations, and enjoy reasonable success in them. Educators, legislators, business and industrial leaders, and other interested public factions have spent great amounts of time, energy, and money in stimulating vocational guidance program development. However, a survey of the literature revealed that there is a paucity of research on the actual accomplishments of guidance programs, especially vocational guidance. Of greater concern, the research (15) indicates that emphasis in the schools is primarily on the educational guidance needs, not the vocational

guidance needs of students. The implication here is that while a segment of students, i.e., those planning to attend post-high school institutions (predominantly 4-year colleges or universities) are being served, services to those planning to terminate their formal education upon high school graduation and enter the world of work or vocational-technical post-high school institutions are relatively minimal. Thus only a portion of students' identified guidance needs are being met.

#### Necessity for this Research

Since the guidance movement has been in existence for over one-half century, and formal programs are to be found in most secondary schools, it appears that a search for program accomplishments, specifically in the area of vocational guidance, seems warranted. As Hill (29, p. 255) states ". . . evaluation of guidance services is inevitable. It will be done whether or not guidance workers do it. It can be based on conjecture, opinion, hearsay; or it can be based on systematic professional investigation". The latter method would appear to be the most palatable to those in the profession. There are indications that certain factions, i.e., the federal government, state legislatures, the public in general, boards of education, school administrators, and the faculty are asking guidance personnel to document and justify the guidance program's expenditure of funds and time and the efficacy of such services.

Assessment of vocational guidance services at this time also appears appropriate and valuable in light of current emphases in education. A call for educational programming relating that which is taught in school to the world of work has been issued (23). From all indications, voca-

tional guidance will be called upon to plan and play an integral role in this new movement commonly known as Career Education. If vocational guidance is to have such an important role in educational programming as has been forecasted, the need exists for personnel in the profession to identify the strengths and weaknesses of their programs. Assessment and ensuing evaluation of data gathered about vocational guidance in each school can provide a means for meeting this need.

Recognition of the need for guidance program assessment and evaluation is evidenced by the recent actions of three different professional guidance groups in Iowa. In the spring of 1970 the Iowa Statewide Guidance Advisory Committee recommended that guidance program accountability (evaluation) should be considered a high priority. At the same time, the Iowa Personnel and Guidance Association (the professional organization of practicing counselors) through the Iowa Association of Counselor Educators and Supervisors (comprised of counselor educators and directors of guidance) was studying ways to investigate guidance program accountability. These two concerned organizations decided to merge their ideas and efforts and formed a representative committee, the Iowa Guidance Accountability Committee (25), in 1970. After a period of time and study, this group commenced a two-phase accountability study of guidance services in Iowa secondary schools. Phase I would attempt to determine school staffs' views of the profession; Phase II would attempt to determine students' opinions of guidance in the schools. The project was implemented in the 1971-72 school year.

Similar efforts have taken place throughout the United States. Campbell (7a) conducted a study in 1966 of vocational guidance which was na-

tional in scope; Ginzberg and his associates (22) made an extensive review of what he termed "Career Guidance" services during the late 1960's; and numerous state-wide studies of guidance programs such as the comprehensive one conducted by Tamminen and Miller (63) in Minnesota, are examples of this thrust.

However, a survey and subsequent analysis of guidance program evaluations revealed that virtually no in-depth assessment has been made of the critical vocational guidance service of guidance programs. One, Campbell's (7a) focused on vocational guidance, but it was very broad and general in scope. Two, it was noted that the majority of past evaluations of guidance were concerned with dimensions such as the number of guidance staff in relation to the number of students, the extent of guidance facilities and equipment available, the professional preparation of the staff, and the assessment of the different kinds of guidance services available to students. Furthermore, the review also revealed that students, with brief exception, have not been provided an opportunity to register their attitudes or opinions about this crucial area of services designed to help them meet their pressing needs.

One of the purposes of this study has been to develop a valid and reliable instrument which can be utilized by guidance or other school personnel to assess students' attitudes about their vocational guidance. This research was intended to provide a vehicle through which counselors could identify those areas of their program which appear to be meeting student vocational guidance needs and those which need improvement. Knowledge obtained through guidance program assessment with a valid and reliable tool should also be of value to counselor educators who train new

counselors as well as provide inservice to those who are experienced.

#### Statement of the Problem

The general purposes of this study were (1) to develop a valid and reliable instrument capable of assessing student's perceptions of their vocational guidance; and (2) to assess and analyze different student groups perceptions of their vocational guidance. More specifically, the objectives of this investigation were to answer the following questions:

Question 1: Can a valid and reliable instrument known as the Guidance Index be developed for use as a vocational guidance program assessment device? The validity to be determined is factorial validity, described by Helmstadter (28) as a sophisticated form of content validity. A factor analysis of obtained data will be utilized to ascertain whether the instrument is comprised of items which form scales (factors) in the following basic vocational guidance areas: Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service. For those factors identified, a reliability estimate of each scale will be made.

Question 2: As assessed by the Guidance Index, is there a significant mean difference among high school student's perceptions of their school's Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service when the students are classified on the basis of their post-high school choice, sex, size of school

attended, and school attended?

Question 3: As assessed by the Guidance Index, is there a significant relationship among high school student's perceptions of their school's Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service and the student's reported high school grade point average, socio-economic level, and number of times they have visited the counselor in the counseling office while in high school?

Question 4: As assessed by the Guidance Index, is there a significant interaction among five different groups of high school students perceptions of their school's Occupational Information Service, Counseling Climate, Educational Information Service, and Test Interpretation Service and their sex, size of high school attended, school attended, socio-economic level, reported high school grade point average, and number of times the student visited the counselor while in high school?

In order to answer the above questions the following hypotheses were developed and tested:

Hypothesis 1: A factor analysis of Guidance Index statements will yield discrete factors (scales) in the following areas: Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service.



- Hypothesis 2: The reliability coefficients of the factors (scales) of the Guidance Index are adequate for group assessment of the vocational guidance program in a high school. A minimum of .70 of the reliability coefficient was considered necessary for the scales to have adequate reliability.
- Hypothesis 3: As assessed by the Guidance Index, there is no significant difference among mean perception subscale scores of students classified by sex, students classified by post-high school choice, students categorized by size of high school attended, and students classified by school attended of their high school's Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service.
- Hypothesis 4: As assessed by the Guidance Index, there is no significant relationship between students' mean perception scores of their school's Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service and their socioeconomic level, reported grade point average, and the number of times they visited the counselor in the counseling office while in high school.
- Hypothesis 5: As assessed by the Guidance Index, there is no significant interaction between students post-high school choice and their mean perception subscale scores of their school's

Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service and their sex, size of school attended, school attended, socio-economic status, reported grade point average, and number of times they visited the counselor in the counseling office while in high school.

#### Independent and dependent variables

One of the purposes of this investigation is to assess and analyze the perceptions of students classified by post-high school choice of their vocational guidance to determine whether there were significant differences among their perceptions. Furthermore, an attempt will be made to determine whether these five student groups' perceptions of their vocational guidance differ significantly when they are also categorized on the basis of their sex, size of high school attended, school attended, socio-economic status, reported grade point average, and frequency of visits they made to the counseling office while in high school. Therefore, the student perception scores on the Guidance Index will constitute the dependent variable and the independent variables will be student post-high school choice, sex, size of school attended, school attended, student socio-economic status, reported grade point average, and number of times the student has visited the counselor in his office while in high school.

The above independent variables were selected for study due to past research which indicated that they may be related to student perceptions about their school's guidance program. Kaufman (37) found that

a greater proportion of academically oriented (college-bound) students discussed course choices and job plans with counselors than did vocational students; Hoyt (35) discovered that assistance provided students planning to attend vocational/technical schools after high school graduation "left much to be desired"; Whitfield (71) noted in his investigation that counselors tend to assist the college bound and neglect students who are not planning to attend college.

A student's sex has been found to be an influence on his perceptions about guidance. A 1964 study by Pratte and Cole (55) revealed that females had higher perceptions of counselor function and role behaviors than boys. Gabbert, Ivey and Miller (20) examined client attitudes toward counselors and discovered that sex differences play a role in their perception toward counselors.

Additional studies have attempted to examine whether socio-economic status of the counselee is associated with his involvement in guidance. Weinberg and Stager (69) found that the social status of students was not related to their use of vocational guidance. Graff et al. (24) examined the attitudes of students in different social classes toward guidance. Results of their study revealed that upper class students received significantly more assistance than lower class students when selecting a college or trade school, selecting future occupations, and resolving interpersonal problems with friends, teachers, and parents. Upper class females acquired significantly more assistance in learning about educational opportunities and developing effective study habits than lower class Caucasian females and lower class male and female Negro students. And, all upper class students received more assistance in the test inter-

pretation area than did all Negro students.

It has been found in the research that an individual's academic level may be a factor in his attitude about guidance services. Heilfron (27) concluded after her study that well-performing students may avoid counseling, thus lowering their perceptions of this service. It was also noted in the 1971 Purdue Opinion Panel poll (14) that only a small number of students, primarily those with below average grades, indicated counselors helped them to understand themselves, their interests, skills, abilities, and needs.

A high relationship between the number of times a student visits the counselor and his perception of the counselor or guidance has been noted in the research. Porter (54) found that favorableness of ratings toward a counseling agency was significantly related to increased number of interviews a client had, thus indicating the greater the number of interviews the higher the ratings. This finding was supported by Form (17, p. 213) who noted that "the research reveals that effectiveness of counseling services increases with number of agency contacts".

One other variable which could influence student perceptions about guidance is the size of the school in which the counselees reside. A recent study of high school guidance programs in selected Oregon schools (18) determined the following: Large school's guidance programs were rated by students as functioning "good". Students in middle and small size schools rated their guidance programs as "fair". Thus, the size of a school may be an important variable to be considered in guidance program assessment.

Kerlinger (39) has suggested that to develop a good research design,

controls of all relevant variables are necessary. Through the observation of the above variables in this investigation it is believed that the interpretability of the results will be enhanced.

#### Definition of Terms

For the purpose of this study, the following are defined:

Guidance: This word has been defined by many within and without the profession. Precise definition is quite difficult. However, for this study, Lee and Pallone's (41, p. 6) definition is very appropriate in view of its comprehensiveness and currency: "Guidance is that assistance which the school gives the pupil to aid him in fulfilling his potential, negotiating the facts of development, and solving his special problems."

Vocational Guidance: . . . is a broad social function concerned with applying scientific knowledge and human understanding toward the development of social processes and individual learning experiences. Its purpose is to promote the maximum realization of human potential for social contribution and self-fulfillment through work. Vocational guidance seeks to contribute to the organization of a society which provides opportunities for all its members to meet material and psychological needs in socially constructive ways. Vocational guidance is intended to help individuals relate themselves to work within the framework of a life style that is personally satisfying, socially constructive, and economically productive. Since each individual interacts with his particular social, cultural, and physical environment in a unique way, vocational guidance recognizes that work will not have the same meaning, nor ever the same centrality for human beings with differing needs, perceptions and characteristics. The concerns, processes, and functions of vocational guidance are defined by the range of human needs and social problems in the society, and by the state of development of supporting sciences and disciplines (3, p. 7).

Guidance Index: An instrument designed and developed for this study to sample students' perceptions of the vocational guidance they received in high school. The instrument is composed of stimuli (statements) which are considered representative of the following sub-areas of vocational

guidance: Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service. A more detailed explanation of the instrument is given later in this paper.

Perception: Becoming aware of, and interpreting environmental stimuli which impinge on the sense organs. For purposes of this research, respondents were asked to respond to statements about vocational guidance activities which represent the environmental stimuli in the previous sentence.

For this research, the four different groups of high school seniors classified by high school choice are: (1) Group 1--students planning to enter a baccalaureate program at a four-year college or university; (2) Group 2--students planning to enter a one- or two-year community college general program; (3) Group 3--students planning to enter a one- or two-year vocational/technical school; and (4) Group 4--students planning to terminate their formal education upon graduation from high school and enter the world of work. Students will indicate their post-high school plan on the instrument used in this study.

Occupational Information Service: That guidance service which provides "valid and usable data about positions, jobs, and occupations, including duties, requirements for entrance, conditions of work, rewards offered, advancement pattern, existing and predicted supply of and demand for workers, and source for further information" (49, p. 22) to meet the occupational information needs of youth.

Educational Information Service: That guidance service which provides "valid and usable data about all types of present and probable future educational or training opportunities and requirements, including

curricular and co-curricular offerings, requirements for entrance, and conditions and problems of student life" (49, p. 22) to meet the educational information needs of youth.

Counseling Climate: The student's perception of the relationship which exists between himself and the counselor.

Test Interpretation Service: The school's communication of test results to student.

Socio-economic level of student: An estimation of a student's family socio-economic status in a community. Hollingshead's Two-Factor Index of Social Position (31) was used to make this determination (see APPENDIX E for this formula).

Student's reported high school grade point average: Student's self-report of his grade point average at the time he responded to the Guidance Index.

School size: Size was determined by total enrollment of grades 10-12 of the high school. Different classifications of school size were: (1) under 400 pupils, (2) 400 to 999 pupils, and (3) above 1000 pupils.

#### Delimitations of the Study

The scope of this investigation is limited because of: (1) only 1973 high school seniors were used in the study; (2) only selected Iowa high schools categorized by size comprise the sample; (3) student error in completing the instrument; and (4) the locale of the study.

## REVIEW OF RELATED LITERATURE

Vocational guidance has played a definitive and substantive role in American society since its inception at the beginning of this century. The literature is replete with articles written by educators, legislators, industrialists, businessmen, economists, and commissions citing the integral role this societal function has played in the past, its growth and expansion, and its future importance. However, in spite of its past accomplishments and projected future potential, it is increasingly being reported that there is a need to present evidence of the impact that vocational guidance is having on students and their development. In light of this, it is the purpose of this chapter to survey the literature and research which (1) establishes a brief rationale for vocational guidance; (2) introduces the theories on which contemporary vocational guidance is based; (3) presents an overview of the core vocational guidance services; (4) discusses the purposes and problems of, and approaches to the evaluation of guidance; and (5) reviews a number of relevant guidance program evaluations which have been conducted in varied and different settings and situations.

## Rationale

Three powerful and influential societal factors--work, rapid change, and the freedom to choose an occupation--have been cited as major reasons for the implementation, growth, and development of vocational guidance in contemporary American society. Alone, or because of their innate interrelationships the three factors have been recognized as primary influences on the movement.



Work

The first factor, work, although usually taken for granted, is viewed as a primary and necessary function of people. Every aspect of an individual's totality is affected by the type of work in which he is engaged. It is recognized that work not only is a way to earn a living and an economic factor, but it also serves as a foundation for personal and social means and goals. Wrenn and Borow (74, Preface) observed that:

Work is the social act around which each of us organizes much of his daily waking experience and, hopefully, establishes a meaningful and rewarding life routine. One has but to witness the lives of men without work, or of men who lack edifying work--alienated, thwarted, and cut off from the fulfillment of the most human of sentiments, a sense of usefulness and purpose--to recognize the validity of the commonly voiced doctrine that work is, indeed, a way of life.

✱

Change

The second factor instrumental in stimulating the vocational guidance movement is rapid change. Our present culture is dominated and characterized by rapid and on-going change, far different from the social milieu which existed prior to the twentieth century. The impact engendered by this factor has introduced a myriad of complex problems into our society as reported by Peters and Hansen (52, p. 53):

The United States developed rapidly into a highly industrial organization, and it continues to change. Complex patterns and pressures generated by industrial innovations have had far-reaching effects on our society and have crystallized in our highly urbanized way of life. Family patterns are also changing. During the past century the family has forfeited many of its traditional functions to the school, including much of its responsibility for the educational and vocational guidance of the young.

### Vocational choice

The third factor, found primarily in our society and often cited as the basic underlying need for vocational guidance, is the freedom of individuals to make a vocational choice based on their needs, interests, and values. Unlike other countries, one of our societal beliefs is that individuals should have the opportunity to select an occupation, not be placed in one by the government. It is anticipated that through the implementation of this philosophy both society and the individual will benefit. At the same time, it is implicit in this viewpoint that the person is responsible for his choice, and therefore a wise choice is necessary. This prevailing attitude regarding the vocational choice-making process is consonant with our democratic philosophy of education. Walton (67, p. 128) pointed out that

we (Americans) deliberately search out and develop the natural differences in individuals in the belief that the nation is strengthened through diversity of interests and talents. . . . to us, the maximum level of our development can best be achieved through encouraging differences and freeing each individual to develop his unique potentials.

In light of the perceived effect the above societal influences have on individuals and our culture, it is proposed that people be provided some type of assistance in making more adequate plans and decisions about their future in the world of work. This is the charge and challenge which has been given the vocational guidance movement. Thompson (64, p. 35) has succinctly described the movement's purpose in the following manner:

As a necessary service in a democratic society based on individual freedom of choice, vocational guidance has the function of helping individuals make more effective decisions and plans throughout the long-term process of their vocational development by facilitating a clearer understanding of themselves and their roles in the world of work.

Work, rapid change, and the freedom to choose an occupation have been cited as major factors underlying the need for assistance to individuals who are involved in the vocational decision-making process. Early in the twentieth century a constellation of services known as vocational guidance was designed and developed to meet this need. A review of the literature indicated that during the first four decades of this movement most vocational guidance programs were responses to crises and were therefore usually formulated without any undergirding rationale. The past few years it has been noted, however, that several theories have been advanced which provide a framework upon which the vocational guidance practitioner can base his program. A brief overview of the rationale for vocational decision-making theorizing and a number of the more prominent theories follow.

### Theories Related to Vocational Guidance

#### Introduction

A great amount of attention and research in recent years has focused on how individuals make vocational decisions. Several theories about vocational decision-making processes and strategies have been constructed from these investigations. Although only scattered support for these occupational choice and vocational development theories has been found, researchers assert that the building of theoretical models is not only important to this endeavor, but necessary. Peters and Hansen (52, p. 103) indicated that vocational decision-making theory would "provide comprehensive principles concerning the process of vocational development and lead to the formulation of testable hypotheses for research". It is also suggested that research in this area: (1) is a way to organize and integrate

facts about vocational development; (2) contains a set of definitions and assumptions related to one another; (3) leads to the collection of appropriate empirical data; and (4) serves as a guide for future research.

It would be impossible to report all of the existing theories in a study such as this. As a result, those theories which are considered "classics" and are pertinent to this study will be presented. In order to achieve clarity of presentation, Zaccaria's (78) method for the categorization of vocational decision-making theories will be employed. Zaccaria has observed that there appear to be two categories of theories, both of which view the occupational life of people from contrasting viewpoints. The first of these, commonly known as occupational choice theories, suggest that

. . . a pervasive theme running throughout the various theories of occupational choice is that one, several, or a cluster of dynamic factors operate upon or within the individual and that at some point in his life each individual chooses an occupation either in conjunction with these dynamic forces or as a response to them (78, p. 36).

Essentially, occupational choice theories contend that each individual selects an occupation in life which is best for him. It is hoped that with proper assistance such as guidance and counseling he will choose the correct occupation and achieve happiness, satisfaction, and success.

The second category of theories noted by Zaccaria are those labeled as vocational development theories which provide a rationale in contrast to that posited by the occupational choice theories.

Basically, the individual does not choose an occupation, but rather makes a series of occupational and occupationally-related choices at different life stages which, when taken cumulatively, result in vocational development rather than an occupational choice, per se (78, p. 37).

In essence, these theories suggest that people do not make only one occu-

pational choice, but are continually seeking to enhance their work style and life style. Consequently, this approach emphasizes that people may need assistance at any point in time, not just at one juncture. The intervention suggested by these theorists is commonly known as developmental guidance and counseling.

The basic premises of these two different groups of vocational decision-making theories has been briefly summarized above. A short, but more detailed overview of the more prominent occupational choice and vocational development theories and their major dimensions is now presented.

#### Theories of occupational choice

Trait and factor theory      The trait and factor theories of occupational choice, evolved from the psychology of individual differences, have been advanced primarily through the works of Williamson (72). These theorists view man as comprised of a set of capabilities and potentialities (traits). In order to assess man's traits, an objective measurement procedure is used. Once an individual is able to identify his dominant traits he searches for jobs which have certain qualities (factors) amenable with his traits. The objective of this theory is to match individuals and jobs.

Need-drive theories      The need-drive theories of occupational choice see man as having one or several dominant needs. Throughout his life man attempts to satisfy his needs and conducts the search in a goal-oriented fashion. Forer (16) proposed that occupational choice is a personal process in which the individual desires to satisfy his basic needs but is not aware (unconscious) of why he is doing so. He explained occu-

pational choice as: (1) not rational or logical, but impulsive and emotional; (2) occurring through an unconscious act; and (3) an expression of an individual's personality organization directed toward satisfying his needs.

Psychoanalytic theories      The psychoanalytic theorists viewpoint on occupational choice has been represented primarily by Brill (7b) who purported that people choose an occupation through the two psychological determinants known as sublimation and identification which are derived from one's past experiences. Through the former the person's socially unacceptable motives are changed into socially acceptable behavior. Occupational choice then represents a sublimation of one's instinctual wishes. Identification's role in the process of occupational selection comes into focus when the person identifies or affiliates with another or others and is influenced (by them) in his occupational choice.

Bordin et al. (5) proposed that people choose occupations based on an occupation's ability to satisfy various psychic dimensions. Each occupation has a psychic dimension such as oral, sensual, or rhythmic needs, a unique instrumental mode, and the ability to satisfy an individual's occupational needs.

Roe's theory      Anne Roe's (57) theory of occupational choice is somewhat related to the psychoanalytic position, but more extensive in nature. After studying how scientists made occupational choices, Roe concluded that one's choice is greatly influenced by early parent-child relationships. Moreover, the occupational level a person chooses is based on his need intensity which is comprised of genetic factors and the unconscious system of expending psychic energy to satisfy needs. Need inten-

sity is determined by an individual's socioeconomic status and intellectual ability.

Hoppock's "composite view" theory Hoppock (33-34) has formulated what he termed a "Composite View" theory of occupational choice based on a series of speculations about occupational selection and not a set of hypotheses. Basically, he theorized that needs, values, participation in an occupation, educational experiences, and psychological factors plus economic and sociocultural factors are influential determinants of occupational choice.

In conclusion, the occupational choice theorists have proposed that each person chooses an occupation at one specific point in time, and that occupations are selected to satisfy needs, contribute to an individual's success, and/or to assist people in making personal adjustments. Moreover, they have suggested that each choice is made distinctly and separately from previous choices.

#### Vocational development theories

Ginzberg's theory Ginzberg, an economist, and his associates (22) were early leaders in the formulation of vocational development theories. Their research prompted them to conclude that: (1) occupational choice is a long-term process; (2) the process is increasingly irreversible as maturation continues; (3) the eventual choice represents a compromise between a person's ideal preference and available realistic possibilities; and (4) the process occurs in a series of definitive stages. Ginzberg et al. have contended that vocational decision-making consists of three phases: Fantasy, in which a person believes he can become what he wishes; Tenta-

tive, where the focal points are one's interests, abilities, and values, plus work variables such as time parameters, work demands, and work rewards, all of which influence decisions; and, Realistic, where the individual realistically explores, crystallizes a general occupational choice, and eventually arrives at a specific choice. Each choice is processed in a systematic and predictable manner which ends with a decision. It is influenced by many factors--biological, psychological, environmental, time, etc.

Holland's theory Holland's (30) theory of vocational development emphasizes that one's personality or behavior type is the primary influence of vocational choice. As a result of the interaction between an individual's hereditary characteristics and environment, he discovers ways of approaching his life tasks, including vocational tasks. Holland contends that each person has a unique personal orientation which can be classified as realistic, intellectual, social, conventional, enterprising, and artistic. Individuals arrange these orientations in a hierarchy based on their values, interests, and attitudes. In turn, they make a vocational choice from one of six occupational environments (realistic, intellectual, social, conventional, enterprising, and artistic) which is congruent with their highest personal orientation.

Tiedeman and O'Hara's theory The work of Tiedeman and O'Hara (65) has focused on the complex process of decision-making within the broader, general framework of career development. Much of their research has been based on Erikson's eight psychosocial crises of man. It can be seen that a major contribution of these theorists is formulation of a complex model of the decision-making process and a description of how this process oc-



curs. Essentially, they

. . . conceptualize career development unfolding as the individual resolves a group of (a) psychosocial crises, (b) occupationally related special aspects of general psychosocial crisis, and (c) a life long series of problems and decisions (78, p. 47).

Tiedeman and O'Hara have proposed that vocational decision-making consists of two stages, anticipation or preoccupation and implementation or adjustment. Anticipation is comprised of four substages--exploration, crystallization, choice, and clarification. Implementation follows anticipation and is made up of substages known as induction, reformation, and integration.

Super's theory Super's theory of vocational development has been influenced by three major bodies of psychological thought--developmental psychology, differential psychology, and the fundamental premise of his approach, phenomenology or self-concept theory. His original works delineated in great detail the vocational development tasks each individual passed through during his lifetime. Much of Super's 1957 theory (62) paralleled Havighurst's developmental tasks, even to the point of identifying the vocational developmental task each individual faced. However, since that time Super has altered his theory so that it more resembles Erikson's framework of psychosocial crises. Super's (61) most recent works suggest that as people move through the early developmental stages of their life, the experiences they have influence their perception of how they differ from others and how they see they are similar to others. And, in the process, each individual forms his self-concept. This emerging self-concept has several specific entities, one of which is a vocational self-concept. This theory rejects the notion of occupational choice and contends

that a developmental process occurs as the individual matures, defines, and executes his vocational self-concept. In essence, Super theorized vocational development to be a dynamic synthesis, not a compromise. "The synthesis is a result of the interaction of personal needs and resources of the individual and the economic and social demands of the culture" (78, p. 54).

#### Implications of theories

The critical question at this point appears to be: What vocational guidance activities would be appropriate for individuals, more specifically youth, engaged in the vocational decision-making process? Many and varied cultural groups have cited the need for this important social function. A noted psychiatrist, Menninger (47), has observed that nearly three-fourths of all the people who visit psychiatrists are there because of a problem with their vocation. Continuing, he has also pointed out that making a vocational choice is one of the two most important decisions a person will make in a lifetime, and our society does an excellent job of neglecting problems of vocational choice.

A review of the literature revealed that four basic vocational guidance services are necessary to meet the vocational decision-making needs of youth. More specifically, these services were described as counseling, educational information, occupation information, and testing. Support for the development and operation of these services was also noted to be both explicit and implicit in the writings and research of the vocational decision-making theorists. A review of their recommendations follows.

Trait and factor theorists have strongly urged that an analysis of an

individual's abilities, capabilities and interests be considered a necessary part of vocational counseling. Ginzberg (21) has been supportive of this viewpoint, recommending that it is important for the individual to know these things about himself. Holland (30) emphasized the need for knowledge of self and one's occupational interests. Roe (57) said it was important for the guidance practitioner to gather a great amount of background data about the individual, especially his childhood. In addition, she suggested that it is important to assist each individual to become aware of his needs and how they are meaningful to him in a vocational sense.

Several of the theorists have supported Parsons in proclaiming the necessity of including occupational information in the process. Roe (57) (in recent years), Tiedeman and O'Hara (65), and Super (61) have recommended the use of occupational information during the vocational decision-making stage. Both Ginzberg (21) and Holland (30) concurred in the need for this type of information but cautioned that materials are not enough. Ginzberg (21) demonstrated that youth passing through the tentative and early realistic stages of vocational development have a need for work exploration, thus advocating some type of on-the-job work experienced for youth. Holland (30) pointed out the desirability of giving each person a career experience, whether it be exploratory or actual working on the job.

A majority of the theorists suggested that counseling also be made available to students as they move through the vocational decision-making process. Holland (30) reported that without counseling, vacillation and indecision on the part of the counselee usually occurs. Zaccaria (78) placed counseling at the heart of a vocational guidance program, suggest-

ing that it constitutes the major guidance function. Super (61) stated counseling was necessary in that it helps students identify vocational alternatives and decide which one is most appropriate for them.

In conclusion, the literature revealed that analysis of the individual, through observation, testing, etc., occupational information, educational information, and counseling are basic functions of vocational guidance. Furthermore, it is believed that when these activities are appropriately offered to students, they can assist them in making a more correct vocational choice and hopefully achieve satisfaction in their life. In summary, Zaccaria (78, p. 36) emphasized this point in the following statement: "If the individual chooses the correct occupation then he becomes happy, satisfied, successful, well adjusted, socialized, etc".

Having recognized the need for the provision of vocational guidance services to youth who are planning to enter the world of work, society has extended verbal and financial support for the establishment of these special services. Vocational guidance has enjoyed steady and consistent growth since the turn of the century. However, like every other segment in the educational community, it has increasingly been called upon to demonstrate its worth and value and to ascertain whether it is achieving the goal of meeting the vocational decision-making needs of youth.

Thus, it is obvious that some type of evaluative device would have to be constructed to assess the functioning of counseling, the occupational information service, the educational information service, and the test interpretation service. An instrument entitled the Guidance Index was designed and developed to meet this need. It should be emphasized that the Guidance Index has not been developed to support specifically any of the

above theories except in a general sense.

Prior to the development of the instrument a review of the literature was conducted to obtain pertinent information concerning the evaluation process in guidance. Material considered relevant to this study is reported in the next section.

### Purpose, Problem, and Approaches to Guidance Evaluation

#### Introduction

In response to recognized need for guidance, the number of trained counselors and programs established have increased dramatically in the past 15 years. However, with the growth in the number of these programs there has also evolved a call for guidance personnel to verify and document how they and their services contribute to the growth and development of students.

A review of the literature revealed that the demand for evidence of guidance program effectiveness has been growing rapidly. Wrenn and Darley (75) wrote approximately 30 years ago that guidance workers were increasingly being asked to report the benefits and values students received through guidance. Continuing, they (75, p. 276) recommended that:

Guidance services must be subjected to scientific evaluation if they are to make an effective contribution to the educational program and to pupil adjustment. Guidance workers must produce evidence of the value of these services if school guidance programs are to continue to receive the support of the public.

Wysong (77, p. 3) advised that "school administrators, board of education, and school communities need to know what value might be gained from a well-developed and financed guidance program". Hill (29, p. 253) succinctly summarized this need through the statement: "One of the most

serious needs in most school guidance programs is the need for facts, demonstrable evidence, upon which to base decisions regarding practice, upon which to form dependable opinions regarding the outcomes of guidance".

The call for demonstrative evidence of guidance program value and effectiveness implies that some type of evaluation is necessary. Evaluation is "a process of determining the value of an activity or object" (12, p. 87). More specifically, Hill (29, p. 236) described it: "In a sense, evaluation is, at its best, the application of sound research procedures to secure the data which make it possible to determine the worth and the outcomes of the guidance effort".

#### Purpose and value of guidance program evaluation

Evaluation of guidance services can produce more than just a program status report. Humphreys et al. (36a, p. 229) stated:

The primary purpose of the evaluation of guidance services is improvement of the program. To achieve the improvement, exact knowledge of points of weakness and of strength is required. Failure of guidance workers to assess the value of their efforts from time to time means, among other things, (1) that they do not know whether they are succeeding or failing in the overall achievement of the purposes of their program or of any of its parts, and (2) that they plod along using devices and techniques which are outmoded or completely unadapted to newly developed situations within their school or student body.

Hatch and Stefflre (26) have cited five major purpose of evaluative research. The first and major purpose of evaluation is to measure effectiveness of the program. Only through the evaluative process can it be determined that program goals are being achieved. A second purpose is to clarify and validate hypotheses underlying program functions. Often decisions about the program are made based on "educated guesses". The "educated guesses" need to be assessed to determine their worthiness. The

third purpose is to provide information for guidance program development. Unproved assumptions about guidance offerings often go unchecked and, as a result, fail to meet the needs of the student body. A fourth purpose is "to increase the psychological security of staff members by letting them appraise the results of their efforts" (26, p. 262). The consequence of this action is to enable personnel to realize the desirable outcomes and accomplishments of their endeavors. Evaluation thus reports the presence and extent of progress. The last purpose, one which is crucial to contemporary guidance programming, is that evaluation provides the basis for reporting program achievements and accomplishments to the community in which the school is located. Hatch and Stefflre (26, p. 262) concluded that: "It is good educational policy . . . for the schools to inform the community on the status and accomplishments of their institution".

In spite of the many difficulties inherent in guidance program evaluative research, the merits of this activity have been recognized. Due to the rapid growth of guidance services, assessment of its effects on students is in order, lest size and expansion of programs be misconstrued as a good and valuable indicator of program performance. Peters and Shertzer (53) indicated that the major value of evaluation is to determine whether the guidance program is adequately meeting established goals and objectives. They suggested that the following are important benefits which can result from program evaluation: (1) findings can provide a base for developing new services or adapting those which are present; (2) the results can be used to interpret the program to the school's publics; and (3) the processes of such a study provide inservice training for guidance personnel.

Mahoney (45), after conducting 10 years of guidance program evaluation, listed 10 values gained through this activity. He found that guidance evaluation: (1) is an effective way to promote program expansion; (2) is a vehicle through which community involvement and interest in the program can be procured; (3) promotes inservice training for school personnel; (4) "opens" the doors to a school activity; (5) fosters inservice training follow-up; (6) demonstrates to the community the need for guidance services; (7) is an effective way to acquire information for research purposes; (8) builds personal confidences among co-workers; (9) is a way for the school to visualize one of its own services as others see it; and (10) provides the basis for a critical appraisal of the guidance program.

#### Problems of guidance program evaluation

Although the benefits accrued through program evaluation are important and valuable, the problems encountered by investigators can be many, varied, and seemingly overwhelming. Travers (66, p. 211) pointed this out by stating: "However, the guidance movement in the restricted and specialized sense of the term, has been largely uninfluenced by the evaluation movement . . . partly because the evaluation of specialized guidance functions present special problems". And Wysong (77, p. 34) glibly remarked: "Evaluating a school guidance program can be almost as difficult as searching in a dark room for a black cat that isn't there".

Assessing the effectiveness of guidance programming is one of the most important and difficult tasks confronting guidance personnel. Peters and Shertzer (53) acknowledge that evaluation is difficult and costly in both time and money, but claim it is necessary. The literature also re-



vealed that the primary, most pronounced difficulty in guidance program evaluation was in securing appropriate criteria which represent program objectives.

A criteria may be said to be a behavior, event, or condition which can be described as a goal, aim, or end. In other words, a criteria is a standard of behavior which is established as being desirable. Whether the method used is judged effective or not depends upon the criteria (53, p. 524).

To compound the problem, researchers have not yet reached an agreement on what the best criteria are. Due to the many divergent viewpoints on guidance goals and objectives, the most complicated evaluation problem appeared to be the specification of appropriate, adequate, manageable criteria for research.

A second major obstacle to guidance program evaluation reported is that external, uncontrolled variables such as client variability, situation variables, and process situation variables influence research attempts. Thus it becomes virtually impossible to attribute student development or behavior change to guidance activities alone. McDaniel (46) reasoned that when human relationships are being investigated it is difficult to isolate and control variables and, also, to determine the consequential relationship between cause and effect.

A third major problem area has been identified by Wellman (70). He expressed the need to overcome methodological difficulties in such areas as research design, including instrumentation, controls, sampling, and analysis. He asserted that this obstacle would be overcome as soon as adequate criteria are defined, appropriate controls are placed on research variables, and the development of an adequate research paradigm within the framework of existing theory occurs.

### Approaches to guidance program evaluation

Attempts to conduct guidance program evaluations have ranged from the subjective to the objective and from studies classified as scientific to those regarded as pre- or unscientific.

One of the first and most comprehensive lists of guidance program evaluative approaches was compiled by Froehlich (19). The seven methods he found in his literature review were:

1. External criteria, the "do you do this?" method
2. Follow-up, the "what happened then?" method
3. Client opinion, the "what do you think?" method
4. Expert opinion, the "information please" method
5. Specific techniques, the "little by little" method
6. Within-group changes, the "before and after" method
7. Between group changes, the "what's the difference?" method

One of the first to categorize the methods of evaluating was Wrenn (73) who developed the following classifications: (1) the logical survey method, which is a process of assessing the needs of students and designing services to meet those needs; (2) the experimental cross-section method, which compares a group of students who have received counseling to determine if there is a difference in the latter group resulting from the treatment they have been given; and (3) the developmental method, in which student achievements are appraised over a period of time.

Although many different and varied techniques of guidance program evaluation have been proposed, they appear to fit into the three classifications described by Peters and Shertzer (53, pp. 531-534). The first major method of evaluation is the scientific method. Approaches found in this category require that rigorously scientifically designed studies of guidance programs or specific aspects of the program be conducted.

The scientific method makes use of either statistical control - the application of covariance statistical methods to the data, or experimental control - the manipulation of dependent variables in a deliberate and predetermined manner (53, p. 533).

Experimental control designs in research emanate from one of the following: "before-after", "after only", simulated "before-after", or "before-after" with control groups.

The second method, the comprehensive or case-study method, appraises changes in an individual in relation to his own goals.

The individual formulates objectives appropriate to him (acceptable to the school or institution; counseling takes place; statements, descriptions, logs of the individual's activities, interactions with others, and the like are systematically collected; experts review and assess the changes that have taken place in the individual (53, p. 534).

The third method, selected for use in this investigation, is the survey method. Evaluation of guidance programs has most universally used survey research designed to describe the current situation as a basis for program initiation or revision. This approach

. . . (1) uses predetermined criteria or standards for a guidance program, (2) collects evidence of the guidance services being offered, and (3) takes stock of how these existing services compare with the predetermined standards (53, p. 531).

Since the survey method is the major emphasis of this investigation, a more comprehensive description of this approach is in order. The focus of the survey method is not on student behavior changes but on certain dimensions within the guidance service believed to favorably influence student behavior. The thesis underlying this research approach is that certain pre-conditions are thought to contribute to the most successful utilization of the service. A major objective of the survey technique is to ascertain whether these pre-conditions exist. A second basic fact

about the survey method is that "it does not test the validity of the underlying hypothesis - that these pre-conditions really do favorably affect student behavior" (26, p. 280). It does, however, attempt to assess whether or not they are present. Questionnaires, opinionnaires, attitudinal devices, and checklists are the kinds of vehicles typically used in survey research.

Not to be overlooked in this review is the source of data collected in this study, i.e., student perceptions. Until the past few years, nearly all guidance program evaluation endeavors used data obtained through staff opinions, judgments by experts, community opinion (including parents), observation, et cetera, to ascertain program value and worth. It was noted in the literature, however, that since 1950 or thereabouts, an increasing number of studies have utilized student reactions to guidance and counseling. Hatch and Steffire (26) regarded student opinion as valuable, but pointed out that its depth might be in question. Student opinions are quite important contended Miller (48a), but oftentimes they are more emotional than rational. Hill (29) concluded, however, after an extensive review of a number of studies of student reactions to school experiences that students demonstrate considerable seriousness in responding to this task. Hill (29) validated this conclusion in a subsequent study when he found that students' responses to an evaluation questionnaire about guidance were considered congruent and consistent with what was already known about the program. Collection and use of student opinion for program evaluation, when used cautiously, apparently is a valid approach.

Based on the above, guidance personnel have a wide and diverse array of evaluative approaches from which to choose. However, the problem of

choosing the most appropriate, valid, and reliable technique may prove to be the most difficult and perplexing job facing the guidance program evaluator.

#### Review of Guidance Program Evaluations

The review of literature revealed that due to increased interest in the value of guidance programming there has been a growing body of evaluative research focusing on this educational entity. More specifically, it was noted that although these studies employed many and varied procedures, the emphasis was on the survey method. Since that particular approach is the subject of this investigation, the remainder of this review will consist of other studies which have utilized the survey method.

It would be impossible to review all of the studies which have employed the survey method because of the great number. However, to demonstrate the utility of this approach, a comprehensive overview of the diverse nature of survey research will be presented. Similarly, as the intent of this study was to develop a valid and reliable instrument to assess students' perceptions of their vocational guidance and analyze their perceptions the review will focus on techniques employed in other research, plus their major findings.

#### Ginzberg

It was found through the review that most evaluative research in the guidance profession has been carried out by guidance personnel. An exception to this was the study conducted and reported by Eli Ginzberg and his co-workers in the book, Career Guidance (21). Ginzberg accepted the task of conducting a comprehensive inquiry into career guidance. The

primary focus of the project was to appraise the socio-economic factors, and the psychological processes in growth and development which influence the present and future plans of "normal" individuals. Project personnel recognized that the existing reliable information about guidance practices was inadequate, and certain key factors could not be delineated. They concluded that in order to conduct a meaningful study of career guidance they needed to "study it as a social process and to understand how it operates . . . as it actually is" (21, p. 8). Furthermore, it was decided that a large sample survey of guidance services as they exist in the eyes of the providers and receivers would be inappropriate, leaving many questions unanswered. The steps taken to appraise career guidance in this investigation were to: (1) review all known investigations of the profession; (2) make contact with all other research programs engaged in related activity; (3) visit with representatives of key institutions which provide guidance and counseling services; (4) implement an in-depth investigation of an on-going school program; (5) interview a number of practicing counselors in various settings; (6) establish and maintain contact and a dynamic relationship with educational policy making bodies at federal, state, and local levels plus the American Personnel and Guidance Association; (7) consult with representatives of the guidance profession and related disciplines; and (8) initiate and facilitate three conferences to provide an opportunity for dialogue with guidance experts in three areas--information, theory and practice, and policy. Moreover, the "most important investment" (21, p. 9) of the project was an on-going seminar which attempted to develop:

. . . a meaningful syntheses between the sociological and psychological factors that together determine career decision-making and to which career guidance, if it is to be effective, must be responsive (21, p. 9).

The extensive methods and procedures used by Ginzberg uncovered a number of shortcomings of guidance services and constraints which influence and at times hinder the impact of guidance on people. These investigators noted that:

1. Counselors lack knowledge about the world of work, labor trends, pathways people can use to find a suitable job.
2. Counselors spend too much time serving the college-bound and not enough time assisting non-college-bound students.
3. Counselors have not provided adequate help to females, minorities, and students from low socio-economic homes.
4. Guidance now considers psychological counseling as a priority over vocational decision-making.
5. Counselors at times test too much and also misinterpret test results, thus hindering the student making future educational and vocational plans.
6. Counselors show little knowledge about occupational information and its uses.
7. Counselors spend a great majority of their time in student scheduling, college program planning, handling disciplinary matters, and test administration.
8. Counselors spend too much time assisting middle class students.
9. Many administrators do not understand counselors "competencies, limitations, or the situational supports they require to perform effectively" (21, p. 147).
10. Counselors are often assigned wide ranging job duties which are not guidance related, but they have no power to do anything about it.
11. Counselors in some schools are constrained by principals, teachers, and parents of counselees (21).

#### Tamminen and Miller

In an in-depth and comprehensive study, Tamminen and Miller (63, pp. 202 and 203) sought to find "evidence of the 'total impact' of guidance programs on the entire student body for whom they are presumably intended". It was believed that a study of this nature would have value in providing information about the relationships between guidance efforts and ensuing

outcomes. Essentially, the study attempted to: (1) identify and measure existing characteristics and activities in Minnesota high school guidance programs; (2) identify and measure student characteristic variables which, although not directly related to guidance, may affect program goals; and (4) to study relationships between these variables to provide presumptive evidence of program results or lack of results. Variables were categorized into three domains--input, the actual guidance functions or activities found in most guidance programs; situational variables, such as student IQ scores and student socio-economic status which potentially could have an influence on outcomes; and outcome variables, described as guidance goals, objectives or desired outcomes. Other indices, such as observation techniques and counselor rating scales, were also developed. The latter were used by teams of trained interviewers who spent two days in each sample school collecting data. Information was obtained from 1,116 senior students in 84 randomly selected high schools stratified into five different size categories. Mailed questionnaires were sent to seniors who graduated the previous year and dropouts who had attended the 84 schools. Teachers, principals, and counselors in each of the sample schools were also administered questionnaires. The latter two groups were also interviewed.

This major study which examined many factors thought to influence the guidance program's impact on students discovered that: (1) guidance programs contributed very little to self-concept development; (2) school districts which have the least need for guidance (average and above average ability, students middle and upper middle class homes, and high school achievement) tended to have the best guidance programs; (3) guidance



changes unrealistic vocational aspirations or assists underachieving students to make noticeable academic gains; and (4) in schools which have less able students and where an anti-academic atmosphere prevails, counselors spend a disproportionate amount of time with problem students. It was learned, however, that counselor personality was an important variable, having substantial influence on certain outcomes.

### Armor

A major problem confronting counselors is that many times the effects of their interventions are not immediately observable. Armor (2, p. 5) stated:

. . . the counselor and related professionals often cannot see, directly, the results of the application of their professional expertise. This certainly has implications for these professionals, since their ultimate institutionalization rests on the belief of society that they are successful in attaining their stated goals. The main question here is whether or not counselors have a measurable impact and whether the impact justifies their existence.

and

. . . the institutionalization of any profession depends largely on acceptance by the society or subgroup it serves (2, p. 120).

Based on the above premise, Armor undertook a systematic, empirical, and analytical examination of counseling, its impact on students, and its relation to society in general. Combining information from the following sources, the investigator reported his findings in the manuscript entitled The American School Counselor (2): (1) Data were accumulated from responses to intensive one and one-half to two and one-half hour long interviews and questionnaires administered to approximately 100 school counselors in 53 Boston area schools. Organization of the school, programs offered, counselor duties, counselor views of their main contributions and

difficulties, counselor attitudes toward standardized tests, and counselor relations with students, teachers, and parents were the focus of both inquiries. (2) The second set reviewed was part of Project TALENT. This data was concerned with a national, randomly selected sample of 143 counselors and 1,447 teachers opinions of and use of standardized ability tests. (3) The third set of data resulted from a United States Office of Education study which assessed the educational opportunities available to minority group students. This sample consisted of 2,330 full- and part-time counselors and 98,000 12th grade students from all over the country. (4) Since one of the primary purposes of Armor's study was to appraise counseling's impact on students, the fourth set of data was obtained from students in three Boston area schools. Student respondents were asked to report their attitudes toward counselors as an important source of advice and information regarding their future educational and vocational plans and the extent to which they used the counseling service. Additional student information was collected to complete this portion of the examination. Armor suggested that although an evaluation of the impact of counselor on students is quite difficult and results must be viewed as tentative, the approach demonstrated may produce a prototype which can be used for future evaluation of the effects of counseling.

Armor's findings indicated that the use of counseling services varied according to regional classification, such as that between urban and rural settings. For example, students in working and middle-class schools receive about one and one-half times more counseling than those in semi-rural schools. In addition, the investigator learned that schools in a "better counseling program" and which served a working class student pop-

ulation appeared to have the most impact. One last finding reported was that students who probably needed help the most were generally seeing the counselor the least.

### Campbell

A major recommendation of the 1966 National Interdisciplinary Seminar on Vocational Guidance sponsored by the Center for Vocational and Technical Education at the Ohio State University was that a national survey of vocational guidance was necessary

. . . to establish "bench mark" data and to identify fresh insights and perspectives concerning the status of vocational guidance (7a, 1966, Preface). . . .

It was believed that the

. . . feedback from key individuals . . . on the "firing line" of guidance programs is essential to evaluate the effectiveness of our programs (7a, p. 4).

Initiated in 1966 by Campbell, the survey was designed to (1) portray the current status of guidance in terms of services offered, counselor functions, and student contact; (2) draw a baseline for future surveys; (3) recognize necessary changes in counselor education; (4) compare administrators, counselors, teachers, students, and parents perceptions of vocational guidance; (5) compare programs by school type; and (6) identify needed research and program planning. The study was designed to be more comprehensive than others which are limited by locale, sample size, and type of respondent. This was accomplished by utilizing a national sample, including all types of secondary schools, and surveying all types of key individuals. Five different types of questionnaires, comprised of items selected after a careful analysis of guidance literature and studies with

similar focus, were mailed to members of the five described respondent groups. Questionnaires were designed to obtain respondent perceptions of education and, particularly, vocational guidance.

Several important findings resulted from this survey. Prominent among these was that counselors spend a major portion of their time in individual student counseling of students planning to obtain a college education. Along similar lines, it was learned that counselors reported students first sought educational guidance followed by vocational guidance and personal adjustment counseling in that order. Other results of significance were: (1) students preferred the counselor over others as a source of help with occupational plans and personal problems; (2) although most students were aware of the availability of guidance services, less than one half used the services; (3) teachers felt they could assist more in the guidance program than they currently were doing; and (4) a small percent (only 18) of the counselors engaged in post-high school job placement counseling.

### Linden

The literature review indicated many attempts have been made to develop methods of assessing counselor effectiveness. Criteria such as counselor academic ability, counselor needs, counselor sensitivity, counselor interests, and counselor tolerance for ambiguity have been used to discriminate between effective and ineffective counselors. Ratings by experts, supervisors, and peers have been conducted, but results have manifested only limited potentiality.

Noting the shortcomings of research in assessing counselor effective-

ness, Linden et al. (43) modified and refined a previously developed instrument (1) for the purpose of constructing a procedure which clients could use to assess counselor effectiveness.

It was intended that such an instrument might provide a vehicle in exploring the value of client ratings as a criterion of counselor effectiveness (43, p. 268).

An instrument, the Counseling Evaluation Inventory (CEI), was designed, and several analyses were conducted to determine the factors which comprise the CEI and the reliability and discriminative validity of the instrument.

Data in this study were obtained through a 68 item questionnaire administered to 336 secondary school students who had received counseling. A factor analysis and a subsequent factor matrix rotation yielded four factors manifesting item content that led the investigator to label them Counseling Climate, Counselor Comfort and Client Satisfaction (comprised of 2 dimensions). Twenty-one items having adequate factor loadings (.40 on one scale and less than .40 on any of the others) were retained and placed in a short-form version. Through a pretest, post-test procedure it was discovered that 18 of the 21 short-form items were reliable at the .05 level. Total score test-retest reliability coefficients on the short-form were: Counseling Climate--.78; Counselor Comfort--.63; and Client Satisfaction--.74. The three coefficients were significant at the .05 level. Using counselor candidates' practicum grades as a provisional criterion, discriminative validity significant at the .05 level was demonstrated for the factor scales and the total score of the short-form CEI. It was also noted in this phase of the study that clients responded to the facilitative atmosphere of the counseling relationship regardless of counselor sex.

A noticeable shortcoming in guidance research employing the survey method is the lack of instruments which have been scientifically developed. Loehndorf (44, p. 2) has noted this void and suggested that data collected with devices of this nature often yield spurious results and "do not contribute to effective evaluation". Wysong (77, p. 4) observed a similar inadequacy in guidance program evaluation and commented that "guidance researchers need valid and reliable criteria for measuring program output". As a result of their observations both Loehndorf and Wysong have engaged in studies which have attempted to fill this void.

### Loehndorf

Loehndorf (44) theorized that efforts to establish appropriate criteria for guidance program evaluation have been few, primarily because of the many problems encountered. Often the primary thrust for criteria formulation originates from expectations of those not directly involved in the program. As a result, the primary purpose of Loehndorf's research was:

. . . to investigate the perceptions of certain recipients of guidance services--students, parents, teacher, administrators--as a means of discriminating effective from less effective guidance programs (44, p. 2).

Phase one of the study consisted of asking guidance personnel in 11 secondary schools to rate each school's guidance program by means of a paired-comparisons rating. Raters were to base their opinions on their knowledge of the availability of guidance services, the utilization of guidance services, and their perception of the services meeting student needs. Ratings yielded a distribution of values which enabled the investigator to rank schools "one" through "eleven". Phase two of Loehndorf's

research asked parents, students, teachers, administrators, and counselors in schools one, two, ten, and eleven to rate their schools in the same areas as the professional guidance personnel did in phase one. The investigator obtained this information through the use of the Survey of Guidance Services (SGS) which was constructed for this study. The SGS consisted of 64 items representing 16 guidance service areas such as information, placement, orientation, counseling, and group guidance. A reliability estimate based on a test-retest procedure was conducted. In order to complete the research, a Chi-square technique was applied to the data to determine which items discriminated between effective and less effective guidance.

Loehndorf (44) found that the perceptions of high school seniors discriminated between effective and less effective guidance programs, plus they appeared to be reliable. A second finding of this investigation was that items within the Survey of Guidance Services demonstrating cross-validation discrimination power were in the areas of program relationship with school staff members and community agencies, professionalism and functions of guidance practitioners, and the mechanics of guidance programs. Lastly, it was learned that the paired-comparison ratings by guidance personnel in a similar geographic locale could be used as a valid criterion of program effectiveness.

#### Wysong

Wysong (77) took a different approach to construct a process for the evaluation of secondary school guidance programs. The purpose of his research was:

. . . to develop and validate measuring instruments which can differentiate between groups of high school students and teachers who have progressed toward the achievement of certain guidance objectives and groups of high school students and teachers who have made less progress toward the achievement of the same objectives (77, p. 5).

Two instruments were developed for this study: (1) the Guidance Program Evaluation Student Survey designed to differentiate between groups of students judged to be achieving certain guidance objectives and those groups of students judged to be less well achieving the same guidance objectives; and (2) the Guidance Program Evaluation Teacher Survey designed to differentiate between groups of teachers judged to be achieving identified guidance objectives and groups of teachers judged to be less well achieving of the same objectives. Contents of the evaluation instruments were based on 156 guidance product objectives and guidance process objectives after a review of the works of Bloom (4) and Kratwohl et al. (40). Guidance product objectives were defined as ". . . those desired outcomes that guidance is trying to help students, teachers, parents, administrators, and counselors accomplish. . . . They reflect social and professional value systems that define what is important" (76, p. 35). Process objectives were described as ". . . those program activities and conditions that are designed to facilitate the attainment of product objectives" (76, p. 35). They ". . . reflect a logic which can help students, teachers, and parents move toward attaining worthwhile accomplishments" (76, p. 35). Ninth grade, 12th grade, and secondary school teachers in 31 Ohio schools were selected for the validation of both instruments. Students and teachers perceived as achieving high and low on guidance objectives were selected by counselors in the schools. Several statistical analyses of data collected were made to appraise their usability



and validity.

The results of the student survey cross-validation revealed that at least 47 items on the Guidance Program Evaluation Student Survey were able to discriminate between one group of high and low achievers of guidance objectives. As a result of a cross-validation of data collected through the Guidance Program Evaluation Teacher Survey it was found that only nine items could discriminate between high and low achievers of guidance objectives in the teacher sample.

#### Iowa Study

At the direction of several state organizations in Iowa, a committee (25) was formed to study guidance accountability in the state. The committee decided that to accomplish this task, a two-phase assessment approach was needed. Phase one consisted of a study of guidance services existing in each of the state's school districts. Phase two entailed an assessment of students' opinions about their guidance. Since the latter is the more relevant to this study, only the methods, procedures, and findings of this phase will be reported here.

Data in the study were obtained through a 59-item questionnaire developed by the committee which had been sent to all Iowa schools. Questionnaires were administered to a selected number of students in grades seven through 12 in each district. A total of 9,086, or 91%, of 10,000 of the questionnaires were returned. Content of the instrument focused on counselor involvement and not counselor function.

It was found that students saw the counselor as the most helpful person in the school when they were planning post-high schooling, obtaining

work, planning their occupational career, and solving personal problems. The data also revealed that the more a student visited the counselor the higher was his perception of the counselor as a helper. Students planning to attend vocational/technical schools viewed the counselor as most helpful, more so than did those planning to work, were undecided, or anticipating going to college.

Approximately 87 percent perceived the counselor had interest in them, 80 percent believed counselors kept personal matters in confidence, and 70 percent viewed counselors as people to whom they could tell true feelings. Students planning entrance into vocational/technical schools, work, and the military services rated these areas the highest.

In summary, the review of evaluative research studies has demonstrated the wide diversity of survey approaches to guidance program evaluation. Some were very basic, survey-type investigations, while others displayed attempts to provide a more scientific and comprehensive exploration of guidance program effectiveness. A review of the literature revealed that although the former, which are usually classified as pre- or unscientific, provide useful and meaningful information, the latter, classified as scientific, are increasingly being developed and conducted due to their sound research base.

#### Summary

Work, rapid change, and the individual's freedom to choose an occupation have stimulated the need for and resultant growth of vocational guidance. It has been recognized that work plays a central role in each person's life, affecting him personally and socially, as well as economically.

The rapid change our society has experienced since early in this century has permeated all segments of it, even the family, which in turn has relinquished many of its functions to other agencies such as the school. Lastly, our fundamental premise that all people should have an opportunity to make occupational selection based on their psychic dimensions nearly dictates that some type of professional assistance be given individuals so they may make wise choices. As a result those services which comprise that societal function known as vocational guidance have been established to help individuals through the vocational decision-making process.

Subsequently, many different and varied theories about how individuals make vocational decisions have been advanced to assist the guidance practitioner. Although at the present time only minimal evidence of the value of these theories has been produced, they do provide a scientific framework from which counselors can operate.

The rapid growth and development of guidance services in response to the need aforementioned, has sometimes been misconstrued as an indication of program effectiveness. Recently, however, different factions within society have demanded that guidance practitioners demonstrate program worth and value. Leaders within the field, Wrenn and Darley (75), Hill (29), Wysong (76), and others concur, stating that if the task is not undertaken, others will assume it, much to the chagrin of guidance personnel.

The review of the literature revealed that there was an increasing number of guidance program evaluative research studies being undertaken. Many and varied approaches have been attempted. It was found, however, that most studies dealt with aspects of guidance programming, primarily counseling, and very few overall program research projects have been

tried. Furthermore, it was noted that very few had a scientific base.

In conclusion, it appears that more comprehensive, reliable, and valid evaluative studies of guidance services will have to be accomplished in the future to meet the demand for documentation that these services are worthwhile.

## METHODS AND PROCEDURES

Methods and procedures which have been employed in this investigation are presented sequentially in this Chapter. They will be tendered in the following order: Construction of the Guidance Index, Pilot Study I, the first revision of the Guidance Index, Pilot Study II, the second revision of the Guidance Index, third administration of the Guidance Index, selection of sample, data collected, and analysis of the data.

### Construction of the Guidance Index

To make an assessment of students' perceptions of their vocational guidance, it was decided to use an attitude-survey approach. A review of the literature failed to disclose an instrument which could be utilized for the purpose of this study. A great majority of instruments scrutinized in the review were developed to elicit respondent awareness of the availability of, or extent of, contact with vocational guidance services. No in-depth assessment instrument of vocational guidance programming was found.

It was therefore decided to construct an instrument specifically for this research which was called the Guidance Index. The Guidance Index was designed to obtain a limited amount of personal data about an individual and a comprehensive sample of their perceptions about the vocational guidance they received in high school.

The first draft of the instrument was comprised of two parts: (1) the personal data section; and (2) the main body of the instrument containing the schedule of vocational guidance activities assumed to exist in schools. The personal data section of the Index was designed to elicit

necessary information about the individual which would be used in the statistical treatment of these data. Respondents were asked the following identification data: sex, indicators of socio-economic status, reported high school grade point average, and post-high school choice. Additional information was elicited which may be used in further study. An introductory paragraph which preceded the personal data section directed students to avoid placing their names on the instrument or the answer sheet. In addition, they were given assurance that their responses would be anonymous. It is believed that by guaranteeing respondents anonymity they will be more willing to express their true attitudes, thus enhancing the validity of data collected.

The first draft of the Guidance Index was comprised of 46 items utilizing a Likert-type scoring system, plus one question which was open-ended, thus allowing respondents greater freedom to respond. Selection of items for the Index was made after: (1) a search of vocational guidance publications and current trends, issues, problems, and ideas in the area was conducted; and (2) a review of several model guidance survey inventories was accomplished. The latter included scrutinization of materials developed by Hill (29), Campbell (7a), Wysong (77), the North Central Association's National Study of Secondary School Evaluation (50), the Iowa State Department of Public Instruction (25), the Minnesota Guidance Research Project entitled: Guidance Programs and Their Impact on Students: A Search for Relationships between Aspects of Guidance and Selected Personal-Social Variables (63), and others too numerous to mention here. The search for items was terminated when repetition of item content occurred. After an analysis of accumulated items, it was noted that they could be

categorized into four basic vocational guidance services provided directly to students: Educational Information Service, Occupational Information Service, Counseling Climate, and Test Interpretation Service.

The identified vocational guidance functions were then converted into statements which would be amenable to the Likert-type response format. Each statement was written to meet the following criteria: clarity, unambiguity, absence of double negatives, possessing only one distinct idea, brevity, and a description of a vocational guidance function assumed to exist in all high school guidance programs.

A pool of the constructed items was presented to three counselor educators for their review. Concurrently, the pooled items were forwarded to a guidance consultant at the Iowa State Department of Public Instruction, and to a practicing high school counselor for their review. The above, designated as experts, were asked to first establish the content validity of the Guidance Index:

Content validity is the representativeness or sampling adequacy of the content--the substance, the matter, the topics--of a measuring instrument (39, p. 445). . . . content validation consists essentially in judgment. Alone or with others, one judges the representativeness of the items. . . . this means that each item must be judged for its presumed relevance to the property being measured (39, p. 446).

Secondly, they were directed to make suggestions or comments about any aspect of the instrument. These experts were also asked to consider and comment on the two different types of response formats the experimenter was contemplating using in the instrument. The first method, the five-point Likert technique (42), affords five possible responses to each item: Strongly Agree; Agree; Partly Agree/Partly Disagree; Disagree; and Strongly Disagree. Strongly Agree responses were given a scale score value of

5, Agree responses a scale value of 4, Partly Agree/Partly Disagree a scale value of 3, Disagree responses a 2, and Strongly Disagree responses a scale value of 1. The manner in which several statements were constructed necessitated a reversal of the values. For example, if a student "Agreed" with item four, "A counselor put pressure on me to attend college.", a score value of 2 would be recorded. Scoring values of 1, 2, 3, 4, and 5 were changed to 5, 4, 3, 2, and 1 for items 4, 7, 9, 32, 38, and 39 (see APPENDIX A for the content of these items).

The second response format considered for the first draft of the Guidance Index was the Certainty Method (68). This approach was contemplated because it:

. . . tends to increase the sensitivity of the measure since more response categories were embodied in its response format. And . . . it is essentially a means of giving greater weight to more extreme responses, which may be more indicative of the real presence of the variable being measured (68, p. 36).

Warren, Klonglan and Sabri (68) also concluded that the Certainty Method tends to produce better results in general than three other scoring methods they tested, one of which was the original Likert system. Furthermore, the Certainty Method requires the respondent to go through a two-step, in-depth examination of one's attitude toward a given stimulus by first of all making a directional judgment, agree or disagree, and secondly, a certainty judgment (from not very certain to very certain) about the directional decision, thus increasing the probability that this response is closer to his true attitude than the 5-point Likert scale allows.

The experts returned their comments and suggestions about the instrument and the response systems after a short period of time. As a result of their recommendations, the following two decisions were made regarding



the revision of the Guidance Index: (1) the number of items should remain at 47, including one open-ended item; and (2) the first draft which was in preparation for a pilot study should include both response systems. It was decided that for the first trial, items 1 through 24 would utilize the typical five-point Likert scoring method, and the Certainty Method format would be applied to items 25 through 46. This would enable the investigator to learn which of the two formats would be more appropriate for the study.

#### Pilot Study I

A pilot study of the Guidance Index was conducted in February, 1972. The major objectives of this tryout were: to assess students reactions to the instrument, to learn whether or not they could comprehend the directions and the statements, and to find out which scoring method would be most comfortable for them to use. The pilot school selected for study was chosen because it was considered to be representative of many of the schools in the universe where the final research was planned. The Guidance Director was contacted, given a detailed explanation of the study, and asked for his cooperation. Permission was granted, and the pilot survey was conducted by the investigator. The entire senior class, 68 students, was administered the first draft of the Guidance Index.

Students in the pilot study took no more than 25 minutes to respond to the instrument, including reading the directions. Immediately following the trial, the investigator asked the respondents to critique the instrument in light of the pilot objectives. The following summarizes their criticisms: (1) An IBM answer sheet should be used for recording re-

sponses; and (2) the first response system, the Likert scoring method, was much easier to understand. Some indicated that they were not sure that they had completely understood how the Certainty Method was to be used. The investigator also quizzed respondents in regard to clarity of directions and understanding of the Likert response system and understanding of item content. No negative criticism was received about either.

An analysis of the results of the pilot study was accomplished and a second draft of the Guidance Index was undertaken.

#### First Revision of the Guidance Index

The initial step in the first revision altered parts of the personal data section. The directions were changed to give the respondent a much clearer idea about the purpose of his participation. Two responses to the question: "What do you plan to do after high school graduation?" were altered. A student planning to enter the military service after graduation was directed to indicate this in response C, "Find a job and go to work". Part E, "Undecided" was eliminated, thus making this a forced-choice question. "Nursing (licensed practical or registered)" replaced "Undecided". An addition to the instrument were the variables needed to determine an individual's socio-economic status. Because of its simplicity and high reliability, Hollingshead's Three-Factor Index of Social Position (32) was considered appropriate for this study. And, in light of the pilot study respondents' recommendation, the five-point Likert scoring method was adopted for the Guidance Index.

## Pilot Study II

The second draft of the Index was printed and preparations for a larger scale pilot study were made. After an examination of the first instrument, the experts cited above concluded that any revisions of the Guidance Index did not change its content validity. However, their judgment only confirmed that the Guidance Index measured what it purported to measure, but in no way were they able to determine how well it measured whatever it did measure. Stated otherwise, an investigation of the reliability of the Guidance Index and its hypothesized subscales were deemed appropriate and necessary. As Kerlinger (39, p. 429) has so succinctly stated, "If one does not know the reliability and validity of one's data, little faith can be put in the results obtained and the conclusions drawn from the results". Reliability is an indicator of how consistently an instrument measures whatever it does measure. It enables the investigator to depend upon the results of the measurement of variables from one administration of an instrument to the next.

It was decided that for the purpose of this phase of the study the Spearman-Brown Average Inter-Item correlation technique (51) would be used to estimate the reliability of the Guidance Index and its four hypothesized subscales. The model for the Spearman-Brown Average Inter-Item correlation technique is (51, p. 193)

$$r_{kk} = \frac{K \bar{r}_{ij}}{1 + (K-1) \bar{r}_{ij}}$$

where:

$r_{kk}$  = scale reliability

K = number of items in the scale

Total Scale = 46 items

Scale 1 = 13

Scale 2 = 15

Scale 3 = 14

Scale 4 = 4

$\bar{r}_{ij}$  = average correlation among items  
on scales and subscales

Thus  $r_{kk}$  is the estimated reliability coefficient for a k-item scale determined from the intercorrelations of items on the test. ". . . [I]n many ways this, the estimation of the relationship between items within an instrument, is the most meaningful measurement of reliability" (51, p. 194).

Since it is well known (51) that the reliability of an instrument may vary from one specifically defined group to another, it was necessary to obtain a sample similar to the one which would respond to the final instrument. It was decided to obtain a sample for the second pilot study from the same universe which would be utilized for the final administration. The universe selected for this study follows the same boundary lines as the Des Moines Area Community College commonly known as Area XI (see APPENDIX D). Since the Guidance Index was to be administered to high school seniors, a list of schools in Area XI had to be obtained. Personnel in the Guidance Section, State Department of Public Instruction, were con-

tacted and asked for assistance in obtaining this list. It was promptly sent to the investigator.

Sixty-eight publicly supported senior high schools with student populations ranging between 88 and 2,050 are situated within the area. One urban high school was eliminated from the study because its programs are unique to those found in the remaining 67. If included in the study, any information received from its students could contaminate the research. This setting, Merged Area XI, was selected because a sample representing urban, suburban, and rural areas could be obtained, thus hopefully increasing the generalizability of the findings.

A major purpose of this research was to generalize results to Area XI. Sampling methods were chosen over the taking of a complete census because of (1) reduced cost and (2) greater speed (11, p. 2).

The sample for the second pilot study was comprised of students who were seniors in randomly selected high schools. Senior students were chosen based on the assumption that due to their tenure, they had had sufficient opportunities to have contact with the vocational guidance services in their school and, therefore, would be able to validly respond to the instrument. The same reasoning was used in deciding the time of year for administration of the Guidance Index, May, thus enabling data to be encompassing and contemporary.

One other major consideration was made prior to the drawing of the sample. Since there was such a great difference in the size of the high schools in the universe, it was hypothesized that this variable may be related to students' perceptions of their vocational guidance which could

influence the findings and consequently, the generalizability of them. It was decided that in order to control the effect school size might have on the study, a stratified random sampling technique should be employed. Borg (6, p. 171) stated that "stratified random samples are particularly appropriate in studies where part of the research analysis is likely to be concerned with comparisons between various subgroups".

A review of the literature revealed no concrete manner in which stratification should be accomplished. However, a recent investigation (36b) revealed that expenditures of schools and school programs offered by schools could be categorized into the following size strata:

<u>STRATA</u>	<u>TOTAL STUDENT ENROLLMENT</u>
1	0 - 399
2	400 - 999
3	1000 - up

From the names of schools in Stratum 1 three were drawn; from the names of schools in Stratum 2 three were drawn; and from the names of schools in Stratum 3 two were drawn. It was decided to sample all the seniors in the Stratum 1 schools, 60 seniors in Stratum 2 schools, and 80 in each of the Stratum 3 schools. Thus, the sample drawn for the second pilot study would consist of 461 respondents. This was considered adequate for the establishment of reliability for the Guidance Index and its four hypothesized subscales.

The guidance director in each school in the sample was contacted by telephone and given an explanation of the research. Their cooperation was enlisted and all eight consented to participate. A date was arranged with each when the investigator could meet with them, draw the sample of stu-

dents who would be surveyed, and deliver the instrument to the cooperating teacher who would administer the Guidance Index. Visits to each school were made, and the appropriate number of instruments were delivered with directions for their return to the investigator.

Within one week after delivery the completed instruments were returned. A total of 388 instruments, which could be utilized in estimating the reliability of the Index and its four hypothesized subscales, were returned.

The completed answer sheets were taken to the Student Counseling Service Test Scoring Center at Iowa State University where a statistical technique, described previously in this chapter--the Spearman-Brown Average Inter-Item correlation technique, was applied to estimate the reliability of the Guidance Index and its four hypothesized subscales. The reliability coefficients were as follows:

<u>Guidance Index</u>	.93
Scale 1 - Educational Information Service	.77
Scale 2 - Occupational Information Service	.88
Scale 3 - Counseling Climate	.84
Scale 4 - Test Interpretation Service	.73

Based on the above findings, it was concluded that the reliability of the Guidance Index and its four hypothesized subscales was adequate for the purposes of this research. Helmstadter (28, p. 85) stated that "for research purposes tests may be useful if their reliability coefficients fall as low as .50, especially if group performance is at issue". The Guidance Index and its scales sufficiently meet this criterion. These findings and conclusions were reported to the investigator's committee.

Second Revision of Guidance Index

In most respects the final form was similar to the two prior forms. However, an analysis of responses to the second draft suggested that the following revisions were necessary: (1) The complete instrument should be divided into the following three distinct parts: (a) Personal Data Section, (b) Part I, comprised of 54 items, (c) Part II, consisting of an open-ended statement. This made the instrument much more attractive, which hopefully would enhance each respondent's ease in completing it; (2) A change in the method of obtaining a respondent's socio-economic status was considered essential. It was decided to replace Hollingshead's Three-Factor Index of Social Position (32) with his Two-Factor Index of Social Position (31) since the reliability of the Two-Factor technique correlates highly with the Three-Factor technique, and data for the former are easier to obtain. (3) At the request of the investigator's committee, a new set of directions for respondents who had never seen a counselor was placed prior to the first item. It directed them to respond to items 1-13 only. These items dealt with vocational guidance functions performed by all staff members, not just those provided by designated guidance personnel. With the addition of these specific directions, students who had never seen the counselor in a counseling-type situation would not have to respond to seemingly vague and meaningless statements. Inclusion of their responses to the entire instrument could invalidate the results. (4) Certain items which comprise the instrument were changed to include words such as "sufficient", "adequate", and "ample". It was believed that with the addition of these words, the congruency of the item content to the Likert-type response system would be increased. This modification would



in all probability increase the ease of analysis and interpretation of data. (5) It was decided to change the third response in the Likert scoring method from "Partly Agree/Partly Disagree" to "Uncertain". The former was viewed as an ambiguous term, which could make analysis and interpretation difficult. (6) Three items describing the vocational guidance functions of enabling high school students to make visits to businesses, industries, or institutions of higher education were included in the first 13 items. And (7) minor, but needed, changes were made in the Personal Data section in order to collect more detailed information about each individual respondent.

Thus, after two pilot studies and several revisions, the Guidance Index was considered ready for collection of data which would be analyzed in light of the objectives of this study.

#### Third Administration of the Guidance Index

##### Selection of sample

The geographic location of participating schools in this aspect of this study has been previously mentioned. Very briefly, respondents were selected from 67 randomly drawn publicly supported high schools in Area XI (see APPENDIX D). Since a purpose of this investigation was to develop an instrument which could be used in most locales, it was necessary to obtain as broad and representative a sample as possible. Furthermore, it was decided that the sample should include only 1973 high school seniors, since during their tenure they should have had ample opportunities to receive vocational guidance. A similar rationale is offered for the time of year (May) for the administration of the Guidance Index to seniors. By collec-

ting data late in the school year respondents had been afforded as much opportunity as possible to have contact with their school's vocational guidance.

Prior to the selection of the sample, a review of the enrollment of each high school in the universe revealed a great diversity, ranging from 88 to 2,050 students. Since other research (18) has revealed that school size may be related to students' views of their guidance, it was concluded that schools should be stratified into the three size categories aforementioned, and subsamples of students be drawn from the sample schools. All schools within the large enrollment category were used, and a sample of students was selected from each. The remaining schools were sampled and then subsamples of students were drawn from the sample schools. These schools were selected with probability proportional to enrollment (58), and the sizes of the student subsamples were varied in order to maintain proportional representation of students. The minimum size of the student sample groups was set at 25.

The results of the sampling procedure included seven schools within the small stratum, and six schools within the middle-size stratum. In terms of student numbers, the sample yielded 175 students from the small stratum, 150 from the middle-size stratum and 224 from the large stratum. Nunnally (51) suggests that to perform a factor analysis, a good policy is to have at least 10 times as many subjects as variables. The total sample size of 549 students would seem to adequately fulfill this requirement.

#### Data collection

Prior to the collection of data, the director of guidance in the 20 randomly selected schools was contacted by phone, introduced to the study,

and asked to cooperate. All selected schools responded favorably. A time was arranged for the investigator to administer the Guidance Index in the schools. Administration of the Guidance Index was performed by the investigator wherever possible to avoid errors during data collection. Upon arriving at each high school, the investigator obtained a list of senior classes. Each class was assigned a number and the number of a class was randomly drawn for participation. An exception to this procedure occurred in schools with senior enrollments below 40. Here, the entire class completed the Guidance Index, and 25 completed answer sheets were randomly drawn for inclusion in the sample.

#### Analysis of the data

The completed answer sheets were reviewed by the investigator, and those which were incomplete or considered unusable were rejected. Out of a total 549 responses to the Guidance Index, 532 or 97 percent were usable. At this point, it was also decided to eliminate the responses of students who did not reply to items 14 through 54. Since 60 students fell into this category, the number of respondents was reduced to 472, or 86 percent. The 472 answer sheets were scanned by an IBM 1230 optical scoring machine, and the data was punched onto data processing cards.

As a first step, respondents' scores were transformed from the usual Likert scoring system to that employed by the Certainty Method (68). The application of this method was made as follows: Strongly Disagree responses remained as 1; Disagree responses were given a value of 3 instead of 2; Uncertain responses were assigned a 4 in place of 3; Agree responses were changed from 4 to 5; and, Strongly Agree received a value of 7 in-

stead of 5. These modifications were made because:

The assignment of numerical values, when using the certainty method does not assume equal intervals between the response values. Instead, the certainty method of scoring assigns larger values to the end points of the continuum. Intuitively the certainty method assumes that there is a greater difference between a respondent or judge who disagrees with an item with certainty of 5 and a respondent or judge who disagrees with certainty of 4 than there is between two respondents, one of whom said disagree with a certainty of 1 and the other who said disagree with a certainty of 2. In other words, extreme values are given higher scores than an equal appearing interval scale would allow (68, p. 9).

A graphic view of the difference between the usual Likert scoring system and the Certainty Method scoring system are depicted in Figure 1.

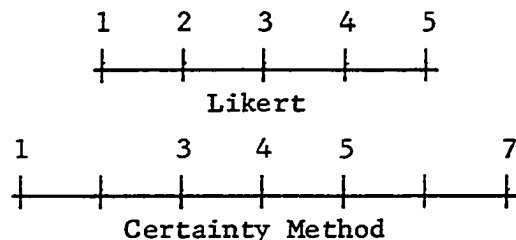


Figure 1. Graphic representation of Likert scoring system and Certainty Method of scoring

The transformed data were placed on data cards and verified. Means and standard deviations for each item by school and for the entire sample were obtained.

Factor analysis      The first statistical technique applied to the data was a factor analysis. The purpose of this analysis was to determine if some underlying pattern of relationships exists such that the data may be arranged into four factors representative of the four vocational guidance areas hypothesized in the content of the Guidance Index. Since one

purpose of this investigation was a search to determine the clustering of items into certain factors, it was decided that a Principal Factor solution (51) factor analysis should be employed. As Nunnally (51, p. 316) has stated, this approach

. . . is the ideal method of condensing variables during the first step of a two-step analysis (the second step involving the rotation of factors). Logically, the best method of condensing variables is the one that explains the most variance for any set number of factors, . . . .

and this method does just that. Prior to the factor analysis of the raw data, a precautionary step was taken. Normally, factor analysis is applied to data obtained from only one group of subjects. The data treated in this study, however, came from 20 different school groups. Thus, spurious conclusions could be reached as a result of the analysis. To overcome this difficulty, two analyses were performed to construct two different types of correlation matrices which could be examined to determine the difference between using between-school data versus within-school data. The first, a between-group correlation matrix, was designed to assess inter-item correlations constructed from the raw data from different school environments. The second, a pooled within-schools correlation matrix, was performed to evaluate the data when school environmental differences were removed. A review of the two 54 by 54 inter-item correlation matrices revealed only negligible differences between the inter-item correlations of the two matrices.

Thus, this first step, the factor analysis, was performed to condense data into a small number of common factors. Step two of this process, however, was more concerned with the interpretability of the factors. Therefore, a Varimax rotation of the original factors was conducted to

make them more interpretable (51, p. 306). To achieve scientific rigor it was decided that two conditions must be met to accept a factor. First, a factor loading must be at least .30, "compared with other criteria, this is quite a rigorous level so we are not taking too much for granted" (10, p. 45). Secondly, to be considered a factor, at least four items must comprise the factor. This condition was applied after concluding that a smaller number of clustered items could make factor interpretability difficult.

Reliability Next, an estimate of the reliability of the factors (scales) extracted during the factor analysis was made. One of the major tasks in the development of a measurement instrument is to control for random errors of measurement. Nunnally has stated ". . . measurements are reliable to the extent that they are repeatable and that any random influence which tends to make measurements different from occasion to occasion is a source of measurement error" (51, p. 206). Thus, it was decided that to further enhance the confidence in the scales an estimate of their reliability should be performed. The type of reliability desired in the current study is that which estimates the internal consistency of the factored scales. Internal consistency is based on the average correlation of items within a scale and length of scale. Therefore, Coefficient Alpha (51) was used to estimate the internal consistency of the scales. This was selected for use in this investigation because it measures errors, sampling errors as well as errors based on the sampling of situational factors accompanying the items and measurement error occurring in the testing situation (51). The formula for Coefficient Alpha is:

$$r_{kk} = \frac{k}{k-1} \left[ 1 - \frac{\sum \sigma_i^2}{\sigma_y^2} \right]$$

where  $r_{kk}$  = the reliability coefficient for a k-item scale determined from the intercorrelations of items on the test

k = number of items in the scale

$\sigma_i^2$  = the sum of variances of the ith items in the scale

$\sigma_y^2$  = variance of a sum of the scale items

To attain scientific rigor in this phase of the analysis a minimum value of .70 for the reliability coefficient of each scale was considered necessary. This is approximately .20 higher than Kelley (38) suggested for group measurement purposes and that which Nunnally (51) has recommended.

Analysis of variance The primary analysis technique applied to data in the second phase of this investigation was an analysis of variance. The analysis was accomplished using linear regression techniques, and a reduction of the model was made in order to test the hypotheses under consideration. The model was as follows:

$$Y_{ijklmnop} = U + A_i + W_{ij} + B_k + C_l + D_m + E_n + G_o + (BA)_{ik} + (BC)_{il} + (BD)_{im} + (BE)_{in} + (BG)_{io} + E_{ijklmno}$$

where each letter is as defined below:

$Y_{ijklmnop}$  = the pth observation (Guidance Index factor score) of the (ijklmno)th treatment combination (school size, school within size class, post-high school choice, sex, grade point average, counseling frequency, and socio-economic status of student)

U = grand mean

- $A_i$  = the true effect of the  $i$ th level of school size  
 $W_{ij}$  = component of the  $j$ th school within the  $i$ th size class  
 $B_k$  = the true effect of the  $k$ th post-high school choice  
 $C_l$  = the true effect of the  $l$ th sex  
 $D_m$  = the true effect of the  $m$ th level of grade point average  
 $F_n$  = the true effect of the  $n$ th level of student visits to the counselor's office while in high school  
 $G_o$  = the true effect of the  $o$ th level of student socio-economic status  
 $(BA)_{ki}$  = the true effect of the interaction of the  $k$ th post-high school choice and the  $i$ th level of school size  
 $(BC)_{kl}$  = the true effect of the interaction of the  $k$ th post-high school choice and the  $l$ th sex  
 $(BD)_{km}$  = the true effect of the interaction of the  $k$ th post-high school choice and the  $m$ th level of grade point average  
 $(BE)_{kn}$  = the true effect of the interaction of the  $k$ th post-high school choice and the  $n$ th level of student visits to the counselor's office while in high school  
 $(BF)_{ko}$  = the true effect of the interaction of the  $k$ th post-high school choice and the  $o$ th level of student socio-economic level  
 $E_{ijklmnop}$  = random error of the  $p$ th observation of the ( $ijklmno$ )th treatment combination

$$i = 1, 2, 3$$

$$j = 1, 2, \dots, 20$$

$$k = 1, 2, 3, 4$$

$$l = 1, 2$$

$$m = 1, 2$$



$$n = 1, 2$$

$$o = 1, 2$$

For each of the three variables, grade point average, student visits to the counselor in the counseling office while in high school and student socio-economic status, effects were assessed by fitting the linear and quadratic components of the corresponding orthogonal polynomial. This procedure permitted a test of both a linear and quadratic trend in these quantitative variables.

As a first step, a test was conducted to ascertain whether there was a first-order interaction between post-high school choice of students and their size of school, school attended, sex, grade point average, number of times they visited the counselor in the counseling office, and their socio-economic status. All first-order interactions were found to be non-significant. The model was then reduced by omitting all first-order interaction terms.

Each specific hypothesis was tested by omitting that model term representing the variable of the hypothesis and refitting the model. The differential regression sum of squares in this reduction was that due to the specific term dropped. For instance, effects due to post-high school choice were tested by fitting the following reduced model, subtracting the regression sum of squares, from that obtained in a fit of the full (no interaction) model, and forming the F-ratio through Mean Square (Difference)/Mean Square (Error).

The reduced model was:

$$Y_{ijklmnop} = U + A_i + W_{ij} + C_i + D_m + F_n + G_o + E_{ijklmno}$$

and the letters were redefined again.

Hypotheses were tested using the .05 level of significance.

Three basic hypotheses tested by the above models were:

Hypotheses 3. As assessed by the Guidance Index, there is no significant difference among the mean perception subscale scores of male and female high school students, students classified by post-high school choice, students categorized by size of high school attended, and students classified by school attended of their high school's Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service.

Hypothesis 4. As assessed by the Guidance Index, there is no significant relationship between students' mean perception subscale scores of their school's Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service and their socio-economic level, reported grade point average, and the number of times they visited the counselor in the counseling office while in high school.

Hypothesis 5. As assessed by the Guidance Index, there is no interaction between five different groups of students' perception subscale scores of their school's Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service and their sex, size of school attended, school attended, socio-economic status, reported grade point average, and number of times they visited the counselor in the counseling office while in high school.

## FINDINGS

## Introduction

The findings of this study are based upon the results obtained from the responses to the Guidance Index by 472 high school seniors. The respondents were students in 20 stratified, then randomly selected, public high schools in central Iowa. More specifically, respondents in certain schools were randomly selected from the total number who were given the Guidance Index, whereas in others, respondents were selected as a result of their entire classroom being drawn for inclusion in the investigation. The high schools in the study are located in an area coterminous with the boundary lines of the Des Moines Area Community College, commonly known as Area XI (see map in APPENDIX D). Participants were students in high schools situated in rural, suburban, and urban settings, thus comprising a sample considered to be representative of the population.

The results of this investigation will be reported in the following manner: (1) a hypothesis will be presented; (2) a written and tabular presentation of the results relevant to the hypothesis will be given; and (3) the relationship of the data to the hypothesis will be drawn.

Factor Analysis and Development  
of Scales

A factor analysis employing the Principal Factor Solution (51) procedure was applied to the data to determine whether the items in the Guidance Index formed factors representative of four vocational guidance areas. As a second step, the factor matrix was rotated using the Varimax Rotation method (51). The last statistical test applied to these data in

this phase of the study was the Coefficient Alpha technique (51) to estimate the reliability of each factored scale. Results of these analyses follow.

### Results of the factor analysis

Table 1 presents a condensation of the rotated factor matrix including only those data considered pertinent to the formation of the Guidance Index scales. Item numbers and factor loadings considered sufficient for inclusion in a scale are depicted in the table. Each specific hypothesis advanced regarding the factor analysis and the findings relevant to the hypothesis are found below.

Hypothesis 1. A factor analysis of the Guidance Index items representative of vocational guidance activities will yield specific factor scales in the following areas: Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service.

It was hypothesized that the Guidance Index (see APPENDIX C) was made up of items from four major vocational guidance areas. The four areas were the Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service.

A review of Table 1 revealed that 38 items had loadings regarded to be adequate for placement in a factor. As stated previously an item required a minimum loading of .30 to be considered. Furthermore, it was observed that of the 38 only 28, or 52 percent of all items had sufficient loadings to be included in the scale in which they were hypothesized. Moreover, it was found that five items--17, 20, 21, 42, and 43--exhibited a substantial relationship to each other and were viewed as an independent factor, although they were not hypothesized as such. The remaining 17

Table 1. Factor loadings of items on factors derived through the Varimax rotation method

Factor I		Factor II		Factor III		Factor V		Factor VI	
Occupational Information Service		Paternalistic Counseling Climate		Facilitative Counseling Climate		Vocational/Technical School Educational Information Service		Test Interpretation Service	
Item Number	Loading	Item Number	Loading	Item Number	Loading	Item Number	Loading	Item Number	Loading
15	.42	17	-.43 <sup>a</sup>	4	.36	41	.35	8	.33
16	.37	20	-.65	14	.44	49	.40	22	.57
18	.54	21	-.76	24	.45	51	.66	35	.67
19	.54	42	-.51	34	.49	52	.65	36	.58
23	.47	43	-.52	37	.66	53	.42		
25	.53			38	.58	54	.62		
26	.63			39	.61				
27	.58			40	.74				
28	.62								
30	.50								
31	.55								
32	.39								
33	.43								
44	.60								
50	.58								

<sup>a</sup>"Minus" sign preceding item number indicates items which require inverse scoring.

items did not contribute substantially to any of the four hypothesized factors and did not cluster sufficiently to form additional factors. The findings, therefore, presented evidence which supported the hypothesis for the areas of Occupational Information Service and Test Interpretation Service. This hypothesis was rejected for the Counseling Climate and Educational Information Service areas.

Analysis of the results revealed that the content of three of the four hypothesized factors were, with minor modifications, similar to that which was expected. These three were: Occupational Information Service, Counseling Climate, and Test Interpretation Service.

The fourth hypothesized area, the Educational Information Service, exhibited only six of 20 items with adequate loadings. It was decided to retain these six items as a scale, but it required a name change for the factor. It will be known in the remainder of this study as the Vocational/Technical School Information Service Scale. A more detailed explanation of the findings regarding specific hypotheses and related data is now presented.

#### Factor - Scale I

Hypothesis 1a. A factor analysis of Guidance Index items will yield a specific factor in the following area: Occupational Information Service.

#### Definition of Occupational Information Service:

That guidance service which provides "valid and usable data about positions, jobs, and occupations, including duties, requirements for entrance, conditions of work, rewards offered, advancement pattern, existing and predicted supply of and demand for workers, and sources for further information" (49) to meet the occupational information needs of secondary school youth.

It was hypothesized that the Guidance Index would be comprised of a number of items representative of vocational guidance activities which could be categorized under the title "Occupational Information Service".

As a result of the data obtained, hypothesis 1a. is supported. Fifteen Guidance Index items had sufficient loadings to be included in this factor.

Factor I is comprised of items which are considered to be representative of guidance activities found in the Occupational Information Service as it was defined above. The guidance activities which have high loadings on this factor seem to depict the counselor: (1) assisting counselees with future planning; (2) presenting resources to students regarding job placement; (3) helping students learn how to plan realistically; (4) encouraging counselees to consider how education relates to future occupational plans; and (5) enabling students to identify occupations closely related to their abilities and interests. The content of items in Factor I, for example, are: "A counselor assisted me in deciding what to do after graduation from high school", and "I was able to discuss with a counselor various areas of specialization in vocational education after high school". A complete list of these items and their content which loaded high on Factor I is found in Table 2.

#### Factor - Scale III

Hypothesis 1b. A factor analysis of Guidance Index items will yield a specific factor in the following area: Educational Information Service.

#### Definition of the Educational Information Service:

That guidance service which provides "valid and usable data about all types of present and probably future educational or training opportunities and requirements, including curricular and co-curricular of-

Table 2. Items and their factor loadings on Factor I, the Occupational Information Service scale

Item Number	Item Content	Factor Loading
15	A counselor assisted me in finding someone outside my school to give me information about a vocational field, an occupation, or job.	.42
16	A counselor assisted me in examining the types of financial aid available in college and/or vocational/technical schools.	.37
18	A counselor assisted me in deciding what to do after graduation from high school.	.54
19	I was able to discuss with a counselor various areas of specialization in vocational education after high school.	.54
23	After meeting with a counselor about my vocational and occupational plans, I felt that the counselor provided me with the information I wanted.	.47
25	A counselor helped me consider information about myself in relation to vocational plans.	.53
26	A school counselor encouraged me to investigate the educational requirements for occupations which I considered entering in the future.	.63
27	A school counselor provided adequate opportunities for me to improve my ability to make realistic plans for myself.	.58
28	The counselor gave me sufficient assistance in learning about occupations and types of abilities needed for each.	.62
30	The counselor helped me to obtain sufficient occupational information related to my interests.	.50
31	A counselor helped me to become familiar with employment opportunities, both in the present and the future.	.55
32	A counselor gave me adequate assistance in planning the subjects that I would take to help me in my future work.	.39
33	The counselor knew enough about occupations to be able to assist me in selecting an area for work.	.43
44	The counselor provided adequate help to me in identifying occupations which are closely related to my interests.	.60
50	The counselor provided adequate help to me in identifying occupations which are closely related to my abilities.	.58



ferings, requirements for entrance, and conditions and problems of life" (49) to meet the educational information needs of secondary school youth.

It was hypothesized that the Guidance Index would contain several items symbolic of vocational guidance operations which could be classified under the heading "Educational Information Service".

Analysis of the data collected to study hypothesis 1b. resulted in rejection of the hypothesis. Factor loadings on items 41, 49, 51, 52, 53, and 54 were adequate for inclusion in this factor. Due to the nature of the content of the items which make up Factor III, it has been labeled the Vocational/Technical School Educational Information Service Scale. Factor III evidently stems from such guidance activities as the counselor referring students to people knowledgeable about vocational/technical schools, providing students with information about their ability to succeed in vocational/technical schools, and giving students sufficient assistance in selecting a vocational/technical school. Items such as "The counselor gave me ample information about various vocational/technical schools admissions tests and procedures", and "The counselor gave me sufficient assistance in selecting a vocational/technical school" loaded high on Factor III. Essentially, this factor revealed the assistance the counselor provided students in the process of making future educational plans for vocational/technical school matriculation. Items in Factor III are found in Table 3.

Table 3. Items and their factor loadings on Factor III, the Vocational/  
Technical School Educational Information Service scale

Item Number	Item Content	Factor Loading
41	The counselor knew people who could provide information about different vocational/technical schools.	.35
49	A counselor provided me with information which indicated that I had the ability to succeed in a vocational/technical school.	.40
51	A counselor had sufficient vocational/technical school information available to aid me when I was choosing a vocational/technical school to attend.	.66
52	The counselor gave me ample information about various vocational/technical schools admissions tests and procedures.	.65
53	The counselor had adequate information about many of the vocational/technical schools in the United States.	.42
54	The counselor gave me sufficient assistance in selecting a vocational/technical school.	.62

Factor - Scale VI

Hypothesis 1c. A factor analysis of Guidance Index items will yield a specific factor in the following area: Counseling Climate.

Definition of Counseling Climate:

The student's perception of the relationship which exists between himself and the counselor.

More specifically, it was hypothesized that certain items within the Guidance Index were characteristic of guidance activities which would cluster together and could be categorized under the title Counseling Climate.

Analysis of the data relevant to hypothesis 1c. resulted in a rejection of it. Examination of the factor analysis revealed that the items hypothesized as comprising the Counseling Climate split into two factors. One of these factors, Factor VI, was made up of eight items, 4, 14, 24, 34, 37, 38, 39, and 40. The second factor, Factor II, demonstrated adequate loadings on items 17, 20, 21, 42, and 43.

In light of these findings, it was decided to consider Factors VI and II further, but in different terms than hypothesized. Factor VI refers to such guidance activities as students presenting personal problems to the counselor, students perceiving the counselor as having a genuine interest in them, and students recognizing that counselors could provide them with help in thinking more clearly through their plans. Characteristic of item composition within this scale is evident in the following, "I felt that when I met with a counselor they were genuinely interested in me" and "The counselor helped me think more clearly about a problem or question I had". Table 4 contains the seven items in this scale which have been given the

title Facilitative Counseling Climate. This label is considered appropriate as the item content appears to be representative of a relationship between counselor and counselee which would be conducive to growth and development.

Table 4. Items and their factor loadings on Factor VI, the Facilitative Counseling Climate scale

Item Number	Item Content	Factor Loading
4	It was convenient to schedule a meeting with a counselor when one was needed.	.36
14	It was convenient to discuss my vocational plans with a counselor.	.44
24	I felt that each of my meetings with a counselor had a mutually agreed upon purpose.	.45
34	When I had a personal problem, I felt free to discuss it with a counselor.	.49
37	I felt that when I met with a counselor he was genuinely interested in me.	.66
38	When meeting with me, the counselor usually talked about the things I wanted to talk about.	.58
39	The counselor helped me to think more clearly about a problem or question I had.	.61
40	The counselor was a person who was easy to talk with.	.74

Factor II is comprised of items which could be characteristic of a paternalistic counseling climate, thus the title. Collectively, the items which form Factor II relate to a counseling climate which could be stifling and counterproductive. The Paternalistic Counseling Climate scale is rep-

tively, the items which form Factor II relate to a counseling climate which could be stifling and counterproductive. The Paternalistic Counseling Climate scale is represented by items such as: "A counselor put pressure on me to attend a college" and "The counselor told students which occupations they should choose". The literature is replete with articles suggesting that counselors should not "tell" or "pressure" students into making decisions. Furthermore, it is implied that if the counselor functions in this manner, he is running the risk of establishing a paternalistic relationship (climate) between himself and his clients. Factor II items are found in Table 5.

Table 5. Items and their factor loadings on Factor II, the Paternalistic Counseling Climate scale

Item Number	Item Content	Factor Loading
17	A counselor attempted to pressure me not to attend a college.	-.43 <sup>a</sup>
20	A counselor put pressure on me to attend a college.	-.65
21	A counselor used pressure when dealing with me when I was in the process of choosing an occupation.	-.76
42	The counselor told students which occupation they should choose.	-.51
43	The counselor told me which type of school I should attend after high school.	-.52

<sup>a</sup>"Minus" sign preceding item number indicates which require inverse scoring.

Factor - Scale V

Hypothesis 1d. A factor analysis of Guidance Index items will yield a specific factor in the following area: Test Interpretation Service.

Definition of the Test Interpretation Service:

The counselor's communication of test results to students.

In a more detailed perspective, it was hypothesized that a number of items in the Guidance Index characteristic of vocational guidance activities within the Test Interpretation Service as defined above would form a scale.

Analysis of the data collected to study hypothesis 1d. did not result in rejection of the hypothesis. The four items hypothesized to comprise the Test Interpretation Service scale loaded sufficiently. Rationally interpreted, Factor V seems to involve such guidance activities as the counselor providing students with information indicating they had the ability to succeed in college and the counselor satisfactorily discussing ability and achievement test results with students. The title Test Interpretation Service was applied to the scale because of the item content as seen in the following examples: "A counselor satisfactorily interpreted to me results of tests I had taken and helped me relate them to future occupations" and "I was satisfied with the discussion I had with the counselor regarding my ability and achievement test results". A complete schedule of this scale is found in Table 6. In summary, Factor V items reveal the counselor's role in communicating test results to students.

Table 6. Items and their factor loadings on Factor V, the Test Interpretation Service scale

Item Number	Item Content	Factor Loading
8	The results of tests I took in high school provided me with helpful information about myself and my choosing an occupation.	.33
22	A counselor provided me with information which indicated that I had the ability to succeed in a college.	.57
35	A counselor satisfactorily interpreted to me results of tests I had taken and helped me relate them to future occupations.	.67
36	I was satisfied with the discussion I had with my counselor regarding my ability and achievement test results.	.58

Further analysis revealed that the 16 items which did not cluster into the above factors combined to form small, but insignificant, groups of items in Factors IV, VII, VIII, and IX. The reasons for not using these clustered items were that they had either insufficient loadings on any of the five factors reviewed previously or did not combine with a sufficient number of items to be considered as an independent factor of some nature. These items were, therefore, rejected for further study in this investigation. Content of these items can be found in Table 7.

The findings of the first phase of this investigation revealed that the Guidance Index, when factored, is comprised of factors representative of services considered present in a vocational guidance program. Two of these factors, the Occupational Information Service and the Test Interpretation Service, were made up of items similar to those hypothesized. One, the Counseling Climate, was found to have two item clusters which were ap-

Table 7. Guidance Index items which did not have sufficient loadings for inclusion in the extracted factors

---

- |    |   |
|----|---|
| 1  | College information materials were easy for me to obtain in my high school.   |
| 2  | I was able to make good use of the college information materials that my high school teachers provided in the classroom.                    |
| 3  | My high school teachers adequately presented future educational implications of the subject they taught.                                    |
| 5  | The high school provided adequate opportunities for students to visit colleges.   |
| 6  | Adequate provisions were made in the high school schedule to allow for group guidance concerned with education beyond high school.          |
| 7  | I felt adequate group guidance about how to choose an occupation was provided in my high school.  |
| 9  | The high school provided ample opportunities for students to visit business and industries  |
| 10 | My teachers took adequate class time to discuss occupations related to their subjects.  |
| 11 | Occupational information materials were easy for me to obtain in my high school.  |
| 12 | I was able to make good use of the vocational/technical school information materials in my classroom that my high school teachers provided. |
| 13 | The high school provided sufficient opportunities for students to visit vocational/technical schools.                                       |
| 29 | The counselor's office had adequate information about many occupations in the United States.  |
| 45 | The counselor had sufficient college information available to aid me when I was choosing a college.   |
| 46 | The counselor gave me ample information about various college admissions tests and procedures.  |
| 47 | The counselor had adequate information about many of the colleges in the United States.   |
| 48 | A counselor gave me sufficient assistance in selecting a college or university.   |
-



appropriately labeled the Facilitative Counseling Climate Scale and the Paternalistic Counseling Climate Scale. It was also found that because of item composition in Factor III, its title had to be changed from Educational Information Service to the Vocational/Technical School Educational Information Scale. Items within these five factors have demonstrated apparent inter-relationship with one another. As a further determination of this relationship, an estimate of each scale's reliability was conducted, the results of which are presented in the following pages.

#### Reliability of the Guidance Index Scales

Five specific factors representing basic vocational guidance areas were identified through the factor analysis. The Coefficient Alpha formula (51) was applied to each factor to determine whether it had adequate reliability for group measurement purposes. Results of this process are reported below. Hypotheses concerning the reliability of the individual factors will be stated prior to the findings related to them and will be followed by a written and tabular presentation of the results of the treatment. The general hypothesis regarding the reliability of the scales and data relevant to it are stated in that order.

#### Results of the factor scale reliability

Hypothesis 2. The reliability coefficients of the factored scales which comprise the Guidance Index are adequate for group measurement of vocational guidance.

An analysis of the data supported hypothesis 2. All of the hypothesized scales had reliability estimates ranging between .91 and .72. Moreover, the scale not hypothesized in the Guidance Index, the Paternalistic Counseling Climate scale, had a reliability estimate of .72. Thus,

all scales appeared to have sufficient reliability coefficients for group measurement purposes according to the minimum criterion established in this study.

A review of each specific hypothesis regarding the reliability of each scale and data pertinent to the hypothesis follow.

Hypothesis 2a. The reliability coefficient of the Occupational Information Service scale is adequate for group measurement purposes.

Analysis of the data gathered resulted in failure to reject the above hypothesis. The reliability estimate of Factor I as determined through the Coefficient Alpha technique (51) was .91, sufficient for group measurement. The matrix of the inter-item correlations which make up this factor are exhibited in Table 8. The range of the inter-item correlations is .22 and .61 with a mean inter-item correlation of .41. Thus, items in Factor I appear to have a low to high relationship with each other.

Hypothesis 2b. The reliability coefficient of the Vocational/Technical School Educational Information Service scale is adequate for group measurement purposes.

Analysis of the data gathered to test hypothesis 2b. resulted in failure to reject the hypothesis. The reliability estimate of Factor III was .81. Inter-item correlations for the Vocational/Technical School Educational Information Service scale ranged between .24 and .55 with a mean of .41. A low to moderate relationship was evident between these items. The data in Table 9 depict the inter-item correlations for Factor III.

Hypothesis 2c. The reliability coefficient of the Facilitative Counseling Climate scale is adequate for group measurement purposes.

Analysis of the results for hypothesis 2c. supported the hypothesis. The estimated reliability of the seven items forming this scale as deter-

Table 8. Inter-item correlations of items in Factor I, the Occupational Information Service scale

Item Numbers	15	16	18	19	23	25	26	27	28	30	31	32	33	44	50
15															
16	.31														
18	.36	.30													
19	.31	.32	.51												
23	.35	.40	.32	.39											
25	.29	.35	.46	.48	.43										
26	.27	.37	.37	.41	.39	.48									
27	.35	.30	.38	.43	.46	.46	.46								
28	.37	.33	.38	.46	.47	.48	.48	.54							
30	.37	.34	.38	.40	.51	.44	.39	.44	.51						
31	.35	.33	.35	.36	.44	.44	.41	.35	.49	.50					
32	.28	.25	.22	.32	.41	.35	.34	.40	.36	.35	.32				
33	.32	.33	.32	.39	.52	.38	.29	.41	.48	.46	.43	.38			
44	.39	.37	.49	.49	.50	.55	.45	.47	.56	.56	.45	.39	.47		
50	.31	.40	.42	.45	.48	.50	.44	.48	.57	.51	.53	.41	.46	.61	

mined by the Coefficient Alpha technique was .87. The inter-item correlations for Factor VI appear in Table 10. Inter-item correlations on this scale ranged from .24 to .68 with a mean of .47, thus indicating a low to high inter-item relationship.

Factor II, the Paternalistic Counseling Climate scale, was not hypothesized in this investigation, but because of its relevancy and importance it has been included. This factor exhibited adequate reliability, .72, for group measurement purposes. The inter-item correlations for Factor II are presented in Table 11. They ranged from .19 to .56 and have a mean of .34. A low to high moderate correlation exists between these items.

Hypothesis 2d. The reliability coefficient of the Test Interpretation Service scale is adequate for group measurement purposes.

Analysis of the data relevant to the above hypothesis resulted in failure to reject it. The estimated reliability of the Test Interpretation scale was .72 which is sufficient for group measurement purposes. Inter-item correlations for this factor are depicted in Table 12. They ranged between .19 and .66, with a mean of .40. A low to high inter-item relationship exists between items on this scale.

Summarily, four scales factored out in the Guidance Index. Moreover, each demonstrated adequate reliability for group measurement purposes. In addition, an unanticipated factor, the Paternalistic Counseling Climate scale, was derived from the factor analysis of the instrument. It, too, had an adequate reliability coefficient for group measurement.

Table 9. Inter-item correlations of items in Factor III, the Vocational/  
Technical School Educational Information Service scale

Item Number	41	49	51	52	53	54
41						
49	.30					
51	.43	.41				
52	.35	.41	.53			
53	.34	.24	.43	.43		
54	.37	.43	.51	.55	.43	

Table 10. Inter-item correlations of items in Factor VI, the Facilitative  
Counseling Climate scale

Item Number	4	14	24	34	37	38	39	40
4								
14	.48							
24	.37	.46						
34	.24	.36	.28					
37	.38	.54	.50	.35				
38	.37	.51	.53	.30	.64			
39	.34	.52	.55	.42	.62	.62		
40	.32	.51	.52	.48	.68	.60	.62	

Table 11. Inter-item correlations of items in Factor II, the Paternalistic Counseling Climate scale

Item Number	17	20	21	42	43
17					
20	.23				
21	.46	.56			
42	.34	.25	.42		
43	.19	.34	.30	.36	

Table 12. Inter-item correlations of items in Factor V, the Test Interpretation Service scale

Item Number	8	22	35	36
8				
22	.19			
35	.32	.46		
36	.34	.43	.66	

### Analysis of Variance

In the final phase of this investigation several hypotheses were advanced to determine whether there were any significant differences among students' perception of the five vocational guidance areas in this study when students were categorized by post-high school choice, sex, size of school attended, and school attended. Secondly, an analysis was also performed to ascertain whether there was a significant relationship between students' perceptions of vocational guidance services and their grade point average, socio-economic status, and number of times they visited the counselor in the counseling office while in high school. An analysis of variance technique was employed to ascertain the significant differences and significant relationships. A confidence level at or beyond the .05 level of significance was established as necessary for rejection of a hypothesis.

As was mentioned previously, the data obtained in this phase was analyzed in terms of certain student characteristic variables, such as sex and socio-economic status. Before proceeding, a brief description of these variables is now presented:

1. Post-high school choice: This variable was obtained by asking respondents to indicate whether they were planning to: (1) attend a four-year college or university; (2) attend a general or transfer program at a community college for one or two years; (3) find a job and go to work; (4) attend a one or two-year public or private vocational/technical school; or (5) attend a licensed practical or registered nursing school. Because of the small number who checked category 5, it was combined with sub-category 4 and analyzed on this basis. This variable, post-high school choice, was

the primary variable to be analyzed in this phase of the study.

2. Sex: Male or female.

3. Race: This category had insufficient respondents (all were Caucasian except four) and was not analyzed.

4. Socio-economic status: Hollingshead's Two-Factor Index of Social Position (31) was used to obtain the necessary information to place students in one of five social classes. The head of household's occupational pursuit and years of school completed was assessed for placement at a specific level.

5. Student's reported grade point average: These data were acquired by asking respondents to report their high school grade point average from the following: A, B plus, B, B-, C plus, C, C-, D plus, D, and D-.

6. Counseling frequency: To construct this variable, students were asked to estimate the number of times they had talked with a counselor in the counseling office during high school.

7. Size of school attended: High schools randomly selected for participation in this study were categorized into the three following strata: Small, 0-399; Middle-sized, 400-999; and Large, 1000-up.

8. School attended: This variable refers to each of the 20 schools which were included in the investigation.

#### Results of the analysis of variance

The last phase of this investigation will be reported in the following manner: (1) a specific hypothesis will be stated; and (2) the hypothesis will be followed by a written and tabular presentation of the results relevant to the hypothesis.



Hypothesis 3a. There is no significant difference among the mean perception subscale scores of the Occupational Information Service of the Guidance Index of students when they are classified by post-high school choice, sex, size of school attended, and school attended.

Findings for null hypothesis 3a. are depicted in Table 13. Statistically significant differences among students' perceptions of their vocational guidance were found only on the variable school attended. In Table 13 an F value of 5.02, which is greater than the tabular F value of 1.62 at the five percent level of significance, is found. Presented in Table 14 are the means for the five vocational guidance areas as perceived by students in the 20 schools in this study.

The values of F were not statistically significant for variables post-high school choice, sex, and size of school attended. Thus, there was insufficient evidence to reject the hypothesis.

Hypothesis 4a. There is no significant relationship between the mean perception subscale scores of the Occupational Information Service of the Guidance Index of students and their socio-economic status, reported grade point average, and the number of times they visited the counselor while in high school.

The results of the analysis for hypothesis 4a. are also reported in Table 13. It can be seen in Table 13 that a statistically significant relationship exists between students' perceptions of the Occupational Information Service and the frequency with which they visited a counselor while in high school. The F value of 8.55 regarding this variable exceeded the tabular F value of 3.86 at the five percent level of significance. The hypotheses was therefore rejected for this variable. The results of this analysis are presented in Figure 2. The mean scores of student perceptions of this service are found in Table 15.

Table 13. Analysis of variance of various student groups' perceptions of the Occupational Information Service

Source of variation	df	Sum of Squares	Mean Squares	F
Among Schools	19	15471.79	814.30	5.02 <sup>a</sup>
Size of school	2	1650.34	825.17	1.01
Schools within size class	17	13821.45	813.03	
Post-high school choice	3	502.37	167.46	1.03
Sex	1	398.09	398.09	2.45
Grade point average	2	1.58	0.79	<1
Linear	1	0.92	0.92	<1
Quadratic	1	0.62	0.62	<1
Counseling frequency	2	1872.07	936.04	
Linear	1	1386.73	1386.73	8.55 <sup>a</sup>
Quadratic	1	485.34	485.34	2.99
Socio-economic status	2	244.93		
Linear	1	108.08	108.08	<1
Quadratic	1	136.85	136.85	<1
Error	442	71711.52	162.24	
Total	471	91411.49		

<sup>a</sup>Significant at or beyond the one percent level.

Table 14. Individual schools' mean perception scores on each of the five Guidance Index scales

Occupational Information Service			Paternalistic Counseling Climate			Vocational/Technical School Educational Information Service			Facilitative Counseling Climate			Test Interpretation Service		
School	Mean	Rank	School	Mean	Rank	School	Mean	Rank	School	Mean	Rank	School	Mean	Rank
1	54.26	(15)	1	14.55	(14) <sup>a</sup>	1	29.92	(14)	1	22.18	(17)	1	16.27	( 8)
2	59.60	( 9)	2	12.00	( 5)	2	35.74	( 7)	2	24.31	(11)	2	14.17	(16)
3	58.74	(11)	3	13.51	(12)	3	34.53	(10)	3	24.83	(10)	3	14.45	(13)
4	51.97	(16)	4	14.63	(15)	4	29.28	(16)	4	21.31	(18)	4	14.21	(15)
5	59.98	( 8)	5	14.94	(16)	5	36.84	( 6)	5	24.95	( 9)	5	15.60	(11)
6	54.28	(14)	6	16.09	(19)	6	28.72	(18)	6	24.13	(13)	6	14.27	(14)
7	58.70	(12)	7	12.00	( 5)	7	37.79	( 3)	7	22.58	(16)	7	16.73	( 7)
8	69.70	( 1)	8	11.79	( 2)	8	40.57	( 1)	8	28.53	( 1)	8	18.51	( 2)
9	66.14	( 2)	9	11.84	( 3)	9	38.45	( 2)	9	28.17	( 2)	9	19.11	( 1)
10	60.75	( 7)	10	15.41	(17)	10	33.31	(11)	10	24.17	(12)	10	15.67	(10)
11	64.69	( 3)	11	12.53	( 8)	11	37.41	( 4)	11	26.35	( 3)	11	16.74	( 6)
12	59.33	(10)	12	14.17	(13)	12	35.28	( 9)	12	25.01	( 8)	12	15.86	( 9)
13	48.21	(19)	13	13.48	(11)	13	28.70	(19)	13	20.47	(20)	13	13.65	(17)
14	61.68	( 6)	14	13.37	(10)	14	37.15	( 5)	14	25.03	( 7)	14	15.60	(11)
15	51.62	(18)	15	12.30	( 6)	15	29.17	(17)	15	22.76	(15)	15	12.71	(20)
16	46.91	(20)	16	16.61	(20)	16	26.08	(20)	16	20.83	(19)	16	13.14	(19)
17	51.93	(17)	17	15.47	(18)	17	29.32	(15)	17	23.54	(14)	17	17.28	( 4)
18	62.98	( 5)	18	13.03	( 9)	18	32.67	(12)	18	26.28	( 4)	18	17.84	( 3)
19	58.44	(13)	19	12.36	( 7)	19	30.33	(13)	19	25.98	( 5)	19	16.81	( 5)
20	63.27	( 4)	20	11.78	(20)	20	35.36	( 8)	20	25.75	( 6)	20	13.65	(17)

<sup>a</sup>Rankings in this column have been reversed, i.e., 1 has been changed to 20 and 20 has been changed to 1. High mean perception scores in this column represent a negative perception about this service.

Small school mean perception scores are found in rows 1 through 7; middle-size school mean perception scores are found in rows 8 through 13; and large school mean perception scores are found in rows 14 through 20.

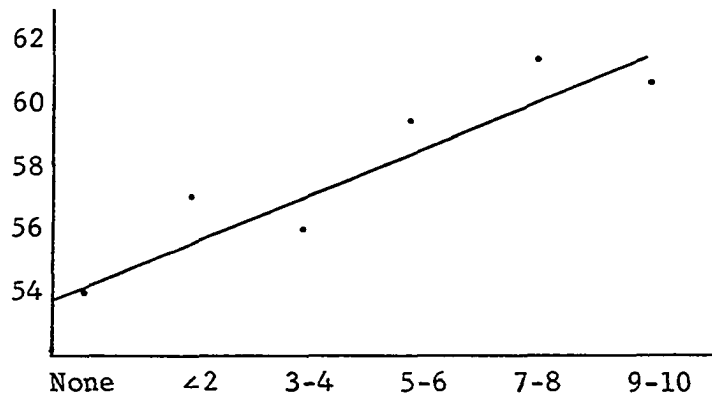


Figure 2. Students' mean perception scores of the Occupational Information Service when categorized by frequency of visits to the counselor's office while in high school

Table 15. Means of students' perception scores of the Occupational Information Service when students are categorized by the number of visits they made to the counselor in the counseling office while in high school

Number of Visits	Mean
1-2	54.11
3-4	57.21
5-6	56.40
7-8	59.66
9-10	61.77
More than 10	61.43

The values of F were not significant for the remaining variables. Hypothesis 4a. failed to be rejected for the variables of socio-economic status and student reported grade point average.

Hypothesis 3b. There is no significant difference among the mean perception subscale scores of the Paternalistic Counseling Climate of the Guidance Index of students when they are classified by post-high school choice, sex, size of school attended, and school attended.

The findings for hypothesis 3b. are found in Table 16. In the table it can be seen that the only statistically significant difference among students' perceptions of the Paternalistic Counseling Climate was due to the variable school attended. Analysis of the data gathered relevant to this variable resulted in rejection of the hypothesis. An F ratio of 1.62 was required for rejection at the .05 significance level. The F value in Table 16 surpassed the tabular F value. The reader is referred to Table 14 for individual school means on the Paternalistic Counseling Climate scale.

Further examination of Table 16 revealed that the F values were not statistically significant for the variables of post-high school choice, sex, and size of school attended and students' perceptions of Paternalistic Counseling Climate. Thus, analysis of data pertinent to these variables resulted in failure to reject hypothesis 3b.

Hypothesis 4b. There is no significant relationship between the mean perception subscale scores of the Paternalistic Counseling Climate of the Guidance Index of students and their socio-economic status, reported grade point average, and the number of times they visited the counselor while in high school.

In Table 16 it can be seen that there were no statistically significant F values for the variables present in hypothesis 4b. Therefore, the hypothesis was not rejected for the variables of student status, student reported grade point average, and the number of times a respondent saw the counselor in his office and their perceptions of the Paternalistic

Table 16. Analysis of variance of various student groups' perceptions of the Paternalistic Counseling Climate

Source of variation	df	Sum of Squares	Mean Squares	F
Among Schools	19	1066.23	56.12	2.24 <sup>a</sup>
Size of school	2	20.44	10.22	<1
Schools within size class	17	1045.79	61.52	
Post-high school choice	3	156.84	52.28	2.09
Sex	1	0.44	0.44	<1
Grade point average	2	13.25		
Linear	1	0.40	0.40	<1
Quadratic	1	12.85	12.85	<1
Counseling frequency	2	40.90		
Linear	1	26.07	26.07	1.04
Quadratic	1	14.83	14.83	<1
Socio-economic status	2	1.33		
Linear	1	0.08	0.08	<1
Quadratic	1	1.25	1.25	<1
Error	442	11048.67	25.00	
Total	471	12170.38		

<sup>a</sup>Significant at or beyond the one percent level.

#### Counseling Climate.

Hypothesis 3c. There is no significant difference among the mean perception subscale scores of the Facilitative Counseling Climate of the Guidance Index of students when they are classified by post-high school choice, sex, size of school attended, and school attended.

Presented in Table 17 are the results of the analysis of variance pertaining to the Facilitative Counseling Climate. An analysis of the data in the table indicated that a statistically significant difference among students' perceptions of this service was present due to the vari-

able schools. Table 17 indicated an F value of 5.68 for the among schools variable which is greater than the tabular F value of 1.62 at the five percent level of confidence.

Table 17. Analysis of variance of various student groups' perceptions of the Facilitative Counseling Climate

Source of variation	df	Sum of Squares	Mean Squares	F
Among Schools	19	7310.79	384.78	5.68 <sup>a</sup>
Size of school	2	802.58	401.29	1.05
Schools within size class	17	6508.21	382.84	
Post-high school choice	3	145.26	48.42	<1
Sex	1	240.97	240.97	3.56
Grade point average	2	27.65		
Linear	1	22.96	22.96	<1
Quadratic	1	4.69	4.69	<1
Counseling frequency	2	941.16		
Linear	1	832.47	832.47	12.29 <sup>a</sup>
Quadratic	1	108.69	108.69	1.60
Socio-economic status	2	76.05		
Linear	1	11.21	11.21	<1
Quadratic	1	64.84	64.84	<1
Error	442	29943.44	67.75	
Total	471	38689.32		

<sup>a</sup>Significant at or beyond the one percent level.

Hypothesis 3c. was, therefore, rejected on this variable. The school means for the Facilitative Counseling Climate scale are reported in Table 14.

Analysis of the data gathered regarding the remaining variables, i.e., students' perceptions of the Facilitative Counseling Climate when

categorized by post-high school choice, sex, and size of school attended, to test hypothesis 3c. resulted in failure to reject the null hypothesis. The following F values required for rejection of the hypothesis at the .05 level and their respective variables are: 2.62--post-high school choice; 3.59--size of school attended; and 3.86--sex. It can be observed in Table 17 that the F values for the stated variables do not meet these levels.

Hypothesis 4c. There is no significant relationship between the mean perception subscale scores of the Facilitative Counseling Climate of the Guidance Index of students and their socio-economic status, reported grade point average, and the number of times they visited the counselor while in high school.

Results of this analysis can be seen in Table 17. Part of this hypothesis was rejected due to the statistically significant relationship between students' perceptions of the Facilitative Counseling Climate and the number of times a student visited a counselor. This relationship revealed that the more a student visited with his counselor the higher was his perception regarding the relationship. The reverse is also true. The results of this analysis are depicted in Figure 3. The means of students' perceptions of the Facilitative Counseling Climate are exhibited in Table 18.

The F values were not statistically significant for the remaining independent variables. This resulted in the failure to reject the hypothesis for the variables socio-economic status and student reported grade point average.

Hypothesis 3d. There is no significant difference among the mean perception subscale scores of the Vocational/Technical School Educational Information Service of the Guidance Index of students when they are classified by post-high school choice, sex, size of school attended, and school attended.



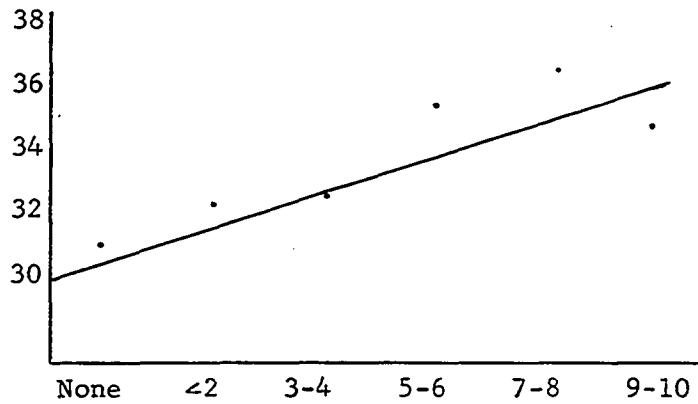


Figure 3. Students' mean perception scores of the Facilitative Counseling Climate when categorized by frequency of visits to the counselor's office while in high school

Table 18. Means of students' perception scores of the Facilitative Counseling Climate when students are categorized by the number of visits they made to the counselor in the counseling office while in high school

Number of Visits	Mean
1-2	30.95
3-4	32.15
5-6	32.36
7-8	35.61
9-10	36.26
More than 10	35.38

It can be observed in Table 19 that the only statistically significant difference among students' perceptions of the Vocational/Technical School Educational Information Service was due to the variable school attended. Student mean perception scores on this scale are depicted in Ta-

ble 14. The hypothesis regarding this variable was rejected for the categories of post-high school choice, sex, and size of school attended as the F values were not significant for these variables.

Table 19. Analysis of variance of various student groups' perceptions of the Vocational/Technical School Educational Information Service

Source of variation	df	Sum of Squares	Mean Squares	F
Among Schools	19	2205.24	116.07	4.89 <sup>a</sup>
Size of school	2	323.85	161.93	1.46
Schools within size class	17	1881.39	110.67	
Post-high school choice	3	89.63	29.87	1.26
Sex	1	15.00	15.00	<1
Grade point average	2	100.15		
Linear	1	39.38	39.38	1.66
Quadratic	1	60.77	60.77	2.56
Counseling frequency	2	60.15		
Linear	1	40.90	40.90	1.72
Quadratic	1	19.25	19.25	<1
Socio-economic status	2	86.38		
Linear	1	18.90	18.90	<1
Quadratic	1	67.48	67.48	2.84
Error	442	10486.65	23.73	
Total	471	13023.20		

<sup>a</sup>Significant at or beyond the one percent level.

Hypothesis 4d. There is no significant relationship between the mean perception subscale scores of the Vocational/Technical School Educational Information Service of the Guidance Index of students and their (1) socio-economic status, (2) reported grade point average, and (3) the number of times they visited the counselor while in high school.

The regression analysis conducted to assess null hypothesis 4d. did not result in rejection of the hypothesis. The F values for the variables of socio-economic status, student reported grade point average, and the number of times a student visited the counselor were found to be not statistically significant.

Hypothesis 3e. There is no significant difference among the mean perception subscale scores of the Test Interpretation Service of the Guidance Index of students when they are classified by post-high school choice, sex, size of school attended, and school attended.

The results of the analysis of variance relevant to hypothesis 3e. are presented in Table 20. Two of the F values for the school attended and sex variables were significant at the five percent level. In Table 20 the F value of 4.22 for schools exceeded the tabular F value of 1.62. Thus, students in a number of the participating schools had statistically significantly different perceptions of their school's Test Interpretation Service than students in other high schools. The means by school for the Test Interpretation Service are reported in Table 14. The calculated F value of 6.55 for the variable sex exceeded the tabular F value of 3.86. Males had a statistically significantly higher perception of this service than did females. The null hypothesis was rejected for these two variables.

There was no statistically significant difference found among the variables of post-high school choice and size of school attended. Therefore, the hypothesis for these latter two variables was not rejected. Results of this analysis are found in Table 20.

Hypothesis 4e. There is no significant relationship between the mean perception subscale scores of the Test Interpretation Service of the Guidance Index of students and their

Table 20. Analysis of variance of various student groups' perceptions of the Test Interpretation Service

Source of variation	df	Sum of Squares	Mean Squares	F
Among Schools	19	1369.19	72.06	4.22 <sup>a</sup>
Size of school	2	191.71	95.86	1.38
Schools within size class	17	1177.48	69.26	
Post-high school choice	3	50.29	16.76	<1
Sex	1	111.68	111.68	6.55 <sup>b</sup>
Grade point average	2	200.98		
Linear	1	197.29	197.29	11.56 <sup>a</sup>
Quadratic	1	3.69	3.69	<1
Counseling frequency	2	50.35		
Linear	1	50.09	50.09	2.94
Quadratic	1	0.26	0.26	<1
Socio-economic status	2	67.16		
Linear	1	7.76	7.76	<1
Quadratic	1	59.40	59.40	3.48
Error	442	7542.61	17.06	
Total	471	9392.26		

<sup>a</sup>Significant at or beyond the one percent level.

<sup>b</sup>Significant at or beyond the five percent level.

socio-economic status, reported grade point average, and the number of times they visited the counselor while in high school.

The findings for hypothesis 4e. are reported in Table 20. In viewing Table 20, it can be seen that a statistically significant relationship is present between students' perceptions of their school's Test Interpretation Service and students' reported grade point average. The calculated F value of this relationship was 11.56 which exceeded the tabular F value of

3.86 at the five percent level of significance. Further examination of this relationship revealed that students who had the higher grade point average also had a more favorable perception of their Test Interpretation Service. This relationship is depicted in Figure 4. The hypothesis 4e. was rejected. The mean student perception scores of this service are found in Table 21.

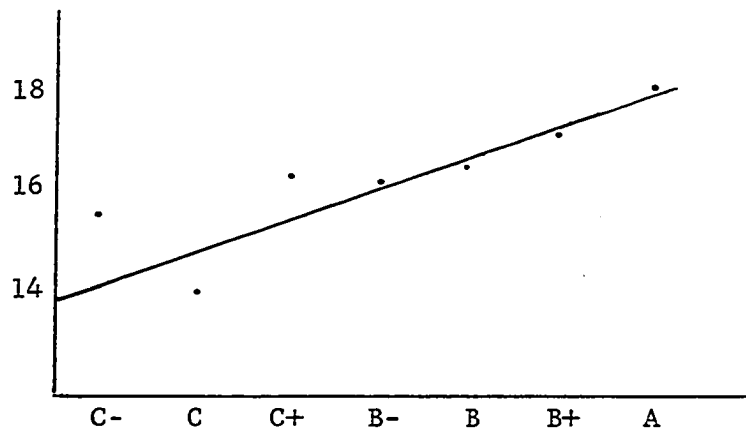


Figure 4. Students' mean perception scores of the Test Interpretation Service when categorized by grade point average

The F values were not statistically significant for the remaining variables. Therefore, the hypothesis failed to be rejected for the independent variables of socio-economic status and the number of times the students met with the counselor while in high school.

A review of the findings of this phase of the investigation revealed that:

1. There was a statistically significant difference among students' perceptions of the five vocational guidance services when they were categorized by school attended.
2. There were no statistically significant differences among stu-

Table 21. Means of students' perception scores of the Test Interpretation Service when students are categorized by grade point average

Grade Point Average	Mean
C-	15.68
C	13.78
C+	16.07
B-	15.94
B	16.00
B+	16.36
A	17.22

dents' perceptions of the five vocational guidance services when they were categorized by post-high school choice and size of school attended.

3. There was a statistically significant difference among students' perceptions of the Test Interpretation Service when they were categorized by sex. Males had a significantly higher perception of this service than females.
4. There was no statistically significant relationship between students' perceptions of their Occupational Information Service, Paternalistic Counseling Climate, Facilitative Counseling Climate, Vocational/Technical School Information Service, and Test Interpretation Service and their socio-economic status.
5. There was a statistically significant relationship between students' perceptions of the Occupational Information Service and the Facilitative Counseling Climate and the number of times a student met with a counselor in the counseling office during high school. Students who visited the counselor frequently while in high school had a significantly higher perception of these two areas than students who visited the counselor less frequently.
6. There was a statistically significant relationship between students' perception of their Test Interpretation Service and their grade point average. Students with above average grade point averages had significantly higher perceptions of the Test Interpretation Service than did those with below average grades.

The variable race was not analyzed due to insufficient data.

In Section II of the Guidance Index, students were provided an opportunity to respond to the following open-ended statement: "Please indicate below your opinions, ideas, or feelings you have about the vocational guidance you received while in high school." Too few students responded to this statement for the investigator to make any inferences from these data.

Important findings in this study have been explicitly stated in this chapter. A discussion of these findings is presented in the chapter which follows.

## DISCUSSION

This study was undertaken (1) to develop a reliable, scientifically researched instrument, known as the Guidance Index, which could be used by guidance practitioners in assessing their vocational guidance program to determine area strengths and weaknesses; (2) to ascertain through a factor analysis whether the items comprising the Guidance Index were actually representative of four basic vocational guidance areas--Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service; and (3) to investigate the significance of high school senior student groups' perceptions of their vocational guidance.

As a first step, an instrument was designed and developed to meet the purposes of this investigation. A review of the literature and all known and available guidance evaluation instruments was conducted. Materials considered pertinent to this study were selected and formed into appropriate items. The content of the items comprising the Guidance Index was selected to be representative of four basic vocational guidance service areas known in this study as: Occupational Information Service, Counseling Climate, Educational Information Service and Test Interpretation Service. After two pilot studies the revised Guidance Index was administered to high school senior students in 20 randomly selected high schools in an area known as Area XI located in Central Iowa (see APPENDIX D). Appropriate statistical techniques were applied to the collected data, and the findings of the statistical analyses were reported in the previous chapter. The discussion will be directed to four questions.



Question 1: Can a valid and reliable instrument known as the Guidance Index be developed for use as a vocational guidance program assessment device? The validity to be determined is factorial validity, described by Helmstadter (28) as a sophisticated form of content validity. A factor analysis of obtained data was performed to ascertain whether the instrument is comprised of items which form scales (factors) in the following basic vocational guidance areas: Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service. If the above factors are extracted, a reliability estimate of each scale will be conducted.

### Validity

Throughout the literature, it was suggested that specific vocational guidance activities should be provided to youth as they enter and progress through the vocational decision-making process. Which specific guidance offerings should be provided has always been subject to question, but the review revealed that certain activities could be identified as components of four basic vocational guidance service areas. The activities considered appropriate for this investigation were transformed into items amenable to a Likert-type format and placed in the Guidance Index. The instrument at that point was assumed to have content validity and could be used for assessment of the four basic vocational guidance service areas previously described. However, it was decided that content validity was insufficient, and to make the instrument more meaningful and interpretable the data should be analyzed through a factor analysis "to determine to what extent a given test measures various content areas" (28, p. 92). Through this procedure, items would empirically form scales, thus making the instrument more factorially valid.

To ascertain the factor structure of the Guidance Index, a Principle Factor Solution factor analysis was performed. Eleven factors extracted

were rotated using the Varimax rotation method. Examination of the results disclosed that two of the factors, the Occupational Information Service and Test Interpretation Service, were factored approximately as hypothesized. Items hypothesized as forming the Counseling Climate factored into two independent factors, one which required labeling as the Facilitative Counseling Climate and the other requiring titling as the Paternalistic Counseling Climate. The last area, originally hypothesized as the Educational Information Service, was found to be comprised of items which necessitated changing the title to the Vocational/Technical School Educational Information Service. These five factors accounted for 82.7 percent of the test variance. Thirty-eight of the 54 Guidance Index items had loadings of .30 and above (.30 being the minimum accepted in this study) and clustered into one of the above five factors.

The first factor extracted was assessed as comprising activities which might be found in an Occupational Information Service. Items in this scale are concerned with job placement activities, the availability of occupational information, and counselor-counselee interaction within this area. The clustering of items in Factor II was unanticipated. Originally, these items which reflect a potentially negative counselor-client relationship, were hypothesized as a part of an overall Counseling Climate. However, due to their demonstrated high inter-relationship and content, they formed the scale labeled the Paternalistic Counseling Climate.

Factor VI revealed a set of items which appeared to represent a Facilitative Counseling Climate, contrary to the composition of Factor II. Content of these items illustrated a counselor-counselee relationship

based on understanding, warmth, and acceptance--one conducive to client growth. Factor III, entitled the Vocational/Technical School Information Service, included items concerned with students' post-high school plans. This factor seemed to reflect the amount of information and counselor assistance provided to students making plans to attend a vocational/technical school. Factor V was comprised of four items with high factor loadings. These items seemed to reflect a service depicting the communication of a student's test results to him, thus the term Test Interpretation Service.

Sixteen of the Guidance Index items did not load into any of the above five factors. An examination of the factor analysis revealed that these items appeared to cluster into various groups which removed the remaining 17.8 percent of the variance. Upon close review of these groups of items none appeared to be pertinent to this study with one exception. Items 45, 46, and 47, which can be seen in APPENDIX C, originally hypothesized as components of the Educational Information Service, exhibited a close interrelationship. Since these three are viewed as an important part of an Educational Information Service, it is suggested that in a future revision of the Guidance Index that other items with similar content be added to these three. This could be done easily as the items which form the Vocational/Technical School Educational Information Service scale are available as models. Addition of more items with 45, 46, and 47 would broaden the scope and comprehensiveness of the Guidance Index, hopefully, increasing its value to practitioners. It is further recommended that if items are added to create a new scale, the same two statistical analyses should be applied to new data to ascertain the effect additional items would have on data obtained through the Guidance Index. Nunnally (51) has

cautioned that any changes made in previously factored scales may produce contextual differences, and, different results. Consideration of these influences would have to be made.

An instrument which could be used for vocational guidance program assessment has been designed and developed. This instrument, known as the Guidance Index, contained 54 statements denoting specific functions within four basic vocational guidance areas. To determine which of the four areas to empirically assign the items, a factor analysis was conducted. Results of this analysis revealed five vocational guidance areas within the Guidance Index. Two factors were extracted as hypothesized, one other was found comprised of two independent factors, and the remaining factor exhibited adequate loadings in only a portion of the area hypothesized. In spite of these minor differences, the results indicated that the Guidance Index could be used to assess major areas of vocational guidance. Thus, through the factor analysis, factorial validity which has been described by Helmstadter (28) as a sophisticated form of content validity, has been achieved.

#### Reliability

Since a major issue in the development of a new measurement device is its reliability, a second step in this investigation was to ascertain the internal consistency of the factored scales. Internal consistency of a scale is based on the average correlation among items plus the number of items (51). Through the application of the Coefficient Alpha formula the reliability coefficient estimates for the five factors were obtained as follows: Factor I (Occupational Information Service), .91; Factor II

Paternalistic Counseling Climate), .72; Factor III (Vocational/Technical School Information Service), .81; Factor VI (Facilitative Counseling Climate), .87; and Factor V (Test Interpretation Service), .72. Further support for the homogeneity of items in each factor is found in their average inter-item correlations. Nunnally (51) has noted that typically, correlations among test items fall between .10 and .40. However, in this instrument the average inter-item correlations for the respective factors were: Factor I, .41; Factor II, .34; Factor III, .41; Factor VI, .47; and Factor V, .40. Thus, the results of this analysis revealed that reliability of each scale is high enough to warrant use for the assessment of these vocational guidance areas.

The reliability estimates obtained for each of the five factors were adequate for group measurement and research purposes. Suggested reliability for both purposes is .70. In addition, it can be seen in Tables 8, 9, 10, 11, and 12 that there are no average correlations at zero or near zero among the inter-item correlation matrices. It therefore can be hypothesized that each factor has a common core and is measuring a unitary quality. This further demonstrates the reliability of the Guidance Index as Nunnally (51, p. 188) has suggested ". . . the reliability of the test is directly related to the average correlation among those items".

It appears that on the basis of the analysis applied to the raw data in this investigation that the Guidance Index can be considered a valid and reliable instrument which could be used in vocational guidance assessment. Through the administration of this instrument to high school students, opinions about five basic program services could be obtained. And, as a result, demonstrable scientific evidence would be available for program

changes, new programming, and communication of program performance to constituents. However, caution is urged in the interpretation of results obtained through the administration of the Guidance Index in its present form. It is recommended that the Guidance Index be administered to different samples in various geographic locations before final evaluations are placed on any data gathered.

Question 2. As assessed by the Guidance Index, is there a significant mean difference among high school students' perceptions of their school's Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service when the students are classified on the basis of their post-high school choice, sex, size of school attended, and school attended?

The findings of this study relevant to the above question indicate that when students were categorized on the basis of their post-high school choice and size of school attended, there were no statistically significant differences among their perceptions of their high school's Occupational Information Service, Paternalistic Counseling Climate, Facilitative Counseling Climate, Vocational/Technical School Educational Information Service, and Test Interpretation Service. Secondly, it was discovered that there were no significant differences among male and female students' perceptions of their Occupational Information Service, Paternalistic Counseling Climate, and Vocational/Technical School Educational Information Service. However, a statistically significant difference did appear among female and male students' perceptions about their Test Interpretation Service. Lastly, the data in Tables 13, 16, 17, 19, and 20 also revealed that statistically significant differences among students' perceptions of these five vocational guidance areas were found when the students were categorized by school attended.

The major finding of this phase of the investigation was that no statistically significant differences were found among students' perceptions of each vocational guidance service regardless of their post-high school choice. These findings and conclusions are contrary to those of other research endeavors, plus speculations made about the adequacy of vocational guidance found in the literature. Kaufman (37) found that counselors spend a greater proportion of their time with college-bound students. Whitfield (71) also cited evidence specialty-oriented students, those planning to seek vocational employment or enter a vocational/technical school after high school, do not receive adequate assistance from counselors. The Sixth National Advisory Council on Vocational Education (48b) reported that it seemed that most counselors are primarily interested in guiding the academically able students toward college, forsaking the remainder of students. Feirer (15) suggested that guidance practitioners pay little attention to post-high school programs available to students at area vocational schools and community and junior colleges, while at the same time take pride in the number they help into college. Carey (8) summed these criticisms by noting: "Many studies, conferences, and Congressional hearings have pointed to the lack of appropriate guidance services for vocational oriented students and to the lack of vocational guidance services to all students".

The findings of this study are in contrast with the results, conclusions, and speculations put forth above. No statistically significant differences about any of their vocational guidance services was discovered among students whether they were planning to attend a four year college or university and seek a baccalaureate degree, attend a junior or community

college general or transfer program, enroll in a one or two year private or public vocational/technical school, or seek employment immediately after high school graduation. Essentially, this means that all four groups had similar attitudes and opinions about their school's Occupational Information Service, Paternalistic Counseling Climate, Facilitative Counseling Climate, Vocational/Technical School Educational Information Service, and Test Interpretation Service.

Additional findings reported in this study stimulate several questions in the mind of the investigator. It is pure speculation, but it may be that different results in this study were obtained because of the instrument, the Guidance Index, which was scientifically developed and tested. From all available information it appears that the findings and conclusions stated in the above studies may have been based upon data gathered through non-scientifically developed instruments. On the other hand, the differences noted may be a result of other factors, such as the sampling procedure used or the geographic locale in which the present study was conducted. It is suggested that additional investigations employing the Guidance Index be performed, perhaps with samples more representative of the United States.

One other variable, size of respondents' school and its relationship to their perception of vocational guidance, was also examined in this effort. It was found in this study that students' perceptions of the five vocational guidance areas under investigation were not influenced by the size of the school in which they were enrolled. These results are similar to those obtained through the 1972 Iowa Guidance Accountability project (25). It may be that other factors, such as counselor/pupil ratio, are



major determinants and not the size of school, which affect students' perceptions of vocational guidance.

Sex is often considered a reason for a particular attitude or opinion about an objective or activity. The findings in this study indicate no statistically significant differences among male and female students' perceptions were found concerning vocational guidance, with the exception of Test Interpretation Service. Analysis of the raw data revealed that male students had a mean perception score of 16.19 and females a mean perception score of 15.13 on this scale. One can only speculate as to why this difference occurred, as it was unclear in the literature that either sex had higher perceptions of vocational guidance. However, a point to consider may be found in the item content of the Test Interpretation Service scale. Guidance Index items which comprise this factor focus primarily on future educational and vocational planning. Considering the fact that the role of women is changing in society, it may be that the female students in this study have not, in their estimation, received an adequate interpretation of their test results and how they relate to their future plans. A second reason for this lower perception may be related to the criticism of testing today. It has been contended by different critics that there is evidence of racial, cultural, and sexual biases in measurement devices. Thus, this could be an influence in female students' opinions about the Test Interpretation Service in this investigation. Thirdly, it could be speculated that girls, who are typically receiving higher grades than boys, may receive test results more incongruent with grades and, therefore, have a lower perception of this service than boys. Boys, on the other hand, are seen as usually receiving lower grades than girls but may receive test

scores higher than their grades and, therefore, perceive this service more positively than do girls. Lastly, it should be pointed out that even though this scale on the Guidance Index has demonstrated adequate reliability (.72) for research purposes, the brevity of the scale may influence the results. Further research is needed to validate or invalidate this finding.

Not to be overlooked in the results obtained relative to the variable sex is the fact that no statistically significant difference was discovered among male and female students' perceptions of the Occupational Information Service. Nearly everywhere in contemporary American society the woman's role is in a state of flux. Those who are in positions which may affect a female student's future are continually reminded to reject any biases they may have about stereotyping womanhood. As Chick has pointed out, "Counselor education, then, needs to assist counselors in examining their personal value systems and any stereotyped images they may hold that would restrict women to the stereotyped jobs women have historically performed" (9, p. 110). The results of this study indicate that female students apparently perceive their Occupational Information Service similar to perceptions held by male students. This appears to have significance as it does not seem to demonstrate girls have lower attitudes or opinions of this service than boys, as has been implied.

The point made by Chick is considered important, however, especially in view of the findings relevant to female students' perceptions of the Test Interpretation Service. It is apparent that the counselor needs to be aware of the possible biases in the tests he uses and also the biases which could overtly or covertly creep into interpretation of test results.

The statistically significant differences in vocational guidance perceived by students in the 20 randomly selected high schools participating in this study are also considered of import. It was believed that for the Guidance Index to possess scientific soundness it must be capable of measuring different guidance environments. The results of this investigation indicated that statistically significant differences among students' perceptions of vocational guidance were present when they were categorized according to the variable school attended. Statistically significant differences were found among students' perceptions on all five of the basic vocational guidance services under investigation. Results of student means for the five vocational guidance areas are presented in Table 14. Based on these findings, it appears that the Guidance Index has the potential to assess vocational guidance programs in different school settings. On the other hand, it is conceivable that the Guidance Index is really measuring counselor ability and/or counselor rapport with students in different schools. Further investigation of this variable is necessary to determine the discriminatory ability of this instrument.

Question 3. As assessed by the Guidance Index, is there a significant relationship among high school students' perceptions of their school's Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service and the students' reported high school grade point average, socio-economic level, and number of times they visited the counselor in the counseling office while in high school?

Analysis of the data gathered in this study was also made to determine if there was a statistically significant relationship between students' perceptions of the five vocational guidance areas and their socio-economic status, grade point average, and the number of times a student visited a

counselor in the counseling office while in high school. No statistically significant relationships were found between students' perceptions of their vocational guidance program when they were classified by socio-economic status. There was also no statistically significant relationship discovered between students' perceptions of the Occupational Information Service, Paternalistic Climate, and Vocational/Technical School Educational Information Service. However, a statistically significant relationship was found between their grade point average and students' perceptions of the Test Interpretation Service. It was also noted that there was no statistically significant relationship between students' perceptions of the Paternalistic Counseling Climate, Vocational/Technical School Educational Information Service, and Test Interpretation Service and the number of times they visited the counselor in the counseling office while in high school. Conversely, a statistically significant relationship was manifested between student visits to the counseling office and their perceptions of their school's Occupational Information Service and Facilitative Counseling Climate. Inspection of the data in Tables 13 and 17 shows that the more times the student talked to the counselor in the counseling office during high school, the higher is his attitude and opinion about these two vocational guidance areas. The reverse is also true; the fewer the trips to the counseling office the lower the students' perceptions were regarding the Occupational Information Service and Facilitative Counseling Climate.

The conjectures voiced in the literature (59-60), that a dissonance between counselors' middle class value structures and the lower class values of certain counselees would affect the counselor-counselee relation-

ship, plus Graff's et al. (24) findings and conclusions, seem to indicate that counselors would probably be less effective with lower class students. The findings in this study revealed that there was no statistically significant relationship between students' perceptions of the five vocational guidance services and their position in five different social levels as determined through Hollingshead's Two-Factor Index of Social Position (31). This fact as revealed in the present investigation does raise questions about Sherif and Sherif's (59-60) speculations and Graff's et al. (24) conclusions. However, it should be noted that it is difficult to draw comparisons between Graff's and the present study because they employed a completely different population and assessment device. Possibly these two factors greatly influenced the findings of both investigations. Further study, utilizing the Guidance Index over other populations and in different locales, is highly recommended.

The possibility that a relationship may exist between students' perceptions of their vocational guidance and their grade point average was also examined. It was found that no statistically significant relationship was present between students' perceptions of their Occupational Information Service, Paternalistic Counseling Climate, Facilitative Counseling Climate, and Vocational/Technical School Educational Information Service and their grade point average. However, a statistically significant relationship was discovered between their grade point average and their perceptions of the Test Interpretation Service. The reverse is also true; the lower the grade point average, the lower the students' perceptions regarding test interpretation.

Discussion and speculation concerning the statistically significant

relationship found between students' grade point average and their perceptions of the Test Interpretation Service is considered worthwhile to note. These results may further demonstrate the relationship which appears to exist between testing, which essentially measures how well an individual learns in school, and his actual academic achievement. It can, therefore, be assumed that those students who have above average or high grades also have above average or high test scores. As a result of their receiving positive test feedback, it is possible that they develop positive feelings about the Test Interpretation Service. A contrasting speculation could be posited about students who have low grade point averages and low perceptions regarding this service.

Not to be overlooked in the discussion about students' grade point average are their perceptions about the Facilitative Counseling Climate. As was previously stated, the data revealed that there was no statistically significant relationship between students' perceptions of this area and their grade point average. In a sense, these results are surprising as it is usually speculated that low achieving students do not have as high an opinion about guidance as do high achieving students. The results of this study do not support this speculation. It is important to note, however, that only the perceptions of students with grade point averages of A through C- were analyzed. (Only a small number of students with reported grade point averages of D+, D, and D- were found in the sample and their scores were placed in the C- category. This could influence the results.) Since there was a minimal number of students at the lower end of the grading continuum in this study, it is suggested that further research be conducted which would include perceptions of students at this academic

achievement level to check these findings.

The final relationship to be assessed in this investigation was that between the number of times students visited a counselor in the counseling office while in high school and their perceptions of vocational guidance. It can be seen in Tables 13 and 17 that a statistically significant relationship was found between students' perceptions of their Occupational Information Service and the Facilitative Counseling Climate and this variable. The greater the number of visits to the counseling office, the higher were students' perceptions of these two vocational guidance areas. It was also found that the fewer the visits to the counseling office, the lower the perception toward these two services. The higher perceptions toward the Occupational Information Service may be based on the premise that those who hold these opinions may receive the occupational information which meets their needs, interests, and values. Consequently, as a result of the acquisition of appropriate materials they view this service with satisfaction. On the other hand, it may be that students who have low perceptions about this service and who seldomly go to the counseling office are quite uncertain about their future and, therefore, do not visit the counselor to receive information found in this service. It could also be speculated that infrequent trips to the counselor demonstrates their lack of knowledge about occupational information services.

The findings in this study which reveal the statistically significant relationship between the number of visits with the counselor in the counseling office and students' perceptions of the Facilitative Counseling Climate support the results of other research (54, 17, and 55). It is conceivable that the more frequently a student talks with a counselor, the

more he believes that individual is someone who can provide the assistance he needs. Furthermore, it seems possible that students who visit the counselor with more frequency tend to have a better understanding of the counseling service. If this is true, guidance personnel need to find methods and materials which adequately inform students of their role and function.

A review of the results demonstrated that no significant relationship was found between the number of counselee visits to the counseling office and students' perceptions of the Vocational/Technical School Educational Information Service and Test Interpretation Service. A majority of guidance program evaluations (7, 44, and 76) usually assess the total guidance program or one particular aspect, primarily the counseling component. To accomplish a more comprehensive program evaluation it seems that each specific area should be appraised such as was done in the present study. It may be that students view some areas as providing adequate services and others as not. This information would be valuable in beginning new program or altering those operating currently. The point is that the Guidance Index appears to have the potential to do this, particularly in regard to the last variable examined.

Question 4. As assessed by the Guidance Index, is there a significant interaction among five different groups of high school students' perceptions of their schools Occupational Information Service, Counseling Climate, Educational Information Service, and Test Interpretation Service and their sex, size of high school attended, school attended, socio-economic level, reported high school grade point average, and the number of times the student visited the counselor while in high school?

An attempt was made to determine whether there was an interaction between four different groups of students' perceptions of their vocational guidance and their sex, size of school, school attended, socio-economic



status, grade point average, and counseling frequency. Analysis of the data revealed no significant interactions were present between students' perceptions and these variables.

One caution should be observed regarding the findings of this investigation. The results and prior discussion are based on the responses from students who indicated they had seen a counselor while they were in high school. Data collected from 60 students who said they had not visited the counselor while they were in high school was not analyzed. It is suggested that in any future investigations employing the Guidance Index that the responses of students who indicated they had never seen a counselor be part of the data analysis.

In any future development of the Guidance Index consideration should be made as to whether an open-ended statement such as: "Please indicate below your opinions, ideas, or feelings you have about the vocational guidance you received while in high school" should be included. An analysis of students' responses in this investigation revealed that (1) very few students took the opportunity to answer the statement and (2) the responses given were very general in nature. Findings obtained from responses to a statement such as this may therefore be of little value.

## SUMMARY

It was noted in the literature that there have been an increasing number of requests for guidance practitioners to demonstrate the worth and value of their programs. In response to these requests, there has been evidence of many and varied endeavors attempting to meet this need. A great majority of these attempts, however, appear to focus on the evaluation of counseling or on the quantitative aspects of guidance, e.g., number of counselors, counselor-counselee ratio, occupational information materials available, et cetera. Furthermore, it was learned that virtually no scientific evaluative research has been performed regarding vocational guidance. In view of this obvious void, the first purpose of this study was to construct a valid and reliable instrument, the Guidance Index, which could be employed to assess students' perceptions of vocational guidance. Through the scientific development and use of a device such as the Guidance Index, it is believed that guidance personnel would be able to better assist youth in the vocational decision-making process.

Through a search of the literature a pool of statements representative of vocational guidance activities in four areas was obtained. These areas were the: Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service. Ideas for items came from primarily two areas: guidance publications (journals and books) and previously developed guidance program evaluation devices. Items selected to comprise the Guidance Index were written in a manner which utilized the five-point Likert response format. The first edition of the instrument was comprised of (1) a Personal Data section designed to elicit

necessary information about the respondent; (2) 46 items representative of guidance activities found in schools; and (3) an open-ended question allowing respondents an opportunity to register additional perceptions about the service. The completed Guidance Index was submitted to five experts for their review. Their recommendations were appropriately incorporated.

Since the final administration of the Guidance Index was planned for students in Area XI located in Central Iowa (see APPENDIX D), it was decided to conduct the initial pilot study of the instrument in a school considered representative of others in this Area. A school was selected and the Guidance Index was administered to 68 senior students. Data regarding the amount of time to complete the Guidance Index, clarity of directions and items, and other general concerns about completing the instrument were obtained.

After several modifications in the first draft of the Guidance Index, a second administration of the instrument was planned. In the second pilot study 461 seniors from eight schools in Area XI within three different size strata were asked to complete the questionnaire. Three hundred eighty-eight usable, completed answer sheets were obtained through this administration. The major analysis applied to the data at this point was an estimation of the reliability of the overall Guidance Index and each of its four hypothesized subscales. The findings revealed that the entire instrument and its four subscales had adequate reliability for research purposes.

Prior to the final administration of the Guidance Index, several changes were made in its format. For example, a new method for assessing students' socio-economic status was incorporated into the Personal Data section; a statement directing students who had never seen a counselor to

respond to items 1-13 only was placed in the directions; and three new items, bringing the total to 54, were added. The Guidance Index at this point was considered ready for administration.

Data for this final phase were collected during May of 1973. A sample comprised of 549 senior students in 20 stratified randomly selected high schools in Area XI were administered the Guidance Index. To control for error, the investigator conducted the data collection in a majority of schools. A total of 532 or 97 percent completed answer sheets were judged usable. However, this number was later reduced to 472 or 86 percent as it was believed that inclusion of data obtained from 60 students who answered only items 1-13 (these students indicated they had not visited with a counselor while in high school) was not relevant to this study.

Two different analyses of the data were performed at this point. The first analysis, a Principal Factor Solution factor analysis with a Varimax Rotation was conducted to determine whether the items comprising the Guidance Index formed factors in four vocational guidance areas as hypothesized. Five hypotheses, one general and four specific, were tested in this aspect of the study. The hypotheses and their results are listed below:

Hypothesis 1. A factor analysis of the Guidance Index items representative of vocational guidance activities will yield specific factor scales in the following areas: Occupational Information Service, Educational Information Service, Counseling Climate, and Test Interpretation Service.

Hypothesis 1 was rejected on two counts and supported on two others. It was found that the Guidance Index was comprised of five instead of four factors which removed 82.7 percent of the variance. Thirty-eight items had satisfactory loadings to be included in these five factors. However, only

28, or 52 percent, of the items loaded into the factors as predicted. Sixteen items had inadequate loadings and could not be included in any factor.

More specifically, the findings for the subdivisions of Hypothesis 1 were:

Hypothesis 1a. A factor analysis of Guidance Index items will yield a specific factor in the following area: Occupational Information Service.

Failed to reject.

Fifteen items, 11 of which were hypothesized, comprised this factor.

Hypothesis 1b. A factor analysis of Guidance Index items will yield a specific factor in the following area: Educational Information Service.

Rejected.

Only six of 20 items predicted to make up this factor had sufficient loadings. Analysis of item content in this factor indicated that its title would have to be changed to the Vocational/Technical School Educational Information Service.

Hypothesis 1c. A factor analysis of Guidance Index items will yield a specific factor in the following area: Counseling Climate.

Rejected.

This hypothesis was partially rejected because it split into two factors. Items 4, 14, 24, 34, 37, 38, 39, and 40 formed one factor entitled the Facilitative Counseling Climate because it was made up of items indicating a positive and productive counseling atmosphere. Items 17, 20, 21, 42, and 43 formed a factor revealing a negative and non-productive counseling climate, thus requiring a label of Paternalistic Counseling Climate.

Hypothesis 1d. A factor analysis of Guidance Index items will yield a specific factor in the following area: Test Interpretation Service.

Failed to reject.

The four items predicted as comprising this scale exhibited sufficient loadings to be considered as a factor.

A second phase related to the first purpose of this investigation was an estimation of the reliability of each extracted factor (scale). The general hypothesis formulated to test scale reliability was:

Hypothesis 2. The reliability coefficients of the factored scales which comprise the Guidance Index are adequate for group measurement of vocational guidance.

All five scales had sufficient reliability (.70 at least) for research purposes. Each specific hypothesis and their findings are:

Hypothesis 2a. The reliability coefficient of the Occupational Information Service scale is adequate for group measurement purposes.

Failed to reject.

Occupational Information Service scale reliability, .91.

Hypothesis 2b. The reliability coefficient of the Vocational/Technical School Educational Information Service scale is adequate for group measurement purposes.

Failed to reject.

Vocational/Technical School Educational Information Service scale reliability, .81.

Hypothesis 2c. The reliability coefficient of the Facilitative Counseling Climate scale is adequate for group measurement purposes.

Failed to reject.

Facilitative Counseling Climate scale reliability, .87.

Hypothesis 2d. The reliability coefficient of the Test Interpretation Service scale is adequate for group measurement purposes.

Failed to reject.

Test Interpretation Service scale reliability, .72.

The Paternalistic Counseling Climate was not predicted as a factor in this study. However, due to its importance and pertinence it was retained for further investigation. The reliability estimate for this scale was .72, adequate for group measurement purposes.

A second purpose of this investigation was to assess and analyze students' perceptions of their vocational guidance through data collected after an administration of the Guidance Index. Ten hypotheses were tested in this aspect of the study. Each hypothesis and pertinent results are listed below. The results are listed by variable as follows:

- Variable 1: Post-high school choice
- Variable 2: Sex
- Variable 3: Size of school attended
- Variable 4: School attended
- Variable 5: Student socio-economic status
- Variable 6: Student reported grade point average
- Variable 7: Number of student visits to the counselor in the counseling office while in high school

Hypothesis 3a. There is no significant difference among the mean perception subscale scores of the Occupational Information Service of the Guidance Index of students when they are classified by post-high school choice, sex, size of school attended, and school attended.

1. Failed to reject on post-high school choice variable.
2. Failed to reject on sex variable.
3. Failed to reject on size of school attended variable.
4. Rejected on school attended variable.

Hypothesis 4a. There is no significant relationship between the mean perception subscale scores of the Occupational Information Service of the Guidance Index of students and their socio-economic status, reported grade point average, and the number of times they visited the counselor while in high school.

5. Failed to reject on student socio-economic status variable.
6. Failed to reject on student reported grade point average variable.

7. Rejected on number of student visits to counselor's office variable.

Hypothesis 3b. There is no significant difference among the mean perception subscale scores of the Paternalistic Counseling Climate of the Guidance Index of students when they are classified by post-high school choice, sex, size of school attended, and school attended.

1. Failed to reject on post-high school choice variable.
2. Failed to reject on sex variable.
3. Failed to reject on size of school attended variable.
4. Rejected on school attended variable.

Hypothesis 4b. There is no significant relationship between the mean perception subscale scores of the Paternalistic Counseling Climate of the Guidance Index of students and their socio-economic status, reported grade point average, and the number of times they visited the counselor while in high school.

5. Failed to reject on socio-economic status variable.
6. Failed to reject on reported grade point average variable.
7. Failed to reject on number of student visits to counselor's office variable.

Hypothesis 3c. There is no significant difference among the mean perception subscale scores of the Facilitative Counseling Climate of the Guidance Index of students when they are classified by post-high school choice, sex, size of school attended, and school attended.

1. Failed to reject on post-high school choice variable.
2. Failed to reject on sex variable.
3. Failed to reject on size of school attended variable.
4. Rejected on school attended variable.

Hypothesis 4c. There is no significant relationship between the mean perception subscale scores of the Facilitative Counseling Climate of the Guidance Index of students and their socio-economic status, reported grade point average, and the number of times they visited the counselor while in high school.

5. Failed to reject on socio-economic status variable.
6. Failed to reject on reported grade point average variable.
7. Rejected on number of student visits to counselor's office variable.



Hypothesis 3d. There is no significant difference among the mean perception subscale scores of the Vocational/Technical School Educational Information Service of the Guidance Index of students when they are classified by post-high school choice, sex, size of school attended, and school attended.

1. Failed to reject on post-high school choice variable.
2. Failed to reject on sex variable.
3. Failed to reject on size of school attended variable.
4. Rejected on school attended variable.

Hypothesis 4d. There is no significant relationship between the mean perception subscale scores of the Vocational/Technical School Educational Information Service of the Guidance Index of students and their socio-economic status, reported grade point average, and the number of times they visited the counselor while in high school.

5. Failed to reject on socio-economic status variable.
6. Failed to reject on reported grade point average variable.
7. Failed to reject on number of student visits to counselor's office variable.

Hypothesis 3e. There is no significant difference among the mean perception subscale scores of the Test Interpretation Service of the Guidance Index of students when they are classified by post-high school choice, sex, size of school attended, and school attended.

1. Failed to reject on post-high school choice variable.
2. Rejected on sex variable.
3. Failed to reject on size of school attended variable.
4. Rejected on school attended variable.

Hypothesis 4e. There is no significant relationship between the mean perception subscale scores of the Test Interpretation Service of the Guidance Index of students and their socio-economic status, reported grade point average, and the number of times they visited the counselor while in high school.

5. Failed to reject on socio-economic status variable.
6. Rejected on reported grade point average variable.
7. Failed to reject on number of student visits to counselor's office variable.

The purpose of this study was to develop a valid and reliable instrument which could be used to assess students' perceptions of their vocation-

al guidance. It was learned through the results of this study that the Guidance Index has the psychometric properties necessary to achieve this purpose. Five scales, representative of services which might be typically found in a vocational guidance service were extracted through a factor analysis. Furthermore, reliability estimates of each scale were considered adequate for group measurement and research purposes. The data revealed that all scales exhibited internal consistency; thus it can be assumed that each measures a unitary quality. Consequently, it appears that the Guidance Index can be employed by practitioners to obtain students' perceptions of their vocational guidance. The scales may be used to form the bases for (1) program alteration, (2) new programming, (3) reporting of program status to various constituents, i.e., staff, parents, and community members whom they serve, and (4) program evaluation.

#### Recommendations for Further Research

The findings of this study have indicated the following areas for future research:

1. The Guidance Index should be administered to students in other areas of the nation. Furthermore, it should be given to students in specific areas, such as a large urban school district.
2. A second factor analysis should be performed on data accumulated through the administration of the Guidance Index to students which comprise a homogeneous (one high school) population. It is further suggested that a reliability estimate also be made on any identified factors.
3. The number of items on the Guidance Index should be reduced after the above tests are conducted.

4. Further content validity estimates of the Guidance Index should be made. It is suggested that this be accomplished in conjunction with a related study of a school(s) guidance program.

5. Since the same data were used in identifying factors as well as estimating each factor's reliability, it is suggested that new reliability estimates be made with data accumulated from another sample. Nunnally (51) has suggested that using the same data for the above two techniques can bias the reliability estimates.

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APPENDIX A. ORIGINAL GUIDANCE INDEX

GUIDANCE

THE FOLLOWING QUESTIONNAIRE IS DESIGNED TO SAVE YOU TIME. YOUR RESPONSE WILL TAKE APPROXIMATELY 15 MINUTES. THIS QUESTIONNAIRE WILL BE USED IN CONFIDENCE, AND ONLY FOR THIS RESEARCH PROJECT. DO NOT PLACE YOUR NAME OR THE NAME OF YOUR HIGH SCHOOL ON THESE PAGES. A 100 PERCENT RESPONSE TO THIS QUESTIONNAIRE IS MOST IMPORTANT, THEREFORE, A CODE NUMBER IS USED FOR ACCOUNTING PURPOSES.

1. Circle the letter which indicates your grade average in high school.

A B+ B B- C+ C C- D+ D D-

PLEASE CHECK THE APPROPRIATE SPACES BELOW  
OR FILL IN THE BLANKS

2. Which type program best describes your course of study while you were in high school?

No specific program \_\_\_\_\_ Vocational \_\_\_\_\_ College preparatory \_\_\_\_\_

3. Were your occupational plans while you were in high school:

Definite \_\_\_\_\_ Tentative \_\_\_\_\_ Uncertain \_\_\_\_\_ Not planned \_\_\_\_\_

4. Which of the following influenced you most in making vocational decisions?

Mother \_\_\_\_\_ Father \_\_\_\_\_ Teacher \_\_\_\_\_ Counselor \_\_\_\_\_ Boy-Friend \_\_\_\_\_  
Girl-Friend \_\_\_\_\_ Other (Please give title) \_\_\_\_\_

5. Are you: Male \_\_\_\_\_ Female \_\_\_\_\_

6. What do you plan to do after high school graduation?

- a. Attend a four year college or university and study for a baccalaureate degree \_\_\_\_\_.
- b. Attend a two year community college and transfer to a four year college or university and obtain a degree \_\_\_\_\_.
- c. Find a job and go to work \_\_\_\_\_.
- d. Attend a one or two year vocational/technical school (auto repair, cosmetology, electronics, drafting, etc.) \_\_\_\_\_.
- e. Undecided \_\_\_\_\_.

7. Did your father attend college? Yes No

8. Did your mother attend college? Yes No

ON THE FOLLOWING PAGES ARE A NUMBER OF STATEMENTS ABOUT VOCATIONAL GUIDANCE AND COUNSELING SERVICES. WE ARE INTERESTED IN YOUR OPINION ABOUT EACH STATEMENT. YOU WILL PROBABLY AGREE WITH SOME OF THESE STATEMENTS. THAT IS, SOME STATEMENTS WILL EXPRESS YOUR OWN OPINIONS OR FEELINGS ABOUT THESE SERVICES. OTHER STATEMENTS WILL EXPRESS FEELINGS WHICH YOU DISAGREE WITH.

PLEASE FOLLOW THE DIRECTIONS LISTED BELOW IN REGARD TO YOUR OPINION OR FEELINGS ABOUT EACH STATEMENT:

If you "strongly disagree" with the statement, circle the number 1 immediately following the statement.

If you "disagree" with the statement, circle the number 2 immediately following the statement.

If you partly agree/partly disagree about the statement, circle the number 3 immediately following the statement.

If you "agree" with the statement, circle the number 4 immediately following the statement.

If you "strongly agree" with the statement, circle the number 5 immediately following the statement.

EXAMPLE: A counselor attempted to pressure me not to attend a college. 1 2 3 4 5

1. College, career, and occupational information materials were easy for me to obtain in my high school. 1 2 3 4 5
2. A counselor assisted me in finding someone outside my school to give me information about a vocational field, an occupation, or job. 1 2 3 4 5
3. A counselor assisted me in examining the types of financial aid available in college and/or vocation/technical schools. 1 2 3 4 5
4. A counselor attempted to pressure me not to attend a college. 1 2 3 4 5
5. A counselor assisted me in deciding what to do after graduation from high school. 1 2 3 4 5
6. I discussed with a counselor various areas of specialization available in vocational education after high school. 1 2 3 4 5
7. A counselor put pressure on me to attend a college. 1 2 3 4 5
8. A counselor provided me with information which indicated that I had the ability to succeed in a college or a vocational/technical school. 1 2 3 4 5
9. A counselor used pressure when dealing with me when I was in the process of choosing an occupation. 1 2 3 4 5

- |     |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|
| 10. | After meeting with a counselor about my vocational and occupational plans, I felt that the counselor provided me with the information I wanted.     | 1 | 2 | 3 | 4 | 5 |
| 11. | Each of my meetings with the counselor had a mutually agreed upon purpose.  | 1 | 2 | 3 | 4 | 5 |
| 12. | My high school teachers had college and vocational/technical school information materials in the classroom for my use.                              | 1 | 2 | 3 | 4 | 5 |
| 13. | My high school teachers presented future educational implications of the subjects they taught.  | 1 | 2 | 3 | 4 | 5 |
| 14. | I was able to schedule a meeting with a counselor when one was needed.  | 1 | 2 | 3 | 4 | 5 |
| 15. | I discussed my vocational and occupational plans with a counselor.  | 1 | 2 | 3 | 4 | 5 |
| 16. | A counselor helped me consider information about myself in relation to vocational and occupational plans.   | 1 | 2 | 3 | 4 | 5 |
| 17. | A school counselor encouraged me to investigate the educational requirements for careers and occupations which I considered entering in the future. | 1 | 2 | 3 | 4 | 5 |
| 18. | A school counselor provided opportunities for me to improve my ability to make realistic plans for myself.  | 1 | 2 | 3 | 4 | 5 |
| 19. | A counselor assisted me in learning about various careers and occupations, and types of abilities needed for each.                                  | 1 | 2 | 3 | 4 | 5 |
| 20. | The counselor's office had information about many careers and occupations in the United States.   | 1 | 2 | 3 | 4 | 5 |
| 21. | A counselor helped me to obtain occupational information related to my interests.   | 1 | 2 | 3 | 4 | 5 |
| 22. | A counselor helped me to become familiar with employment opportunities, both in the present and the future.   | 1 | 2 | 3 | 4 | 5 |
| 23. | I know how to get career information when I want it.  | 1 | 2 | 3 | 4 | 5 |
| 24. | A counselor helped me plan the subjects I would take to help me in my future work.  | 1 | 2 | 3 | 4 | 5 |

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RESPONSE KEY:	Strongly Disagree	Disagree	Partly Agree/ Disagree	Agree	Strongly Agree
	1	2	3	4	5

NEW DIRECTIONS:

THE NEXT SECTION CONTAINS STATEMENTS WHICH ARE VERY SIMILAR TO THOSE ABOVE. HOWEVER, THE WAY YOU ARE TO RESPOND TO THE FOLLOWING STATEMENTS IS DIFFERENT. PLEASE ANSWER THEM IN THE FOLLOWING MANNER:

AFTER YOU HAVE READ EACH STATEMENT, PLEASE CIRCLE THE "A" (AGREE) IF YOU AGREE WITH THE STATEMENT OR THE "D" (DISAGREE) IF YOU DISAGREE WITH THE STATEMENT. ONCE YOU HAVE MADE THIS DECISION, PLEASE INDICATE THE DEGREE OF CERTAINTY WHICH YOU FEEL ABOUT YOUR CHOICE BY CIRCLING ONE OF THE NUMBERS WHICH APPEARS TO THE RIGHT OF EACH STATEMENT. CIRCLE 1 IF YOU FEEL QUITE UNCERTAIN OR HAVE STRONG RESERVATIONS ABOUT YOUR CHOICE. CIRCLE NUMBER 5 IF YOU FEEL QUITE CERTAIN OR HAVE NO RESERVATIONS ABOUT YOUR CHOICE. IN SOME CASES, NUMBERS 2, 3, OR 4 MAY BEST DESCRIBE HOW CERTAIN YOU ARE OF YOUR CHOICE. IF YOU ARE COMPLETELY UNCERTAIN, CIRCLE BOTH A AND D.

- |     |   |        |   |   |   |   |   |
|-----|---|--------|---|---|---|---|---|
| 25. | The counselor knew enough about occupations to be able to assist me in selecting an area for work.                            | A<br>D | 1 | 2 | 3 | 4 | 5 |
| 26. | When I had a personal problem, I felt free to discuss it with a counselor.  | A<br>D | 1 | 2 | 3 | 4 | 5 |
| 27. | Provisions were made in the high school schedule to allow for group guidance concerned with education beyond high school.     | A<br>D | 1 | 2 | 3 | 4 | 5 |
| 28. | A counselor interpreted to me results of tests I had taken and helped me relate them to future occupations.                   | A<br>D | 1 | 2 | 3 | 4 | 5 |
| 29. | Provisions were made in the high school schedule to allow for group guidance concerned with choice of a career or occupation. | A<br>D | 1 | 2 | 3 | 4 | 5 |
| 30. | A counselor discussed my ability and achievement test results with me individually.   | A<br>D | 1 | 2 | 3 | 4 | 5 |
| 31. | The results of tests I took in high school provided me with helpful information about myself and my choosing a career.        | A<br>D | 1 | 2 | 3 | 4 | 5 |
| 32. | My parents put pressure on me to attend college.  | A<br>D | 1 | 2 | 3 | 4 | 5 |
| 33. | I felt that when I met with a counselor they were genuinely interested in me.   | A<br>D | 1 | 2 | 3 | 4 | 5 |
| 34. | When meeting with me, the counselor usually talked about the things I wanted to talk about.                                   | A<br>D | 1 | 2 | 3 | 4 | 5 |
| 35. | The counselor helped me to think more clearly about a problem or question I had.  | A<br>D | 1 | 2 | 3 | 4 | 5 |
| 36. | The counselor was a person who was easy to talk with.   | A<br>D | 1 | 2 | 3 | 4 | 5 |



- |     |  |         |   |   |   |   |   |
|-----|--|---------|---|---|---|---|---|
| 37. | The counselor knew people who could provide information about different vocational and technical schools.  | A<br>D  | 1 | 2 | 3 | 4 | 5 |
| 38. | The counselor told students which occupation they should choose.   | A<br>D  | 1 | 2 | 3 | 4 | 5 |
| 39. | The counselor told me which type of school I should attend after high school.  | A<br>D  | 1 | 2 | 3 | 4 | 5 |
| 40. | My teachers took class time to discuss occupations related to their subjects.  | A<br>D  | 1 | 2 | 3 | 4 | 5 |
| 41. | The counselor helped me identify the occupations which are closely related to my interests.  | A<br>D  | 1 | 2 | 3 | 4 | 5 |
| 42. | The counselor helped me identify which occupations are closely related to my abilities.  | A<br>D  | 1 | 2 | 3 | 4 | 5 |
| 43. | A counselor had sufficient college and vocational/technical school information available to aid me when I was choosing a college and/or vocational/technical school. | A<br>D  | 1 | 2 | 3 | 4 | 5 |
| 44. | The counselor gave me ample information about various college and/or vocational/technical school admissions tests and procedures.                                    | A<br>D  | 1 | 2 | 3 | 4 | 5 |
| 45. | The counselor had information about many of the colleges and vocational/technical schools in the United States.  | A<br>D. | 1 | 2 | 3 | 4 | 5 |
| 46. | A counselor assisted me in selecting a college or vocational/technical school.   | A<br>D  | 1 | 2 | 3 | 4 | 5 |
| 47. | Please indicate below your opinions, ideas, or feelings you have about the vocational guidance and counseling provided to you while in high school.                  |         |   |   |   |   |   |

APPENDIX B. GUIDANCE INDEX (FIRST REVISION)  
AND ANSWER SHEET

GUIDANCE INDEX

This booklet contains a number of statements about the vocational guidance service in your school. You are to select which one of the five alternatives given provides your most accurate feeling or opinion about this service. There are no right or wrong alternatives; your answers and those of others will yield a description of the vocational guidance program in your high school. Your answers are confidential. Hence, DO NOT place your name or the name of your high school on these pages or the IBM sheet. PLEASE ANSWER ALL ITEMS.

The first part of this booklet asks you to answer questions about yourself. Please check the appropriate spaces below or fill in the blanks.

1. Are you: Male \_\_\_\_\_ Female \_\_\_\_\_
2. Which type program best describes your course of study while you were in high school?  
           General Program \_\_\_\_\_ Vocational \_\_\_\_\_ College Preparatory \_\_\_\_\_
3. Were your occupational plans while you were in high school:  
           Definite \_\_\_\_\_ Tentative \_\_\_\_\_ Uncertain \_\_\_\_\_ Not Planned \_\_\_\_\_
4. Which one of the following influenced you most in making vocational decisions?  
           Mother \_\_\_\_\_ Father \_\_\_\_\_ Teacher \_\_\_\_\_ Counselor \_\_\_\_\_ Boy-Friend \_\_\_\_\_  
           Girl-Friend \_\_\_\_\_ Clergyman \_\_\_\_\_ Other (Please give title) \_\_\_\_\_
5. What do you plan to do after high school graduation?
  - a. Attend a four year college or university and study for a baccalaureate degree \_\_\_\_\_.
  - b. Attend a community college for one or two years and then transfer to a four year college or university and obtain a degree \_\_\_\_\_.
  - c. Find a job and go to work (If you plan to enter the service, check this one.) \_\_\_\_\_.
  - d. Attend a one- or two- year public or private vocational/technical school (auto repair, cosmetology, electronics, drafting, etc.) \_\_\_\_\_.
  - e. Nursing (licensed practical or registered) \_\_\_\_\_.
6. What was the highest grade in school your father completed? \_\_\_\_\_.
7. What was the highest grade in school your mother completed? \_\_\_\_\_.
8. What is the head of your household's occupation? \_\_\_\_\_.

9. Is the head of your household's income: Between \$0 and \$3,000 \_\_\_\_\_  
 Between \$3,001 and \$6,000 \_\_\_\_\_ Between \$6,001 and \$9,000 \_\_\_\_\_  
 Between \$9,001 and \$12,000 \_\_\_\_\_ Between \$12,001 and \$15,000 \_\_\_\_\_  
 Between \$15,001 and \$20,000 \_\_\_\_\_ Over \$20,000 \_\_\_\_\_
10. Briefly describe the type of house in which you live (Frame house, brick, one story, etc.) \_\_\_\_\_

**DIRECTIONS FOR COMPLETING THE NEXT SECTION OF THIS BOOKLET:**

This section of the booklet contains 48 statements about the vocational guidance service in your school. You are to indicate your feeling and/or opinion about each of the statements in terms of the alternatives listed below. Please put your answers on the IBM Answer Sheet.

If you "strongly disagree" with the statement, blacken the space under the A on the answer sheet.

If you "disagree" with the statement, blacken the space under the B on the answer sheet.

If you "partly agree/partly disagree" with the statement, blacken the space under the C on the answer sheet.

If you "agree" with the statement, blacken the space under the D on the answer sheet.

If you "strongly agree" with the statement, blacken the space under the E on the answer sheet.

**EXAMPLE:** "A counselor assisted me in deciding what to do after graduation from high school."

If you "agree" with that item, you would blacken the space in pencil under the letter D since you have selected "agree" which is the fourth alternative.

A            B            C            D            E  
 "            ||            ||            █            ||

**CAUTION:** Please note that the answers on the answer sheet run from left to right in the following manner:

- |               |           |           |           |
|---------------|-----------|-----------|-----------|
| A B C D E     | A B C D E | A B C D E | A B C D E |
| 1             | 2         | 3         | 4         |
| A B C D E ... |           |           |           |
| 5             |           |           |           |

1. College, career and occupational information materials were easy for me to obtain in my high school.
2. A counselor assisted me in finding someone outside my school to give me information about a vocational field, an occupation, or job.
3. A counselor assisted me in examining the types of financial aid available in college and/or vocational/technical schools.
4. A counselor attempted to pressure me not to attend a college.
5. A counselor assisted me in deciding what to do after graduation from high school.
6. I discussed with a counselor various areas of specialization available in vocational education after high school.
7. A counselor put pressure on me to attend a college.
8. A counselor provided me with information which indicated that I had the ability to succeed in a college or a vocational/technical school.
9. A counselor used pressure when dealing with me when I was in the process of choosing an occupation.
10. After meeting with a counselor about my vocational and occupational plans, I felt that the counselor provided me with the information I wanted.
11. Each of my meetings with the counselor had a mutually agreed upon purpose.
12. My high school teachers had college and vocational/technical school information materials in the classroom for my use.
13. My high school teachers presented future educational implications of the subjects they taught.
14. I was able to schedule a meeting with a counselor when one was needed.
15. I discussed my vocational and occupational plans with a counselor.
16. A counselor helped me consider information about myself in relation to vocational and occupational plans.
17. A school counselor encouraged me to investigate the educational requirements for careers and occupations which I considered entering in the future.
18. A school counselor provided opportunities for me to improve my ability to make realistic plans for myself.
19. A counselor assisted me in learning about various careers and occupations, and types of abilities needed for each.

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	Strongly Disagree	Disagree	Partly Agree/ Disagree	Agree	Strongly Agree
RESPONSE: KEY:	A	B	C	D	E

20. The counselor's office had information about many careers and occupations in the United States.
21. A counselor helped me to obtain occupational information related to my interests.
22. A counselor helped me to become familiar with employment opportunities, both in the present and the future.
23. I know how to get career information when I want it.
24. A counselor helped me plan the subjects I would take to help me in my future work.
25. The counselor knew enough about occupations to be able to assist me in selecting an area for work.
26. When I had a personal problem, I felt free to discuss it with a counselor.
27. Provisions were made in the high school schedule to allow for group guidance concerned with education beyond high school.
28. A counselor interpreted to me results of tests I had taken and helped me relate them to future occupations.
29. Provisions were made in the high school schedule to allow for group guidance concerned with choice of a career or occupation.
30. A counselor discussed my ability and achievement test results with me individually.
31. The results of tests I took in high school provided me with helpful information about myself and my choosing a career.
32. My parents put pressure on me to attend college.
33. I felt that when I met with a counselor they were genuinely interested in me.
34. When meeting with me, the counselor usually talked about the things I wanted to talk about.
35. The counselor helped me to think more clearly about a problem or question I had.
36. The counselor was a person who was easy to talk with.
37. The counselor knew people who could provide information about different vocational and technical schools.
38. The counselor told students which occupation they should choose.
39. The counselor told me which type of school I should attend after high school.

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RESPONSE KEY:	Strongly Disagree	Disagree	Partly Agree/ Disagree	Agree	Strongly Agree
	A	B	C	D	E

40. My teachers took class time to discuss occupations related to their subjects.
41. The counselor helped me identify the occupations which are closely related to my interests.
42. The counselor helped me identify which occupations which are closely related to my abilities.
43. A counselor had sufficient college and vocational/technical school information available to aid me when I was choosing a college and/or vocational/technical school.
44. The counselor gave me ample information about various college and/or vocational/technical school admissions test and procedures.
45. The counselor had information about many of the colleges and vocational/technical schools in the United States.
46. A counselor assisted me in selecting a college or vocational/technical school.
47. How many times have you visited with a guidance counselor in your school?  
\_\_\_\_\_.
48. Please indicate below your opinions, ideas, or feelings you have about the vocational guidance and counseling provided to you while in high school.

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RESPONSE	Strongly		Partly Agree/		Strongly
KEY:	Disagree	Disagree	Disagree	Agree	Agree
	A	B	C	D	E

NAME \_\_\_\_\_ DATE \_\_\_\_\_ AGE \_\_\_\_\_ SEX \_\_\_\_\_ DATE OF BIRTH \_\_\_\_\_  
 LAST FIRST MIDDLE M OR F  
 SCHOOL \_\_\_\_\_ CITY \_\_\_\_\_ GRADE OR CLASS \_\_\_\_\_ INSTRUCTOR \_\_\_\_\_  
 NAME OF TEST \_\_\_\_\_ PART \_\_\_\_\_

DIRECTIONS: Read each question and its numbered answers. When you have decided which answer is correct, blacken the corresponding space on this sheet with a No. 2 pencil. Make your mark as long as the pair of lines, and completely fill the area between the pair of lines. If you change your mind, erase your first mark COMPLETELY. Make no stray marks; they may count against you.

**SAMPLE**

1. CHICAGO is  
 1-1 a country 1-4 a city  
 1-2 a mountain 1-5 a state  
 1-3 an island

1  2  3  4  5

**SCORES**

1 \_\_\_\_\_ 5 \_\_\_\_\_  
 2 \_\_\_\_\_ 6 \_\_\_\_\_  
 3 \_\_\_\_\_ 7 \_\_\_\_\_  
 4 \_\_\_\_\_ 8 \_\_\_\_\_

**IDENTIFICATION NUMBER**

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107	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
108	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
109	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
110	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
111	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
112	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
113	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
114	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
115	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
116	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
117	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
118	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
119	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
120	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
121	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
122	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
123	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
124	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
125	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
126	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
127	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
128	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
129	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
130	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
131	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
132	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
133	<input type="checkbox"/>	<input type="checkbox"/>						



APPENDIX C. GUIDANCE INDEX (SECOND REVISION)

GUIDANCE INDEX

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This booklet contains a number of statements about the guidance service in your school. Your answers will be helpful in determining the types of guidance which will be offered in the future and your cooperation in filling out this questionnaire will be appreciated. Feel free to give your honest opinion regardless of how others might respond to the statement. Your answers are confidential and therefore do not place your name on the questionnaire or the answer sheet. Please fill it out thoughtfully and honestly. THANK YOU.

Please check the appropriate spaces below or fill in the blanks.

1. Are you: Male \_\_\_\_\_ Female \_\_\_\_\_
2. Race: \_\_\_\_\_
3. Circle the highest grade in school your father completed.  
7 8 9 10 11 12 ; College: Fr. Soph. Jr. Sr.
4. Circle the highest grade in school your mother completed.  
7 8 9 10 11 12 ; College: Fr. Soph. Jr. Sr.
5. Father's occupation \_\_\_\_\_  
Employed: YES \_\_\_\_\_ NO \_\_\_\_\_ Living at home: YES \_\_\_\_\_ NO \_\_\_\_\_
6. Mother's occupation \_\_\_\_\_  
Employed: YES \_\_\_\_\_ NO \_\_\_\_\_ Living at home: YES \_\_\_\_\_ NO \_\_\_\_\_
7. Circle the letter which represents your grade average in high school.  
A B+ B B- C+ C C- D+ D D-
8. Which type program best describes your course of study while you were in school.  
General Program \_\_\_\_\_ Vocational \_\_\_\_\_ College Prep \_\_\_\_\_
9. Were your occupational plans while you were in high school:  
Definite \_\_\_\_\_ Tentative \_\_\_\_\_ Uncertain \_\_\_\_\_ Not Planned \_\_\_\_\_
10. Which of the following have influenced you most in making vocational plans?  
Mother \_\_\_\_\_ Father \_\_\_\_\_ Brother \_\_\_\_\_ Sister \_\_\_\_\_ Teacher \_\_\_\_\_  
Boyfriend \_\_\_\_\_ Girlfriend \_\_\_\_\_ Clergyman \_\_\_\_\_ Counselor \_\_\_\_\_  
Other (Please give title): \_\_\_\_\_
11. What do you plan to do after high school graduation?
  - (a) Attend a four year college or university. \_\_\_\_\_
  - (b) Attend a general or transfer program at a community college for one or two years. \_\_\_\_\_
  - (c) Find a job and go to work (if you plan to enter one of the military services, check this one). \_\_\_\_\_
  - (d) Attend a one or two year public or private vocational/technical school (auto repair, cosmetology, electronics, drafting, etc.). \_\_\_\_\_
  - (e) Nursing (licensed, practical or registered). \_\_\_\_\_



Some of the statements below can only be answered if you received guidance counseling from a counselor while you were in high school. Indicate here whether or not you did receive such service from your high school counselor: Yes \_\_\_; No \_\_\_. If your answer is "No" answer only questions 1-13. However, if your answer is "Yes", please answer all of the following questions.

1. College information materials were easy for me to obtain in my high school.
2. I was able to make good use of the college information materials that my high school teachers provided in the classroom.
3. My high school teachers adequately presented future educational implications of the subject they taught.
4. It was convenient to schedule a meeting with a counselor when one was needed.
5. The high school provided adequate opportunities for students to visit colleges.
6. Adequate provisions were made in the high school schedule to allow for group guidance concerned with education beyond high school.
7. I felt adequate group guidance about how to choose an occupation was provided in my high school.
8. The results of tests I took in high school provided me with helpful information about myself and my choosing an occupation.
9. The high school provided ample opportunities for students to visit business and industries.
10. My teachers took adequate class time to discuss occupations related to their subjects.
11. Occupational information materials were easy for me to obtain in my high school.
12. I was able to make good use of the vocational/technical school information materials in my classroom that my high school teachers provided.
13. The high school provided sufficient opportunities for students to visit vocational/technical schools.

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	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
RESPONSE KEY:	A	B	C	D	E

14. It was convenient to discuss my vocational plans with a counselor.
15. A counselor assisted me in finding someone outside my school to give me information about a vocational field, an occupation, or job.
16. A counselor assisted me in examining the types of financial aid available in college and/or vocational/technical schools.
17. A counselor attempted to pressure me not to attend a college.
18. A counselor assisted me in deciding what to do after graduation from high school.
19. I was able to discuss with a counselor various areas of specialization in vocational education after high school.
20. A counselor put pressure on me to attend a college
21. A counselor used pressure when dealing with me when I was in the process of choosing an occupation.
22. A counselor provided me with information which indicated that I had the ability to succeed in a college.
23. After meeting with a counselor about my vocational and occupational plans, I felt that the counselor provided me with the information I wanted.
24. I felt that each of my meetings with a counselor had a mutually agreed upon purpose.
25. A counselor helped me consider information about myself in relation to vocational plans.
26. A school counselor encouraged me to investigate the educational requirements for occupations which I considered entering in the future.
27. A school counselor provided adequate opportunities for me to improve my ability to make realistic plans for myself.
28. The counselor gave me sufficient assistance in learning about occupations and types of abilities needed for each.
29. The counselor's office had adequate information about many occupations in the United States.
30. The counselor helped me to obtain sufficient occupational information related to my interests.
31. A counselor helped me to become familiar with employment opportunities, both in the present and the future.

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RESPONSE KEY:	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
	A	B	C	D	E

32. A counselor gave me adequate assistance in planning the subjects that I would take to help me in my future work.
33. The counselor knew enough about occupations to be able to assist me in selecting an area for work.
34. When I had a personal problem, I felt free to discuss it with a counselor.
35. A counselor satisfactorily interpreted to me results of tests I had taken and helped me relate them to future occupations.
36. I was satisfied with the discussion I had with my counselor regarding my ability and achievement test results.
37. I felt that when I met with a counselor they were genuinely interested in me.
38. When meeting with me, the counselor usually talked about the things I wanted to talk about.
39. The counselor helped me to think more clearly about a problem or question I had.
40. The counselor was a person who was easy to talk with.
41. The counselor knew people who could provide information about different vocational/technical schools.
42. The counselor told students which occupation they should choose.
43. The counselor told me which type of school I should attend after high school.
44. The counselor provided adequate help to me in identifying occupations which are closely related to my interests.
45. A counselor had sufficient college information available to aid me when I was choosing a college.
46. The counselor gave me ample information about various college admissions tests and procedures.
47. The counselor had adequate information about many of the colleges in the United States.
48. A counselor gave me sufficient assistance in selecting a college or university.
49. A counselor provided me with information which indicated that I had the ability to succeed in a vocational/technical school.
50. The counselor provided adequate help to me in identifying occupations which are closely related to my abilities.
51. A counselor had sufficient vocational/technical school information available to aid me when I was choosing a vocational/technical school to attend.

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	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
RESPONSE KEY:	A	B	C	D	E

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52. The counselor gave me ample information about various vocational/technical schools admissions tests and procedures.
  53. The counselor had adequate information about many of the vocational/technical schools in the United States.
  54. The counselor gave me sufficient assistance in selecting a vocational/technical school.

SECTION .II:

Please indicate below your opinions, ideas, or feelings you have about the vocational guidance you received while in high school.

APPENDIX D. GEOGRAPHIC LOCATION OF THE SAMPLE





APPENDIX E. HOLLINGSHEAD: TWO-FACTOR INDEX  
OF SOCIAL POSITION

To determine a student's socio-economic status in this investigation Hollingshead's Two-Factor Index of Social Position (31) was utilized. Through the Index a person's social status is ascertained based on the head of household's occupation and total years of schooling. An individual's occupation is assigned to one of the following scale positions:

1. Higher executives of large concerns, proprietors, and major professionals.
2. Business managers, proprietors of medium-sized businesses, and lesser professionals.
3. Administrative personnel, owners of small businesses, and minor professionals.
4. Clerical and sales workers, technicians, and owners of little businesses.
5. Skilled manual employees.
6. Machine operators and semiskilled employees.
7. Unskilled employees.

Likewise, the person's educational level is assigned to one of the following seven positions:

1. Professional (M.A., M.S., M.E., M.D., Ph.D., L.L.B., and the like).
2. Four-year college graduate (A.B., B.S., B.M.).
3. 1-3 years college (also business schools).
4. High school graduate.
5. 10-11 years of school (part high school).
6. 7-9 years of school.
7. Under 7 years of school.

Next, the individual's position score (category number) is multiplied by a weight. Occupation has a weight of 7 and education is assigned a weight of 4. Thus, if one were to compute a score on this Index for a credit manager who had completed one to three years of college, the following would be approximate:

<u>Factor</u>	<u>Scale Score</u>	<u>x</u>	<u>Factor Weight</u>	=	<u>Partial Score</u>
Occupation	3		7		21
Education	3		4		<u>12</u>
					33

The range of scores in each class on the Two-Factor Index is:

<u>Class</u>	<u>Range of Scores</u>
I	11-17
II	18-31
III	32-47
IV	48-63
V	64-77

Consequently, the credit manager would fall in social status position III as determined by Hollingshead's Two-Factor Index of Social Position.

APPENDIX F. CHARACTERISTICS OF THE SAMPLE

Number of Schools in Sample: 20

Number of Students Administered  
Guidance Index, by School

Completed, Usable Guidance Index,  
by School

25	25
25	12
25	25
25	9
25	25
25	14
25	25
25	25
25	22
25	23
25	17
25	25
25	25
26	22
27	25
28	27
30	30
34	29
37	31
<u>42</u>	<u>36</u>
549	472

Race

Caucasian	468
Other	4

Student  
Socio-economic Status

Level	Number of Students
I	52
II	89
III	182
IV	167
V	42

Student  
Grade Point Average

Grade	Number of Students
A	56
B+	88
B	108
B-	79
C+	69
C	101
C-	18*
D+	8*
D	5*
D-	0

Size of Schools

Stratum	Number of Students
Large	217
Middle	147
Small	168

Student  
Post-High School Choice

	Number of Students
Four Year College or University	180
Community College	88
Work	173
Vocational/Technical School	72
Nursing	19**

Sex

Male	262
Female	270

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\* Combined into one category.

\*\* Nursing student responses were combined with vocational/technical school student responses.