

ATTITUDES AND BEHAVIOR CHANGE
IN THE FOOD SERVICE INDUSTRY

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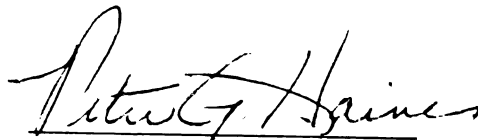
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Leonard E. Zehnder

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ABSTRACT

ATTITUDES AND BEHAVIOR CHANGE IN THE FOOD SERVICE INDUSTRY

by Leonard E. Zehnder

The general problem area investigated in the study was occupational incompetence resulting from negative capacities in the affective domain. The specific research problems were: (1) developing a procedure and technique for accurately analyzing the affective domain for educational purposes; and (2) specifying trait requirements relevant to job behavior that would be useful educational objectives for vocational training.

The purpose of the research was to demonstrate the feasibility of analyzing the affective domain and to explore the possibility of including attitudinal development in formal educational programs. The study proposed a personality trait technique of job analysis which was demonstrated in a pilot study in the food service industry. The female cook and waitress positions, the two largest groups in the industry, were analyzed by utilizing the technique in order to determine the affective, cognitive, and psychomotor components of competence for the two job classifications. The findings of the study were that each job requires a variety of common and some unique affective traits. The degree of trait development required varied

with the job and with the length of employment. Employers' expectations were the basis for establishing trait requirements. The trait specification phase of the research project provided conclusive evidence that personality trait requirements, perceived by employers, are useful in formulating operational educational objectives.

The study confirmed the following four hypotheses:

(1) affective traits are intrinsic components of occupational adaptation and competence; (2) affective variables essential to specified job positions can be identified, isolated, and classified for instructional purposes; (3) affective requirements vary with occupations and with length of employment; (4) educational objectives in the affective domain can be specified by carefully compiling employer expectations of behavior.

The final conclusion was that the evidence which indicated it is feasible to analyze the affective area, and the evidence that showed the possibility of accurately specifying worker trait requirements, provides a legitimate basis for the inclusion of affective trait development in formal vocational education programs.

The recommendations were that additional research is needed to solve the problem of affective deficiencies and that course content and curriculum should be developed to test the theories of trait teaching and learning in experimental pilot programs.

ATTITUDES AND BEHAVIOR CHANGE
IN THE FOOD SERVICE INDUSTRY

By

Leonard E. Zehnder

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PREFACE

The writer's interest in employee attitudes and training resulted from many years of practical experience in industry coupled with considerable college teaching experience in hotel and restaurant management. The years in industry were equally divided between subordinate and management positions. The author was general manager of a hotel and large restaurant for fifteen years and later an executive officer in a corporation with more than four hundred employees. Considerable understanding was acquired from these experiences concerning the personnel problems facing the food service industry.

Since 1961, the author has been on the teaching staff of the School of Hotel, Restaurant, and Institutional Management, College of Business, Michigan State University. He has served as a consultant to hotels, motels, restaurants, schools, and coordinated numerous management seminars. The major problem encountered in almost all instances in these experiences, dealt with some aspect of personnel training and development.

The author is deeply indebted to Dr. Peter G. Haines and Dr. Robert W. McIntosh for their counsel and cooperation in directing the study, and to Dr. Frank H. Blackington and Dr. Lawrence Borosage for their valuable guidance. The committee's patience, the assistance of associates, and the encouragement of my family and friends is appreciated.

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CHAPTER I

INTRODUCTION

General Introduction

Economists have long been aware of significant changes in employment distribution and of the increasing importance of service industries in the American Economy. Dr. Victor R. Fuchs, for example, recently reported that the United States is "the first nation in the history of the world in which more than half of the employed population is not involved in the production of food, clothing, houses, automobiles, and other tangible goods."¹ According to the report, in 1929 the number of Americans employed in the production of goods totaled 27.5 million and those employed in the production of services totaled 18.6 million. By 1963 the numerical distribution was reversed with 37.9 million employed in service occupations and 31.4 million employed in the production of goods.² Women hold 46 per

¹Victor R. Fuchs, 45th Annual Report of the National Bureau of Economic Research, 1965, quoted by Sylvia Porter, The State Journal, "Workers' Shift Marks an Epoch," June 24, 1965, Lansing, Michigan.

²Services in the above report include wholesale and retail trade, general government, finance, insurance and real estate, personal, professional, business and repair services.

cent of all jobs in services as against only 19 per cent of all jobs in goods.¹

The historical change from a production economy to a service economy is in some respects similar to two earlier economic revolutions: These were the change from hunting and fishing to agriculture and crafts, and later the shift from agriculture and crafts to industry. All the educational implications of the ongoing economic revolution have not yet been realized, nor have they been fully grasped. Preparing students for competence in many of the service oriented industries, for instance, may require methods and materials which are markedly different than those utilized in traditional education and training programs. The educational systems of the future will undoubtedly be more aligned with a service based economy. The newly discovered needs, demanded by service oriented occupations, will probably also precipitate changes of great magnitude in instructional materials and methods of teaching.

The belief that changes in vocational education will occur commensurate with the needs and corresponding to economic changes now in process is based upon four theoretical premises:

1. The prime purpose of vocational education is to prepare students for future functions by

¹45th Annual Report of the National Bureau of Economic Research, op. cit.

developing their skills and abilities to acceptable standards of occupational competence.

2. The course content and curricula of vocational programs is derived from an analysis of the job and an interpretation of the needs of the worker and the employer.
3. Programs designed to develop job proficiency are formulated by determining the expected skills and behavior as these are observed and perceived by employers.
4. The democratic charter of American education clearly specifies that vocational education should be impartially provided for individuals and industries and that it be non-discriminatory concerning the status and prestige of socially sanctioned occupations.

The Statement of the Problem

The study investigated the problem of occupational incompetence due to negative capacities in the affective domain. The affective area was defined to include emotional responses possessing a degree of acceptance or rejection, such as attitudes, values, and feelings.

The correction of the problem was presumed possible if it was found feasible to develop educational programs whose prime objective is attitude improvement. The initial

task in vocational education planning is to conduct an analysis of the job to identify the essential elements of an occupation and to list these for instructional purposes. Previous research had revealed that the existing job analysis techniques were inadequate for analyzing the affective domain. Exhibits placed in Appendix C substantiate this contention. The initial problem, therefore, consisted of developing an analytical technique to determine the essential affective elements of an occupational calling. The proposed technique was tested in a pilot study limited to female cooks and waitresses, the two largest occupational classifications in the food service industry.

Vocational programs eventuating in competent performance also require the formulation of meaningful educational objectives. The second task, therefore, involved the problem of accurately specifying desirable job behavior in order to establish objectives which might be the goals and guidelines of an educational program. Job specifications found in the literature were discovered to be imprecise and not useful for developing appropriate objectives. The proposed procedure for analyzing the affective domain and the technique for specifying job behavior were demonstrated to be operational by applying the two methods in pilot demonstrations.

The proposed method of analysis was based upon a bipolar list of affective traits. It was designed to determine

each trait's order of importance and the desirable degree of development that is needed for industry entry and advancement, as these are perceived by employers.

The practicality of the postulated procedure was demonstrated by the development of several descriptive models, which could serve as points of reference for determining course content and curriculum construction in future studies.

The research design was further demonstrated to be feasible and operational by formulating from the data a series of educational objectives in the affective domain. These objectives may in future studies serve as the initial input into a system of affective education for the food service industry.

The Hypotheses

The underlying hypotheses of the study were as follows:

1. Affective traits are intrinsic components of occupational adaptation and competence.
2. Affective variables essential to occupational competence can be identified and classified.
3. Affective requirements vary with occupations; and entry qualifications are different from promotion qualifications.
4. Affective educational objectives can be operationally specified in terms of employer expectations of employee behavior.

The Purpose

The purpose of the study was to demonstrate that it is feasible to include affective trait development into formally planned educational programs. The key elements to show this to be possible were a technique for analyzing the affective domain to determine its components and a procedure for formulating educational objectives from job behavior specifications.

Definition of Terms

The Affective Area

Affection refers to an emotional response possessing a degree of acceptance or rejection. Affective traits vary from simple attention to phenomena to complex qualities of character and conscience. Attitudes, values, appreciations, emotional sets or biases, and feelings are included in the affective domain. Personality phenomena which deal with inward disposition or inclination to act are classified in the affective category.¹

¹The major semantic difficulty encountered in the study was the vagueness with which the affective domain is described. The concept is primarily an educational classification with little meaning to employers and industrial psychologists who are inclined to use the term "personality" when referring to affective traits. The distinction between the affective area and the cognitive in some instances is hazy, for cognition often enters into affective responses.

The Cognitive Area

Cognition refers to remembering something which has previously been learned. Cognitive reactions also refer to solving an intellectual task by determining the problem and rearranging material with ideas, methods and procedures known to the learner. Cognitive behavior may be simple recall or synthesizing new ideas into original combinations in creative ways.¹

The Psychomotor Area

The psychomotor area refers to some physical, muscular or motor skill. Reactions in this area require the manipulation of materials and objects and deal mainly with neuromuscular co-ordination and activity.

Occupational Competence

Occupational competence is defined as having sufficient ability and possessing the requisite qualifications for a specified job. It is the product of some combination of education, experience, and personal traits. The personal traits are comprised of mental, physical and affective factors.

Personality

Personality is defined to be "that which constitutes a person; or that which distinguishes and characterizes a

¹David K. Krathwohl, Benjamin S. Bloom, et al., Taxonomy of Educational Objectives Handbook II: Affective Domain (New York: New York: David McKay Co., Inc., 1964), p. 6.

person."¹ An amplified definition is provided by Cattell:
 "The reactions, which constitute the data of personality study are all the reactions of the organism; its reactions to people, things and ideas; its partial reaction, as in reflexes, and its unconscious reactions."²

Personality Trait

The term, trait, is used in the sense of a mental structure deduced from a continuous or intermittent set of behavior manifestations remaining recognizably consistent over some period of time. Different individuals have more or less of the same trait. The principal meaning of the term, personality trait, in this study is that it is a collection of reactions and responses to be brought under one term and treated in the same manner. Traits are comprised of trait elements which when clustered form patterns of behavior with dominant features revealing basic personality traits somewhat consistent over time.

Education

Education is defined as the aggregate of all the processes by means of which a person develops abilities,

¹College Standard Dictionary (New York: Funk and Wagnalls, 1943).

²Raymond B. Cattell, Description and Measurement of Personality (Yonkers-on Hudson, New York: World Book Company, 1946), p. 15.

attitudes, and other forms of behavior of positive value in the society in which he lives.¹

Training

Training is defined as the teaching of specific skills, for an immediate purpose, to perform a specific task. Education usually refers to a broader type of teaching in which the objectives relate to some future situation. Training is always task oriented, education may not be.

Job Analysis

Job analysis is the systematic technique of determining the essential elements which constitute a job. Job analysis data provides teachers and trainers with basic information as to what is entailed in performing a job. The main educational purpose of job analyses is to provide data for determining course content, developing instructional material, and devising methods of teaching.

Job Description

A job description is the organized written report resulting from the job analysis: It describes the job in detail.

Job Specification

The job specification indicates the job duties and specifies job requirements including mental, education,

¹Carter V. Good (ed.), Dictionary of Education (2nd. ed.; New York: McGraw-Hill Book Company, Inc., 1959).

and personality requirements of a job. Training programs are developed from job specifications (see Appendix C).

Job Definition

The job definition is the most concise description of a job possible.

Educational Objectives

Educational objectives are instructional goals specified in terms of intended student behaviors. They represent the expected outcomes of an educational program.

Service Industries

The service oriented industries broadly defined include trade, government, finance, insurance, real estate, personal, professional, business and repair services. Service workers, narrowly defined, include only occupations such as hospital attendants, barbers, bartenders, male and female cooks, maids (not private household), counter and foundain workers, janitors, hairdressers and cosmetologists, kitchen workers, porters, practical nurses, firemen, policemen, and male and female waiters.^{1,2}

¹U. S. Department of Commerce, Bureau of Census, Statistical Abstract of the United States: 1963 (Washington, D. C.: U. S. Government Printing Office, 1964), p. 235.

²According to the Bureau of Labor Statistics Classifications (ibid., p. 223, Table No. 295) employees in non-agricultural establishments, excluding proprietors, self-employed persons, etc., in March of 1963, were as

The Food Service Industry

The food service industry is comprised of establishments whose prime purpose is the preparation and service of food. The work force in the industry consists of three major divisions: (1) food production workers; (2) food service or distribution workers; and (3) administrative and office workers which are ancillary to the above. Membership in the industry includes the food preparation and service division of hotels, restaurants, inns, motor hotels, public and industrial cafeterias, colleges and schools, clubs, hospitals, and other institutions.

The Need for the Study

The affective domain merits investigation because in most instances of occupational incompetence the main problem is not a lack of knowledge or skills but primarily negative capacities in the affective realm. Knepper, for example, reports the findings of a study by the Wright Stenotype Company, entitled, "Why People Fail," which gives the following reasons for failure:

Lack of skill	2.2%
Inexperience	1.0%
Slowness in learning.	2.0%
Carelessness	2.0%

follows: (in thousands) Total 55,035; mining 617, contract construction 2,306; manufacturing 16,605; transportation and public utilities 3,877; wholesale and retail trade 11,466; finance, insurance, and real estate 2,821; service and miscellaneous 7,808; government 9,535. The total employed in all non-agricultural industries was 62,812,000 (ibid, Table No. 294).

Misdemeanors	3.0%
Lack of adaptability and inability to get along with others.	88.8% ¹

Another study conducted by the Carnegie Foundation investigating reasons for success in business occupations reported that 15% of the successes were due to technical and special skills and 85% were successful because they possessed the requisite personal qualities.²

Menninger and Levinson in their studies have also found that the affective personality traits are crucial to work adaptation. They write, "Not to be overlooked in this context is the need for good human relations, for there is evidence that two out of three separations from work are attributed to human factors other than incompetence."³

Dr. Francis J. Braceland, former psychiatrist-in-chief in the United States Surgeon General's Office, also comes to this general conclusion, when he states: "From 60 to 80 per cent of all dismissals in industry are due to social incompetence rather than industrial failure."⁴

¹Edwin Garfield Knepper, Evaluating Competence for Business, National Association of Business Teachers, 1950 Yearbook, p. 162.

²Ibid., p. 163.

³William C. Menninger and Harry Levinson, Industrial Mental Health (reprint from Menninger Quarterly, Fall, 1964).

⁴The State Journal (Lansing), November 13, 1964, p. B-11.

The Absence of Affective Objectives

Explicit or precisely stated educational objectives in the affective domain are almost non-existent. Teachers generally consider this area outside of the realm of organized formal instruction. It is a controversial area and, therefore, goals concerning the development of attitudes, values and beliefs are seldom spelled out explicitly. Nevertheless, they are implicitly present in most educational programs, although the level of achievement is left to chance and not measured. However, in the literature, it is assumed to be axiomatic that the development of appropriate attitudes is an important part of teaching and learning. Authors on subjects in vocational education all emphasize the importance of the attitudinal factors in social adjustment and occupational adaptation. But one is struck by the fact that teachers do not seem to be very clear about objectives in this domain, nor about the learning experiences which are appropriate to these objectives. The testing procedures for the affective area are still in the most primitive stages and precisely stated objectives are lacking whereby achievement can be reliably measured. Techniques for analyzing the affective domain for the purpose of developing objectives are also not sufficiently refined to be of practical value.

The assertion was made earlier that the major problem in the service industries are employees who have inadequately

developed affective abilities. The need to study the affective qualifications of service workers is readily apparent. The importance of affective traits to specific jobs and the desired degree of development needed for entry and promotion are two topics for which substantiating evidence is provided in the final findings of this report. The pilot study findings support the need for more research in the affective domain.

The Need for Educational Research in the Food Service Industry

The justification for focusing the pilot study upon female cooks and waiters, in the food service segment of the service industry, is documented in detail in the following section. The hospitality and service industries, where apparently the affective traits are crucial to employment and job satisfaction and success; and, where traditional programs are not now providing properly prepared personnel, are prime industries for educational research in the affective domain. This study, being basic research and exploratory, will no doubt result in somewhat unrefined first findings, which, although crude, may encourage more extensive and refined studies in the future.

Food Service Workers

In 1963, about one in every eight workers, or almost eight million employees, were in occupations which the Labor Department defines as service workers. One-fourth of

these were part-time and more than one-third of the service workers were employed in some sixty job classifications in the food service industry.¹ Employment in service occupations is expected to rise rapidly, so that by 1970 three million more will be employed in these industries than in 1960.²

The 1960 Census data reveals that food service workers comprise the largest single block of employees in service occupations. Male and female waiters, cooks, and kitchen workers (not elsewhere classified except private household) total 1,691,691: and of this total, female waiters number 714,827 and female cooks number 361,772.³ A more detailed distribution of employees in service occupations is provided in Figures 1 and 2, which graphically illustrate the growth of service workers since 1910, and their distribution in 1960.

Figures 3 and 4 indicate the need for education and training as revealed by the approved projects of the Manpower Development and Training Act. Since August of 1963, 108 projects for food service workers were approved.

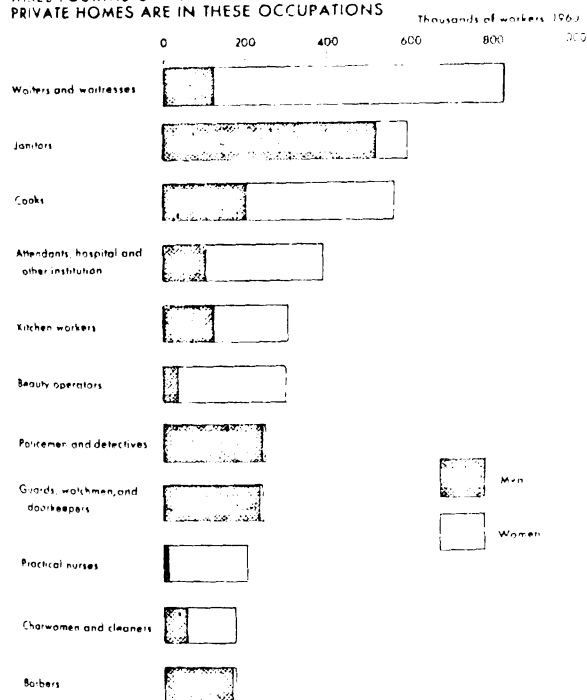
¹United States Department of Labor, "Occupational Outlook Brief--Service Occupations," Bureau of Labor Statistics, Washington, D. C., 1963-64, p. 1.

²Ibid., p. 2.

³Statistical Abstract of the United States: 1963, op. cit., p. 235.

CHART 1

THREE-FOURTHS OF ALL SERVICE WORKERS EMPLOYED OUTSIDE
PRIVATE HOMES ARE IN THESE OCCUPATIONS

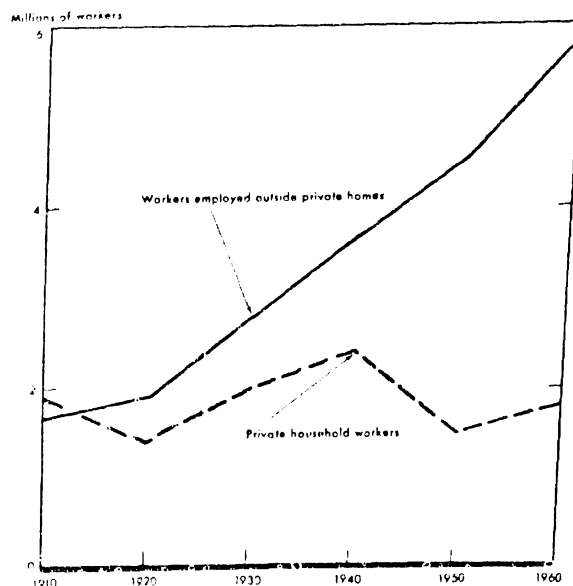


Source: U.S. Bureau of the Census.

CHART 2

EMPLOYMENT HAS --

Changed little for private household workers
Risen steadily for workers in other service occupations



Source: U.S. Bureau of the Census.

Figure 1.--Service workers employed in the major occupational fields.

Figure 2.--Numerical growth of service workers from 1910 to 1960.

CHART 3

ONE-HALF OF THE TRAINEES APPROVED WERE FOR PROJECTS IN THE PREPARATION OF FOOD

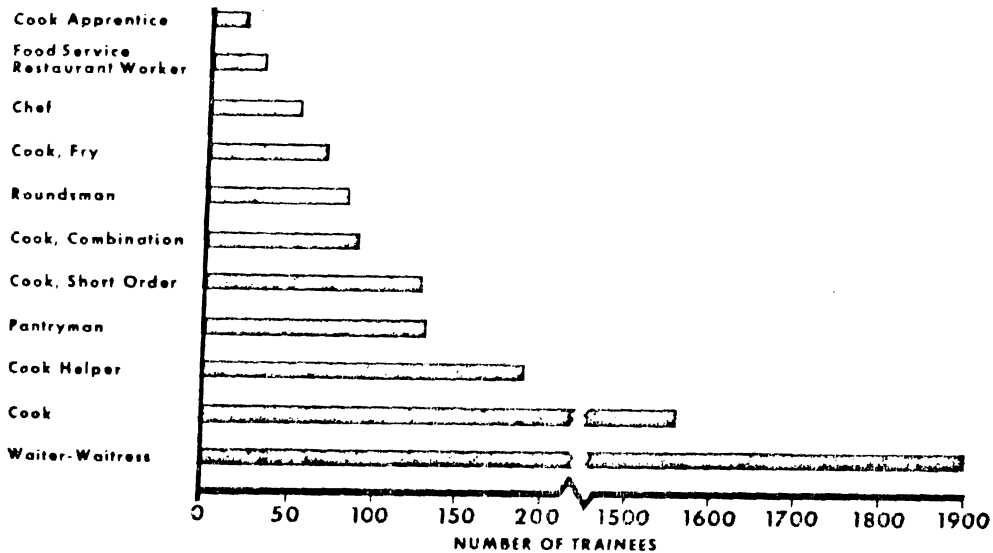
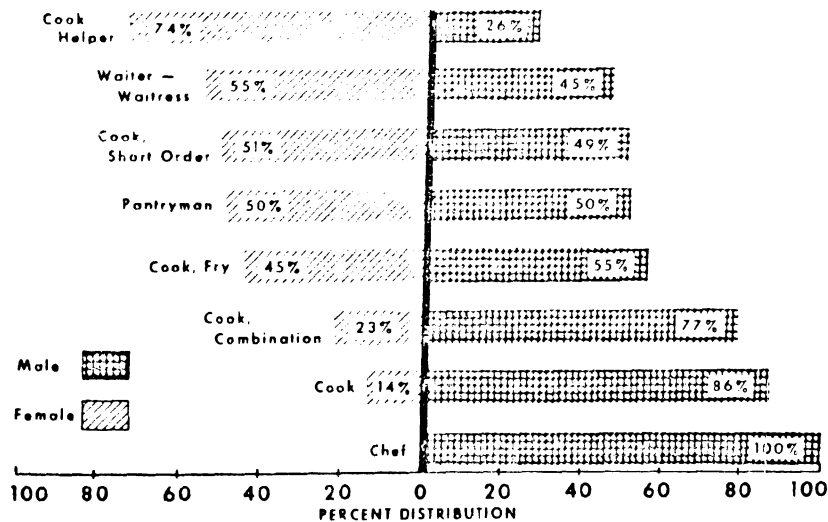


Figure 3.--Numerical distribution of food service industry workers attending manpower development and training programs in 1963.

CHART 4

WOMEN ARE BEING TRAINED IN EVERY OCCUPATION EXCEPT CHEF



Source: "Training Under the Manpower Development And Training Act"

Figure 4.--Percentage distribution of male and female trainees in manpower development and training programs in 1963.

The female cook and waiter classifications represent the largest number of trainees in these programs.

Figure 5 indicates the expected growth in all occupational fields in the next decade, and reveals that service workers will increase thirty-five per cent from 1960 to 1970 and more than fifty per cent from 1960 to 1975. The per cent of increase is second only to professional, technical, and kindred workers. The data signifies that by 1975 about 1.5 million additional service workers need to be educated and trained due to industry growth. In addition, it will also be necessary to train a large number of replacement workers to replace those expected to leave the industry. In the recent past about 150,000 replacement workers were needed annually.¹ This means that by 1975 an estimated 3 million new workers need to be trained.

Women in the Work Force

Working women are an important factor in the present service economy. This has significant educational implications. The distribution of women workers in traditional functions is important to this study because of the relatively large number of women employed in the preparation and service of food. Table 1, indicates that 1,642,727 women are employed in this type of work and that they comprise a relatively

¹Donald Greenaway, "An Overview of the Food Service Industry," The Cornell Quarterly (Ithaca, New York: Cornell University, August, 1964), p. 12.

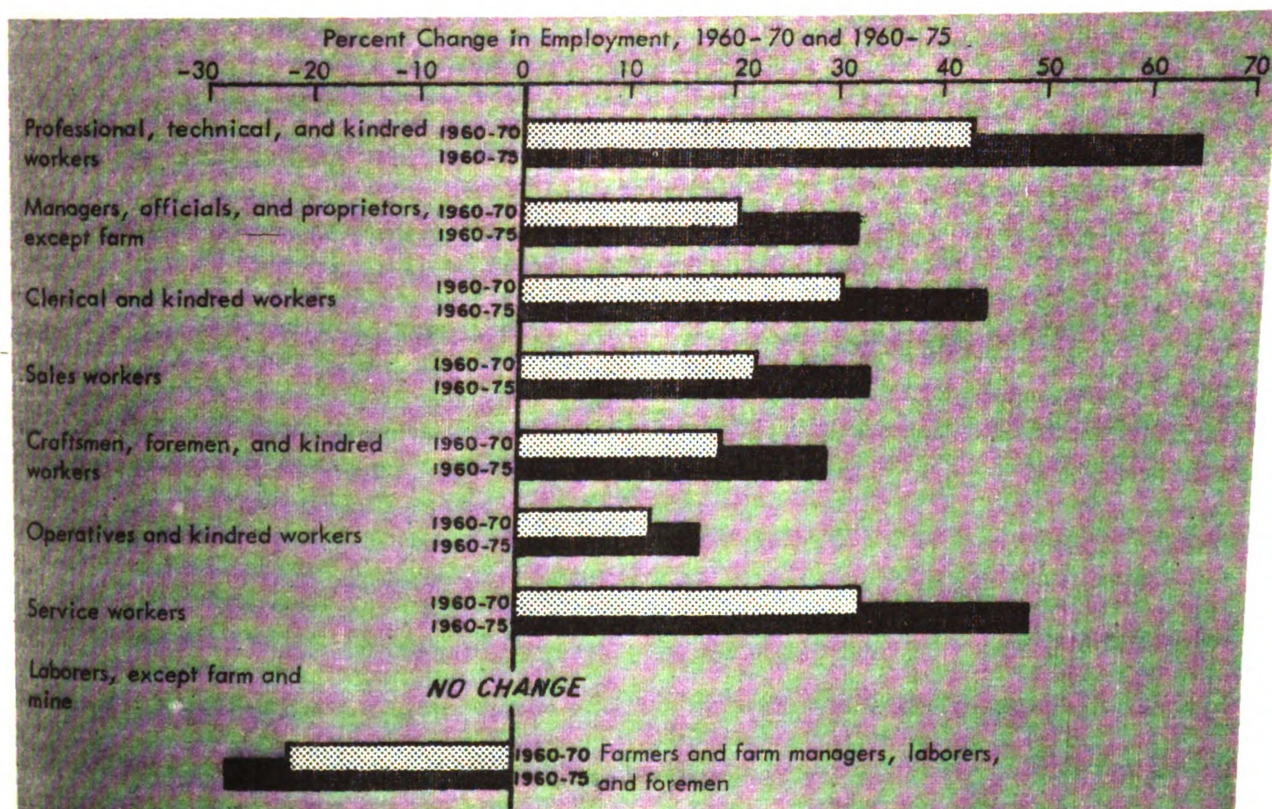


Figure 6—Expected Change in Employment, by Type of Occupation, 1960-75

U.S. Department of Labor
Bureau of Labor Statistics

Figure 5.--Projected changes in employment in various occupational fields in the United States, 1960-1975.

TABLE 1.--Distribution of women workers in traditional functions, 1960.

Traditional Functions	No. of Women
Training and caring of young (teachers, etc.)	1,735,079
Caring of the sick (nurses, practical nurses, etc.)	1,311,865
Making and caring of clothing (sewers and stitchers, apparel workers, etc.)	1,510,111
Preparing and serving of food	1,642,727
Dietitians and nutritionists	24,757
Cooks	381,078
Kitchen workers	195,629
Counter and fountain workers	119,158
Waitresses	777,362
Workers in food manufacturing	144,744
Taking care of the home	1,805,684
TOTAL . . .	8,005,466

important part of the total number. Table 2, which follows, reveals that female waiters constitute the seventh largest occupational group in which women are employed. An examination of the tables also indicates that female cooks and waiters are among the few for whom formal educational programs are not now generally provided in the secondary schools.¹

Concluding Statements

The material presented in this chapter was primarily background information considered necessary for understanding

¹The tables were compiled by Daniel H. Kruger, "Women at Work," Business Topics, Michigan State University, Graduate School of Business Administration, Spring, 1964, p. 25.

TABLE 2.--Ten occupations employing the largest number of women, 1960.

Occupations	No. of Women
Clerks and kindred workers	1,788,667
Sales clerks	1,591,665
Secretaries	1,451,639
Private household workers	1,228,266
Teachers, elementary and secondary	1,111,721
Bookkeepers	783,309
Waiters (female)	777,362
Sewers and stitchers	579,364
Nurses, professional	577,038
Typists	516,844

Source: Bureau of the Census, 1960.

the remaining sections of the study. The subject-matter was combined as introductory material because it furnishes the basis for what is to follow. The chapter included the problem to be studied, the hypotheses which were to be tested, the purpose of the study, the definitions, and the justifications for conducting the study in the selected areas. Chapter II, which follows, covers in detail the methods and procedures which were utilized in doing the study.

CHAPTER II

THE PROCEDURE

Developing a Plan for the Study

Research in the affective area pertaining to teaching and learning is in the early stages of inquiry. Technique refinement is still one of the major problems and obstacles in conducting studies in this domain. The procedure for this study was therefore somewhat different because it was necessary to first develop and refine the method by which the study could be accomplished. The emphasis is on the procedure because the greatest contributions of the research are considered to be the method and procedure which are proposed for analyzing the essential components of an occupational calling. The proposed analytical technique was also tested on a small scale, in a "real world" situation, by the use of a pilot study. The procedure had three distinct phases: (1) developing an analytical technique for the affective area: (2) demonstrating the technique's feasibility by applying it to selected jobs in one industry; and (3) showing an application of the method by formulating operational educational objectives in the affective domain from the findings.

Phase 1: Developing a Technique for
Analyzing the Affective Domain

The first phase of the study consisted of a diligent search to discover, or if not in existence to invent or develop, an instrument and a method for analyzing the affective aspects of job behavior. The literature on job analysis techniques was reviewed initially to find an existing and acceptable job analysis technique. No technique was discovered that was suitable for analyzing the affective domain. The literature was then reviewed for the purpose of analyzing associated concepts in order to develop an adequate technique.

The concepts considered pertinent to an analysis of the affective domain and relevant to vocational competence included the concepts of personality, behavior, competence, educational objectives and the affective domain. Some of these concepts were central to the instrument development phase of the research, some were germane to the pilot study, and others to the educational objective formulation phase of the project.

Phase 2: The Method of Conducting the Pilot
Study--An Analysis of Two Job Classifi-
cations in the Food Service Industry
to Demonstrate the Personality
Trait Technique

The procedure for demonstrating the above technique of analysis consisted of applying the proposed method to two job classifications in the food service industry: An

earlier study on needs had indicated that educational research was needed for these two job classifications. The two jobs for which the quality and quantity of employees was deemed most deficient was found to be female cooks and female waiters. A pilot study was conducted to determine the affective characteristics which are required of applicants aspiring to employment in these two occupational fields.¹

Research instruments were designed for identifying precise affective personality traits considered by employers to be essential for the two positions. The affective qualifications which are needed by workers for industry entry and advancement were determined and classified, according to degrees of development, by the use of a previously developed personality scaling technique. From the data a descriptive model was formulated for each occupation. A graphical profile for each position was also developed which indicated the essential traits and the desirable degree of development required for job entry and promotion.

Details of Phase 2 Procedure

The Population

The population for the pilot study consisted of the food service industry executives in the standard metropolitan area of Lansing, Michigan. Every type of operational

¹Appendix A.

unit and variety of organizational structure which constitute the food service industry were found to be present in the Lansing area. The sample shows the population distribution, according to type of establishments; it is a cross-section of the industry.

The Sample

Sampling is a statistical method whereby the sought for characteristics of a larger population can be most economically obtained: For a random sample, margins of error can be mathematically calculated. The present pilot study, however, required data obtainable only from a small strata of industry leaders, rather than from a random and representative sample of the total universe. The minimal number needed in the sample was not known prior to conducting the study. From an original "population" of thirty-five who were considered by their positions to be knowledgeable in the occupational field, an advisory committee of twenty-three were willing to participate on the panel. Later, after tabulating the responses, it was discovered that for this particular study a smaller sample would have given the same results. The findings changed only slightly beyond seven responses.

The sample was selected in the same manner by which advisory committees are selected for vocational education curriculum construction. A recent publication of the Michigan Department of Public Instruction states it thusly:

As a result of rapid changes in industrial and business practices in each community, educators need assistance in identifying the many significant factors affecting curriculum planning and development in vocational education. Consequently, schools must have direct contacts with community leaders representing the various occupational opportunities in the community. These lines of communication can best be established and maintained through the use of vocational-technical education advisory committees.

Advisory committees are of such importance to vocational education administrators that their establishment and use is considered necessary before reimbursement requests can be considered.¹

The report explains that there are two common types of advisory committees, a general advisory committee and an occupational advisory committee. About the latter it states,

The "Occupational Advisory Committee" limits itself to a specific occupation or family of occupations requiring specific skills and/or abilities. Its purpose is to advise in the development and operation of the total instructional program within that specific occupation or area. The membership should be composed of persons having experience in, and knowledge of, the occupation.²

The sample was therefore selected in compliance with the above requirements and cognizant of the established procedure that vocational instruction is developed and conducted in consultation with potential employers and others knowledgeable in the occupational field.

¹ A Manual and Handbook of Sample Forms for Making Application for Vocational-Technical Education Funds, Division of Vocational Education, Department of Public Instruction, Lansing, Michigan, May, 1965, p. 3.

² Ibid., p. 4. See also Vocational-Technical Advisory Committees, op. cit.

The panel used in this study represents a stratified sample of twenty-three of the largest employers in the industry in this area.

The advisory committee represented the following organizational units of the Food Service Industry: two hotels, two hospitals, two motor hotels, six independently owned restaurants, four chain operated restaurants, two government office building cafeterias, one public cafeteria, one general office building cafeteria, one country club, and two college dormitory cafeterias.¹

Collection of the Pilot Study Data

The instruments used to gather the data for the study consisted of the "Affective Personality Trait List," Table 3, page 77, and the bi-polar trait pairs pertinent to each position, Sections A, B, and C of the "Personality Scaling Device," Appendix D. The trait pairs in Table 3 were adapted from Cattell's basic personality trait list, which was a compilation of the findings of fourteen studies

¹The twenty-three participants on the panel were representatives from the following organizations: the Jack Tar Hotel, Roosevelt Hotel, Edward Sparrow Hospital, St. Lawrence Hospital, Holiday Inn, Capitol Park Motor Hotel, Eyer's Steak House, Ziegler's Charcoal House, Eagle Restaurant, Brauer's, Jim's Restaurant, Warren's Poplars, Bill Knapps, Holly Grills, Howard Johnson's, Big Boy Restaurant, Michigan Bell, Steven T. Mason Building, Lewis Cass Building, Ralph's Cafeteria, Walnut Hills Country Club, and Michigan State University's Brody and Wilson Hall Cafeterias.

on personality, including research by Ackerson, Cattell, Flemming, Jones, Maslow, Maurer, McCloy, Olinick, Sanford, Horn, Murray, Sheldon, Tryon and Williams.¹

The composite table of all personality trait pairs (Table 3) was first submitted to a pre-selection panel for the purpose of limiting the number of traits to only those considered essential for employment in this industry. The panel was asked to indicate the trait pairs which should be considered in hiring and evaluating a potential employee.² This was necessary because Table 3 is comprised of 149 trait pairs and for practical purposes this was found to be too cumbersome. The pre-selection of relevant characteristics proved to be an effective method of controlling the final number of variables which needed to be considered by the scaling panel. The selection of pertinent traits occurred in two stages: stage one included only the selection, stage two included re-selection and scaling. The first panel only determined which trait pairs were to be submitted to the second panel for scaling, scoring, and selection.

Treatment of the Data

The respondent's replies were tabulated to indicate the advisory committee's opinion on (1) the importance of

¹Cattell, op. cit., p. 42.

²The pre-selection panel consisted of representatives of the following establishments: Win Schuler's Restaurant, Teysen's Cafeteria, Kellogg Center Hotel, The Bavarian Inn, The Doherty Hotel, American Hotel Institute, Zehnder's Restaurant, and The Little Corporal Restaurant.

each trait to each job; (2) the entry qualifications for each trait for each job; and (3) the improvement expectations for each trait for each job. A personality profile for each classification was developed by synthesizing the findings. The method utilized for determining the data was basically a personality scaling technique.¹

Phase 3: The Method of Formulating Educational Objectives in the Affective Domain from Data Derived by Utilizing the Personality Trait Technique

Interviews were conducted with six members of the advisory panel for the purpose of developing specific affective objectives. The interviewees were asked to describe in detail the precise behavior an employee displays who possesses a specific trait. Four traits were selected for each job classification. All of the employer's

¹The personality scaling technique, using bi-polar positions on a continuum, was adapted from the following:

William J. Goode and Paul K. Hatt, Methods in Social Research (New York: McGraw-Hill Book Company, Inc., 1952), p. 234.

Merl E. Bonney and Richard S. Hampleman, Personal-Social Evaluation Techniques (Washington, D. C.: The Center for Applied Research in Education, Inc., 1962), Chapters 3 and 4.

Harold Gulliksen and Samuel Messick, Psychological Scaling: Theory and Applications, Princeton University Educational Testing Service (New York: John Wiley and Sons, Inc., 1960).

Samuel Messick and John Ross, Measurement in Personality and Cognition (New York: John Wiley and Sons, Inc., 1962).

descriptions were combined for each trait into a single job-trait specification. The composite behavior specifications described the desirable behavioral outcomes employers expect for each trait, for each occupation. Thus, the specifications represent the affective requirements of a competent employee (perceived by employers) stated in behavioral terms. By translation these are operational affective objectives which can become the objectives of vocational programs for the two job classifications.

CHAPTER III

A REVIEW OF RELATED LITERATURE AND AN ANALYSIS OF ASSOCIATED CONCEPTS

Chapter III is divided into three parts, corresponding with the study's major divisions, which are, technique development, technique demonstration, and technique application. Before developing the analytical technique, however, it was necessary to determine the type of data that was needed. The section for formulating educational objectives in the affective domain (technique application), therefore, precedes the development and demonstration section in the review of literature. The data that was needed for formulating the affective educational objectives determined the device that was required to obtain it. The chapter is arranged in the following order:

1. For Technique Application.--A review of literature on educational objectives with emphasis upon objectives in the affective domain.
2. For Technique Development.--A review of literature and an analysis of the concepts which form the foundation of the proposed analytical technique, including the concepts of competence and personality.

3. For Technique Demonstration.--A review of literature pertaining to the pilot study, consisting primarily of related studies on employee education in the food service industry.

Part 1: A Review of Literature Pertaining
to Educational Objectives in the
Affective Domain

The preliminary step in planning an educational program is the establishment of educational objectives. These may take the form of aims and goals, intended achievements or explicit expressions of desired outcomes. Objectives, however, do not only function as the goals toward which the curriculum is guided but they also should provide specifications for evaluating or measuring student achievement. An objective which is to serve as a goal must, therefore, be specific enough to indicate when the student has achieved it, and, on the other hand, functional enough so that one can proceed intelligently toward it.¹

Educational objectives are also a logical point of departure for this particular study for they will ultimately

¹Several of the more relevant references on educational objectives are listed below: Ralph W. Tyler and Eugene Smith, Appraising and Recording Student Progress, Vol. III (New York: Harper and Brothers, 1942), Chapter 1; Paul L. Dressel, Evaluation in Higher Education (Boston: Houghton, Mifflin Co., 1961), Chapter I; Thomas R. Murray, Judging Student Progress, (New York: Longmans, Green & Co., 1954), Chapter I; E. F. Lindquist (ed.), Educational Measurement (Washington, D. C.: American Council on Education, 1951), Chapter 5; H. H. Remmers and N. L. Gage, Educational Measurement and Evaluation (revised edition; New York: Harper & Brothers, 1955), Chapter 1.

provide the general goals of a program of affective education and also describe in detail the specification requirements for measuring student achievement. The proposed technique of analyzing the affective domain is merely the "means" whereby the eventual "ends," educational objectives, can be specified with sufficient precision that they can serve as operational objectives in vocational education programs.

Present State of Affective Research

The affective realm of education remains to a great extent unexplored. Exploratory progress is hindered by inadequate procedures of job and worker analysis. Research in the area is awaiting analytical "breakthroughs" which will provide procedures, instruments, methods and techniques for conducting more refined studies. Although there are many unanswered questions in education, the most momentous discoveries in educational research will undoubtedly deal with the vast unknown regions of the affective domain. The primitive stage of research in this area and the limited resources available necessitated the confinement of this study to the compilation of related readings, the invention of research instruments, the discovery of plausible procedures, and a limited pilot study to demonstrate their application.

Excerpts from the Literature

The literature is replete with references to the various aspects of educational objectives. A number of these references were cited earlier and several excerpts are examined in this section for their contributions to the study. The end result of the research was to derive data for the formulation of educational objectives in the affective domain. The importance of the objectives in guiding the development of the procedure can, therefore, not be overemphasized.

Two Taxonomies of Educational Objectives

Attitudes and other affective factors have been a major topic in education for some time. Educators have always hoped, and sometimes mistakenly presumed, that appropriate attitudes were a natural byproduct of their teaching efforts. Few attempts have been made to intently plan the teaching of prescribed affective attributes: and even fewer attempts have been made at educationally measuring the results of such teaching. Several recent studies, however, have made exploratory probes into the development of more meaningful measurement devices in the cognitive and affective domains. The probes were conducted by a committee of thirty-nine members of the American Psychological Association, including the most prominent names in educational research, and the results were published in the form of two taxonomies entitled:

(1) Taxonomy of Educational Objectives Handbook I: Cognitive Domain;¹ and (2) Taxonomy of Educational Objectives Handbook II: Affective Domain.²

The present study was an extension of the two taxonomies into an educational and occupational context. It was an application of the theoretical framework and findings of the taxonomies to a practical vocational education situation. More precisely, it was an effort to identify, define, describe, isolate and classify educational objectives in the affective domain in job-worker situations. The focal points for this effort, however, were directed toward the possible discovery of an analytical technique whereby a practical application of the theory could be made. The major emphasis of this study is placed upon the development of an analytical technique because everything else hinges on this contingency.

Handbook I provided a concise and working definition of the term educational objectives: "By educational objectives, we mean explicit formulations of the ways in which students are expected to be changed by the educative process. That is, the ways in which they will change in their

¹Benjamin S. Bloom (editor), Taxonomy of Educational Objectives--The Classification of Educational Goals--Handbook I: Cognitive Domain (New York: David McKay Company, Inc., 1956).

²David R. Krathwohl, Benjamin S. Bloom, and Bertram B. Masia (editors), Taxonomy of Educational Objectives--The Classification of Educational Goals--Handbook II: Affective Domain (New York: David McKay Company, Inc., 1964).

thinking, their feelings, and their actions."¹ The Handbook also expresses the participating panels' sentiments concerning the importance of educational objectives in curriculum construction and research:

After considerable discussion, there was agreement that such a theoretical framework might best be obtained through a system of classifying the goals of the educational process, since educational objectives provide the basis for building curricula and tests and represent the starting point for much of our educational research.²

Handbook I also furnished an explanation of an educational program and the relationship which exists between a program and educational objectives:

An educational program can be viewed as an attempt to change the behavior of people with respect to some subject matter. When we describe the behavior and the subject matter specifically enough to indicate exactly what a pupil is to do and how he is to perform after he has had a given learning experience we have stated an educational objective.³

Handbook II: Affective Domain confirmed the idea that educational objectives in the affective area can, at least theoretically, be classified, ranging in order of involvement from simple attention to phenomena to complex internalization of sets of behavior. The Taxonomy panel was also confronted with the problem of whether or not educational objectives could be classified. The conference participants realized that the phenomena to be ordered,

¹Bloom, op. cit., p. 26.

²Ibid., p. 4.

³Ibid., p. 29.

could not be observed as in the physical and biological sciences, nevertheless, they agreed that they could be classified:

. . .It was the view of the group that educational objectives stated in behavioral form have their counterparts in the behavior of individuals. Such behavior can be observed, described and these descriptive statements can be classified.¹

The belief that affective objectives could be classified according to observed behavior of individuals was important because this study was also behaviorally based. Affective traits essential to work were to be specified as descriptive observations of employees by employers and these were later to be classified.

Handbook II also provided a working definition of the affective domain, which established the boundaries for this study:

Affective: Objectives which emphasize a feeling tone, an emotion or a degree of acceptance or rejection. Affective objectives vary from simple attention to selected phenomena to complex but internally consistent qualities of character and conscience. We found a large number of such objectives in the literature expressed as interests, attitudes, appreciations, values, and emotional sets or biases.²

Another concern of the investigator was the actual achievability of objectives in the affective domain:

Handbook II dispelled some of these misgivings.

¹Krathwohl, op. cit., p. 5.

²Ibid., p. 7.

The conference committee concluded: "A few studies appear to us to make it clear that affective objectives can be achieved by the schools if the attainment of such objectives is regarded as sufficiently important by teachers and administrators."¹

The problem of the reality of three educational domains posed a series of perplexing questions, one of which was: "Does the affective domain really exist?" Although references to three areas of learning are recorded as early as the writings of Aristotle, there is some uncertainty concerning the tripartite classification of educational phenomena. Bloom, for example, doubts the accuracy of classifying all activities into three distinct domains:

For our purpose this (the affective area) will include measures of interest; measures of opinions, attitudes and values; and measures of the personality characteristics. We do not believe these measures are purely measures of affective characteristics since many of them include cognitive components as well.²

Krathwohl, however, in discussing the three domains, concluded, "teachers and curriculum workers who state objectives do make distinctions between problem solving and attitudes, between thinking and feeling, and between acting and thinking or feeling."³ At the outset of this study,

¹Ibid., p. 81.

²Benjamin S. Bloom, Stability and Change in Human Characteristics (New York: John Wiley and Sons, Inc., 1964).

³Krathwohl, op. cit., p. 7.

one of the guiding principles was that the decisions concerning the direction of the study were to be made favoring the operationality of the findings. The Krathwohl statement, that teachers think in terms of three domains, provided the most decisive argument toward accepting the idea of the three domains. They are assumed to exist, with appurtenant reservations.

Additional References

A recent report of a Regional Commission on Educational Co-ordination (Pennsylvania), emphasizes the importance of stating objectives as desired student behavior: "Statements of the purposes of education are truly meaningful only when they are made so specific as to tell exactly what a pupil is to be able to do after he has had a given learning experience."¹ Concerning the implementation of affective objectives, the report states, "the impact of such statements on the curriculum or on what actually takes place in classrooms is generally much less than it might be."² The need is cited for detailed descriptions of the operations and activities that a pupil will be capable of carrying out when he "understands," "has command," or "appreciates."

¹C. M. Lindwall (editor), Defining Educational Objectives--A Report of the Regional Commission on Educational Co-ordination and the Learning Research and Development Center (Pennsylvania: University of Pittsburgh Press, 1964), p. 2.

²Ibid., p. 1.

The report was of value to this research because it unmistakably defined the nature and form educational objectives must take to be meaningful goals. Tyler's statement, for example, concerning the working of useful objectives is very clear: "describing the reactions we can expect of persons who have reached the objective."¹ Lindwall's emphasis upon specificity is another example of how objectives should be stated. He suggests that the focal point should always be the pupil and objectives should include the exact behavior that the pupil is expected to exhibit.² Lindwall correctly contends that "when the objectives are clearly defined and understood by the student, he can perceive what he is trying to learn."³ He also suggests that when teachers can perceive what they are trying to teach, by clearly defining objectives, they can teach better. The Lindwall teaching-learning frames are an application of these ideas into an organized framework whose purpose it is to increase intellection by a perceptive device.

A review of the literature on educational objectives also led to numerous statements by Cronbach which were appropriate for consideration in determining what data was

¹Ibid., p. 4.

²Ibid., p. 76.

³Ibid., p. 77.

needed for the formulation of objectives in the affective domain. Cronbach is emphatic concerning the need for precise statements of student responses:

Any educational objective which is to be studied experimentally must be defined by stating the situation which the person is expected to encounter, and the way he should respond.

Such a clear definition of the objectives helps in planning and assessing the teaching far more than does a general aim.

Defining objectives in terms of concrete, observable changes to be made in the student's behavior is a necessary preliminary to planning how to teach, choosing teaching materials and class problems, supervising practice, and evaluating the learner's success--all depend on a definition of the responses to be altered.¹

The literature in business education contains many references to the need for behavioral specifics in stating objectives. Knepper's statements are typical of the emphasis on student behavior: "objectives stated in terms of desired behavior will help to determine the procedures required to secure the desired outcomes."² Knepper reiterates the idea that personality factors are considered by employers in evaluating competence and should, therefore, not be ignored by the schools:

¹Lee J. Cronbach, Educational Psychology (New York: Harper & Brothers, 1960), pp. 39-40.

²Knepper, op. cit., p. 9.

Subjective methods handled with a considerable degree of objectivity offer great promise for the measurement of behavior that reflects personal traits and attitudes. The impressions an individual makes upon others play such a large role in success or failure on the job that they should not be overlooked as a valid means of evaluating that persons competence.¹

When students know which aspects of learning and behavior are to be appraised these will usually become their real objectives in the course. It is difficult to persuade them to place much emphasis on elements of the job behavior not being measured.²

Concluding Statements Part I

Educational objectives in the affective domain are essential elements for planning teaching and learning in the affective realm. Objectives in the past have been too imprecise for developing definite affective talents. Direction of affective learning requires explicitly framed behavioral objectives leading to specific and intentional outcomes, rather than chance occurrences. The literature supports the hypothesis that the educative process for the achievement of affective objectives can be most accurately and adequately determined when the objectives are stated as desired or expected student behavior. Educational objectives in the affective domain, grounded in desirable behavior, can function as guidelines in shaping curricula, goals for student achievement and

¹Ibid., p. 13.

²Ibid., p. 17.

standards for the measurement of student and teacher progress in developing affective traits. Objectives in the affective area, to be useful, require refinement similar to the present state of development of educational objectives in the cognitive domain.

Part 2: An Analysis of Associated Concepts

Occupational competence is the ultimate goal of vocational education. The preparing of pupils to function competently in their chosen occupational field is the task assigned by society to the schools which accomplish the task through vocational teachers. Before planning programs, therefore, teachers of vocational subjects must first determine the components of competence in a specific occupational field. A crucial question in curriculum construction is, "What are the components of competence?" A second question, which arises from the first, is, "How can these components be organized for analytical and educational purposes?" The affective area, with which this paper is primarily concerned, can be viewed as one aspect of the total realm of competence. The cognitive and psychomotor domains are the remaining realms of competence.

What are the Components of Competence?

Competence, in the present context, is defined as having sufficient ability or possessing the requisite qualifications for a job. Standards of competence are

established by employers. They are interpreted by instructors for developing vocational programs. In the cognitive and manipulative areas, standards of competence are more easily discernable than in the affective domain. The attitudinal aspects, however, are vital factors in assessing employee competence. An adequate theory of competent performance includes measures of attitudes, measures of opinion, measures of values and measures of other related personality characteristics simply because they are essential components of competence. Employers evaluate employees on the basis of their accumulating responses and reactions. The concept of occupational competence, proposed herein, takes cognizance of the reality of the educational realms and includes factors of all three as constitutional components of competence.

Thus, competence is considered to consist of some combination of abilities and skills, blended with an appropriate group of affective characteristics and interests. These factors put together, comprise the personality sphere of a qualified worker. Personality, in this interpretation, includes all the characteristics which distinguish a person.

Affective Components of Competence

Affection deals with the willing and feeling functions as distinguished from the knowing and doing functions. Conversely, lack of affect is the absence of or weakness of

emotional response to interpersonal and intrapersonal problems.¹ The affective components of competence are difficult to isolate because of their clustering nature. Measurement presents an even greater challenge. Bloom commented about the difficulty of measuring these components when he wrote, "This has been a difficult area to measure and one is struck by the lack of a unified view about how to measure these characteristics."² However, concerning the measurement of these as individual characteristics, or personality traits, he concludes:

The judgments made by persons who are in a position to observe an individual over time or under specified conditions represent one technique for quantifying personality characteristics. These judgments, in the form of ratings, are especially useful when applied to a specific characteristic either observed directly or inferred from case studies of the subject.

Such ratings, when made by competent observers, are likely to be useful indicators of those personality characteristics which are reflected in overt behavior and in interpersonal relations.³

The three components of affective behavior which vocational educators are most concerned with are attitudes, values and interests. These are all somewhat inter-related in that each is an inclination to react or respond in a special way to a given set of circumstances. A more detailed analysis of these components follows.

¹Good, op. cit., p. 18.

²Bloom, op. cit., p. 133.

³Ibid., p. 140.

Attitudes and Values

An attitude is defined as a readiness to react toward or against some situation, person, or thing in a particular manner, for example, with love or hate or fear or resentment to a particular degree.¹ Basic values are attitudes reflected or manifested in behavior over an extended period of time. These basic values are likely to remain stable, while their representation in particular attitudes, views, and opinions may shift considerably over time. Bloom in a chapter entitled "Interests, Attitudes, and Personality," suggests the importance of considering the time element in personality development.

What is common to most of these theoretical formulations is the assumption of very rapid personality development in the early years of infancy and childhood, the possibility of marked changes in the adolescent period, and the likelihood of² small change during adulthood and maturity.

Allport confirms this theory of change by stating that, "All this evidence suggests that there is a change in these characteristics throughout life. . . ." ³

Attitudes and Interests

An interest is expressed in terms of attention to an object, whereas an attitude is expressed in terms of a

¹Good, op. cit., p. 48.

²Bloom, op. cit., p. 132.

³Ibid., p. 178.

feeling toward an object or thing. Cattell provides a more precise distinction when he writes,

Attitudes are distinguished from interests in that they are defined not only by the object and the strength of the attitude but also by the direction in dynamic, feeling (i.e., orrectic) terms.¹

How Can the Components of Competence be Organized for Analytical Purposes?

The components of competence have a generic relationship in the concept of personality. All aspects of competence are related in that the components can be identified as a part of the larger personality sphere. In this respect, the components of competence and the concept of personality both refer to the reactions and responses which constitute a person. Personality refers to all reactions, while job competence refers to those responses which arise out of an occupational situation. Thus, the concept of job competence is a small segment of the concept of personality.

On the other hand, the affective domain, which is the primary interest of this study, is only one facet of the personality sphere and also only one aspect of competence. The affective domain is an artificial abstraction established for the purpose of developing and understanding one phase of the personality. The affective area is also an abstraction from the larger class of related things which constitute personal competence.

¹Cattell, op. cit., p. 383.

The components of competence which need to be identified for educational purposes in all areas were found to be observable as basic physical, mental, or personality traits. For the purpose of analyzing the affective domain separate from the others, identity can be more easily accomplished by viewing the affective components as basic elements of the personality, which are classifiable as traits.

Quantifying Personality Characteristics by One System

The components of competence, which are all a part of the personality traits of a qualified worker, can best be organized and categorized educationally when these are viewed as one facet of the personality sphere. This method of approach permits the inclusion of the affective domain in addition to the cognitive and psychomotor areas of student development. The one-system personality approach includes abilities, interests and affective traits found in the personality sphere concept; it includes the biological, sociological, and psychological components of the functional approach; it includes the tripartite educational approach of the three domains; and it includes the five divisions of the worker trait analysis approach (abilities, interests, character integration, temperament and disposition). The proposed plan of organizing the components of competence into one system is made possible by the broader

structural framework provided by the personality trait concept, wherein the combined traits constitute all the reactions and responses of the individual. It includes all aspects of behavior in all three domains, with each element of behavior identified with either abilities, interests or affective behavior.

Concluding Statements Part 2

Competence can be viewed as consisting of a constellation of personality traits. A technique designed to analyze the affective area of competence should take into consideration the division of these components into real or natural units. Personality traits, which include all aspects of behavior, are natural elemental units of human behavior suitable for organizing and analyzing the affective domain. Affective competence can be accurately described when its constituents are given as a pattern of personality traits. Vocational competence can be specified in operational terms for industrial and educational purposes when all of the components which comprise competence are given as individually identified personality traits.

Personal competence in life and at work consists of an adequate personality in interaction. Learning is also a process of personality change; unless behavior has changed, one has not really learned. The key to effective behavior change is an individual's discovery of meaning.

Attitudes, values, beliefs, and understanding affect behavior the most. These factors when combined with abilities (mental and physical) and interests, in appropriate constellations, constitute occupational competence. Affective experience is an essential dimension of an adequate personality. Competence is an achievement, not a gift; people become adequate. Society's problem is to produce people with adequate personalities who can perform competently at work and away from work.¹ The initial task in developing competent people is to analyze the affective domain for elements of competence. Educational objectives, to be meaningful, require detailed descriptions and precise specifications of the personality traits, in the affective area, which are to be developed by students preparing for a specified occupation.

Part 3: A Review of Literature Pertaining
to the Pilot Study

The technique for analyzing the affective domain, which was developed as an integral part of this study, was tested in a pilot study conducted in the food service industry. A review was made of the historical development of vocational education in this industry in order to interpret the industry accurately and to determine how the

¹Perceiving, Behaving, Becoming, The American Society for Curriculum Development, 1961 Yearbook (National Education Association, 1962), p. 97.

present state of events evolved. The literature on job analysis, job descriptions, job specifications and worker trait requirements was examined because these are the sources from which educational objectives are formulated in vocational education. The specifications, theoretically, include all the requirements of the job. The review of the literature revealed the existing data to be vague and especially inadequate in the affective domain. It was discovered from the readings that objectives in the affective area cannot be formulated from the data derived from job analysis techniques. Convincing evidence was provided in the literature that the existing techniques are wholly inadequate for the affective domain and that a better means of analyzing the affective aspects was needed. These findings led to the development of the personality trait technique of analysis discussed in the next chapter. The literature revealed a serious neglect of the affective domain and the need for research to discover methods of analyzing the area for planning vocational education programs.

A Brief History of Vocational Education Studies in the Food Service Industry

The historical development and the present status of vocational education in the food service industry are discernable from five studies of the industry's educational problems completed between 1920 and 1960. Hawkins (1920) investigated the need and requirements of establishing a

system of vocational teaching for hotel and restaurant occupations.¹ Hawkins analyzed every vocational calling in the industry and recommended a program for all skill levels, including a detailed set of proposals for implementing the program. Pope (1948) found that vocational education in the industry is mainly patchwork programs, and that the deplorable condition is due to a lack of instructional materials, qualified instructors, physical facilities, and a lack of management interest and support.² The Statler Foundation (1955) sponsored a study to determine ways to alleviate a critical shortage of cooks and bakers. The proposals included the development of a curriculum, the preparation of manuals and books, the establishment of area vocational schools, the expansion of correspondence courses and the establishment of teacher training programs.³ Tower (1959) studied the hotel industry's educational needs

¹Layton S. Hawkins, Vocational Education in the Hotel Business, A Report to the American Hotel Association of the United States and Canada, 128 pages; no copyright or publisher indicated.

²John B. Pope, The Report and Recommendations on Hotel Education and Training, submitted to the Joint Educational Planning Committee of the American Hotel Association and the Hotel Greeters of America, October, 1948, 67 pages; no copyright or publisher indicated.

³Statler Foundation, A Research Study to Improve the Supply of Cooks and Bakers for the Benefit of the Hotel Industry (Buffalo, New York: Statler Foundation, 1955), 39 pages; no copyright or publisher indicated.

and found that two of the main problem areas are the critical quantitative and qualitative deficiencies of cooks and waitresses. Tables showing the results of this research are in Appendix A.¹ Weems (1960), investigating the possibility of launching a large scale industry education and training program, concluded that competent educational leadership was needed to develop and guide needed programs. Weems inferred that aggressive leadership was not now available and that educators with specialized talents in this particular field need to be recruited and leadership developed before substantial progress in developing vocational programs is possible.²

Related Job Analysis and Job Description Literature

Kneeland (1963) prepared a manual on job analysis techniques which shows in detail the data derived and the procedure for conducting job analyses. The manual reveals the duty and task orientation of job analysis procedures

¹J. W. Tower, Educational and Recruitment Needs of the Hotel Industry (New York, New York: Industrial Relations Counselors Service, Inc., 1959), for the American Hotel Association, 65 pages; no copyright or publisher indicated.

²Robert C. Weems, Jr., The American Hotel Institute: Its Role in Hotel Education, A special Report Prepared for the American Hotel Institute, 1960), no copyright indicated.

and the exclusion of talents that are required in the affective domain.¹

The Texas and Indiana Employment Commissions (1956, 1957) have published job description literature related to food service occupations. These are industry and educational standards for developing job specifications and guiding curriculum construction, but they only vaguely refer to affective abilities.^{2,3}

The National Restaurant Association has published two manuals on employee training (1954), both refer extensively to the affective aspects of occupational competence. Nevertheless, no specifications or teaching methods are provided for developing these traits. Effective teaching is not possible with the limited data which is provided.^{4,5}

¹Natalie Kneeland, Job Analysis Techniques, for the University of Texas, in cooperation with the Texas Education Agency, Distributive Education Division. 1963 edition.

²Job Descriptions in the Texas Restaurant Industry prepared by the Texas Employment Commission, Austin, Texas (1956).

³Guide to Job Descriptions in the Indiana Restaurant Industry, prepared by the Indiana Employment Security Division in cooperation with the Indiana Restaurant Association, Indianapolis, Indiana (1957).

⁴A System of Employee Training for Restaurants, published by the National Association, copyright by the Bishop-Stoddard Cafeteria Company, Chicago, Illinois (1954).

⁵A Management--Personnel Training Program for Drive-In Restaurants, edited by Kenneth Lawyer, published by Manners Big Boy Restaurants, Cleveland, Ohio, distributed by the National Restaurant Association (no publication date given).

The United States Employment Service has published three documents pertaining to job descriptions and occupational titles in the industry.^{1,2,3} The latest manual is a worker trait analysis study which was focused on physical capacities, training time, working conditions, general education requirements, aptitudes, interests and temperament. Each of the manuals has a bearing on this study's areas of concern, although the affective domain is not emphasized in the studies. This lack of emphasis indicates the need for more research to determine why the affective area is virtually omitted, or at least neglected, in job analyses.

A Review of Studies in the Affective
Domain Conducted in the Food
Service Industry

Studies in the affective area are sparse in the food service industry literature but several deal specifically

¹U. S. Department of Labor, Dictionary of Occupational Titles, Part I and Part II, United States Employment Service (Washington, D. C.: U. S. Government Printing Office, 1939).

²U. S. Department of Labor, Job Descriptions, Hotels and Restaurants, Vols. I and II, Division of Standards and Research (Washington, D.C.: U. S. Government Printing Office, 1938).

³Worker Trait Requirements for 4000 Jobs, op. cit.

with this subject. Whyte (1948) found that the crucial factors affecting work adjustment, performance, efficiency and happiness among employees in hotels and restaurants were human relations problems pertaining to social adjustment.¹ In another study, focused on personnel problems, Whyte discovered that hotels differ from other forms of business organization in a number of important ways. The main product for sale in hotels is human service, which in contrast to material goods, is very difficult to standardize. Production organizations serve an impersonal market, whereas service organizations serve a very personal market.² The distinction drawn by Whyte is an important consideration in developing curricula for vocational programs leading to competence in service oriented industries.

Farrell (1963) conducted a study that involved the customers and service personnel of thirty-five hotel dining rooms and of fifty restaurants.³ Thirteen hundred customers

¹William Foote Whyte, Human Relations in the Restaurant Industry (New York, New York: McGraw-Hill Book Co., Inc., 1948).

²William Foote Whyte, "Human Relations in the Hotel Industry," Action Research for Management (Homewood, Illinois: Richard D. Irwin, Inc., 1965).

³Thomas Farrell, Communications in the Food Service Industry, a study largely underwritten by a grant from the Food Service Industry Research Center of the Hotel, Restaurant, and Institutional Management School, Michigan State University. Excerpts published in The Cornell Quarterly, November, 1963, and November, 1964.

[illegible]

were queried about their satisfaction or dissatisfaction with different food service establishments and the service given them. Two hundred and fifteen service personnel and 130 supervisors were interviewed concerning their goals. The employees' replies were compared to the customers' responses. Farrell found that most of the service industry personnel are more job-oriented than customer-oriented. The lines of communication between management and service employees were studied to learn how effectively management's policies are conveyed to those who serve the customers. The findings were that the communication problems are critical in this area.

Armatas (1962) found that the social adjustment problem and the physical demand problem were the two most difficult for food service employees to solve.¹ By generalizing the personal characteristics common to successful food service employees, Armatas developed a descriptive model. The character traits which comprise this model employee are placed in Appendix B. A weakness of Armatas' study appears to be his generalization that the model applies to all food service employees instead of specified occupational classifications.

¹James P. Armatas and Donald E. Lundberg, The Management of People in Hotels, Restaurants and Clubs (Dubuque, Iowa: William C. Brown & Company, 1964).

Employee Evaluation Forms

Flanagan (1954) developed a procedure for evaluating employee performance called the "Critical Incident Technique."¹ This is a method of determining competent performance by studying the behavior of workers. Flanagan defines a critical requirement as one "which is crucial in the sense that it has been responsible for outstandingly effective or definitely unsatisfactory performance of an important part of the job or activity in question."² The technique is useful for employee evaluation but the data is too generalized for developing course material and curriculum.

Tillotson and Styer (1965) analyzed on-the-job incidents of behavior and were able to establish eleven major requirements for successful performance in food service work.³ Although useful for rating, the factors are too imprecise to plan training programs designed to develop them.⁴

¹J. C. Flanagan, "The Critical Incident Technique," Psychological Bulletin, No. 51 (1954), p. 327.

²J. C. Flanagan, "Critical Requirements: A New Approach to Employee Evaluation," Personnel Psychology, Vol. 2 (Winter, 1949), p. 419.

³Jeanne L. Tillotson and Joanne Styer, "Performance Evaluation Form for Food Service Employees," Journal of the American Dietetic Association, Vol. 47, No. 4 (October, 1965), pp. 301-304.

⁴The factors were cooperation, adaptability, interest in doing a good job, initiative, following directions, maintaining food service standards, housekeeping, attention to detail, relations with supervisor, sensitivity to needs of others, personal appearance, personal conduct, and dependability.

CHAPTER IV

A TECHNIQUE FOR ANALYZING THE AFFECTIVE DOMAIN

The existing methods and techniques of analyzing job-worker situations for educational purposes, found in the literature included job analysis, occupational analysis and worker trait analysis. An examination of the job descriptions and specifications which were derived from these traditional analytical techniques, indicated that these approaches to analysis provided inadequate data for planning educational programs for service oriented occupations.¹ Service occupations consist primarily of human service, the development of affective abilities is therefore important. However, a more inclusive and extensive analytical approach is needed to identify the affective components of competence for these occupational fields.

A theory and technique of analysis were therefore developed for this thesis which take the affective aspects of job-behavior into account. The proposed theory is

¹A series of job specifications for food service industry occupations are submitted as examples of evidence in Appendix C.

based upon a behavioral concept of education and work. The analytical technique is based upon a combination of the personality trait concept of occupational competence, which was explained in the previous chapter, and the theory of behavior which follows.

A Theory of Trait Analysis Based Upon a
Tentative Theory of Human Behavior

Occupational activity and educational objectives are generically linked by human behavior. Industry evaluates employees by a set of criteria which are basically end-product behaviors. Education is the process of modifying or changing behavior to sanctioned standards of society: in the case of vocational education, to standards of industry. Dewey described these desired changes as statements of aims of education: "We frame our explicit aims in terms of some alteration to be brought about."¹ Hull explains: "The results of the learning process can be known only indirectly through observation of the subsequent behavior of the learner."² Cronback defines learning: "learning is shown by a change in behavior as a result of experience."³ Menninger writes:

¹John E. Dewey, Democracy and Education (New York: The MacMillan Company, 1963), p. 111.

²Clark L. Hull, National Society for the Study of Education, 1942 Yearbook, Part II, The Psychology of Learning (Chicago: University of Chicago Press, 1942), p. 61.

³Lee J. Cronback, Educational Psychology (New York: Harcourt, Brace and Company, 1953), p. 47.

Behavior is really the product of the combined process of perception, intellection and emotion. . . feelings and behavior are chiefly the result of development and training. Our inheritance does have something to do with the way in which we develop but by comparison with the environment it is of minor importance.¹

Behavior, however, is deeply rooted in personality, and personality is primarily psychologically and sociologically rooted. Thus, a behavioral base for analysis is acceptable for this study because it provides a basic conceptual commonality, linking job-worker situations in industry with psychological and sociological concepts. These in turn are linked with educational theory and practice. Industry and education are both concerned with behavioral outcomes.

Job behavior can be conceived as the manifested set of responses and reactions of a workingman resulting from acquired or innate traits in the cognitive, psychomotor and affective areas of human learning. Stated less technically, employee activities consist of a combination of skills, knowledges, attitudes and understandings. When these factors are stated as a worker's responses and reactions they constitute job behavior. The specification of occupational activity in terms of behavioral descriptions would facilitate educational planning for vocational purposes.

¹William C. Menninger and Munro Leaf, You and Psychiatry (New York: Scribner's Sons, 1955), p. 9.

A behaviorally based theory of analysis has the important advantage of bringing job-worker analysis, job descriptions and specifications, educational goals and related psychological and sociological aspects of the teaching-learning process under one common conceptual umbrella. In practice, an application of the theory would require a change of focus from the job tasks to the psychological requirements essential to job performance. An analytical inquiry would center upon desirable job behavior instead of operational functions. The written reports of analysis including job specifications, would become specifications of job behavior. Since job specifications are now an indispensable tool for establishing training objectives in industrial programs, stating the specifications as desirable job behavior would enhance their utility. Gilmer emphasizes the importance of specifications to educational planning when he writes:

Procedures for the specification of the behaviors to be developed in a training program are extremely important because on the basis of these specifications the entire program is established.¹

Standardization of terminology and technique would enable educators, psychologists and industrialists to work on common grounds with interchangeable and communicable understandings.

¹B. von Haller Gilmer, Industrial Psychology (New York: McGraw-Hill Book Co., Inc., 1961), p. 134.

Behaviorally stated specifications would also be more easily converted into attainable training objectives. Specified behavioral responses which are expected at the end of a course of instruction are ideal educational objectives. Most important, however, to this study is the consideration that job behavior specifications would take into account the affective domain and would permit entry of affective objectives into course content and curriculum construction.

Personality and Job Behavior

The management literature of recent years draws heavily from the behavioral sciences in its approach to solving personnel problems of the firm. An example of this orientation are the publications of the Institute of Social Research at the University of Michigan. Rensis Likerts' observations and ideas are particularly pertinent to this study. Figure 6 an excerpt taken from Likerts' study, diagrammatically shows the vital relationship between personality and job behavior. The initial input in almost all theories of behavior is personality. Conversely, behavior is the reaction resulting from a set of stimulated personality traits. The behavioral theory of analysis, therefore, appropriately functions as the foundation of the about to be proposed personality trait technique. Before developing the technique, however, it is necessary to examine the nature of personality because it is the keystone to the development of the technique.

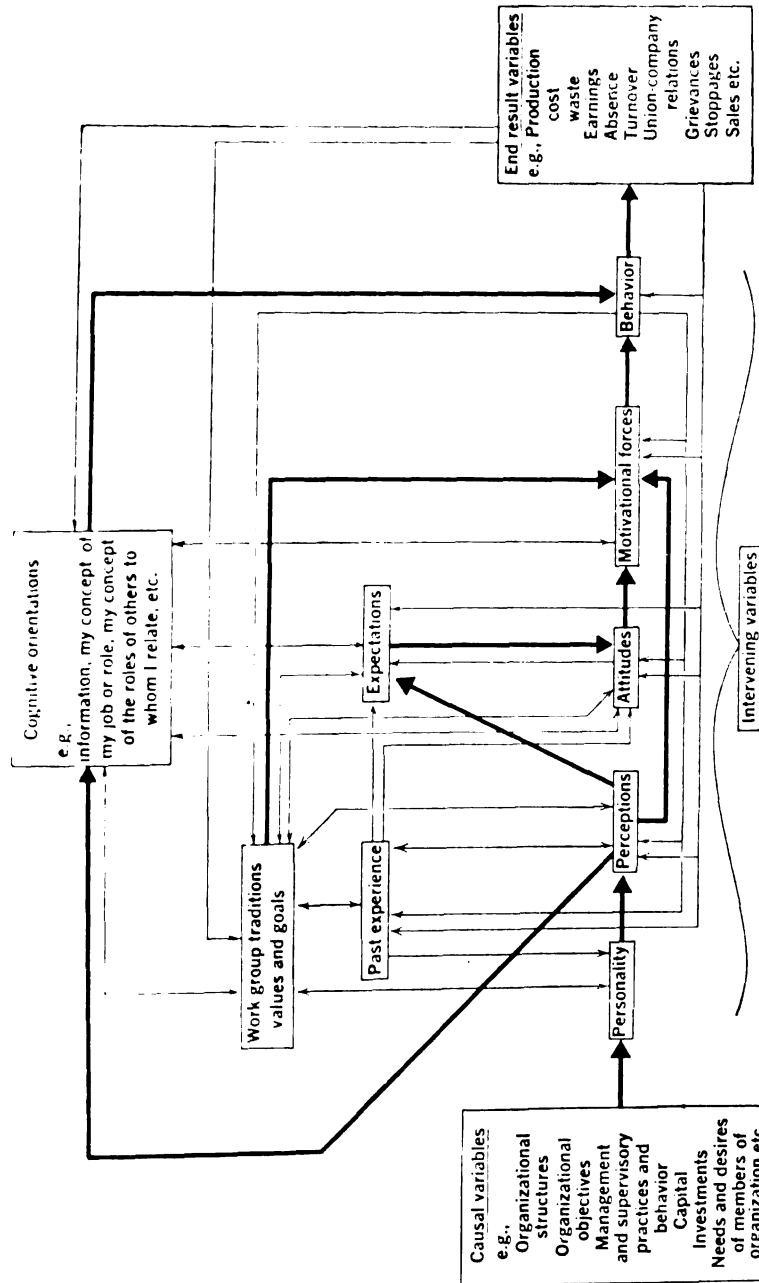


Fig. 13-1. Schematic pattern of relationships between causal, intervening, and end-result variables.

Figure 6.--The relationship of personality to job behavior.¹

¹Rensis Likert, New Patterns of Management (New York: McGraw-Hill Book Company, Inc., 1961), p. 197.

The Nature of Personality

Personality Defined

It is doubtful that there is a universally acceptable definition of the term "personality." In Allports' scholarly survey of personality theory, for instance, some fifty-three definitions of personality are cited as existing in the literature.¹ In the present study, however, the term will be used in a common dictionary sense: "Personality, (1) that which constitutes a person; or (2) that which distinguishes and characterizes a person;"² and in the sense of Cattell's description of personality:

The reactions which constitute the data of personality study are all the reactions of the organism: its reactions to people, things, and ideas; its partial reaction, as in reflexes, and its total reaction; its conscious reactions, and its unconscious reaction.³

Personality Factors Relevant to Job Success

Authorities differ regarding the segments of personality which they consider pertinent to job success and satisfaction. The United States Employment Service, for example, based its extensive worker trait requirements

¹G. W. Allport, Personality: A Psychological Interpretation (New York: Henry Holt and Company, Inc., 1937).

²College Standard Dictionary (New York: Funk and Wagnalls, 1943).

³Cattell, op. cit., pp. 15-16.

study on the assumption that the important factors can be classified in the following five categories.¹

1. Abilities. (a) More constitutional abilities and aptitudes; e.g., intelligence, musical aptitude, spatial reasoning.
 (b) Attainments. Acquired information, verbal and other skills.
2. Interests. (a) Considered quantitatively as interests, object cathexis of love or aversion.
 (b) Considered qualitatively as sentiments, attitudes, tastes, infatuations, and phobias.
3. Manner of Character Integration.
 (a) Stability, moral orientation
 (b) Other general characters of the dynamic structure.
4. Temperament. (a) Including temper and emotionality.
 (b) Constitutional reactivity.
5. Disposition. The predominant dynamic drives and purposes coloring personality.

The worker trait analysis study analyzed job classifications according to some of the factors that constitute the above divisions. The technique did not, however, determine the specific affective personality traits of competence. Nevertheless, the data are highly refined and appear useful for planning educational programs for the development of the cognitive and psychomotor components of competence.

¹Worker Trait Requirements for 4000 Jobs, op. cit.

Personality as Working Capacity

Griew, utilizing an operational-functional approach, developed "the concept of working capacity," in which working demands are counterbalanced with working capacity.¹ Individual capacity for work is considered in terms of those features of the capacity which are primarily constitutional and those which result from training and education. The specific elements which constitute an individuals capacity for work according to Griew are:

1. Physical Makeup
2. Attainments
3. General Intelligence
4. Special Aptitudes
5. Interests
6. Dispositions
7. Circumstances²

Several ways of increasing the efficiency and effectiveness of men at work have been utilized by industrial psychologists. The common placement procedure of "fitting the man to the job" is the traditional and best known approach. More recently "fitting the job to the man" has come into vogue. This method is called "Ergonomics," and

¹Stephen Griew, Job Re-design, Organization for Economic Co-operation and Development, Paris (New York: McGraw-Hill Book Company, 1964).

²Ibid., p. 36.

its object is to reduce worker stress by alteration of the working conditions and environment.¹ The present proposal suggests "preparing the man for the job" by the development of the personality traits which are required for a specified job. This would require identification of the traits; determining a worker's state of trait development; and then developing course material to take the student from where he is on a given scale to where he ought to be. The approach could be similar to the ability profile technique used in student counseling.²

The Personality Sphere

The interpretation of personality which proved the most promising for the present study was the one given by Cattell, who classified all the psychological traits which constitute a person according to dominant personality trait groups. From these he compiled "a list of variables constituting the complete personality sphere."³ Cattell combined the various interest traits, (scientific interests, language interests, business interests, and interests in

¹Ibid.

²George K. Bennett, Harold G. Seashore, and Alexander G. Wesman, Counseling From Profiles. A Casebook for the Differential Aptitude Tests (New York: Psychological Corporation, 1951).

³Cattell, op. cit., pp. 219-241.

people), with the various abilities, (intelligence, physical abilities, and aptitudes), and added to these the unclassified personality traits. Most of these are in the affective category. These traits, according to Cattell, "constitute the complete personality sphere." For the present study all traits which were not abilities or interests, were considered affective traits.

A Personality Trait Technique of Analysis

The foregoing findings led to the development of a technique of analysis based on the underlying idea that a person has a personality sphere which is made up of personality traits. These traits are all the elements which constitute, distinguish, and characterize a person. They are his responses and reactions. Thus, the education and training of a vocationally competent person requires the development of an adequate personality (1) in the appropriate affective areas; (2) in areas of abilities; and (3) in areas of interest. The development of the appropriate personality traits can then be viewed as the process of reaching a state of vocational competence. The goal of competence is achieved when these traits are developed to established standards.

The Nature of Personality TraitsConsistency and Change

The term "trait" is used in the sense of a mental structure deduced from a continuous--or, more commonly, an intermittent--set of behavior manifestations remaining recognizably consistent over some period of time. It is in the very nature of both common and unique traits that they slowly change their forms, so that even if perfectly measured they would not give perfect repeat consistency coefficients. Cattell explains this changing nature when he writes,

For a trait,. . . is not a characteristic of the individual, inherent in the individual, but a relationship between the individual--or rather his group--and some real (or formerly real, or phantasy) object. It can be defined only in terms of both organism and environment, which are constantly changing; no trait, unique or common, is unchanging.¹

The above explanation of the changing nature of traits, is important to this study. If personality change did not occur, then educational objectives could not be developed which propose to bring the behavior change about. There is, therefore, need for consistency over short periods of time which makes it possible to identify and group individual traits into clusters of unified traits. But there is also change over longer periods of time which

¹Ibid., p. 124.

lends credence to the theory of personality trait measurement and adds impetus to the idea that personality traits can be taught and learned.

Common and Unique Traits

Some traits are quite common--(i.e., similar in all people and present in various degrees in all)--others are unique to the individual. Cattell suggests, "It is therefore possible to say, with respect to some traits, that different individuals have more or less of the same trait."¹

An Explanation of the Personality Trait Technique

Scope of the Technique

Personality, for this particular postulation, is considered to consist of all human behavior manifested in reactions and responses. Inclinations to act, established by the previous responses, are also considered personality traits. These traits considered collectively comprise every known reaction, response, inclination or disposition. By transition, the components of personal and occupational competence are comprised of a constellation of personality traits. These include (1) interests (business, people, language, scientific, etc.); (2) abilities (mental and physical); and (3) affective traits, comprised primarily of

¹Ibid., p. 61.

attitudes, values, appreciations, beliefs and other emotional sets or biases.

The proposed technique consists of analyzing the personality traits that constitute the characteristics of a model employee for a specific occupational classification or field. By identifying the abilities, interests and affective components which are essential to a vocational calling it can be determined what the cognitive, psychomotor and affective requirements of each position are. The technique identifies what a person should know, what he should be able to do, what he should be interested in, and what his attitudes should be to assure a likelihood of adjustment to a specific occupation. From these findings it may be possible to determine course content and construct a curriculum for developing the desirable personality traits which are essential to occupational adaptation in any given field. The technique determines what an adequate personality in an occupational situation consists of and suggests a procedure to develop it.

Analyzing the Cognitive and Psychomotor Domains

The first step in using the technique involves the identification and isolation of the personality traits that are essential to each occupation. The data required for the abilities and interest factors is available in a recently published document by the federal government

entitled, Worker Trait Requirements for 4000 Jobs.¹ The manual is a comprehensive compilation of the ability and interest requirements of all major job classifications. The data is sufficiently precise for formulating educational objectives in these two areas of development. The document specifies the training time required, the general educational and vocational development needed, the aptitudes and temperament needed, the physical capacities required and the interests which are necessary for occupational adjustment in respective fields. The qualifications are indicated in the form of factorial components e.g., "aptitude factors," "temperament factors," etc. The data's usefulness is demonstrated in the next chapter.

The specific tasks or duties which a worker needs to perform to meet the requirements of each job can be identified as aspects of behavior expressed in the form of job specifications. These can be determined by the traditional job analysis method and then combined with the trait technique results for formulating educational objectives which serve as guidelines in the development of specific skills and the attainment of specific knowledge. There is a significant difference in focus and emphasis, however, between the traditional method and the proposed technique. Job analysis is focused upon the job and requirements are

¹Worker Trait Requirements for 4000 Jobs, op. cit.

stated as duties or tasks, whereas the personality trait technique centers upon the worker and requirements are stated as behavioral outcomes. The job analysis technique is task oriented, the personality trait technique is person oriented: for the former, job requirements are analyzed; for the latter, worker trait requirements are analyzed.

Analyzing the Affective Domain

The final phase of the proposed technique deals with the development of a method for analyzing the affective domain. The proposed procedure is to furnish knowledgeable employers in the occupational field with a comprehensive and descriptive list of bi-polar personality traits for the purpose of identifying, by selection, the trait pairs which should be considered in evaluating employees. The universal trait list developed for this purpose is Table 3, which includes all known personality traits and elements in the affective realm.¹

The Table of Traits

The personality trait table is composed of 149 opposing trait pairs placed in polar positions with a descriptive set of definitions for each trait. The table of traits can be viewed as a master list of personality

¹Because of its length Table 3 has been placed at the end of the chapter in order not to break the continuity of thought in the text.

traits from which capable observers can select traits important to a given occupation. The table of personality traits lists the known elements which constitute the affective domain.

Collection of the Data

The table of traits, because of its inclusiveness, contains many traits not essential to any given occupation. In order to assure participation and reduce respondents' resistance it is advisable to pre-select the traits to be scored. In the two-stage approach the first panel merely selects the relevant trait pairs, a new trait table is formulated which contains their selection, and these trait pairs are then placed on a continuum for scaling and scoring by a final panel of experts drawn from the community. The instrument utilized for data collection in the pilot study, which has been placed in Appendix D, is an illustration of the method by which the desired data is obtainable.

Computation of the Data

The data which is derived from employers can be tabulated on a tally sheet similar to the exhibit presented in Appendix D, entitled, "Opinion Frequency Distribution." The computation of the incidence of trait selection and the scaling quantification figures provide the results which the research is seeking. The estimated degree of trait

development is determined by simply calculating the frequency of occurrence. The degree with the greatest concentration of replies (mode) is chosen to represent the consensus of managements' opinion.¹

Qualification Profile

A profile of the trait characteristics which describe a model employee can be constructed for each vocational calling. By placing the ratings of the employers for each job position on a qualification graph the affective traits which are essential are entered, the degree of trait development at different time intervals is indicated and the traits relative importance is revealed. The profile diagrammatically illustrates the expected qualifications for a given job classification. A worker's abilities and traits can be determined by examination and interview. When these are plotted on the profile sheet in comparison with the qualification requirements, it is possible to determine the areas of weakness where additional trait development is needed.

The technique is described and the instruments are demonstrated in greater detail in the next chapter which is a demonstration of the technique's utility.

¹In teaching, it is surmised that some students will exceed the consensus standards, most students will approximate them, and some will fall below. This would provide for the varying standards of employment.

TABLE 3.--Affective bi-polar personality trait list.

1. ALERT (observant, vigilant)	ABSENT-MINDED (dreamy, indefinite)
2. ACQUISITIVE (greedy, grasping)	
3. AFFECTED (theatrical, pretentious)	NATURAL (sincere in manner)
4. AFFECTIONATE (loving, fond, comradely)	FRIGID (cold, indifferent)
5. AGOROPHOBIC (nervous out in the open)	
6. ALCOHOLIC (addicted to getting drunk)	
7. AMBITIOUS (aspiring, self-improving)	UNAMBITIOUS (lackadaisical)
8. AMOROUS (erotic, lustful, amative)	LUSTLESS
9. ANALYTICAL (casuistical, hairsplitting)	
10. ANTEVERT (forward-looking)	RETROVERT (retrospective)
11. ARGUMENTATIVE (altercative, contentious)	
12. ARROGANT (insolent, proud, snobbish)	HUMBLE (meek)
13. ASCETIC (abstinent, abstemious)	SENSUOUS (pleasure-seeking)
14. ASSERTIVE (dominating, aggressive)	SUBMISSIVE (obedient, self-abasing)

TABLE 3 (Continued)

15. AUSTERE (stern, dignified, severe)	PROFLIGATE (abandoned, debauched)
16. AUTOCRATIC (domineering, dictatorial)	
17. BOASTFUL (blustering, vauntful)	MODEST (unassuming, demure, coy)
18. BROODING (sulky, moody, mopey)	UNREPINING
19. CAUTIOUS (wary, careful, precautions)	RECKLESS (risk, dashing, careless)
20. CHARMING (pleasurable personality, sweet)	
21. CHEERFUL (gay, happy, lighthearted)	GLOOMY (depressed, sad, melancholy)
22. CLEAR-THINKING (does not lose head if excited)	INCOHERENT (confused, disoriented)
23. CLEVER (agile, adroit, deft)	
24. CLAUSTROPHOBIC (nervous in small enclosed spaces)	
25. CONCEITED (self-important, vain, cocky)	SELF-DISSATISFIED (self-loathing, self-accusing)
26. CONSCIENTIOUS (dutiful, active super ego)	CONSCIENCELESS (unscrupulous, expediential)
27. CONSTRUCTIVE (creative, happy in building and making)	
28. CONTENTED (satisfied, adjusted)	DISSATISFIED (discontented, wistful)
29. CONVENTIONAL (conforming, prim)	INDIVIDUALISTIC (dissenting, unpredictable in outlook)

TABLE 3 (continued)

30. COOPERATIVE (helpful, willing)	OBSTRUCTIVE (saboteurish, ill- wishing)
31. COURAGEOUS (brave, plucky)	COWARDLY (giving way to fear, flinching)
32. CURIOUS (inquisitive, snoop)	UNENQUIRING (incurious, searchless)
33. CYNICAL (sneering, nihilistic)	IDEALISTIC (noble-minded, lofty)
34. DEBONAIR (jaunty, dapper, natty)	
35. DEFENSIVE (self-justifying)	
36. DUBITATIVE (doubting, hesitant)	DECISIVE (decided, sees in black and white)
37. EASYGOING (happy-go-lucky, good-natured)	PERNICKETY (unteasable, strained)
38. ECCENTRIC (queer, unpredictable)	
39. EFFEMINATE (womanish, girlish)	MASCULINE (virile)
40. EGOTISTICAL (incapable of object love)	ALTOCENTRIC (thinking of others)
41. ELOQUENT (fluent, oratorical)	INARTICULATE
42. EMOTIONAL (emotionality in sociability)	UNEMOTIONAL (opposed to emotionality in tenderness)
43. ENERGETIC-SPIRITED (chipper, forceful, high- spirited)	LANGUID (listless, spiritless)

TABLE 3 (continued)

44. ENERGETIC-INDUSTRIOUS (active, strenuous, tireless)	LANGUID (fatigable, idle, lazy)
45. ENTERPRISING (eager to undertake)	SHIFTLESS (helpless)
46. ENTHUSIASTIC (zestful, zealous, avid)	APATHETIC (world-weary, desireless)
47. EVASIVE (equivocating, escapist)	FACING LIFE
48. EXCITABLE (thrillful, volatile)	PHLEGMATIC (stolid, immobile)
49. EXTRA-PUNITIVE (critical, nagging)	PRAISEFUL (complimentary)
50. EXHIBITIONIST (self-displaying)	SELF-EFFACING (not show-off)
51. FAIR-MINDED (fair, just)	PARTIAL (prejudiced, biased)
52. FASTIDIOUS (prudish, dainty, over-nice)	COARSE (slovenly, crude, slatternly)
53. FLATTERING (fawning, oily)	
54. FORMAL (ceremonious, ritualistic)	CASUAL (informal, offhand, spontaneous)
55. FRANK (straightforward, candid)	SECRETIVE (guarded, non-committal)
56. FRIENDLY (accommodating, obliging)	HOSTILE (surly, disagreeable)
57. GENEROUS (indulgent, liberal)	TIGHT-FISTED (mean, stingy).
58. GENIAL (cordial, hospitable)	COLD-HEARTED (inexpansive, infestive)

TABLE 3 (continued)

59.	GLUTTONOUS (overfond of eating, piggish)	
60.	GRATEFUL (appreciative, thankful)	THANKLESS (ingrateful, inappreciative)
61.	HABIT-BOUND (stereotyped, in a rut)	LABILE (unroutinized, youthful)
61.	HARD (callous, harsh, unfeeling)	SOFT-HEARTED (sensitive to feelings of others)
62.	HEADSTRONG (self-willed, fiery)	GENTLE-TEMPERED (concilliable, ruly, passionless)
63.	HEARTY (boisterous, vibrant, noisy)	QUIET (mild, gentle, milque-toast)
64.	HIGH-STRUNG (tense, intense, hectic)	RELAXED (calm, serene, inexcitable)
65.	HONEST (truthful, upright, principled)	DISHONEST (cheating, lying, thievish)
66.	HURRIED (hustling, pursuing competition)	LETHARGIC (leisurely, unhurried)
67.	HYPOCHONDRIACAL (concerned with half-imaginary illnesses)	
68.	IMAGINATIVE (fanciful, visionary)	DULL (unimaginative, plodding)
69.	IMITATIVE (apish, quick to copy)	NON-IMITATIVE (inemulous)
70.	IMPULSIVE (impetuous, hasty)	DELIBERATE (level-headed, self-restrained)

TABLE 3 (continued)

71.	INDEPENDENT (self-reliant, self-helping)	DEPENDENT (passive, clinging)
72.	INFLEXIBLE (rigid, conservative, die-hard)	ADAPTABLE (elastic, flexible)
73.	INHIBITED (restrained, constrained)	INCONTINENT (free, expresses emotions easily)
74.	INTERESTS WIDE (emotional response to many things)	INTERESTS NARROW (emotional response narrow)
75.	INTUITIVE (implicit thought)	LOGICAL (explicit, detached thought)
76.	INTROSPECTIVE (looking into the self)	
77.	IRRITABLE (crabbed, hot-tempered)	GOOD-TEMPERED (slow to anger)
78.	JEALOUS (envious, rivalrous)	
79.	KIND (BY DISPOSITION) (benevolent, maternal)	RUTHLESS (uncharitable, mean- spirited)
80.	KIND (ON PRINCIPLE) (christian, humanitarian, considerate)	
81.	LAUGHTERFUL (jestful, flippant)	MIRTHLESS (laughterless, unamused)
82.	LEADING (NOT DOMINEERING) (managing, leading democratically)	
83.	LOYAL (faithful, stanch, true)	FICKLE (inconstant, never attached)
84.	MATURE (IN EMOTIONAL DEVELOPMENT) (frustration tolerant)	INFANTILE (not self-objective)

TABLE 3 (continued)

85. MEMORY GOOD (recollective, retentive)	FORGETFUL (amnesic, aphasic)
86. MISCHIEVOUS (impish, wanton, playful)	
87. MULISH (obstinate, contrary)	REASONABLE (tractable, teachable)
88. MYSTICAL (superstitious, soulful)	APPOLLONIAN (matter-of-fact, classical)
89. NEUROTIC (unstrung, nervous tics)	
90. OPINIONATED (narrow-minded, fanatical)	TOLERANT (open-minded, liberalistic)
91. OPTIMISTIC (sanguine, hopeful)	PESSIMISTIC (hopeless, despairful)
92. ORIGINAL (resourceful, inventive)	BANAL (notionless, poverty of ideas)
93. PATIENT (forebearing, long-suffering)	IMPATIENT (overhasty, restive)
94. PAINSTAKING (neat, thorough, accurate)	SLIPSHOD (lax, careless, slovenly)
95. PEDANTIC (precisionist, fussy)	DISORDERLY (inexplicit, vague)
96. PERSEVERING (determined, tenacious)	QUITTING (faltering, lacking grit)
97. PHANTASYING (deluded, living in imaginary world)	
98. PHYSICALLY ACTIVE (need of physical exercise)	
99. PIOUS (devout, saintly, spiritual)	WORDLY (materialistic, impious)

TABLE 3 (continued)

100.	PLAINTIVE (greedy for affection, cry-baby)	
101.	PLANFUL (foresighted, purposeful)	PLANLESS
102.	POISED (self-assured, nonchalant)	AWKWARD (self-conscious, unsure)
103.	POLISHED (smooth, refined, courteous)	ROUGH (curt, abrupt, rude, gruff)
104.	PRACTICAL (capable in emergencies)	UNREALISTIC (not grappling with everyday matters)
105.	PUGNACIOUS (quarrelsome, militant)	PEACEABLE (pacific, not belligerent)
106.	RELIABLE (trustworthy, dependable in general)	UNDEPENDABLE (unpredictable, not steadfast)
107.	RESERVED (reticent, seclusive)	INTRUSIVE (expansive, outgoing, intimate)
108.	RESILIENT (buoyant, effervescent)	DEPRESSIBLE (not readily recovering from emotional shock)
109.	RESPONSIVE (sympathetic, movable)	ALOOF (shut-in, indifferent)
111.	REVERENT (god-fearing, contrite)	REBELLIOUS (defiant, disrespectful)
112.	SADISTIC (cruel, spiteful, malevolent)	MASOCHISTIC (seeking suffering)
113.	SARCASTIC (sardonic, mordant, satirical)	
114.	SELF-CONFIDENT (confident, assured)	SELF-DISTRUSTING (self-uncertain)

TABLE 3 (continued)

115.	SELF-CONTROLLED (self-commanding, self-disciplined)	
116.	SELF-DECEIVING (self-deluding, self-escaping)	
117.	SELF-PITYING (martyr-like, self-immolating)	
118.	SELF-RESPECTING (self-revering, high ego ideal)	
119.	SELFISH (self-interested, uses people)	SELF-DENYING (selfless, considerate)
120.	SENSITIVE (feelings easily hurt, offendable)	TOUGH (thick-skinned, insensi- tive)
121.	SENTIMENTAL (slushy, romantic)	HARD-HEADED (unromantic, not easily sentimental)
122.	SERIOUS (earnest, grave, solemn)	FRIVOLOUS (light-minded, giddy, rattlebrain)
123.	SHREWD (cunning, astute, crafty)	NAIVE (innocent, simple)
124.	SLANDEROUS (calumniating, detractory)	
125.	SLEEPS WELL (deep sleeper)	SLEEPS POORLY (insomniac)
126.	SLOW (TEMPERAMENTALLY) (sluggish, slow-witted)	QUICK (nimblewitted, quick of apprehension)
127.	SOCIABLE I (good mixer, fond of meeting people)	SHY (bashful, hermitish)
128.	SOCIABLE II (congregative, companionable)	SELF SUFFICIENT (exclusive, solitary, self-contained)

TABLE 3 (continued)

129.	SOPHISTICATED (subtle, worldly-wise)	SIMPLE-HEARTED (childlike, ignorant)
130.	SOUR (sullen, sulky, embittered)	
131.	STABLE EMOTIONALLY (constant, steady)	CHANGEABLE (fitful, erratic, temperamental)
132.	STRONG IN PERSONALITY (easily dominating, well-knit)	
133.	SUBJECTIVE (autistic, theoretical)	GUIDED BY REALITY (objective, not deceived by wishful thinking)
134.	SUGGESTIBLE (impressible, easily influenced)	
135.	TACTFUL (discreet, sensitive of others' feelings)	TACTLESS (undiplomatic)
136.	TALKATIVE (voluble, profuse)	TACITURN (terse, silent)
137.	TEMPERATE (balanced, moderate)	EXTREME (tragic and heroic emotionality)
138.	THOUGHTFUL (studious, reflective)	UNREFLECTIVE (thoughtless, hasty)
139.	THRIFTY (frugal, niggardly)	CARELESS WITH GOODS (spendthrift, extrava- gant)
140.	TIMID (DISPOSITION) (fearful, apprehensive)	ADVENTUROUS (love of risk and chance, bold)
141.	TREACHEROUS (treasonable, deceitful, sly)	
142.	TRUSTFUL (gullible, trusting)	SUSPICIOUS (skeptical, distrustful)

TABLE 3 (continued)

143.	VERSATILE (jack-of-all trades)	
144.	VINDICTIVE (vengeful, grievance-bearing)	UNRESENTFUL (forgiving, reconcili- atory)
145.	VIVACIOUS (lively, expressive of face and gesture)	
146.	WANDERING (vagabondish, unable to stay still)	SETTLING DOWN (belonging)
147.	WITTY (humorous, waggish)	HUMORLESS
148.	WISE (sage, wordly-wise, sensible)	FOOLISH
149.	WORRYING (anxious, agitated, fretful)	PLACID (untroubled, airy, fatalistic)

Source: Adapted from R. B. Cattell's, Description and Measurement of Personality.

CHAPTER V

A PILOT STUDY DEMONSTRATION OF THE PERSONALITY

TRAIT TECHNIQUE OF ANALYSIS--

PRIMARY FINDINGS

The personality trait technique of analysis proposed in the previous chapter was demonstrated by applying the method to a vocational education problem. A pilot study was conducted in two occupational fields in the food service industry. The purpose of the study was to determine the affective trait requirements for the female cook and the waitress position for a possible vocational training program designed to develop the required competencies. However, to unify the research project the pilot study also determined the occupational requirements for the two positions in the cognitive and psychomotor realms.

The pilot study findings are, therefore, (a) the result of original research conducted by the author, which centered upon the trait qualifications classified in the affective domain; and (b) secondary findings developed by the U.S. Employment Service classified non-affective.¹ The non-affective traits were further classified for the

¹U. S. Employment Service, op. cit.

purpose of the study into either cognitive or psychomotor components. This approach was necessary in order to take into account all of the major factors which affect an individual's adjustment to work.

The findings are presented separately for each job classification and are divided according to the above three generally accepted educational divisions.

The methodology for conducting the pilot study was described in detail in Chapter II and IV. However, to facilitate reading, the procedure will be briefly stated here. The trait requirements essential to the cook and waitress positions were identified by an industry advisory panel. The selected traits were scaled by the panel to determine each essential traits: (1) importance to the job; (2) the refinement required to meet job entry qualifications; and (3) the refinement required for advancement in the job classification. The panel's consensus of opinion concerning the personality trait requirements for the two occupational callings are presented in tabular form and the highlights of the findings are described in the text.

The Components of Competence for
the Female Cook Position

The Affective Components

Common traits.--The affective traits essential to the female cook position are provided in two tables. Table 4 contains the traits which are required in common with the waitress position and Table 5 contains the traits uniquely required. The traits were determined by selection from the master list of affective personality traits, Table 3, and also selected by the panel rating the traits on the personality scaling device. The traits listed in Table 4 can be considered a common core of required learnings for the two occupational groups.

Knowing which traits are common and which are unique could be useful in determining course content and designing curriculum for food service industry instructional programs. Compiling similar data from a series of job studies may make it possible to establish student groups and blocks of subject matter for class instruction. Most of the training in the area of personality trait development is now conducted on a one-to-one ratio. Cost reduction in training could result by establishing homogeneous groups with similar deficiencies for group instruction instead of continuing the present practice of individual instruction.

TABLE 4.--Desirable affective personality traits common to the cook and waitress position.

1. Alert	60. Grateful
2. Natural	62. Gentle-tempered
7. Ambitious	64. Relaxed
10. Antevert	65. Honest
19. Cautious	71. Independent
21. Cheerful	72. Adaptable
22. Clear-thinking	77. Good-tempered
26. Conscientious	80. Kind (on principle)
27. Constructive	83. Loyal
28. Contented	85. Memory Good
30. Cooperative	93. Patient
37. Easygoing	94. Painsstaking
43. Energetic-spirited	104. Practical
44. Energetic-industrious	106. Reliable
45. Enterprising	114. Self-confident
46. Enthusiastic	115. Self-controlled
51. Fair-minded	131. Stable Emotionally
55. Frank	135. Tactful
56. Friendly	
58. Genial	

Unique traits.--Table 5 contains the traits in the affective area which the panel identified as unique to the cook position. Because of their exclusive nature, trait development is here dependent upon instruction independent from the common traits, for they would require separate subject matter and attention. Combining Tables 4 and 5 renders the qualifying traits in the affective area which are needed by a person aspiring to become a commercial cook.

TABLE 5.--Affective personality traits unique to the female cook position.

Personality Traits	
1. Assertive	5. Planful
2. Decisive	6. Responsive
3. Tolerant	7. Self-respecting
4. Persevering	8. Thrifty

Table 6 contains the affective traits which were selected by the panel as essential and unique to the waitress position. These traits are mostly social interaction type characteristics which are not essential to cooks because they usually are not in contact with the consumer: waitresses, however, need the traits in dealing with customers. Tables 4 and 6 when combined render the qualifications in the affective area which are needed by aspiring waitresses.

TABLE 6.--Affective personality traits unique to the waitress position.

Personality Traits	
1. Affectionate	6. Poised
2. Charming	7. Polished
3. Deliberate	8. Sensitive
4. Leading (not domineering)	9. Serious
5. Mature (emotionally)	10. Sociable
	11. Vivacious

It is interesting to note that among the affective requirements there are many more common than unique traits. This suggests that most of the needed traits might be learned and taught in groups, while fewer would require separate attention. However, it will be noted later that the degree of refinement of each trait varies considerably with the job classification. Also, trait requirements may be similar but the situation in which they are learned may vary appreciably. The transfer of learning limitations idea becomes a key issue in establishing core programs for the purpose of personality trait development.

Trait Importance to the Job

Table 7 contains the traits essential to the cook position classified according to the traits importance to the job. The consensus of opinion of the panel was that

Table 7.--Affective personality traits of a competent cook classified according to the traits importance to the job.

Group A--Very Important	
1. Alert	4. Enterprising
2. Clear-Thinking	5. Honest
3. Cooperative	6. Memory--Good
7. Reliable	
Group B--Considerably Important	
1. Ambitious	15. Adaptable
2. Cautious	16. Good-Tempered
3. Cheerful	17. Loyal
4. Conscientious	18. Patient
5. Constructive	19. Painsstaking
6. Contented	20. Practical
7. Energetic--Spirited	21. Self-Confident
8. Energetic--Industrious	22. Self-Controlled
9. Enthusiastic	23. Stable-Emotionally
10. Fair-Minded	24. Tactful
11. Friendly	25. Temperate
12. Genial	26. Planful
13. Relaxed	27. Thrifty
14. Independent	28. Tolerant
Group C--Moderately Important	
1. Natural	7. Anteverte
2. Easy-Going	8. Assertive
3. Frank	9. Perservering
4. Grateful	10. Responsive
5. Gentle-Tempered	11. Self-Respecting
6. Kind	12. Decisive
Group D--Slightly Important	
NONE	

twenty-eight traits were considerably important, twelve moderately important, seven very important and none slightly important. This classification of traits may be useful in establishing a priority of occupational needs. In designing a vocational program the initial emphasis could be placed on those traits with the highest priority rating.

Entry Expectations for the Cook Position

Table 8 contains the affective personality traits essential to a competent cook, classified according to employers' expectations. These ratings were also established by the consensus of opinion of the advisory panel. The expectations are scaled on the basis of the desirable degree at the time of an employee's entry into the industry.

Employers indicated that for the cook position none of the traits selected as essential need be highly developed at the time of application for a job. However, ten traits were listed among those to be considerably developed, thirty-seven among those to be moderately developed and none in the slightly developed group. The expectations of the employers appear to the writer to be realistic requirements for this job classification. The opinions varied somewhat and the dispersions ranged two or three points from the central position, but the greatest number of respondents cited the trait group classifications as they are shown in

TABLE 8.--Affective personality traits required of a competent cook, classified according to employers' expectations of the desirable degree of trait development at the time of entry into the industry.

GROUP I (9-10) Highly developed traits required for industry entry.						NONE
GROUP II (6-8) Considerably developed traits required for industry entry.						
Personality Traits	Opinion Dispersion*	Mode	Personality Traits	Opinion Dispersion*	Mode	
1. Adaptable	3-8	6	7. Painstaking	3-8	6	
2. Clear-thinking	4-7	6	8. Reliable	3-9	6	
3. Cooperative	4-8	6	9. Stable-emotionally	4-7	6	
4. Good-tempered	4-8	6	10. Temperate	4-6	6	
5. Honest	4-10	6				
6. Memory-Good	4-8	6				
GROUP III (3-5) Moderately developed traits for industry entry.						
1. Alert	3-6	4	20. Genial	2-8	4	
2. Natural	3-6	5	21. Grateful	1-5	4	
3. Ambitious	3-8	5	22. Gentle-tempered	3-5	4	
4. Cautious	3-7	4	23. Relaxed	4-8	4	
5. Cheerful	3-8	4	24. Independent	4-7	5	
6. Conscientious	3-6	4	25. Kind	3-6	4	
7. Constructive	3-5	4	26. Loyal	2-6	4	
8. Contented	3-6	4	27. Patient	3-5	4	
9. Easygoing	3-6	4	28. Practical	3-8	4	
10. Energetic-spirited	3-5	4	29. Self-confident	3-6	4	
11. Energetic-industrious	4-8	4	30. Self-controlled	2-7	5	
12. Enterprising	3-7	5	31. Tactful	2-6	4	
13. Enthusiastic	3-8	5	32. Anteverb	3-6	4	
14. Fair-minded	2-6	4	33. Assertive	3-5	3	
15. Frank	2-5	3	34. Persevering	3-5	4	
16. Friendly	3-8	4	35. Planful	3-5	5	
17. Responsive	3-6	5	36. Self-respecting	3-5	4	
18. Thrift.	1-8	5	37. Decisive	3-5	4	
19. Tolerant	3-7	4				
GROUP IV Slightly developed traits for industry entry.						NONE

the table. Both the opinion dispersion and the mode are indicated for each trait listed in Table 8. The opinion dispersion reveals that some employers have higher standards than others.

Improvement Expectations

Table 9 shows employers' expectations concerning essential traits after a two-year employment interval. The table indicates that the highly developed traits now number eleven, whereas for the time of entry there were none. The considerably developed traits number thirty-six, whereas for the time of entry there were only ten listed. The last two groups contain none. The data shows that affective improvement is expected of cooks from the time they enter the industry as compared with two years later. The promotion requirements are markedly different from the initial acceptance qualifications. The expectations in different time periods reveal that employers may have experienced a change in affective behavior in their employees in the past. Apparently, these traits are expected to be developed to a fairly high degree of refinement on the job. If affective attributes can be changed by on-the-job learning the possibility exists that this type of behavior change can also be brought about by other instructional methods. The required change, however, is not a total acquisition of the designated attribute but a refinement of an existing trait.

TABLE 9.--Affective personality traits required of a competent cook, classified according to employers' expectations of the desirable degree of trait development after two years of employment.

GROUP I (9-10) Highly developed traits required for promotion.					
Personality Traits	Opinion Dispersion*	Mode	Personality Traits	Opinion Dispersion*	Mode
1. Clear-thinking	6-10	9	7. Cooperative	6-10	9
2. Energetic-industrious	6-10	9	8. Enthusiastic	5-10	9
3. Honest	6-10	9	9. Memory-good	7-10	10
4. Painstaking	6-10	9	10. Reliable	7-10	9
5. Self-controlled	7-10	9	11. Stable-emotionally	4-10	9
6. Thrifty	1-10	9			
GROUP II (6-8) Considerably developed traits required for promotion.					
1. Alert	6-10	8	19. Relaxed	6-9	8
2. Natural	5-9	7	20. Independent	6-9	8
3. Ambitious	6-9	8	21. Adaptable	6-10	8
4. Cautious	5-10	8	22. Good-tempered	6-10	8
5. Cheerful	6-9	7	23. Kind	5-8	8
6. Conscientious	5-9	8	24. Loyal	5-10	8
7. Constructive	5-10	8	25. Patient	6-8	8
8. Contented	5-10	8	26. Easygoing	5-9	7
9. Practical	5-10	8	27. Energetic-spirited	5-10	8
10. Self-confident	5-9	8	28. Enterprising	5-10	8
11. Tactful	2-10	8	29. Fair-minded	4-10	6
12. Temperate	5-10	8	30. Frank	4-9	7
13. Friendly	6-9	8	31. Antevert	5-9	6
14. Assertive	6-9	6	32. Genial	5-9	8
15. Persevering	6-9	8	33. Grateful	5-8	7
16. Gentle-tempered	5-10	7	34. Responsive	5-9	8
17. Planful	6-9	7	35. Self-respecting	3-9	7
18. Decisive	5-9	7	36. Tolerant	5-9	8
GROUP III (3-5) Moderately developed traits required for promotion.				NONE	
GROUP IV (1-2) Slightly developed traits.				NONE	

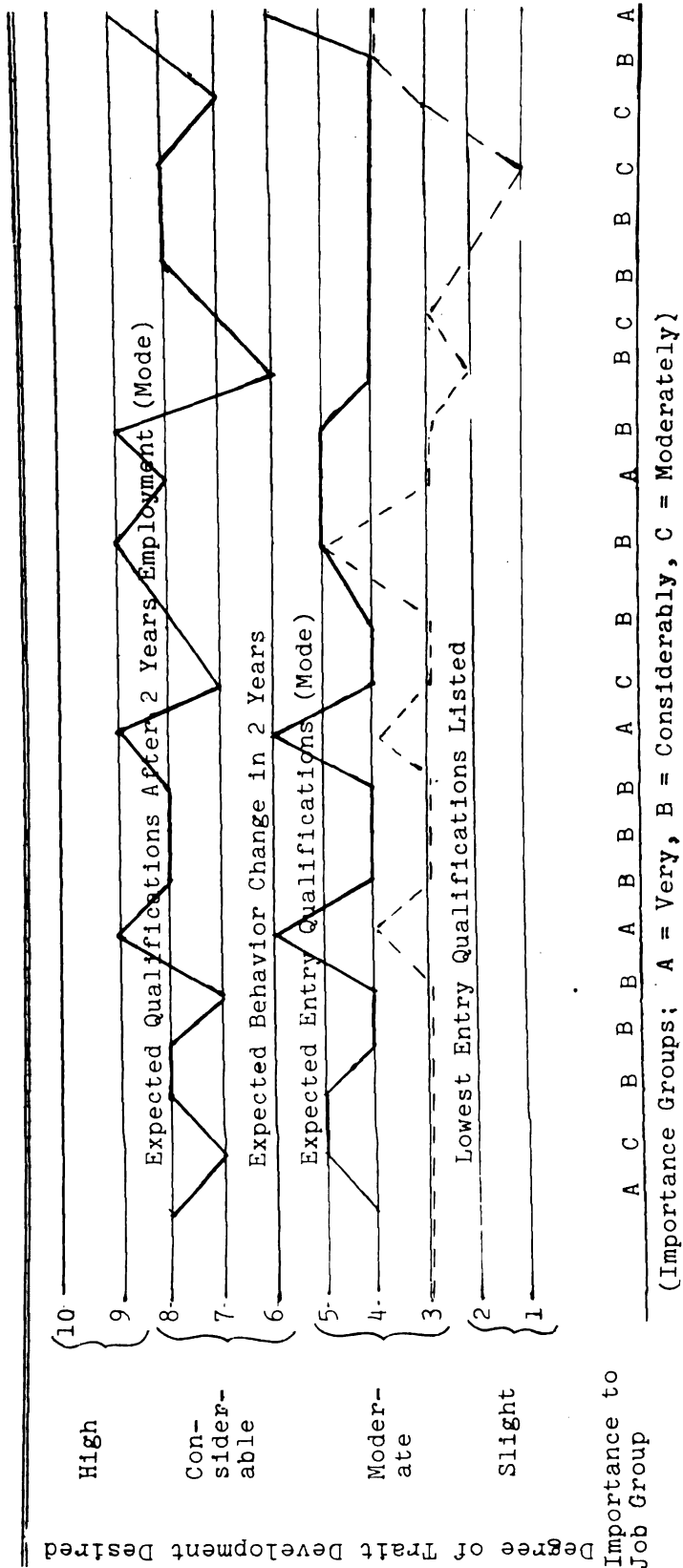
Affective Trait Requirements Profile

Figure 7 is a profile of all the traits which comprise a competent female cook at two time periods. The data was derived from Tables 7, 8, and 9. It shows the expected behavior change for each trait from the time of entry to a time period two years later. The difference between the entry graph line and the two year employment graph line is the expected behavior change.

The profile is a composite picture of all essential traits and their desired development over time. The graph is useful in determining the traits which need to be developed and the degree of development needed at different time intervals. The student's level of trait development could be determined by psychological testing similar to the method used in the ability and interest profile ratings now in use in counseling and guidance. A comparison of a student's trait profile with the job requirement profile would indicate where deficiencies exist and where improvement is needed. The suggestion is that a student's affective traits could be tested and developed to meet the job requirements in the same manner that mathematical, verbal and other skills are now developed in vocational education.

An example of how to read the profile follows: Trait No. 1, "Alert," was considered by the panel to be very important to the job of cook and is therefore in group "A."

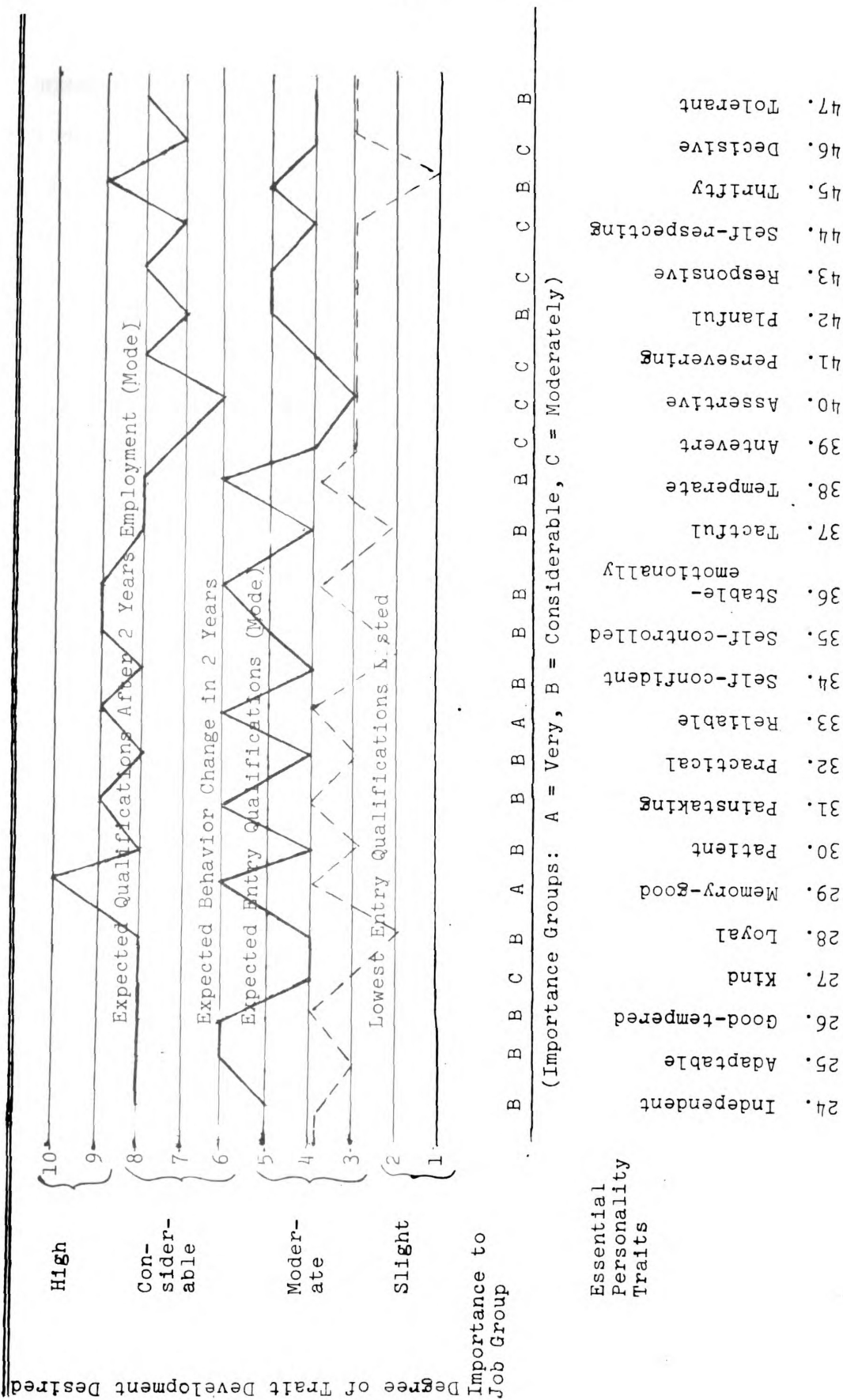
Figure 7. Profile of a competent female cook. Employers' expectations of affective personality trait development for the female cook classification at the time of industry entry and after 2 years employment.



Essential Personality Traits

1.	Alert	A	C	B	B	B	A	B	B	A	C	B	A	B	C	B	A
2.	Natural																
3.	Ambitious																
4.	Cautious																
5.	Cheerful																
6.	Clear-thinking																
7.	Conscientious																
8.	Constructive																
9.	Contented																
10.	Cooperative																
11.	Easygoing																
12.	Energetic-splitted																
13.	Energetic-industrious																
14.	Enterprising																
15.	Enthusiastic																
16.	Fair-minded																
17.	Frank																
18.	Friendly																
19.	Genial																
20.	Grateful																
21.	Gentle-tempered																
22.	Relaxed																
23.	Honest																

Figure 7 (con't.)



The consensus opinion of the panel indicated that at time of job entry employers expect the applicant to be "moderately alert," level 4, and in two years time they expect the employee to have advanced to level 8, "considerably alert." The lowest entry level listed by a member of the panel was level 3. The behavior change expected in the two year span is from level 4 to 8, four points on the ten point scale. The bottom line graph represents entry qualifications and the top line graph improvement expectations.

The Cognitive Components

The cognitive components for the cook position were determined from an analysis of the data compiled by the federal government in a manual entitled, Worker Trait Requirements for 4000 Jobs.¹ The publication contains a compilation of job requirements including the abilities and interest factors of the personality sphere. The manual presents a breakdown of the requirements for the major job classifications including training time, aptitudes, temperaments, physical capacities, the type of work and the industry with which the jobs are categorized. For comparative purposes the data are given in codified form.

The specific data which have relevance to the two occupations considered in this study were abstracted from the manual and are reproduced on Schedule 1, pages 104-105, entitled "Worker Trait Requirements for Selected

¹Worker Trait Requirements for 4000 Jobs, op. cit.

Job Classifications." The schedule also contains a series of contrasting occupations for illustrative purposes. In addition, a template is provided on the page facing the schedule, page 105, which serves as a key for deciphering the code. A more comprehensive set of factor definitions, relating to the code is provided in Appendix E as an additional reference for interpreting the data which the schedule presents. An interpretation of the coded data for the cook position follows below.

Training Time Required

The training time required for a cook to acquire the knowledges and abilities necessary for average job performance, according to the coded schedule, in General Educational Development (GED) is level 5. On the "Scale of General Educational Development" (Appendix E) level 5 is the reasoning development level at which a person has the ability to apply principles of rational systems to solve practical problems, such as are found in bookkeeping, electric-wiring systems, house building, or internal combustion engines. A worker at this level needs the ability to interpret a variety of instructions furnished in written oral, diagrammatic, or schedule form. A worker performing at this level, deals with a variety of concrete variables.

The highest and lowest levels of general educational development according to the scale are 1 and 7: At

level 1, only common sense understanding to carry out simple oral instructions is necessary; at level 7, the ability to apply principles of logical or scientific thinking to a wide range of intellectual and practical problems is manifested. The level of attainment of an average cook in this area is level 5, one step above the median level of the scale.

The mathematical development required for a person doing this work is to have the ability to perform ordinary arithmetic, and also to be able to apply simple algebraic and geometric procedures to practical problems.

The language development required is comprehension and expression at the level of Popular Science magazine or the "America Town Meeting of the Air" radio program.

The Specific Vocational Preparation (SVP) required for a cook is level 7 (over two years of practical experience and up to and including four years of practical work experience). By interpretation, that is the amount of time considered to be required of a job-holder to learn the techniques and to develop the facility needed for average performance in this job.¹

¹In contrast, an executive chef requires ten years specific vocational preparation time, level 9, the highest level, ibid, p. 112.

Temperament Needed

The temperament required of a cook falls into the group dealing with sensory and judgmental criteria. In other words, a cook works in situations involving evaluation and judgment, such as weighing, measuring and mixing of ingredients and later testing for quality and variations from established standards of quality. A cook produces finished products by processing raw materials. Throughout this process the emphasis is placed upon the ability to make discriminatory judgments concerning various elements and combinations of elements.

Interests

The interests of a cook are generally and decidedly non-social. A cook usually prefers situations which call for activities in relation to processes, machines, and techniques. There is a definite preference to work with things rather than with people.

The Psychomotor Components

Physical Capacities

The physical capacities required to do the work of a cook are those associated with moderate type work (M). The job requires the worker to do considerable walking, lifting, reaching, and material handling. Speaking and hearing ability is needed. The work is inside work and

few extremes of temperature are encountered with the exception of the heat and moisture from cooking and the cold from entering refrigerated areas.

Aptitudes Needed

Concerning the required aptitudes for the job, a cook requires the abilities common to the middle third of the population for some aspects of this work, and those of the lower third, minus the lowest 10%, for others, such as in eye-hand-foot co-ordination. In intelligence, form perception, and manual dexterity the job requires abilities common to the middle third. In numerical, verbal, spatial, clerical perception, motor co-ordination, finger dexterity, manual dexterity and color discrimination the job requires an aptitude common to the lower third, exclusive of the lowest 10% of the working population.

Concluding Statements Concerning Trait Requirements for the Cook Position

The cognitive and psychomotor requirements of the cook position, when combined with the affective personality traits considered essential to the job (Table 7), comprise the psychological trait requirements deemed necessary to adapt and succeed in this occupational field.

The specific skills for which a cook needs to be trained, that is, the technical skills and knowledge, are obtainable by conducting an individual job analysis of

each of the sixteen job titles in the cook classification. The skills of a roasting cook, for example, differ from those of a short-order cook. The precise duties and tasks are needed to establish job specifications leading to the development of these skills. This problem is not within the purview of the present paper. However, these behavioral outcomes are a necessary component in training and would have to be determined in the final stages of developing an educational program.

The Components of Competence for the Waitress Position

The Affective Components

The affective traits essential to the waitress position are provided in two tables: Table 4 contains the components which are required in common with the cook position, Table 6 contains the components which are unique to the waitress classification.¹ The traits were determined in the same manner as for the cook classification. The unique trait group are mostly social skills such as "poise" which are required in dealing with the public. They differ from the cook traits primarily because a cook deals only with fellow employees, whereas the waitress needs to deal with both the staff and the public.

Trait Importance to the Job

Table 10 is a classification of the affective traits considered essential to the waitress position. The traits

¹See pp. 91 and 93.

Table 10.--Affective personality traits of a competent waitress classified according to the traits importance to the job.

Group A--Very Important	
1. Alert	10. Honest
2. Clear-thinking	11. Memory-good
3. Conscientious	12. Patient
4. Contented	13. Painsstaking
5. Cooperative	14. Poised
6. Enterprising	15. Reliable
7. Enthusiastic	16. Self-controlled
8. Friendly	17. Stable-emotionally
9. Good-tempered	18. Tactful
Group B--Considerably Important	
1. Natural	12. Independent
2. Ambitious	13. Adaptable
3. Cautious	14. Kind
4. Cheerful	15. Loyal
5. Constructive	16. Practical
6. Easygoing	17. Self-confident
7. Energetic-spirited	18. Temperate
8. Energetic-industrious	19. Anteverte
9. Fair-minded	20. Charming
10. Genial	21. Deliberate
11. Grateful	22. Mature
23. Polished	
Group C--Moderately Important	
1. Gentle-tempered	4. Leading
2. Relaxed	5. Sociable I
3. Affectionate	6. Vivacious
Group D--Slightly Important	
NONE	

are classified according to their relative importance to the job. Eighteen traits were found to be very important to the job, twenty-three considerably important, six moderately important, and none slightly important. The importance factor for the waitress job varied considerably from the cook position. While only seven of the traits listed were classified as very important to the cook, eighteen were considered very important to the waitress position. The traits were also different in kind. However, all of the seven traits classified as very important to the cook position were also in this category for waitresses. The additional traits considered very important for the waitress tended to be those required for more effective inter-personal relations, including traits such as tactful, poised, pains-taking, and friendly.

Entry Expectations for the Waitress Position

Table 11 contains the affective personality traits required of a waitress, classified on the basis of employers' expectations. These are classified as desired trait development at time of an employee's entry into the industry. The trait groups do not differ much numerically from the groups established for the cook position. For instance, the waitress classifications contained one trait, honesty, as requiring a high degree of refinement, the cook contained none; the waitress classification contained

TABLE 11.--Affective personality traits required of a competent waitress, classified according to employers' expectations of the desirable degree of trait development at time of entry into the industry.

GROUP I (5-10) Highly developed traits required for industry entry.				
Personality traits	Dispersion*	Mode	Personality traits	Opinion Dispersion* Mode
Nearest	4-10	5		
GROUP II (6-9) Considerably developed traits for industry entry.				
1. Clear-thinking	3-9	6	7. Energetic-industrious	4-3 6
2. Good-tempered	4-3	5	8. Kind	3-9 6
3. Memory-good	4-3	7	9. Painstaking	4-9 7
4. Self-controlled	3-3	7	10. Stable-emotionally	4-9 6
5. Peaceful	3-9	7	11. Warming	3-3 6
6. Poised	4-3	6		
GROUP III (3-5) Moderately developed traits for industry entry.				
1. Alert	4-9	5	18. Genial	3-3 4
2. Natural	2-9	3	19. Grateful	3-7 4
3. Ambitious	3-3	3	20. Gentle-tempered	3-3 3
4. Cautious	4-3	4	21. Relaxed	3-3 3
5. Cheerful	2-3	4	22. Independent	3-3 4
6. Conscientious	3-3	5	23. Adaptable	3-3 5
7. Constructive	2-3	3	24. Loyal	2-3 4
8. Contented	2-3	3	25. Patient	3-9 5
9. Cooperative	2-3	3	26. Practical	3-3 4
10. Easygoing	3-3	3	27. Reliable	3-9 4
11. Energetic-spirited	1-3	5	28. Self-confident	2-3 4
12. Enterprising	3-3	4	29. Temperate	4-6 4
13. Enthusiastic	3-3	4	30. Unobtrusive	3-3 4
14. Fair-minded	3-3	4	31. Affectionate	2-4 3
15. Frank	3-3	3	32. Leading	1-3 4
16. Friendly	3-3	3	33. Deliberate	3-3 3
17. Mature	4-3	3	34. Polished	3-3 4
18. Sociable	2-3	4	35. Unobtrusive	4-3 5
GROUP IV (1-2) Slightly developed traits.				
				NONE

eleven requiring considerable development, the cook class shows ten; the waitress class contained thirty-five requiring moderate development; the cook class shows thirty-seven. However, the types of personality traits which made up each classification varied widely. For example, the waitress category of "considerably" included kind, charming and tactful, three traits that were listed at lower levels for cooks or not at all.

Improvement Expectations

Table 12 shows the essential traits in terms of employer expectations after a two year time interval. The panel's opinions were very decisive for this part of the study, and all of the traits were rated in the two highest classifications and none in the two lower groups. Twenty-two traits were expected to be highly developed and twenty-six considerably developed. The change expected from the time of entry is considerable and the high degree of refinement required is very significant to educational planning. The on-the-job expected learnings are high both in quantity and quality. The forty-eight traits included in these two categories signify the magnitude of the vocational educational problems in this respect. The findings signify that the behavioral learning tasks in this area are difficult. Judging job difficulty without consideration for the affective learnings may lead to

TABLE 12.--Affective personality traits required of a competent waitress, classified according to employers' expectation of the desirable degree of trait development after two years employment.

GROUP I (9-10) Slightly developed traits required for promotion.				
Personality Traits	Opinion Dispersion*	Mode	Personality Traits	Opinion Dispersion* Mode
1. Alert	3-10	3	12. Loyal	3-10 9
2. Ambitious	5-10	10	13. Memory-good	3-10 10
3. Clear-thinking	3-10	3	14. Painstaking	3-10 10
4. Conscientious	7-10	3	15. Practical	3-10 3
5. Cooperative	3-10	3	16. Reliable	3-10 10
6. Entergetic- industrious	3-10	3	17. Self-controlled	3-10 3
7. Enthusiastic	7-10	3	18. Stable-emotionally	3-10 3
8. Friendly	5-10	10	19. Tactful	3-10 10
9. Genial	3-10	3	20. Poised	3-10 9
10. Grateful	3-10	3	21. Polished	3-10 3
11. Honest	7-10	10	22. Good-tempered	3-10 10
GROUP II (6-8) Considerably developed traits.				
1. Natural	6-10	3	14. Patient	7-10 3
2. Cautious	7-10	3	15. Self-confident	7-10 3
3. Cheerful	3-10	3	16. Temperate	7-10 3
4. Constructive	6-10	7	17. Antevergent	7-10 3
5. Contented	5-10	3	18. Affectionate	6-10 3
6. Easygoing	4-10	3	19. Charming	3-10 3
7. Energetic-spirited	3-10	3	20. Leading	3-10 7
8. Enterprising	6-10	3	21. Deliberate	6-10 3
9. Fair-minded	3-10	3	22. Mature	3-10 3
10. Frank	6-10	3	23. Sociable	5-10 3
11. Gentle tempered	7-10	3	24. Vivacious	7-10 3
12. Relaxed	4-10	3	25. Independent	7-10 3
13. Adaptable	5-10	3	26. Kind	7-10 3
GROUP III Moderately developed traits.				NONE
GROUP IV Slightly developed traits.				NONE

over-simplification of a job's requirements. The implications are that a job which may appear relatively simple on the surface, from the standpoint of skills and knowledge, may prove to be very demanding and complicated when considering the affective aspects. Prudence would suggest placing emphasis in education on each segment of learning in relation to the importance, need, and difficulty of material to be mastered.

Affective Trait Requirements' Profile

Figure 8 is a profile of the traits which comprise a competent waitress. The data for the profile was derived from Tables 10, 11, and 12. As in the case of the cook position the information illustrates the degree of trait development needed for the job at different time intervals. The difference between entry expectations and the qualifications expected after two years employment indicates the behavior change expected for each of the traits listed in the two year time span. In each instance a change was expected, indicating that employers consider a marked improvement is necessary for advancement. The profile is a composite picture of the job requirements in the affective domain with usefulness in plotting a person's position and progress in relation to the requirements. A determination of where a student is situated on the profile would require psychological testing. This phase of the

Figure 8. Profile of a competent waitress. Employers' expectations of affective personality trait development for the waitress classification at time of industry entry and after 2 years employment.

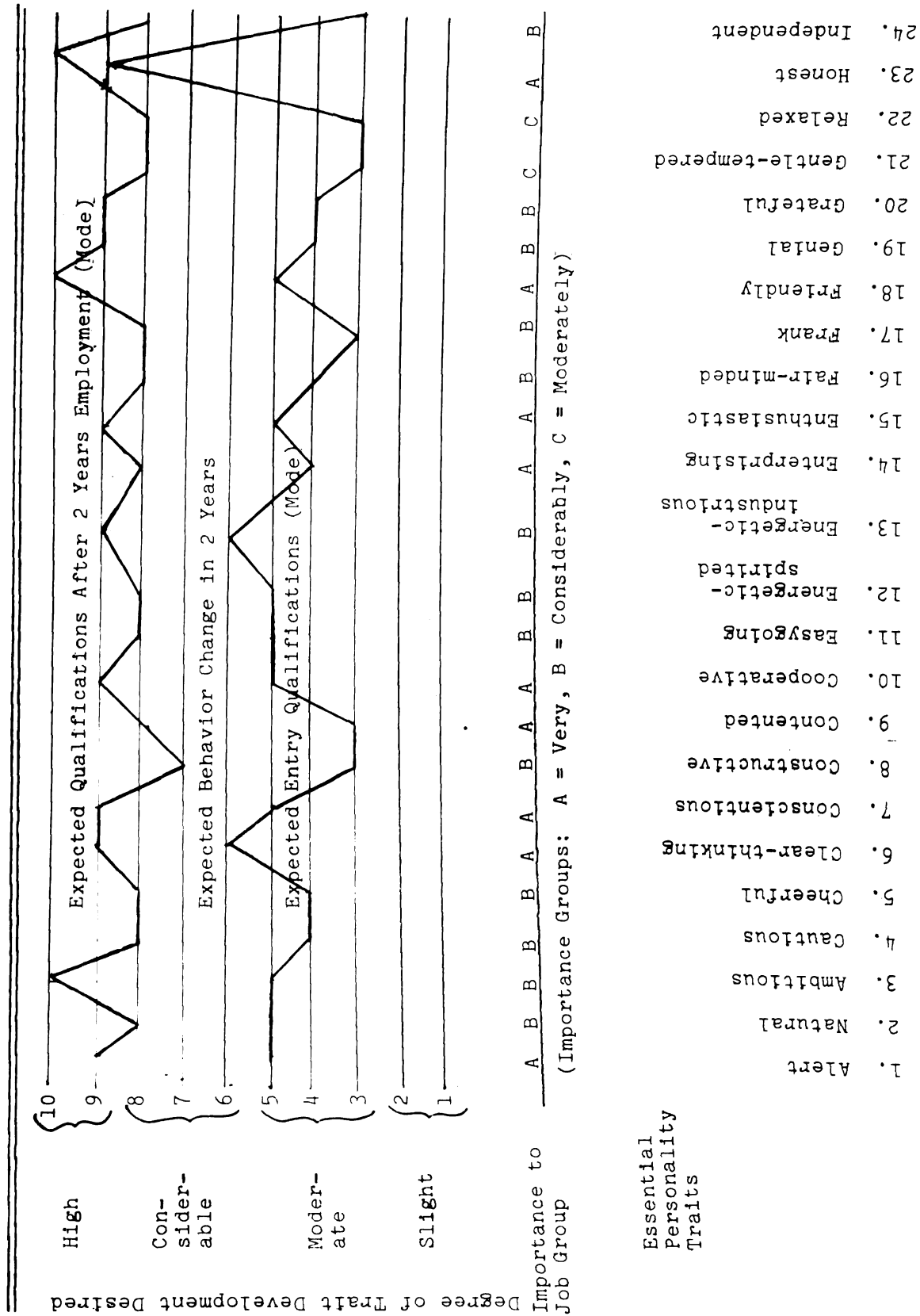
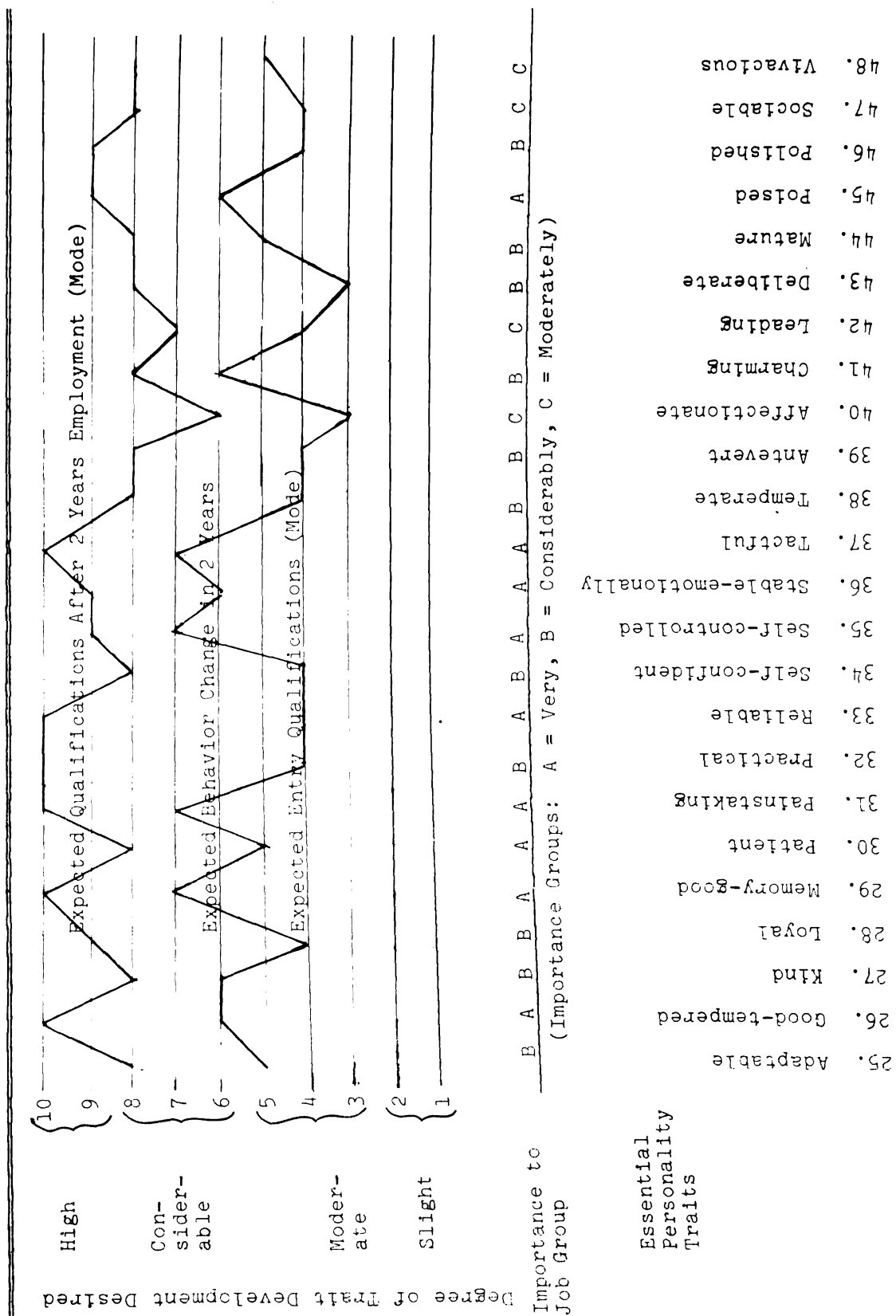


Figure 8. (con't.)



problem was not resolved in the present study, although it appears feasible by utilizing existing testing procedures.

The Cognitive Components

The cognitive components for the waitress position were determined in the same way that these traits were established for the cook position. The codified data from Schedule 1, page 103, were interpreted to mean the following:

Training Time Required--Cognitive and Psychomotor Trait Development

The training time required for a waitress to acquire the knowledges and abilities necessary for average job-performance, is level 3 listed on Schedule 1 in General Educational Development (GED). On the "Scale of Educational Development" (Appendix E) level 3 is the ability to apply common sense understanding to carry out detailed but uninvolved written or oral instructions. The job-holder deals with problems involving relatively few concrete variables. A waitress is required to know arithmetic to add, subtract, multiply and divide whole numbers. The Specific Vocational Training time (SVP) is between 30 days and 3 months, depending upon educational background.

The language development necessary to function effectively as a waitress is at the level of comprehension and

expression such as pulp detective magazines and radio programs of the Dorothy Dix and soap opera types.

Temperament Needed

The temperament requirements of a waitress are those dealing with situations involving doing things only under specific instructions. The job allows for little independent action or judgment in working out job problems. The job requires work with situations involving the necessity of dealing with people.

Interests

The interests of waitresses tend towards situations involving a preference for activities including those of business contact with people. The interests show a preference for activities of a routine, concrete and organized nature. The work requires adjustment to many different people and to repetitive work in sequential arrangements.

The Psychomotor Components

Physical Capacities

The physical capacities required for this type of work are those associated with light work. The job requires considerable reaching for and handling of materials, constant walking is necessary. The ability to speak and hear well are important requirements for employment. The work is usually inside with no extreme elements of

weather, heat, cold, or moisture. Curbettes in drive-in-restaurants, however, must be able to adjust to inside and outside temperature changes in some geographical regions.

Aptitudes Needed

The person performing this type of work requires abilities common to the middle third of the working population. The required intelligence, form perception, motor co-ordination, and manual dexterity are those found in the middle third of the working population. The required verbal, numerical, spatial, clerical perception and finger dexterity are those found in the lower third, exclusive of the lowest 10%, of the working population.

Concluding Statements Concerning Trait Requirements for the Waitress Position

The material presented above constitutes the requirements for the waitress position. The specific skills for individual tasks, however, have not been included: These precise duties and tasks would also have to be determined before planning a vocational program. The tasks can be determined by analyzing the work and drawing up specifications for these skills in behavioral descriptions. The tables and figures represent the qualification traits in the various domains, from which a set of specifications can be written. A demonstration of the application of the data to educational uses is presented in the next chapter.

Pilot Study Summary and Conclusions

The pilot study was conducted to show that the personality trait technique proposed in Chapter IV is practical and feasible. The demonstration indicates conclusively that the affective area of competence can be analyzed for occupational purposes. The findings show that the personality traits can be identified, isolated and classified. They also demonstrate that the traits vary with occupations and that the difference can be determined for educational purposes. Considerable consistency was found in the opinions of the members of the advisory panel. The study showed that the panel's judgments could be quantified.

The determination of the psychological traits, which are needed for competent performance, and the degree of development, which is deemed desirable for an occupational field, are the foundational data necessary for the development of a vocational program designed to prepare students to accepted levels of competence. Qualified service workers need adequately developed personalities for successful careers: This includes the attitudinal area of the personality sphere. Teaching and training should take into account all aspects of the personality and each realm should be emphasized in relation to its influence and impact on competent job behavior. Educational consideration should be given to the abilities, the interests and the affective

components in developing a competent employee. In the past, the interests and abilities factors have received appropriate attention but the affective factors have been seriously neglected. The pilot study demonstrated that this need not be the case, that the affective traits are analytically approachable, and that data can be gathered from which precise affective job qualifications can be determined.

A Second Study

Another study was conducted by the writer which supports many of the pilot study findings. The second sample consisted of fifty-eight enrolees in an Evening College Seminar, consisting of a crossection of managers and owners of hotels, motels, restaurants and drive-in restaurants, from the Central Michigan area. Although the second sample was much larger than the first (58 compared to 23) the essential traits and their classifications chosen by both groups was similar. A number of differences are evident and these will be explained later. The findings are tabulated in Tables 13 through 18 in the forthcoming pages: The comments appear after the tables. The procedure for the second study was the same as the one used in obtaining data for the pilot study.

Study No. 2

TABLE 13.--Affective personality traits of a competent cook classified according to the traits importance to the job.

Group A--Very Important

- | | |
|-------------------|------------------------|
| 1. Alert | 7. Friendly |
| 2. Cheerful | 8. Honest |
| 3. Clear Thinking | 9. Memory Good |
| 4. Conscientious | 10. Painstaking |
| 5. Contented | 11. Reliable |
| 6. Cooperative | 12. Stable Emotionally |
-

Group B--Considerably Important

- | | |
|---------------------------|---------------------|
| 1. Ambitious | 14. Patient |
| 2. Cautious | 15. Practical |
| 3. Energetic--Industrious | 16. Self-Confident |
| 4. Enterprising | 17. Self-Controlled |
| 5. Enthusiastic | 18. Tactful |
| 6. Fair minded | 19. Persevering |
| 7. Frank | 20. Planful |
| 8. Genial | 21. Self-Respecting |
| 9. Independent | 22. Thrifty |
| 10. Adaptable | 23. Decisive |
| 11. Good Tempered | 24. Tolerant |
| 12. Kind on Principle | |
| 13. Loyal | |
-

Group C--Moderately Important

- | | |
|------------------------|--------------------|
| 1. Natural | 6. Gentle Tempered |
| 2. Constructive | 7. Relaxed |
| 3. Easy Going | 8. Anteverte |
| 4. Energetic--Spirited | 9. Assertive |
| 5. Grateful | 10. Responsive |
-

Group D--Slightly Important

NONE

Study No. 2

TABLE 14.--Affective personality traits required of a competent cook classified according to employers' expectations at time of industry entry.

Group I--Highly Developed Traits (9-10)	
1. Honest	
Group II--Considerably Developed Traits (6-8)	
1. Cooperative	3. Reliable
2. Loyal	4. Tactful
5. Self-Respecting	
Group III--Moderately Developed Traits (3-5)	
1. Alert	23. Adaptable
2. Natural	24. Good Tempered
3. Ambitious	25. Kind
4. Cautious	26. Memory Good
5. Cheerful	27. Patient
6. Clear Thinking	28. Painstaking
7. Conscientious	29. Practical
8. Constructive	30. Self-Confident
9. Contented	31. Self-Controlled
10. Easy Going	32. Stable Emotionally
11. Energetic-Spirited	33. Temperate
12. Energetic-Industrious	34. Anteverte
13. Enterprising	35. Assertive
14. Enthusiastic	36. Persevering
15. Fair minded	37. Planful
16. Frank	38. Responsive
17. Friendly	39. Thrifty
18. Genial	40. Decisive
19. Grateful	41. Emotional
20. Gentle Tempered	42. Tolerant
21. Relaxed	
22. Independent	
Group IV--Slightly Developed Traits (1-2)	
NONE	

Study No. 2

TABLE 15.--Affective personality traits required of a competent cook classified according to the employers' expectations after two years employment.

Group I--Highly Developed Traits (9-10)	
1. Alert	10. Adaptable
2. Ambitious	11. Loyal
3. Conscientious	12. Memory Good
4. Cooperative	13. Painstaking
5. Enthusiastic	14. Reliable
6. Fair minded	15. Self-Controlled
7. Friendly	16. Stable Emotionally
8. Genial	17. Tactful
9. Honest	18. Tolerant
Group II--Considerably Developed Traits (6-8)	
1. Natural	16. Good Tempered
2. Cautious	17. Kind
3. Cheerful	18. Patient
4. Clear Thinking	19. Practical
5. Constructive	20. Self-Confident
6. Contented	21. Temperate
7. Easy Going	22. Anteverte
8. Energetic--Spirited	23. Assertive
9. Energetic--Industrious	24. Persevering
10. Enterprising	25. Planful
11. Frank	26. Responsive
12. Grateful	27. Self-Respecting
13. Gentle Tempered	28. Thrifty
14. Relaxed	29. Decisive
15. Independent	
Group III--Moderately Developed Traits (3-5)	
NONE	
Group IV--Slightly Developed Traits (1-2)	
NONE	

Study No. 2

TABLE 16.--Affective personality traits of a competent waitress classified according to the traits importance to the job.

Group A--Very Important	
1. Alert	12. Kind (on Principle)
2. Ambitious	13. Good Memory
3. Cheerful	14. Patient
4. Clear Thinking	15. Reliable
6. Contented	16. Self-Controlled
7. Cooperative	17. Stable Emotionally
8. Friendly	18. Tactful
9. Genial	19. Charming
10. Honest	20. Polished
11. Good Tempered	21. Sociable
Group B--Considerably Important	
1. Natural	13. Loyal
2. Cautious	14. Painstaking
3. Energetic-Spirited	15. Practical
4. Energetic-Industrious	16. Self-Confident
5. Enterprising	17. Affectionate
6. Enthusiastic	18. Leading
7. Fair Minded	19. Mature
8. Grateful	20. Poised
9. Gentle Tempered	21. Serious
10. Relaxed	22. Vivacious
11. Independent	23. Temperate
12. Adaptable	24. Anteverte
25. Deliberate	
Group C--Moderately Important	
1. Easygoing	3. Submissive
2. Frank	4. Quiet
5. Hurried	
Group D--Slightly Important	
NONE	

Study No. 2

TABLE 17.--Affective personality traits of a competent waitress classified according to employers' expectations at time of industry entry.

Group I--Highly Developed Traits (9-10)	
NONE	
Group II--Considerably Developed Traits (6-8)	
1. Honest	
Group III--Moderately Developed Traits (3-5)	
1. Alert	27. Memory Good
2. Natural	28. Patient
3. Ambitious	29. Painstaking
4. Cautious	30. Practical
5. Cheerful	31. Reliable
6. Clear Thinking	32. Self-Confident
7. Conscientious	33. Self-Controlled
8. Contented	34. Stable Emotionally
9. Cooperative	35. Tactful
10. Easy going	36. Affectionate
11. Energetic-Spirited	37. Charming
12. Energetic-Industrious	38. Leading
13. Enterprising	39. Unrepining
14. Fair Minded	40. Mature
16. Frank	41. Poised
17. Friendly	42. Polished
18. Genial	43. Sociable
19. Grateful	44. Serious
20. Gentle Tempered	45. Vivacious
21. Relaxed	46. Temperate
22. Independent	47. Anteverte
23. Adaptable	48. Submissive
24. Good Tempered	49. Conventional
25. Kind	50. Quiet
26. Loyal	51. Hurried
52. Deliberate	
Group IV--Slightly Developed Traits (1-2)	
NONE	

Study No. 2

TABLE 18.--Affective personality traits of a competent waitress classified according to employers' expectations after two years employment.

Group I--Highly Developed Traits (9-10)	
1. Alert	12. Loyal
2. Ambitious	13. Memory--Good
3. Clear Thinking	14. Patient
4. Contented	15. Painstaking
5. Cooperative	16. Reliable
6. Energetic--Industrious	17. Self-Confident
7. Fair Minded	18. Stable Emotionally
8. Friendly	19. Tactful
9. Genial	20. Charming
10. Honest	21. Polished
11. Good Tempered	22. Sociable
Group II--Considerably Developed Traits (6-8)	
1. Natural	17. Self-Controlled
2. Cautious	18. Affectionate
3. Cheerful	19. Leading
4. Conscientious	20. Unrepining
5. Easy going	21. Mature
6. Energetic-Spirited	22. Poised
7. Enterprising	23. Considerate
8. Enthusiastic	24. Serious
9. Frank	25. Vivacious
10. Grateful	26. Temperate
11. Gentle Tempered	27. Anteverte
12. Relaxed	28. Submissive
13. Independent	29. Quiet
14. Adjustable	30. Hurried
15. Kind (on Principle)	31. Deliberate
16. Practical	
Group III--Moderately Developed Traits (3-5)	
NONE	
Group IV--Slightly Developed Traits (1-2)	
NONE	

Comments on the Tables Referring to
the Cook Position

Concerning the importance to the job classifications, the first study showed seven as "very important" while the second study showed twelve of the traits in this category. The additional traits selected by the second panel were all in the "considerably important" group of panel one. They included the following: cheerful, conscientious, contented, friendly, painstaking and emotionally stable. Similar degree differences occurred with the other classifications.

The second study in contrast listed fewer traits in the top classifications when considering entry qualifications. Study one listed ten traits in the "highly and considerably developed" class and the second study listed only six. The traits which were not in the top classes included: adaptable, clear-thinking, good-tempered, good memory, painstaking, and emotional stability; all of which were on the lower end of the scale in the first study.

It is important to note that in both studies the essential traits were similarly selected. The extra traits which were added by panel two were also doubtful; only about one-half of the sample selected them. The point is that the panels agreed in principle but differed in the degree of development needed at the different time intervals.

The studies reveal the same type of discrepancy for the waitress position. The second study showed three more

traits in the "very important" column than the first. The traits that were added were ambitious, cheerful, genial, kind, charming and sociable and those excluded were enterprising, enthusiastic, and painstaking: these were, however, in the next lower classification.

The second panel was more liberal in their entry qualifications for the waitress position. This was to be expected because the first panel was a stratified sample of the more successful and larger enterprises while the second was comprised of more smaller businesses. Managers in panel one hire only experienced waitresses whereas many in panel two hired non-experienced employees. Apparently, hiring standards differ considerably in the industry and the two studies confirm this condition.

In the expectations after two years employment classification, however, the two panels were in closer agreement with twenty-one and twenty-six listed in the highly developed group and twenty-two and thirty-one listed in the considerably developed group. It appears that the managers expect a considerable improvement in their employees and although some may hire them with greater deficiencies, they expect them to make up the difference in on-the-job development. The goal appears to be the same, although the entry level is lower, and therefore more liberal, for the second panel's personnel, compared to the first panel's personnel.

Concluding Statement

The second study reinforces the findings and feelings discovered in the pilot study. The affective traits appear to lend themselves to identification and analysis and possibly to instruction in groups of students and subject matter. Managers differ in their opinions only in the degree to which traits need to be developed, and not concerning the essential need of the trait: Nor are they doubtful that behavior change does indeed occur.

CHAPTER VI

APPLICATION OF THE FINDINGS TO A VOCATIONAL EDUCATION SITUATION: DEVELOPING OPERATIONAL OBJECTIVES

The prime purpose for determining the personality traits which are essential to specified occupational fields is the consideration that these traits may be learned in an instructional situation. Chapter II discussed in detail why educational objectives are necessary for effective teaching. Chapter V focused on demonstrating that the affective domain can be analyzed and the data quantified for the purpose of developing qualification profiles. The present chapter concentrates on specifying operational educational objectives from information gathered in personal interviews. This step completes the cycle of educational planning from trait identification to trait specification.

The data-gathering interviews were conducted with members of the industry advisory panel which had previously provided the data for determining the job requisites. Eight traits in the affective area which were classified as important to each occupation were selected for developing detailed specifications. Four traits were chosen for the waitress position and four for the cook position.

In each instance the specification states the behavior expected of an employee in a typical job-worker situation. The specifications are the reactions and responses displayed by a competent job holder, as these are observed by employers or managers. These, by translation, constitute the terminal behavior or the desirable outcome of a vocational program designed to develop the identified traits. Thus, the specifications are unrefined educational objectives for the affective domain.

The managerial statements are in essence vocational objectives because they describe the exact behavioral reaction expected of an employee who has the particular trait. They are trait descriptions, reported in the language of the industry, from which course content could be determined and course material developed for the purpose of teaching trait modification. Case studies, for example, could be written from this data which could serve as instructional material to teach trait development. Audio-visual material could be developed to demonstrate the importance of specific trait skills. In contrast, the affective deficiencies of a trainee or employee could be determined in order to show the traits which need modification. Co-operative occupational experience could be scheduled to modify specific traits. A means of measurement, however, would be needed to accurately assess the value of the experiences. Instructional activities

require precise descriptions of the desirable behavior which should be displayed by a competent worker. These are provided in the specifications which follow. A series of trait specifications for the cook position are presented first and these are followed by specifications for the waitress position.

Affective Terminal Behavior Specifications
for the Female Cook Position

Specification No. 1: Reliable Behavior

The behavioral activities which distinguish a competent female cook and which establish the essential traits for the position are deduceable from observable reactions and responses in occupational situations.¹ A competent cook establishes a record of coming to work regularly, each day, over a time period of several months. She does not take off an excessive number of days nor fabricate doubtful excuses when not coming to work: Questionable excuses for absences may accumulate detrimentally. When unable to work, a reliable cook makes every effort to call the supervisor as soon as possible to allow sufficient time for schedule changes. Personal plans are formulated after the needs of the organization are fulfilled. A reliable

¹J. C. Flanagan, op. cit., p. 419. Flanagan referred to the essential traits as "the critical requirements for a job or activity" and developed from these the "Critical Incident Technique" of employee evaluation.

cook is willing to work in spite of occasional inconveniences.

Reliability also refers to being punctual. The working schedule of cooks and their superiors seldom coincide. The cook often arrives before the supervisor and is relied upon to be on time and to work responsibly without direct supervision. She can be trusted regarding time schedules and a supervisor can place confidence in her statements concerning specific working hours. There is no doubt that she will work each day, at designated hours, and at prescribed levels of performance.

Reliability also involves consideration for others. A reliable cook completes her work in coordination with the sequence of the day's production schedule. She starts the production cycle correctly and other members of the kitchen staff can confidently assume that the pre-preparation work is completed according to schedule, permitting the work which follows to progress smoothly.

A competent cook is capable of meeting the established standards of quality. She is consistent in her products and instructions are followed meticulously to insure consistency. She does what is expected of her, when she is supposed to do it and in the manner it is supposed to be done.

A reliable cook is capable of making practical production decisions. At first, she is trusted to be reliable

with minor items but the expectations multiply as confidence in her work increases. Her judgment is dependable. She takes the initiative to get the work done. When the daily deadlines have to be met for each meal period, she meets them on time. She takes the initiative to see that her work is done, that the food is properly prepared even though many difficulties are encountered each day. She makes many positive decisions, avoiding negative attitudes, and takes definite action. In aggregate, these responses favor the organization and its personnel and in time constitute a cook who is considered competent in the area of "reliability."

Specification No. 2: Good Memory

In reference to a competent cook, a good memory means remembering a multitude of sequential activities in their correct order, not merely the ability to memorize facts and figures. She remembers the individual procedures, the series, and the interrelationship of various tasks. In food production work, memory is tied in with experience. The available time does not permit going back each time to review exactly the way something was done. Much of the knowledge is cumulative. A qualified cook need not remember mathematical details but it is expected that she will work out a good approach to get her work done expediently. A good memory means she develops an organized approach which

she commits to memory. She follows a planned procedure and after the first experience remembers it.

A cook is not expected to remember all the ingredients of a thousand recipes: These are recorded on the standard recipe filing cards or in cook books and need not be memorized. She must, however, know and remember numerous temperature settings related to roasting and baking and details concerning the various effects different temperature and cooking processes have upon the food she prepares. Quality depends upon consistently doing each step in a series of cooking activities the identical way each time. This is learned from experience committed to memory. By remembering precisely how something was prepared before and considering all influencing factors, a competent cook can duplicate quality products. Many institutions use a cyclical menu which usually runs twenty-one days and then is repeated. A competent cook after completing the cycle remembers most of the activities. She has to judge on the basis of her memory and her experience what the menu will do, how much has to be prepared, and how many portions of each kind.

The time factor also enters into the memory requirements of a cook. All of the menu items have different preparation times yet each needs to be ready at the same time for serving. The items which come off of the steam jacketed kettles, the ranges, the bake ovens, the radar

range etc., have to be started at different times. Production completion coordination requires careful timing, and timing is essential to efficiency in operating a commercial or institutional kitchen. A competent cook has committed to memory a consciousness of time and the sequence of tasks to be done.

Remembering also refers to removing products scheduled for production from the freezer for thawing, placing perishables in the refrigerator, turning off ranges and deep fat fryers after use and a myriad of other tasks. Chronic forgetfulness, the opposite of a good memory, results in inefficiency and high labor and product costs which are intolerable in high volume food production. Employees with a good memory help a unit to increase productivity and reduce waste.

Specification No. 3: Clear-thinking

A clear-thinking cook is calm and collected in thought and action. This trait is detected by observing that she does not get excited easily. She listens carefully when a work assignment is made and does precisely what she is instructed to do without undue confusion. When a number of tasks are laid out for her she makes sure she understands them. She is coherent, knows what is going on, and thinks through the tasks which have been assigned her before blindly plodding ahead in an aimless fashion. By being

clearheaded in the instruction phase she is able to do precisely what is expected of her in the preparation phase.

Confusion among cooks is often a serious problem which is hard to cope with. Clear-thinking requires confidence and stability when things go wrong and knowing what corrective action to take when confronted with a problem. A cook requires the disposition to go ahead and do what needs to be done when everybody else gets excited. She hurries to do her work but keeps her head and is steady. She doesn't fret nor panic in difficult situations but continues to think clearly.

This trait is noticeable in a cook's attitude toward co-workers, toward equipment, toward supervisors, toward the task and toward self. A clear-thinking cook is concerned with anticipating mechanical breakdowns, she thinks about the equipment and takes preventive action instead of waiting for a crisis to develop. A cook is aware of the possibilities of misfortunes and has alternative plans of action.

A large menu requires considerable pre-preparation planning. To produce quality products, to time production, to work out the intricate details of a changing and complicated menu requires careful thinking. A competent commercial cook studies her work and is able to visualize what occurs to a menu item from pre-preparation time to final presentation to the customer. She mentally traces

a product from initial receiving to final serving and clearly recognizes each critical step and its influence on a quality product.

Specification No. 4: Cooperative

A cooperative cook is one who will go out of her way to help new employees adjust to the job. She does not resent coaching new employees and otherwise helping them become accustomed to a new working environment. She doesn't withhold secrets out of fear that she will lose her job to a new employee. She willingly helps to train and teach others. She understands that food production is a team effort requiring cooperation. By her interest in harmony she attempts to make the kitchen operate more smoothly. In unusual and trying circumstances, she is constructive and inclined to assist in finding a solution to problems rather than finding fault and being critical about the failure of proposed solutions.

A cook who is not inclined to be cooperative wants to do everything herself and does not have the patience for cooperative action. By refusing to work harmoniously with others she is forced into difficult positions which lead to crises. She tenaciously insists on personally doing too many tasks and by her independence is not able to get along with others who resent this self-centeredness and mistake it for mistrust.

A cooperative cook is also considerate of the group on the next shift. The morning shift does the preliminary work for the afternoon shift. When one kitchen crew is unwilling to make an effort to make work easier for the following group they are not cooperative. A cooperative cook avoids feuds, friction and retaliation. She is planely helpful to her co-workers and does whatever she can to engender a spirit of mutual assistance between different shifts.

When a menu change occurs which causes complex conversion problems she works with the organization to institute the change. She does not buck policy changes but attempts to make them work. The head cook's influence permeates the organization. She deals with subordinates and supervisors and her working together with management is imperative for an efficient operating kitchen: co-operation is necessary laterally and horizontally. A good cook is willing to do things differently if necessary and will not stubbornly oppose direction and suggestions from the supervising staff. She is most cooperative during difficult times by voluntarily offering her assistance and expending effort to reduce confusion and as quickly as possible establish a new routine.

Affective Terminal Behavior Specifications
for the Waitress Position

Specification No. 5: Patient

The behavioral activities which distinguish a competent waitress are also deduceable from her overt reactions and responses to situational choice-points. Patience enters into several aspects of her work. She has to learn to graciously accept any changes in a customer's order. She shows patience by being kind and attentive to children's demands. She explains the menu without being hasty or rude. She needs patience in dealing with the cooks and the rest of the staff by being sensitive to their feelings and understanding of their problems.

An able waitress is aware of mistakes and misunderstandings concerning what a guest ordered and what he received. She acknowledges errors and corrects them by bringing the customer what he expects and thereby minimizes dissappointments. She is not sarcastic or nasty about changes of mind but willingly makes corrections.

When a steak is returned to the kitchen because it did not meet the customer's expectations, she must restrain herself by being patient with the chef who resents the change and may be offended by false accusations of improper preparation. The waitress is the arbiter between chef and customer, this requires personal and social skill in correcting a problem to everyone's satisfaction.

A patient waitress waits her turn in line in the kitchen, she doesn't call out her orders while someone else is placing one. She takes time to be considerate of others. In listing the desserts for the guests she does it slowly so that the process need not be repeated. She explains the menu items and company policy if necessary and takes time to deal with older people and children who often are undecided. She has to be careful not to be noticeably uneasy in waiting and must know when to excuse herself in order to come back a little later. She should not be hasty in her actions, harsh in her language, nor over-apologetic. She may at times accept blame for some occurrences, although inwardly she knows it wasn't her fault. She is rewarded for her patient personality by higher pay in better tips. Patience is that quality which when present reflects maturity of mind and willingness to serve in spite of aggravating circumstances.

Specification No. 6: Tactful

A tactful waitress is one who has developed a sensitivity to the customer's feelings and responds in-offensively. She discreetly controls any embarrassing situations. She is polite in her conversation, considering the consequences of her words and actions. Many occasions arise in the dining room and kitchen where tact is necessary. Proper handling of problems requires common sense, empathy and decency to do what is right.

A tactful waitress is able to size up a problem and act accordingly in a diplomatic and appropriate manner. She has to know what to say to an irate customer, a grouchy guest, an irritable cook and complaining children. The ability to properly explain the pricing policy so that the customer does not leave dissatisfied requires skill. The ability to personally relate to a customer, without over-eagerness and embarrassment requires cautiousness in words and actions.

One of the most distressing situations a waitress faces is skillfully dealing with an undesirable guest. A good waitress handles the case without being unnecessarily objectionable and yet she is firm. She is more attentive by providing rapid service. She tries in whatever way it works to cut down any disturbance. Action at the appropriate time prohibits a situation from deteriorating. It requires dealing with people who are out-of-sorts in such a manner as to bring praise to the waitress from the other customers. It involves intelligence and diplomacy under trying conditions.

A waitress with tact has a way with the customers that transcends her every action. She does small favors to head off big problems. She is able to talk and correct a customer who is out-of-line. She practices tact with kindness and shrewdness and gains the cooperation of bus-boys and kitchen staff. She is not phony nor

undercutting but sincere in dealing with others. When others are obstinate and ornery, in bad and indifferent moods, when they are strained, a tactful waitress says something that will ease the occurrence she will do things that will smooth over undesirable incidents.

Specification No. 7: Alert

An alert waitress sees customers that are seated at her tables immediately after they arrive and acknowledges their presence. The indication that she is aware that they are there can be projected by speaking to them for a short time, presenting them with menus or with water, or any act which makes the customer feel noticed and welcome. Attention is an expression of awareness which an alert girl translates into service.

An alert girl is on her toes every minute, she does not wait until the customer asks for what should be standard service. She is able to sense what should be on the table with the serving of each course of a dinner and brings any omitted items as soon as she notices their omission. She anticipates wants and provides extra pads of butter, another roll, more salad dressing, or the necessary condiments. She notices what is needed and desired and provides the little extra service which makes the difference between fair service and excellent service.

An alert waitress observes that the customer is not really pleased and corrects the problem before it

spoils the meal. She is sensitive to a patron's personal comfort and attempts to reduce little irritations. Anticipating a problem and acting to avoid it constitutes alertness. Most customers will not complain, though dissatisfied: an alert girl knows and senses these problems and makes every attempt to improve the service to overcome the negative feelings.

An observant girl notices if a party is in a hurry or wishes to dine casually. She can tell by their demeanor what kind of service they expect. Customers provide many cues or signs which tell what action is appropriate. They do not always make their desires known verbally but leave hints which reveal their true wants. The ability to assess a customer's needs from the available cues takes considerable experience and training. If she is alert, she is also skillful at asking the necessary questions at the right time. Alertness in a waitress involves being aware to what is going on all around her and taking appropriate action.

Specification No. 8: Poise

A poised waitress shows signs of self-assurance, she handles herself well, has the ability to meet and speak to a total stranger with ease and is polished enough to deal with the unexpected. Conversational ability is therefore an essential part of poise. A command of the language, especially conversational English, is useful.

There is also the physical side of poise. A waitress with this trait has a mechanical type of movement, is not awkward or clumsy, but displays an organized pattern of physical activity. She possesses a gracefulness of body and person and is immaculate in personal appearance. She is neat and not unkempt.

A poised waitress has a ready use of wit, can be conversational without being brash or crude. She is sophisticated in social skills instead of boorishly ignorant. A waitress who has poise can deal with difficult guests with respect and dignity. She gains the customer's respect by graciously serving them. She is able to compensate for the unsatisfactory factors associated with eating out by applying social skills.

Poise is deduced from the way a waitress listens, talks and walks. She is not sloppy in clothes or work habits but attractively groomed. She exudes enthusiasm. Poise is noticeable in how the waitress meets people, how she approaches her table, how she extends a greeting, and the things she says generally. Every move of a poised waitress is carefully calculated to be in harmony with her work. She doesn't drop dishes, pour over drinks, stumble over her own feet, or bump into other people. Her actions are coordinated and unhurried. Poise is a combination of physical grace and social pleasantness.

Concluding Comments

The specifications presented in this chapter demonstrate how essential affective traits can be described in terms of the behavioral responses which exemplify a model employee. The data describe a competent job-holders' choice of responses in specified occupational situations. For the selected traits, they are the terminal behavior required of a qualified employee, and thus, the educational or training objectives for the development of appropriate affective traits by instructional methods.

In designing vocational programs the specifications are useful in determining "end-product outcomes." The general assertion is that a job aspirant is more likely to succeed and adjust to his occupational choice if the affective traits required for a job are identified and if they are developed by instructional means to established levels of competence. Most of the affective development in vocational education is now left to chance. The underlying assertion of this study was that the essential affective traits of occupational positions are crucial to work adaptation and job success. Because of their importance, it was further reasoned that trait development should be formally structured into vocational programs and that this would provide a greater opportunity for systematic development than is possible by traditional methods. The purpose of the study was to show that it is feasible to include the affective area in formally planned vocational programs.

The proposed procedure may have application in other fields of vocational education. For the method to be operational, however, specifications would have to be prepared for each essential trait for each occupational calling. Priorities could be established based on the traits importance to a specified occupational position. In the secretarial positions, for example, separate specifications are needed describing each affective trait considered essential to that position.

The specifications, however, supply only the necessary raw data from which instructional material can be developed. Research has not yet reached the point where it is now possible to plan a program to teach appropriate attitudes. Admittedly, the process of planning and the methods of instruction suitable for behavior change in the affective domain are complex. Nevertheless, the findings suggest that the affective realm is ripe for more research and ready for inclusion in planning vocational education programs where attitudinal factors are important elements of competence.

CHAPTER VII

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The Problem

The study investigated the problem of occupational incompetence due to negative capacities in the affective domain. The affective area was defined to include emotional responses possessing a degree of acceptance or rejection, such as attitudes, values, and feelings.

The correction of the problem was presumed possible if it was found feasible to develop educational programs whose prime objective is attitude improvement. The initial task in vocational education planning is to conduct an analysis of the job to identify the essential elements of an occupation and to list these for instructional purposes. Previous research had revealed that the existing job analysis techniques were inadequate for analyzing the affective domain. Exhibits placed in Appendix C substantiate this contention. The initial problem, therefore, consisted of developing an analytical technique to determine the essential affective elements of an occupational calling. The proposed technique was tested in a pilot study limited to female cooks

and waitresses, the two largest occupational classifications in the food service industry.

Vocational programs eventuating in competent performance also require the formulation of meaningful educational objectives. The second task, therefore, involved the problem of accurately specifying desirable job behavior in order to establish objectives which might be the goals and guidelines of an educational program. Job specifications found in the literature were discovered to be imprecise and not useful for developing appropriate objectives. The proposed procedure for analyzing the affective domain and the technique for specifying job behavior were demonstrated to be operational by applying the two methods in pilot demonstrations.

The proposed method of analysis was based upon a bipolar list of affective traits. It was designed to determine each trait's order of importance and the desirable degree of development that is needed for industry entry and advancement, as these are perceived by employers.

The practicality of the postulated procedure was demonstrated by the development of several descriptive models, which could serve as points of reference for determining course content and curriculum construction in future studies.

The research design was further demonstrated to be feasible and operational by formulating from the data a series of educational objectives in the affective domain. These objectives may in future studies serve as the initial

input into a system of affective education for the food service industry.

The Purpose

The purpose of the study was to demonstrate that it is feasible to include affective trait development into formally planned educational programs. The key elements to show this to be possible were a technique for analyzing the affective domain to determine its components and a procedure for formulating educational objectives from job behavior specifications.

The Hypotheses

The underlying hypotheses of the study were as follows:

1. Affective traits are intrinsic components of occupational adaptation and competence.
2. Affective variables essential to occupational competence can be identified and classified.
3. Affective requirements vary with occupations; and entry qualifications are different from promotion qualifications.
4. Affective educational objectives can be operationally specified in terms of employer expectations of employee behavior.

The Procedure

The study was conducted in three stages with a different procedure for each phase. The stages were: (1) the development of an analytical technique for determining the affective requirements of a job, (2) the demonstration of the technique in a pilot study; and (3) the application of the findings to a vocational training situation. The final phase posed the problem of developing educational objectives from job behavior specifications.

Phase One: The Analytical Technique

Technique refinement was the major obstacle in conducting the study. A personality trait technique of analysis was developed which identified the affective factors essential to employment. The key element in the technique was a comprehensive list of all known positive and negative surface traits in the affective domain. The bi-polar trait list was the master list from which the essential traits were selected relevant to the specified positions.

A personality scaling device was developed for rating job requirements. The device included only identified essential traits and their opposites. The trait pairs were placed on a continuum with a twenty point scale to determine desirable degree of trait development for each essential trait. Employers scored job requirements on the basis of their expectations.

Phase Two: The Pilot Study

The second phase consisted of a pilot study which was to demonstrate the practicality of the technique proposed in phase one. The procedure, therefore, involved the personality trait technique which was previously explained. The object of the study was to determine the trait requirements for the female cook and the waitress positions. Primary data was derived by applying the technique in analyzing the two jobs. The cognitive and psychomotor requirements for the classifications were developed from secondary data found in the literature.

The Instruments

The instruments used in the pilot study consisted of the master trait list, the list of relevant traits, the personality scaling device, the tabulating instruments and the personality profile graph.

The Sample

The trait pairs considered essential to employment success were placed on a personality scaling device to be scored by an advisory panel. The sample which constituted the panel was drawn from a population of food service industry executives in Lansing, Michigan. The stratified sample was made up of sales volume leaders representing the major segments of the food service industry. The panel scored each trait essential to employment according

to three aspects: (1) importance to the job; (2) job entry qualifications; and (3) on-the-job improvement expectations.

Treatment of the Data

Tables were constructed and a profile was developed indicating the consensus of opinion of the panel on the various topics. The data provided the information from which a descriptive model employee was developed for each of the occupational classifications. The model is useful in planning vocational training programs because it indicates the intended outcomes.

Phase Three: Educational Application

The procedure for phase three of the study involved the application of the pilot study findings to a vocational training problem. Eight personality traits were selected for which detailed specifications were formulated. The trait specifications were compiled from managerial statements gathered by interviewing the advisory panel. They consisted of desirable job behavior responses and reactions. They were written as detailed descriptions of what a competent employee does who possesses the desirable trait. By conversion the specifications can function as educational objectives for the development of specified traits.

Pilot Study Findings

The most significant findings of the pilot study were that the female cook and waitress positions require

forty-seven and forty-eight affective personality traits respectively. The study showed that thirty-eight traits are required in common and that eight traits are unique to the cook classification and eleven are uniquely required for the waitress position.

The affective traits that were found to be required in common were:

- | | |
|---------------------------|-------------------------|
| 1. Alert | 20. Genial |
| 2. Natural | 21. Grateful |
| 3. Ambitious | 22. Gentle-tempered |
| 4. Antevert | 23. Relaxed |
| 5. Cautious | 24. Honest |
| 6. Cheerful | 25. Independent |
| 7. Clear-thinking | 26. Adaptable |
| 8. Conscientious | 27. Good-tempered |
| 9. Constructive | 28. Kind (on principle) |
| 10. Contented | 29. Loyal |
| 11. Cooperative | 30. Memory Good |
| 12. Easygoing | 31. Patient |
| 13. Energetic-spirited | 32. Painstaking |
| 14. Energetic-industrious | 33. Practical |
| 15. Enterprising | 34. Reliable |
| 16. Enthusiastic | 35. Self-confident |
| 17. Fair-minded | 36. Self-controlled |
| 18. Frank | 37. Stable Emotionally |
| 19. Friendly | 38. Tactful |

The traits that were required for the cook position exclusively were:

- | | |
|----------------|--------------------|
| 1. Assertive | 5. Planful |
| 2. Decisive | 6. Responsive |
| 3. Tolerant | 7. Self-respecting |
| 4. Persevering | 8. Thrifty |

The traits that were required for the waitress position exclusively were:

- | | |
|---------------------------------|--------------|
| 1. Affectionate | 6. Poised |
| 2. Charming | 7. Polished |
| 3. Deliberate | 8. Sensitive |
| 4. Leading (not
domineering) | 9. Serious |
| 5. Mature (emotionally) | 10. Sociable |
| 11. Vivacious | |

General Findings

The findings indicated that for each job classification a different degree of trait development was needed at different time intervals. The waitress occupation generally showed a higher degree of expected trait development at the time of industry entry and also for advancement. There were, of course, some exceptions, traits such as "co-operative" and "clear-thinking" were scored at the same level for both groups. The greatest difference in requirements was noted in the "after two years" category. For the waitress position most of the traits were scored "highly" and "considerably," but for the cook position most of the traits were only scored "considerably."

The data showed that employers expected the degree of trait development to improve for almost all traits from the time of industry entry to a time period two years later. Thus, behavior change was expected to occur to a remarkable degree from on-the-job learning experiences. This finding lends credence to the theory that attitudes change as a result of work experience. The study further showed that affective traits are important, that they can be identified and also classified to establish priorities for training programs.

Trait Specification Findings

The third part of the study consisted of formulating trait specifications and developing a method whereby these specifications were convertible to educational objectives. It was found that by stating the trait requirements in terms of job behavior, the statements could serve as intended vocational training outcomes. The reactions and responses of a competent employee could, therefore, be easily converted into specifications and to educational objectives. A cooperative cook, for example, was described by the responses and reactions which constitute competency. These behavioral descriptions of what a cook does who is cooperative were combined into one composite trait specification. The specification indicated the intended behavioral outcomes of a vocational training program, and thus, were acceptable educational objectives for developing the specific personality trait. The specifications were developed by interviewing the advisory panel and then combining their statements into specifications.

Conclusions

1. The research results confirmed the hypothesis that affective traits are essential components of competence and crucial factors in adaptation to work.

2. The pilot study findings confirmed the hypothesis that affective variables which are essential to an occupational position can be identified, isolated from larger constellations of trait clusters, classified to determine the desirable degree of trait development required, and grouped to determine the traits importance to the job.

3. The findings confirmed the hypothesis that affective trait requirements vary with occupations. The evidence also supported the theory that expected entry qualifications in the affective realm are lower in degree of development than expected promotion qualifications. This means that job applicants do not need the same degree of trait refinement as employees who wish to advance.

4. The research results confirmed the hypothesis that educational objectives in the affective domain can be specified in terms of employers' expectations of job behavior.

The logical conclusions, therefore, are: (a) job requirements in the affective area can be accurately specified; (b) affective requirements are elements of desirable behavior; (c) for instructional purposes educational objectives can be specified as expected behavior.

These conclusions provide a legitimate basis for developing vocational education programs which take the affective domain into account.

Implications

The implications that may be drawn from the study are that in the future affective trait development might be included in teaching/learning programs. Attitude modification or change may be emphasized in future course content and curriculum planning and hold as prominent a place in formal schooling as skill and knowledge learning.

Research on attitude change may unlock some of the mysteries surrounding the problem of school drop-outs, the unemployed, and the unemployable. Just as physicians use laboratory tests in the diagnosis of physical disease, educators with special training may in the future diagnose affective deficiencies of pupils in order to plan instructional programs to develop these traits to require levels of competence.

Recommendations

The major recommendation is that due to the prevalence of the problem of negative capacities in the affective domain, and because of its importance to job entry and success, research should be continued to further probe all promising avenues of alleviation of the condition. The present project presented only one possible approach; there may be many

others. Educational research should continue to explore the nature of the affective domain, procedures for analyzing components of competence, methods of stating job specifications, and means of developing meaningful educational objectives in the affective area.

After more basic research has been completed, pilot projects should be developed to conduct educational experimentation with personality trait development in classroom or other instructional situations. To do this effectively would require measurement devices for determining trait development at different time intervals in order to determine where a student is, where he needs to go, and how much progress he is making along the route. Instructional materials and innovative methods are needed before this can be undertaken. Research is the only way by which all of the above can reasonably be brought about.

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APPENDICES

APPENDIX A

EDUCATIONAL AND RECRUITMENT NEEDS
OF THE HOTEL INDUSTRY (Tower, op.
cit., pp. 55-60)

ANALYSIS OF QUESTIONNAIRE RESPONSES

Question 1. Classes of Employees Most in Need of Further Training

Class of Employee	Frequency of Mention by Degree of Need (1=Most Critical)				Total Mentions	
	1	2	3	Degree not Differentiated	Number	As Percent of 362 Hotels
Front office	125	56	43	28	252	69.6%
Chefs, cooks and bakers	99	50	32	28	209	57.7
Waiters and waitresses	45	56	52	26	179	49.4
Housekeeping: inspectresses, maids and housemen	35	66	54	22	177	48.9
Maintenance workers: engineers, carpenters, painters, plumbers, electricians, etc.	10	21	29	19	79	21.8
Other kitchen employees	9	29	24	17	79	21.8
Nonexecutive department heads and supervisors	21	19	25	12	77	21.3
Sales and promotion personnel	11	22	22	17	72	19.9
Bellmen, elevator operators, doormen	10	14	31	15	70	19.3
Bartenders	5	14	11	12	42	11.6
Housekeeping men	4	10	11	15	40	11.0
Accounting	6	5	13	13	37	10.2
Secretarial	2	6	12	10	30	8.3
Laundry employees	2	3	9	8	22	6.1

Question 2a. Classes of Employees in Which There is Critical Numerical Shortage

Class of Employee	Frequency of Mention by Size of Hotel						Total Mentions	
	50 Rooms or Less (61 Hotels)	51-100 Rooms (74 Hotels)	101-200 Rooms (59 Hotels)	201-500 Rooms (94 Hotels)	More Than 500 Rooms (47 Hotels)	Size not Specified (17 Hotels)	Number	As Percent of 362 Hotels
Chefs, cooks and bakers	18	30	31	32	19	5	135	37.3%
Front Office	8	14	17	23	9	4	75	20.7
Waiters and waitresses	11	20	13	16	4	3	67	18.5
Maintenance workers: engineers, carpenters, painters, plumbers, electricians, etc.	8	10	5	15	6	2	46	12.7
Housekeeping: inspectresses, maids and housemen	6	5	8	14	5	1	39	10.8
Other kitchen employees	3	10	3	7	..	3	26	7.2
Nonexecutive department heads and supervisors	2	3	2	..	3	1	19	5.2
Sales and promotion personnel	..	5	2	4	3	2	16	4.4
Housekeeping men	1	3	1	7	2	2	16	4.4
Secretarial	2	3	1	5	3	..	14	3.9
Bartenders	2	5	2	1	1	2	13	3.6
Accounting	..	1	3	4	3	..	11	3.0
Bellmen, elevator operators, doormen	1	5	1	2	..	..	9	2.5
Laundry employees	..	..	1	..	..	..	1	0.3

Question 2b. Classes of Employees in Which There is Critical Qualitative Deficiency

Class of Employee	Frequency of Mention by Size of Hotel						Total Mentions	
	50 Rooms or Less (61 Hotels)	51-100 Rooms (74 Hotels)	101-200 Rooms (69 Hotels)	201-500 Rooms (94 Hotels)	More Than 500 Rooms (47 Hotels)	Size not Specified (17 Hotels)	Number	As Percent of 362 Hotels
Chefs, cooks and bakers	7	16	17	27	12	3	82	22.7%
Housekeeping: inspectresses, maids and housemen	7	19	11	25	4	1	67	18.5
Waiters and waitresses	11	9	13	14	10	5	62	17.1
Front office	5	16	10	15	12	3	61	16.9
Other kitchen employees	2	9	5	16	8	1	41	11.3
Maintenance workers: engineers, carpenters, painters, plumbers, electricians, etc.	4	9	5	13	4	2	37	10.2
Bellmen, elevator operators, doormen	3	5	5	8	3	2	26	7.2
Housekeeping men	2	5	2	7	3	1	20	5.5
Nonexecutive department heads and supervisors	3	3	4	5	2	2	19	5.2
Accounting	3	2	3	5	5	1	19	5.2
Bartenders	2	4	3	6	1	1	17	4.7
Laundry employees	4	2	3	3	3	..	15	4.1
Secretarial	1	5	2	4	2	1	15	4.1
Sales and promotion personnel	4	3	2	3	..	..	12	3.3

Question 3. Sources for Getting Skilled Personnel

Source	Frequency of Mention by Degree of Effectiveness (1=Most Effective)				Total Mentions	
	1	2	3	Degree not Differen- tiated	Number	As Percent of 362 Hotels
Promote present employees from lower jobs	147	49	48	10	254	70.2%
Advertising	71	64	49	9	193	53.3
Referrals from present and former employees	49	74	60	7	190	52.5
State employment service	19	55	52	8	134	37.0
Private employment agency	34	34	41	6	115	31.8
Transfers and promotions from associated hotels	20	29	19	4	72	19.9
Union	9	17	24	2	52	14.4
Placement service of vocational schools	8	7	9	4	28	7.7

Questions 4 and 5. Experience With Graduates of Vocational High Schools
and Technical Schools

Nature of Experience	Vocational High School Graduates		Technical School Graduates	
	Number of Hotels Reporting	Number as Percent of 362 Hotels	Number of Hotels Reporting	Number as Percent of 362 Hotels
Little or no experience.	312	86.2%	276	76.2%
Generally unsatisfactory.	8	2.2	10	2.8
Generally satisfactory .	29	8.0	54	14.9
Generally excellent	5	1.4	13	3.6
Not specified	7	1.9	8	2.2

Question 6. Experience With Graduates of Four-Year College Programs in Hotel Administration

(These figures reported in full in Section IV)

Questions 7 and 8. Sources of Training Reported by Hotels to be Successful or Ineffective

Type or Source of Training	Number of Hotels Reporting Successful Experience	Number of Hotels Reporting Ineffective Experience
Programs developed inside hotel or chain	240	4
Material from American Hotel Institute .	78	10
Local vocational school	28	14
Extension school courses	21	16
Programs sponsored by local hotels	18	14
Material from commercial correspondence schools	13	22

Question 9. Managers' Personal Participation in Local Hotel and Restaurant Training Programs at High School or Technical School Level

Degree of Participation	Total Mentions	
	Number	As Percent of 362 Hotels
No such local program	169	46.7%
Never been asked	151	41.7
Occasionally	35	9.7
Occasionally, but not recently	28	7.7
Regularly and currently	16	4.4
Frequently	9	2.8
Have been asked, have not served	2	0.6

Question 10. Obstacles in Future Staffing and Training in the Hotel Industry

Item	Frequency of Mention by Location, in Cities Having Population—					Total Mentions	
	Under 25,000 (113 Hotels)	From 25,000 to 50,000 (39 Hotels)	From 50,000 to 100,000 (39 Hotels)	From 100,000 to 500,000 (88 Hotels)	Over 500,000 (67 Hotels)	Number	As Percent of 362 Hotels
Pay	56	18	23	42	61	200	55.2%
Attracting youngsters initially to hotel work	58	21	23	33	38	173	47.8
Long hours	53	9	12	19	23	116	32.0
Adequate training not available at high school level	29	16	6	24	25	100	27.6
Apparently limited opportunities for satisfying career ..	20	12	9	14	26	81	22.4
Restrictions imposed by unions.	7	2	5	10	19	43	11.9
Split shifts	18	7	6	3	7	41	11.3
Training for small groups so widely dispersed geographically	9	3	3	6	2	23	6.4
Seasonality of jobs	8	1	..	3	1	13	3.6
No glamour	7	1	..	1	3	12	3.3

APPENDIX B

A MODEL FOOD SERVICE INDUSTRY
EMPLOYEE (Armatas, op. cit.,
pp. 42-43)

The successful food service employee is characterized by these traits:

1. Seriousness. He is task-oriented, a practical person who tends to be all business in his dealings with his fellow employees and with customers. He knows what he and other employees are supposed to do, and he works hard to accomplish what is expected of him. He plans for the future, dislikes having things happen to him by chance. He lacks color, and is not active in the social sense. He tells few jokes, does little bragging, is not apt to act on impulse.

2. Responsibility. He's the kind of person who once he finishes his own job looks for other things to do, and he knows how to perform other jobs than his own. He can fill in for absent workers.

He is sensitive to how other employees perform, and when a fellow employee "goofs off" is quick to let the supervisor know about it.

He understands the chain of command well and would not think of going over his supervisor's head, or of countermanding a supervisor's decision. He is bothered when someone does not appreciate or is not satisfied with his work and goes to that person to find out what has been done wrong.

3. Control of Anger. He keeps his anger well controlled, seldom blows off, especially towards his supervisor. Neither does he complain to his supervisor no matter how unjust an order may seem.

Basically pleasant and agreeable, he is not a bit flowery.

He goes out of his way to be helpful to his fellow workers, but can be aloof and cold towards any co-worker who violates his friendship.

His friends tend to come from among co-workers and he likes people who are like him; tending to be critical of people who are happy-go-lucky, lazy, outspoken, or irresponsible.

4. Energy. He has tremendous energy, is in action most of the time. He sets few physical limits on himself, does not hesitate to lift and move things, rarely excuses himself because of physical limitations for not doing a task. He needs little rest, does not develop physical symptoms.

5. Compulsiveness. He lives in a practical, concrete world, shuns theory, images, daydreams, and things that lack a "real" quality.

He is compulsive in the sense that he is keyed up and ready for action, spends little idle time, is disturbed to find jobs unfinished, and is impatient with those who spend time contemplating various ramifications of a problem, or who otherwise delay taking action.

A job description stated in precise terms of what to do and what not to do comforts him and he seeks definite instructions.

6. Need for Order. Being a rather rigid person, the model employee needs a sense of order about him. He himself is neat, tidy, his personal belongings are kept arranged and in place. He keeps to a schedule, usually comes early to work rather than risk being late. Before starting work he must clean and arrange things and he is careful to do the same after he has finished the task.

7. Belief Systems Stereotyped. His values and ideals tend to be of a stereotyped, nonreflective nature.

He holds narrow views on politics, world affairs, religion and morals. For him, goodwill does not necessarily win over evil, and personal freedom -- including his own -- should be restricted, controlled, and dictated by a higher authority.

8. Conformance to the Work Situation. He is sensitive to what is acceptable and nonacceptable behavior in a restaurant. If at first he does not follow the policies and practices desired by his supervisor, he quickly learns to accept and believe in such policies and procedures. There's no hesitation in doing menial tasks such as lifting, mopping, and bending, and he accepts the view that he is not capable of making important decisions.

9. Truthfulness. He tends to be honest and truthful about himself even though such views might hurt him. He doesn't put himself in a good light to gain favor with his supervisors or his friends.

What kind of person should be hired?

Using the model as described, we find that the successful food service employee is eager to conform and is a follower, not a leader. If all such conforming persons are employed, the policy of promoting from within will not work well. Consequently in employing new personnel, the vast majority of people should be selected primarily for doing the jobs that need to be done with little thought to the person's promotability. But other employees should be selected primarily for their potential as supervisors or for managers. No system of selection should be so arbitrary that people from either one of the two groups cannot be shifted over to the opposite group if their work demonstrates that such a shift is appropriate.

The ideal food service employee is not the kind of person we in American society often hold up as being most desirable, the American stereotype of the upwardly mobile citizen. He is a conscientious, highly responsible person who is eager to conform to the demands of the supervisor and of the job, in the last analysis, the kind of person upon which this great industry rests.

APPENDIX C

JOB DESCRIPTIONS OF TYPICAL FOOD SERVICE
INDUSTRY OCCUPATIONS (Source: Dictionary
of Occupational Titles, Job Descriptions
for Hotels and Restaurants, and Job Analy-
sis Techniques, op. cit.)

SAMPLE OF A DETAILED JOB
SPECIFICATION

Employer Job Title--Head Cook

1. Job: Head Cook in main kitchen.
2. Supervision: Dietitian is immediate supervisor.
3. Duties of Job:
 - a. Preparation of meats and desserts
 - b. Supervision of all cooking
 - c. Notification of dietitian when supplies are needed
 - d. Checking in supplies when dietitian is away
4. Details of Job:
 - a. Hours: 6:00 A.M. to 3:00 P.M.
 - b. Wages: _____ per week with perquisites, room, board, laundry
 - c. Time Off: One day each week
One week's vacation plus one day for each years experience.
 - d. Uniforms: White uniforms with short sleeves.
5. Specifications for Job:

Necessary Attributes

- a. Good judgment: This is vital since the employee will have some supervisory duties and also will have to make many decisions in connection with the work.
- b. Intelligence: A fair degree of intelligence is required to perform the necessary supervisory duties and to follow orders which cannot be repeated every day.
- c. Leadership: Leadership qualities are important as the Head Cook will be directing a group of people.
- d. Maturity: This job requires a mature person of a somewhat complacent nature.
- e. Physical Requirements: This job requires a person who does not tire easily and is able to be on his feet for long periods of time.

Desirable Attributes

- a. Age: Between 30 and 45 years.
- b. Education: Eighth grade or better
- c. Experience: Previous experience as assistant or Head Cook.
- d. Initiative: A certain amount is desirable, but is preferable that the employee consult the dietitian.
- e. Personality: A pleasing personality is important in order to maintain good will. The person should be understanding and fair towards those working under his direction.
- f. Speed: Speed is an asset but only if associated with a level head and calm personality.
- g. Voice: A clear voice is desirable.

This is by no means a complete list of considerations for all jobs. However, the suggestions made should aid the administrator in developing job specifications.

<u>EMPLOYER JOB TITLE</u>	<u>DICTIONARY TITLE</u>	<u>CODE</u>
CASHIER CASH GIRL	CASHIER II	1-01.53

WORK PERFORMED

Receives payment from customers for food served, makes change, and maintains records of transactions: Receives food check and payment from waiter or customer. Rings up the amount of the check on a cash register, and gives waiter or customer correct change. If dining room is located in a hotel, may receive food check signed by guest, and enter amount, date, and guest's name on guest charge list. Prepares a daily report listing all cash and charge food checks handled, and verifies cash on hand with cash checks received. May perform other tasks such as maintaining time records of dining room or restaurant employees and purchasing and selling counter items such as candy and cigars. May take telephone orders and reservations.

SKILLS, KNOWLEDGE, ABILITIES

Must be able to operate cash register. Must be able to make change accurately and rapidly. Must be able to maintain simple records. Must be neat, courteous, and well poised.

DETAILS OF PHYSICAL ACTIVITIES

Sits or stands at cash register throughout most of working hours. Should possess good eyesight and hearing.

RELATION TO OTHER JOBS

May be promoted to HOSTESS. Generally supervised by MANAGER.

JOB COMBINATIONS

In smaller establishments the duties of this job may be combined with those of HOSTESS or WAITRESS or included with those of MANAGER. In cafeterias, the duties may be combined with those of FOOD CHECKER, CAFETERIA.

<u>EMPLOYER JOB TITLE</u>	<u>DICTIONARY TITLE</u>	<u>CODE</u>
COUNTERMAN COUNTER WAITER	COUNTERMAN, LUNCHROOM OR COFFEE SHOP	2-27.13

WORK PERFORMED

Serves food to customers at a lunch counter: Greets customer and ascertains his wishes. Repeats order to COOK, SHORT ORDER or prepares order himself. Serves order to customer. Collects amount due or writes price on food check and gives check to patron for presentation to CASHIER. Tends to neatness and orderliness of equipment by performing such tasks as filling condiment containers, arranging dishes and silverware in convenient locations, and cleaning counter. May perform various unskilled or simple tasks in the preparation of food, such as cutting pies and cakes and preparing toast, waffles, eggs, and beverages. May carry dirty dishes to kitchen.

SKILLS, KNOWLEDGE, ABILITIES

Must possess pleasing personality and be capable of meeting the public. Must have knowledge of simple items of food and drink and their preparation. Must be able to make simple mathematical calculations rapidly and accurately. This is frequently a beginning job for which experience is not required.

DETAILS OF PHYSICAL ACTIVITIES

Stands and walks short distances throughout working period. Constantly handles dishes, silverware, and other equipment.

RELATION TO OTHER JOBS

May be promoted to CASHIER or HOSTESS.

JOB COMBINATIONS

In smaller establishments the duties of this job may be combined with those of CASHIER or included in those of COOK, SHORT ORDER.

EMPLOYER JOB TITLE	EMPLOYMENT SERVICE D.O.T. TITLE
WAITRESS (WAITER)	WAITRESS <u>CODE</u> 2-27.12

Work Performed

Serves food and beverages to patrons and keeps working area and equipment in a clean and orderly condition.

1. Prepares tables or counters for serving meals: Procures linen, silverware, and glassware from buffet, arranging them on table or counter in attractive fashion.
2. Obtains meal order from guest: Presents guest with menu and fills glasses with ice water, while choice of food is being made; answers questions about items listed on menu and those not on menu and upon request offers suggestions to assist patron in making food selection; writes food order on small check.
3. Obtains food from kitchen and serves patron: Walks into kitchen and either hands order to cook or calls out order to cooks after obtaining necessary dishes from under the counter and placing on counter in front of cooks, draws coffee from urn or obtains beverages from cooler; assembles orders from different stations placing them upon a tray; carries laden tray to dining room; places food on table or counter according to accepted rules of etiquette; observes guests to fulfill any additional requests and to notice when the meal has been completed; ascertains guest's choice of dessert. Procures dessert from kitchen pantry and serves it to guest.

4. Presents bill for payment: Itemizes and totals check and presents it to guest for payment.
5. May perform various unskilled tasks such as filling and cleaning condiment containers, sugar bowls, sacking crackers, portioning jelly, wrapping silver, and other related tasks.

Skills, Knowledge, Abilities

Must be neat, courteous, and possess pleasing personality. Must know acceptable customs and etiquette for serving foods. Must be able to write and figure cost of foods and beverages served. Must be able to work rapidly, handling dishes and trays of food dexterously.

Details of Physical Activities

Stands and walks constantly. Constantly lifts and carries trays of food weighting up to 30 pounds.

Relation to Other Jobs

Generally supervised by HOSTESS or MANAGER and may be promoted to HOSTESS.

Job Combinations

In smaller establishments the duties of HOSTESS or BUS GIRL may be combined with those of this job.

EMPLOYER JOB TITLE

EMPLOYMENT SERVICE D.O.T. TITLE

GRILL MAN

COOK, SHORT ORDER CODE 2-26.33

ALTERNATE TITLES

COOK, SHORT ORDER

GRIDDLE MAN

Work Performed

Prepares, cooks, and serves to order all kinds of foods which require only a short time to prepare such as chops, cutlets, and eggs: Receives order from customer or waitress, cooks foods to fill order; fries meats, eggs, potatoes, or other foods in a frying pan, on a hot plate or griddle, or in deep fat; seasons foods; exercises care to cook foods exactly as ordered. Places food between slices of bread to make sandwiches, or puts food on plate and garnishes it as called for on order. Serves food to customer over counter or gives it to waitress for serving to customer. Prepares salads and sandwich fillings to facilitate service during rush periods. Checks supply of food items on hand daily, and orders or secures items from storeroom as needed. May assist other cooks in the preparation and cooking of roasts, sauces, soups, and other food items. Keeps work station and equipment clean and orderly.

Skills, Knowledge, Abilities

Must be able to prepare and cook short-order food items.
Must be able to work rapidly and be able to cook a number of

separate orders at one time without confusion. Must be familiar with acceptable sanitary conditions and practices related to food preparation.

Details of Physical Activities

Stands and walks short distances throughout working period. Constantly handles food and equipment. Must have good hearing.

Relation to Other Jobs

Generally supervised by MANAGER or CHEF. May be promoted to FRY COOK or ASSISTANT to any cook.

Job Combination

The duties of this job may be combined with those of SANDWISH MAN, COOK, or SALAD MAN.

APPENDIX D

PERSONALITY SCALING DEVICE AND
TABULATING INSTRUMENTS

PART I SECTION A

PERSONALITY TRAITS OF A COMPETENT

Key to Scoring:

Omit = Trait pairs which don't apply. Circle those which do apply.

○ = Minimum entry qualifications.

□ = Goal after two years employment.

X = Importance to Job.

PERSONALITY TRAITS	DESIRABLE DEGREE OF TRAIT STRENGTH										IMPORTANCE TO JOB			
	Slightly		Moderately			Consider- ably			Very		Slightly	Moderately	Considerably	Very
	1	2	3	4	5	6	7	8	9	10				
	1	2	3	4	5	6	7	8	9	10				
1. ALERT (observant, vigilant)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
ABSENT-MINDED (dreamy, indefinite)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
3. AFFECTED (theatrical, pretentious)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
NATURAL (sincere in manner)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
7. AMBITIOUS (Aspiring, self-improving)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
UNAMBITIOUS (lackadaisical)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
19. CAUTIOUS (wary, careful, precautions)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
RECKLESS (rash, dashing, careless)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
21. CHEERFUL (gay, happy, lighthearted)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
GLOOMY (depressed, sad, melancholy)	1	2	3	4	5	6	7	8	9	10	—	—	—	—

PERSONALITY TRAITS		DEGREE OF TRAIT STRENGTH										IMPORTANCE TO JOB			
		Slightly		Moderately			Considerably			Very		Slightly	Moderately	Considerably	Very
		1	2	3	4	5	6	7	8	9	10				
22.	CLEAR-THINKING (does not lose head if excited)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	INCOHERENT (confused, disoriented)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
26.	CONSCIENTIOUS (dutiful, active super ego)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	CONSCIENCELESS (unscrupulous, expediential)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
27.	CONSTRUCTIVE (creative, happy in building and making)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
28.	CONTENTED (satisfied, adjusted)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	DISSATISFIED (discontented, wistful)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
30.	COOPERATIVE (helpful, willing)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	OBSTRUCTIVE (saboteurish, ill-wishing)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
37.	EASYGOING (happy-go-lucky, good-natured)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	PERNICKETY (unteasable, strained)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
43.	ENERGETIC-SPIRITED (chipper, forceful, high-spirited)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	LANGUID (listless, spiritless)	1	2	3	4	5	6	7	8	9	10	—	—	—	—

PERSONALITY TRAITS		DEGREE OF TRAIT STRENGTH										IMPORTANCE TO JOB			
		Slightly		Moderately			Consider- ably			Very		Slightly	Moderately	Considerably	Very
		1	2	3	4	5	6	7	8	9	10				
44.	ENERGETIC-INDUSTRIOUS (active, strenuous, tireless)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	INACTIVE-INDOLENT (fatigable, idle, lazy)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
45.	ENTERPRISING (eager to undertake)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	SHIFTLESS (helpless)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
46.	ENTHUSIASTIC (zestful, zealous, avid)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	APATHETIC (world-weary, desireless)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
51.	FAIR-MINDED (fair, just)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	PARTIAL (prejudiced, biased)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
55.	FRANK (straightforward, candid)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	SECRETIVE (guarded, non-committal)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
56.	FRIENDLY (accommodating, obliging)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	HOSTILE (surly, disagreeable)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
58.	GENIAL (cordial, hospitable)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	COLD-HEARTED (inexpansive, infestive)	1	2	3	4	5	6	7	8	9	10	—	—	—	—

PERSONALITY TRAITS	DEGREE OF TRAIT STRENGTH										IMPORTANCE TO JOB			
	Slightly		Moderately			Considerably			Very		Slightly	Moderately	Considerably	Very
	1	2	3	4	5	6	7	8	9	10				
60. GRATEFUL (appreciative, thankful)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
THANKLESS (ingrateful, inappreciative)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
62. HEADSTRONG (self-willed, fiery)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
GENTLE-TEMPERED (conciliable, ruly, passionless)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
64. HIGH-STRUNG (tense, intense, hectic)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
RELAXED (calm, serene, inexcitable)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
65. HONEST (truthful, upright, principled)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
DISHONEST (cheating, lying, thievish)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
71. INDEPENDENT (self-reliant, self-helping)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
DEPENDENT (passive, clinging)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
72. INFLEXIBLE (rigid, conservative, die-hard)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
ADAPTABLE (elastic, flexible)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
77. IRRITABLE (crabbed, hot tempered)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
GOOD-TEMPERED (slow to anger)	1	2	3	4	5	6	7	8	9	10	—	—	—	—

PERSONALITY TRAITS	DEGREE OF TRAIT STRENGTH										IMPORTANCE TO JOB			
	Slightly		Moderately			Consider- ably			Very		Slightly	Moderately	Considerably	Very
	1	2	3	4	5	6	7	8	9	10				
80. KIND (ON PRINCIPLE) (<i>Christian, humanitarian, considerate</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
83. LOYAL (<i>faith, stanch, true</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
FICKLE (<i>inconstant, never attached</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
85. MEMORY GOOD (<i>recollective, retentive</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
FORGETFUL (<i>amnesic, aphasic</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
93. PATIENT (<i>forebearing, long-suffering</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
IMPATIENT (<i>overhasty, restive</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
94. PAINSTAKING (<i>neat, thorough, accurate</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
SLIPSHOD (<i>lax, careless, slovenly</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
104. PRACTICAL (<i>capable in emergencies</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
UNREALISTIC (<i>not grappling with everyday matters</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
106. RELIABLE (<i>trustworthy, dependable in general</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
UNDEPENDABLE (<i>unpredictable, not steadfast</i>)	1	2	3	4	5	6	7	8	9	10	—	—	—	—

PERSONALITY TRAITS		DEGREE OF TRAIT STRENGTH										IMPORTANCE TO JOB			
		Slightly		Moderately			Considerably			Very		Slightly	Moderately	Considerably	Very
		1	2	3	4	5	6	7	8	9	10				
114.	SELF-CONFIDENT (confident, assured)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	SELF-DISTRUSTING (self-uncertain)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
115.	SELF-CONTROLLED (self-commanding, self-disciplined)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
131.	STABLE EMOTIONALLY (constant, steady)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	CHANGEABLE (fitful, erratic, temperamental)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
135.	TACTFUL (discreet, sensitive of others' feelings)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	TACTLESS (undiplomatic)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
137.	TEMPERATE (balanced, moderate)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	EXTREME (tragic and heroic emotionality)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
10.	ANTEVERT (forward-looking)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	RETROVERT (retrospective)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
14.	ASSERTIVE (dominating, aggressive)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	SUBMISSIVE (obedient, self-abasing)	1	2	3	4	5	6	7	8	9	10	—	—	—	—

PART I SECTION B

PERSONALITY TRAITS	DEGREE OF TRAIT STRENGTH										IMPORTANCE TO JOB			
	Slightly		Moderately			Consider- ably			Very		Slightly	Moderately	Considerably	Very
	1	2	3	4	5	6	7	8	9	10				
96. PERSERVERING (determined, tenacious)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
QUITTING (faltering, lacking grit)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
101. PLANFUL (foresighted, purposeful)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
PLANLESS	1	2	3	4	5	6	7	8	9	10	—	—	—	—
109. RESPONSIVE (sympathetic, movable)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
ALOOF (shut-in, indifferent)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
118. SELF-RESPECTING (self-revering, high ego ideal)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
139. THRIFTY (frugal, niggardly)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
CARELESS WITH GOODS (spendthrift, extravagant)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
36. DUBITATIVE (doubting, hesitant)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
DECISIVE (decided, sees in black and white)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
42. EMOTIONAL (emotionality in sociability)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
UNEMOTIONAL (opposed to emotionality in tenderness)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
90. OPINIONATED (narrow-minded, fanatical)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
TOLERANT (open-minded, liberalistic)	1	2	3	4	5	6	7	8	9	10	—	—	—	—

PERSONALITY TRAITS		DEGREE OF TRAIT STRENGTH										IMPORTANCE TO JOB			
		Slightly		Moderately			Consider- ably			Very		Slightly	Moderately	Considerably	Very
		1	2	3	4	5	6	7	8	9	10				
29.	CONVENTIONAL (conforming, prim)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	INDIVIDUALISTIC (dissenting, unpredictable in outlook)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
32.	CURIOUS (inquisitive, snoop)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	UNENQUIRING (incurious, searchless)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
35.	DEFENSIVE (self-justifying)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
63.	HEARTY (boisterous, vibrant, noisy)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	QUIET (mild, gentle, milquetoast)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
66.	HURRIED (hustling, pursuing competition)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	LETHARGIC (leisurely, unhurried)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
70.	IMPULSIVE (impetuous, hasty)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	DELIBERATE (level-headed, self-restrained)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
78.	JEALOUS (envious, rivalrous)	1	2	3	4	5	6	7	8	9	10	—	—	—	—

PERSONALITY TRAITS		DEGREE OF TRAIT STRENGTH										IMPORTANCE TO JOB			
		Slightly		Moderately			Considerably			Very		Slightly	Moderately	Considerably	Very
		1	2	3	4	5	6	7	8	9	10				
84.	MATURE (IN EMOTIONAL DEVELOPMENT) (frustration tolerant)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	INFANTILE (not self-objective)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
102.	POISED (self-assured, nonchalant)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	AWKWARD (self-conscious, unsure)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
103.	POLISHED (smooth, refined, courteous)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	ROUGH (curt, abrupt, rude, gruff)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
120.	SENSITIVE (feelings easily hurt, offendable)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	TOUGH (thick-skinned, insensitive)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
122.	SERIOUS (earnest, grave, solemn)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	FRIVOLOUS (light-minded, giddy, rattlebrain)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
127.	SOCIABLE I (good mixer, fond of meeting people)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	SHY (bashful, hermitish)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
145.	VIVACIOUS (lively, expressive of face and gesture)	1	2	3	4	5	6	7	8	9	10	—	—	—	—

PART I SECTION C
PERSONALITY TRAITS OF A COMPETENT

PERSONALITY TRAITS		DEGREE OF TRAIT STRENGTH										IMPORTANCE TO JOB			
		Slightly		Moderately			Consider-ably			Very		Slightly	Moderately	Considerably	Very
		1	2	3	4	5	6	7	8	9	10				
4.	AFFECTIONATE (loving, fond, comradely)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	FRIGID (cold, indifferent)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
6.	ALCOHOLIC (addicted to getting drunk)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
16.	AUTOCRATIC (domineering, dictatorial)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
18.	BROODING (sulky, moody, mopey)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	UNREPINING	1	2	3	4	5	6	7	8	9	10	—	—	—	—
20.	CHARMING (Pleasurable personality, sweet)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
25.	CONCEITED (self-important, vain, cocky)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
	SELF-DISSATISFIED (self-lothing, self-accusing)	1	2	3	4	5	6	7	8	9	10	—	—	—	—
82.	LEADING (NOT DOMI-NEERING) (managing, leading democratically)	1	2	3	4	5	6	7	8	9	10	—	—	—	—

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QUESTIONNAIRE INSTRUCTIONS

On the attached questionnaire are listed a series of personality traits. The traits are generally listed in opposite pairs, although some are single. For example, "Cheerful" is paired with its opposite "Gloomy."

Your task is to:

1. Determine which of the listed personality traits are relevant to occupational competency for the specified job;
2. Designate the degree of strength of the trait which is desirable;
3. Indicate the importance of the trait to the job.

Steps to Follow:

- Step 1: Omit all the trait pairs or singles which in your opinion do not apply to the given job classification.
- Step 2: When a trait is pertinent or applies to the job, encircle the trait name.
- Step 3: Place a circle around the number to the right of the trait which approximates the degree of the trait (Trait Strength) at which you would hire an applicant for the job.
- Step 4: Place a square ☐ on the number which approximates the degree of the trait the employee should reasonably reach as a goal after two years of employment. In some cases entry and goal may be the same.
- Step 5: Place an "X" in the proper column of the IMPORTANCE TO JOB section.

EXAMPLE:

PERSONALITY TRAITS	DESIRABLE DEGREE OF TRAIT STRENGTH										IMPORTANCE TO JOB			
	Slightly		Moderately			Consider- ably			Very		Slightly	Moderately	Considerably	Very
	1	2	3	4	5	6	7	8	9	10				
	1	2	3	4	5	6	7	8	9	10				
1. <u>CHEERFUL</u>	1	2	3	④	5	6	7	8	9	10	—	—	—	X
GLOOMY	1	2	3	4	5	6	7	8	9	10	—	—	—	—

1. By encircling "Cheerful" in the above you indicate that it is relevant to the job.
2. By placing a circle around "4" you indicate this as the lowest level or degree of the trait (moderately cheerful) at which you would hire an applicant.
3. By placing a square ☐ on "8" you indicate this to be the level or degree to which an employee should advance in two years of employment. It is the goal.
4. By placing an "X" in the "Very Important" column you indicate that this is how important the trait is to the job.

OPINION FREQUENCY DISTRIBUTION OF
ESSENTIAL PERSONALITY VARIABLES

Job _____ Trait _____

Part A--Importance to Job

Priority	Importance	Respondents' Tally	Total
A	1. Very (V) 2. (VC)		
B	3. Considerably (C) 4. (CM)		
C	5. Moderately (M) 6. (MS)		
D	7. Slightly (S) 8. (SC) 9. Omitted (O)		
	Mode _____		
	Median _____		

Part B--Employers' Expectations
(desirable degree of trait development)

Priority	Respondents' Entry Tally	Total	Respondents' Goal Tally	Total
I 10 (Very) 9				
II 8 (Considerably) 7 6				
III 5 (Moderately) 4 3				
IV 2 Slightly 1				

Mode _____ Mode _____

Median _____ Median _____

Correlated Priority Level _____
(rank ordered)

APPENDIX E

WORKER TRAIT REQUIREMENTS:
FACTOR DEFINITIONS (U. S.
Employment Service, op.cit.)

SCALE OF GENERAL EDUCATIONAL DEVELOPMENT

State of development involving *capability* to immediately function in *one or more* of the following ways:

Level	Reasoning Development	Mathematical Development	Language Development
7	Apply principles of logical or scientific thinking to a wide range of intellectual and practical problems. Deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.) in its most difficult phases. Deal with a variety of abstract and concrete variables. Apprehend the most abstruse classes of concepts.	Work with a wide variety of theoretical mathematical concepts and make original applications of mathematical procedures, as in empirical and differential equations.	Comprehension and expression of precise or highly connotative meanings, as in —Journal of Educational Sociology. —Scientific Monthly. —Works in logic and philosophy, such as Kant, Whitehead, Korzybski. —Literary works, such as Stein, Eliot, Auden.
6	Apply principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions. Interpret an extensive variety of technical instructions, in books, manuals, mathematical, or diagrammatic form. Deal with several abstract and concrete variables.	Make standard applications of advanced mathematics, as differential and integral calculus.	Comprehension and expression as of —Saturday Review of Literature, Harper's. —Scientific American. —Invitation to Learning (radio program).
5	Apply principles of rational systems ² to solve practical problems. Interpret a variety of instructions furnished in written, oral, diagrammatic, or schedule form. Deal with a variety of concrete variables.	Perform ordinary arithmetic algebraic, and geometric procedures in standard, practical applications.	Comprehension and expression as of —Popular Science. —America's Town Meeting of the Air (radio program).
4	Apply common sense understanding to carry out instructions furnished in written, oral, or diagrammatic form. Deal with problems involving several concrete variables.	Make arithmetic calculations involving fractions, decimals and percentages.	Comprehension and expression as of —Readers' Digest. —American Magazine. —Lowell Thomas (radio program).
3	Apply common sense understanding to carry out detailed but uninvolved written or oral instructions. Deal with problems involving a few concrete variables.	Use arithmetic to add, subtract, multiply, and divide whole numbers.	Comprehension and expression as of —"Pulp" detective magazines. —Movie Magazines. —Dorothy Dix. —Radio "soap operas".
2	Apply common sense understanding to carry out spoken or written one- or two-step instructions. Deal with standardized situations with only one or two, very occasional, variables entering.	Perform simple adding and subtracting.	Comprehension and expression of a level to signed. —Sign name and understand what is being signed. —Read simple materials, such as lists, addresses and safety warnings. —Keep very simple production records. No speaking, reading, or writing required.
1	Apply common sense understanding to carry out very simple instructions given orally or by demonstration. No variables.	None.....	

² Examples of "principles of rational systems" are: bookkeeping, internal combustion engines, electric wiring systems, house building, nursing, farm management, ship sailing.

DEFINITIONS OF APTITUDE FACTORS

- V--VERBAL: Ability to understand meanings of words and ideas associated with them, and to use them effectively. To comprehend language, to understand relationships between words and to understand meanings of whole sentences and paragraphs. To present information or ideas clearly.
- N--NUMERICAL: Ability to perform arithmetic operations quickly and accurately.
- S--SPATIAL: Ability to comprehend forms in space and understand relationships of plane and solid objects. May be used in such tasks as blueprint reading and in solving geometry problems. Frequently described as the ability to "visualize" objects of two or three dimensions, or to think visually of geometric forms.
- P--FORM PERCEPTION: Ability to perceive pertinent detail in objects or in pictorial or graphic material. To make visual comparisons and discriminations and see slight differences in shapes and shadings of figures and widths and lengths of lines.
- Q--CLERICAL PERCEPTION: Ability to perceive pertinent detail in verbal or tabular material. To observe differences in copy, to proofread words and numbers, and to avoid perceptual errors in arithmetic computation.
- K--MOTOR COORDINATION: Ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed. Ability to make a movement response accurately.
- F--FINGER DEXTERITY: Ability to move the fingers, and manipulate small objects with the fingers, rapidly or accurately.
- M--MANUAL DEXTERITY: Ability to move the hands easily and skillfully. To work with the hands in placing and turning motions.
- E--EYE-HAND-FOOT COORDINATION: Ability to move the hand and foot coordinately with each other in accordance with visual stimuli. (Not measured by GATB.)
- C--COLOR DISCRIMINATION: Ability to perceive or recognize similarities or differences in colors, or in shades or other values of the same color. To identify a particular color, or to recognize harmonious or contrasting color combinations, or to match colors accurately. (Not measured by GATB.)
- G--INTELLIGENCE: General learning ability. The ability to "catch on" or understand instructions and underlying principles. Ability to reason and make judgments. Closely related to doing well in school.

TEMPERAMENT FACTORS

The Factors

One the following pages 12 factors are defined in terms of situations in jobs that have been judged to be homogeneous in the temperamental adjustment required. For the purpose of this study we are calling each of these 12 groups of situations temperament factors. Designations and definitions for these factors follow:

1. VARCH.--Situations involving a variety of duties often characterized by frequent change.
2. REpsc.--Situations involving repetitive or short cycle operations carried out according to set procedures or sequences.
3. USI.--Situations involving doing things only under specific instruction, allowing little or no room for independent action or judgment in working out job problems.
4. DCP.--Situations involving the direction, control, and planning of an entire activity or the activities of others.
5. DEPL.--Situations involving the necessity of dealing with people in actual job duties beyond giving and receiving instructions.
6. ISOL.--Situations involving working alone and apart in physical isolation from others, although activity may be integrated with that of others.
7. INFLU.--Situations involving influencing people in their opinions, attitudes, or judgments about ideas or things.
8. PUS.--Situations involving performing adequately under stress when confronted with the critical or unexpected or taking risks.
9. SJC.--Situations involving the evaluation (arriving at generalizations, judgments, or decisions) of information against sensory or judgmental criteria.
0. MVC.--Situations involving the evaluation (or arriving at generalizations, judgments, or decisions) of information against measurable or verifiable criteria.
- X. FIF.--Situations involving the interpretation of feelings, ideas, or facts in terms of personal viewpoint.
- Y. STS.--Situations involving the precise attainment of set limits, tolerances, or standards.

THE INTEREST FACTORS

The Interest Factors to be used in this study are as follows:

- | | | |
|---|-----|--|
| 1. Situations involving a preference for activities dealing with Things and Objects. | vs. | 6. Situations involving a preference for activities concerned with People and the Communication of Ideas. |
| 2. Situations involving a preference for activities involving Business Contact with People. | vs. | 7. Situations involving a preference for activities of a Scientific and Technical nature. |
| 3. Situations involving a preference for activities of a Routine, Concrete, Organized nature. | vs. | 8. Situations involving a preference for activities of an Abstract and Creative nature. |
| 4. Situations involving a preference for Working for People for their presumed good as in the Social Welfare sense, or for dealing with People and Language in Social Situations. | vs. | 9. Situations involving a preference for activities that are Nonsocial in nature, and are carried on in relation to Processes, Machines, and Techniques. |
| 5. Situations involving a preference for activities resulting in Prestige or the Esteem of Others. | vs. | 0. Situations involving a preference for activities resulting in Tangible, Productive Satisfaction. |

PHYSICAL CAPACITIES FACTORS

A study of the 27 Physical Capacities (Demands) listed on the Physical Demands Form (ES 130) indicated that both raters' power to discriminate and source information available did not warrant such a fine breakdown. Therefore, it was decided to combine those items which are closely related: i.e., involving the same muscles, organs, or parts of the body. As a result there are six Physical Capacities (Demands) factors and seven Working Conditions factors to be rated. The definition of each factor is basically a combination of the definitions of the items from which it has been derived.¹

Physical Capacities (Demands) Factors:

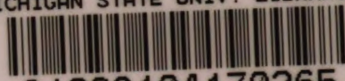
1. Lifting, Carrying, Pushing and Pulling (Strength)
 - Sedentary Work
 - Light Work
 - Medium Work
 - Heavy Work
 - Very Heavy Work
2. Climbing and Balancing.
3. Stooping, Kneeling, Crouching, and Crawling.
4. Reaching, Handling, Fingering, and Feeling.
5. Talking and Hearing.
6. Seeing.

Working Conditions Factors:

1. Inside or Outside
2. Extremes of Cold plus Temperature Changes.
3. Extremes of Heat plus Temperature Changes.
4. Wet and Humid.
5. Noise and Vibration.
6. Hazards.
7. Fumes, Odors, Toxic Conditions, Dust, and Poor Ventilation.

¹For complete descriptions of the items from which these factors were derived, see "Physical Demands Analysis and Physical Capacities Appraisal" (Government Printing Office, 1945).

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