THE MOTIVATION TO WORK IN DEAF TEACHERS OF THE DEAF

by

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I hereby recommend that this dissertation prepared under my direction by Geno Michael Vescovi

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ABSTRACT

Lack of skill training has been identified as a major determinant of underemployment among deaf adults. No research, however, has studied psychological conditions within the deaf worker as possible sources of this underemployment.

Purpose

The purpose of this investigation was to identify some of the psychological and environmental factors that were perceived by deaf teachers of the deaf to be related to their job-attitudes of satisfaction and dissatisfaction.

Hypotheses were formulated to assess: (1) whether psychological factors were related predominantly to job-satisfaction, and (2) whether environmental factors were related predominantly to job-dissatisfaction.

Design

An idiographic approach and a semi-structured interview schedule were used to obtain data related to deaf teachers' perceptions of their motivation to work. The data was content analyzed. The coding of factors followed the categories established by Herzberg, Mausner and Snyderman (1959). Statistical treatment of the data was by chi-square and $\bar{z}$-ratio tests of significance.

Results

Major characteristics of the subjects in the study were: (1) most were between 35 and 44 years old, (2) most had lost their hearing before the age of 3, (3) most had attended a public residential school for the deaf a minimum of 9 years, and (4) most had accumulated from 6-14 or more years experience as teachers of the deaf.

Six hypotheses were statistically significant and indicated that the deaf teachers perceived psychological factors as job-satisfiers and environmental factors as job-dissatisfiers. One hypothesis was found not significant at the .05 level and suggested that psychological factors and environmental factors were equally potent in effecting changes in the deaf teachers' overall job-functioning.

Conclusions

The analyzed data yielded several conclusions. A relatively unfulfilled achievement need was considered a psychological determinant of underemployment. Unfulfilled needs for good school policy and administration, good supervision, and respect from and good personal relations with superiors were considered as environmental determinants of underemployment.

The variable, prelingual deafness, did not preclude the development in the deaf teachers of the basic need for self-actualization, i.e., higher order values of achievement, recognition for achievement, worthwhile work and pride or self-esteem.

Recommendations

Replication of this study's basic research design was recommended with respect to comparisons of the job-attitudes of deaf teachers of the deaf versus non-deaf teachers of the deaf in the same public residential schools; of deaf adults who teach the deaf versus deaf adults engaged in other professional occupations; of deaf and hearing teachers of the deaf versus teachers in regular public schools; and of deaf teachers of the deaf in different public residential schools for the deaf, the results being compared to those of the present study.

It was also recommended that further job-attitude research be conducted with non-professional deaf adult work populations, e.g., skilled, semi-skilled and unskilled.

CHAPTER 1

INTRODUCTION

Introduction to the Problem

In recent years in the field of vocational psychology there has been a great increase in theory and research concerning vocational motivation. An answer to the age-old question of "Why do men work?" is sought. This concern stems in part from the recognition that a worker's motivation to work is inextricably bound to his vocational adjustment and mental health (Gurin, Veroff, and Feld, 1960). The exhaustive review of job-attitude literature conducted by Herzberg, Mausner, Peterson and Capwell (1957) is a major reflection of this increased activity and concern. They found that only one job-attitude study had been conducted between the years 1920 and 1924, while sixty-seven studies were undertaken between 1950 and 1954.

Job-attitude research has focused on several basic assumptions with respect to the individual's motivation to work. These assumptions are that: the worker can be motivated by jobs that are personally meaningful and that involve him as a person; the worker brings certain psychological needs to the job and jobs vary in their ability to satisfy these needs; and, true satisfaction from work is contingent on the interaction between the individual and the job at the psychological level. If these assumptions are valid, then the major

psychological needs of the worker must be determined and the occupational factors that facilitate or hinder their satisfaction and regeneration identified.

Statement of the Problem

The present research was specifically concerned with the study of the job-attitudes of deaf adults engaged in the professional occupation of teaching. Numerically this group represents approximately one-half of all deaf workers in professional occupations (Lunde and Bigman, 1959). The problem is one of identifying the job-attitudes of the deaf worker and determining the effects of the attitudes on vocational adjustment.

Specialists almost universally contend that there is underemployment of deaf people (Boatner, Stuckless and Moores, 1964; Dunn, 1957; Justman and Moscowitz, 1963; Kronenberg and Blake, 1966; Lunde and Bigman, 1959; Quigley, 1963; Stuckless, 1965; Williams, 1967). They attribute this underemployment to deficient training and denied advancement on jobs or entry into higher level jobs because of unrealistic employer attitudes about the deaf worker. Although these conditions may contribute to underemployment, it is conceivable that psychological conditions within the deaf worker, especially those conditions related to his attitude toward work and his particular job, may be equally if not more responsible for his vocational adjustment or maladjustment.

Significance of the Problem

There is almost no research on the determinants of employability among the deaf, particularly in regard to the variables related to personality, work knowledge and work attitudes (Crammate, 1968; Lerman, 1965; Stuckless, 1965). Little is known about the deaf worker's own perceptions and attitudes toward his work role and adjustment and the origin of such attitudes. The major research studies of the occupational status of the deaf (Boatner, Stuckless and Moores, 1964; Kronenberg and Blake, 1966; and Lunde and Bigman, 1959) focused almost entirely on data which reflected how well the deaf employee satisfied the needs of the organization employing him. Inferences about the quality and degree of job-satisfaction experienced by the deaf worker were based primarily upon analysis of demographic data and employer, supervisor, and parental ratings.

An important and heretofore neglected research need, then, in the area of vocational behavior of the deaf adult, is to investigate his subjective testimony about his work. If valid subjective responses could be obtained across various occupational levels they could lead to a more comprehensive and relevant understanding of the underemployment and vocational adjustment problems of the deaf worker. This type of research also could yield insight into important variables that affect vocational choice and development processes in the lives of young deaf persons.

Findings and implications from the present study could help improve vocational and psychological counseling in schools for the deaf, vocational rehabilitation agencies, and industrial settings. In

schools for the deaf, knowledge of the job-attitudes of deaf professionals could be applied as part of curricular offerings structured to develop effective student work attitudes, and lead to exposure of young deaf students to professions in which they could be successful. It also might be applied in individual or group counseling contexts where the goals are to help the student develop realistic vocational aspirations, acquire relevant understanding on employer requirements and become aware of the psychological needs that work should satisfy.

Applied to vocational rehabilitation and industrial settings, the findings might contribute to a better appreciation of the true abilities of the deaf as exemplified by successfully employed deaf professionals; promote the reduction of stereotyped counseling and placement of deaf clients; and perhaps influence the creation of new opportunities for deaf persons qualified for higher level jobs and for those in need of advancement on jobs in which they are now employed.

Procedures

Subjects for this study were drawn from four public residential schools for the deaf, The California School for the Deaf, Berkeley; The California School for the Deaf, Riverside; The Texas School for the Deaf, Austin; and The New Mexico School for the Deaf, Sante Fe. These schools employ approximately 68 deaf teachers of the deaf in elementary through high school levels (Doctor, 1969).

Subjects who met the following criteria were included in the research:

1. Subject was deaf as defined in the definition section of this study;
2. Subject must have had at least two years experience teaching academic or vocational classes in a public residential school for the deaf;
3. Subject was a professional teacher as defined in the definition section of the study.

Each subject was interviewed in his respective school or, if unavailable there, in his home. Fifty interviews were completed requiring approximately one hour for each.

A semi-structured interview schedule similar to the one used by Herzberg, Mausner and Snyderman (1959) was followed. This schedule was designed to allow the respondent spontaneous expression of feeling concerning his job-attitudes, the factors leading to them and their effects on his work performance. A copy of the Herzberg schedule is presented in Appendix A. Chapter 3 contains the adaption of the schedule used in the present study.

Data from the interview was content analyzed according to the categories established by Herzberg et al. (1959), by two doctoral students in rehabilitation counseling who independently coded the material. The judges were trained in content analysis and had read The Motivation to Work (Herzberg, Mausner and Snyderman, 1959), the study from which the present research was replicated, and consequently they were thoroughly familiar with the motivation-hygiene theory and its application

to the present study. The content analysis categories are given in Appendix B.

Hypotheses

Five specific hypotheses, each one related to the hypotheses formulated and tested in other studies of the motivation-hygiene theory (see Chapter 2, Review of the Literature), were restated and tested in the present study. Chi-square and $\bar{z}$-ratio tests of significance were used to test the hypotheses. The .05 level of significance was used for each hypothesis.

The hypotheses are:

1. The stories objectively recounted by the deaf teacher will yield two separate and uni-directional sets of factors, one set leading to job-satisfaction and the other set to job-dissatisfaction.
2. The set of factors appearing more frequently in the satisfaction stories will relate to the motivational needs of the individual whereas the set of factors appearing more frequently in the dissatisfaction stories will relate to the hygiene needs.
3. Two separate sets of factors comparable to those described in hypotheses one and two will be found in the stories subjectively interpreted by deaf teachers.
4. The frequency of occurrence of short-lasting feelings will be significantly greater in the dissatisfaction stories than in the satisfaction stories.

5. Positive effects will result from the satisfaction stories and negative effects from the dissatisfaction stories. The relative frequency of positive effects will be greater.

Assumptions

1. Subjects were capable of identifying periods of time in their working experiences when their feelings about their jobs were unquestionably higher or lower than usual.
2. Subjects were able to place their own feelings on a continuum and choose those extreme situations to report to the interviewer.
3. Subjects' responses were not unduly distorted by halo effects, social acceptance fears, desire to please the investigator and unconscious or conscious biases.
4. Subjects possessed sufficient insight and willingness to communicate and were able to explain the effects of their periods of high and low feelings about their jobs.
5. Use of manual methods of communication between the interviewer and respondents did not adversely affect the content of the interviews, although translation problems may have been present.

Limitations

The deaf teachers interviewed in this study were not randomly selected.

Definition of Terms

Deaf: Those in whom the sense of hearing is non-functional for ordinary purposes of life and who consider themselves deaf. Within this definition are included...A) those who were born with little or no hearing; B) those who suffered the loss early in infancy before speech and language patterns were acquired and remembered; C) those who were born with normal hearing and reached the age where they could produce and comprehend speech and subsequently lost their hearing. In all cases the degree of deafness is so great that no significant residual hearing was retained (Myklebust, 1964, p. 3).

Professional Teacher of the Deaf: Teachers whose major function is instructing deaf students academically and/or vocationally, and who spend at least three-fourths of their paid time in this activity.

Job-attitude: "state of readiness for motive arousal or a reaction in a characteristic way to certain stimuli or stimulus situations" (Viteles, 1953, p. 74). It implies an affective reaction or personal value on the part of the individual.

Long-range sequence: Periods of time during which subjects' accounts of over-all feelings about their job are consistently good or bad. They cover a minimum in time of two weeks. The maximum could be any number of years. Sequences must be bounded in time, i.e., events that begin a sequence and those that terminated it must be recalled and described.

Short-range sequence: Periods of time during which respondents' stories refer to over-all feelings about the job that are consistently good or bad. These sequences are anecdotal narratives concerning events that occurred over brief periods of time, i.e., a few minutes, an hour, a day or a few days. The maximum is two weeks.

High sequence: Sequences reported by respondents that involve satisfaction feelings about the job.

Low sequence: Sequences reported by respondents that relate to dissatisfaction feelings about the job.

Motivator: Factors related to the satisfaction of the psychological needs of the individual at work, i.e., achievement, responsibility, recognition, work itself, advancement, possibility of growth, pride.

Hygiene: Factors related to the biological and social needs of the individual, i.e., job security, working conditions, school policy and administration, supervision, interpersonal relations, status and salary.

Positive effects: Improvement in attitude or behavior at work as reported by the respondent.

Negative effects: The worsening of attitude or behavior at work as reported by the respondent.

First-level factors: Factors objectively reported by respondents. They describe concrete events or situations. They were the sources for the good or bad feelings subjects had about their

jobs. The definitions of these factors are from the original study by Herzberg et al. (1959) and are:

Achievement-- Refers to specific job success such as completion of a job, solutions to problems, vindication, and seeing the results of one's work. The opposite of achievement--failure--and the absence of achievement were also included in this definition.

Recognition-- Notice, praise, or blame given the respondent for something he did. Notice and praise could be given along with concrete rewards, e.g., citations, bonuses, and certificates. The source for recognition could be an administrator, supervisor, the administration as a whole, a subordinate, a professional colleague, or the general public, e.g., parents or a civic group.

Possibility of growth-- Changes in the job situation of the subject involving objective evidence that the possibilities for his growth were now increased or decreased. A change in status that officially included a likelihood that the respondent would be able to rise in the school, or the converse. For example, when an individual was told that his deafness made it improbable that he could advance to a higher position in that school, such as supervising teacher or principal, negative possibility for growth existed. Possibility for growth has another connotation. It includes not only the likelihood that the individual would be able to move onward and upward within his organization but also a situation in

which he is able to advance in his own skills or to acquire a new professional outlook.

Advancement -- This category was used only when there was an actual change in the status or position of the person in the school. In situations in which an individual transfered from one part of the school to another without any change in status but with increased opportunities for responsible work, the change was considered an increased responsibility but not formally an advancement.

Salary -- This category included all sequences in which compensation plays a role. It may involve wage or salary increases or unfulfilled expectations of salary increases.

Job security -- This factor does not refer to feelings of security but to objective signs of presence or absence of job security. This includes such considerations as tenure, school stability or instability which reflected in some objective way on a person's job security.

Status -- This factor was coded only when the respondent actually mentioned some sign or appurtenance of status as being a factor in his feelings about the job.

Factors in personal life -- Situations in which some aspect of the job affected personal life in such a way that the effect was a factor in the respondent's feelings about his job. For example, family needs for salary and other family problems stemming from the job situation.

Work itself-- The actual doing of the job or the tasks of the job as a source of good or bad feeling about it. Thus jobs can be routine or varied, creative or stultifying, overly easy or overly difficult. The duties of a position can include an opportunity to carry through an entire operation or they can be restricted to one minute aspect of it.

Working conditions-- The physical conditions of work, the amount of work, e.g., ventilation, lighting, materials, space and such environmental characteristics would be included here.

School policy and administration-- Adequecy or inadequacy of school organization and management. Also, harmfulness or beneficial effects of school policies. The former can relate to situations producing confused, ambiguous communication which prevents teacher task completion or the carrying out of school policy. The latter refers to school policies that are ineffective or malevolent.

Responsibility-- Sequences of events in which the person speaking reported that he derived satisfaction from being given responsibility for his own work or for the work of others or being given new responsibility. It also includes stories in which there was a loss of satisfaction or a negative attitude towards the job stemming from a lack of responsibility. In cases in which the story revolved around a wide gap between a person's authority and the authority he needed to carry out his job responsibilities, the factor

identified was school policy and administration. The rationale for this was that such a discrepancy between authority and job responsibilities would be considered evidence of poor management.

Interpersonal relations-- Stories in which there was some actual verbalization about the characteristics of the interaction between the respondent and some other individual, e.g., between the respondent and a supervisor or administrator, the respondent and students, and the respondent and coworkers. Interactions may be purely social or sociotechnical. A purely social story would relate interactions that might take place within working hours and on the premises of work but independent of the job. A sociotechnical story involved interpersonal relationships that arise when people interact in the performance of their jobs.

Second-level factors: Factors derived from the respondent's subjective interpretation of the events he described which led to his satisfaction or dissatisfaction with the job. The material analyzed for second-level factors came from a respondent's answer to the question, "What did these events mean to you?" No detailed description of second-level factors is necessary. The words are used in their dictionary meanings (Webster's Third International Dictionary, 1963) and specifications are given in the content analysis categories in Appendix B. The list of second-level factors identified

by Herzberg et al. (1959) is given below. Examples of each factor, taken from the present study, are shown in parentheses.

Feelings of recognition-- ("I was complimented by many people who were familiar with the effort and talent needed for accomplishing what I did...")

Feelings of achievement-- ("Because the end results were what was desired, I felt that my success was worth the hard work and sacrifice...")

Feelings of possible growth, blocks to growth-- ("It meant to me that the superintendent thought a deaf man could not handle this position. I felt I could...")

Feelings of responsibility, lack of responsibility, or diminished responsibility-- ("The added responsibilities made me feel good because I felt that now my knowledge and skills could be used...")

Group feelings--of belonging or isolation, social or socio-technical. ("It was a beautiful gesture to be given that honor by the students. They were my kids...")

Feelings of interest or lack of interest in performing the job-- ("The students seemed to be learning something, and both they and I enjoyed the originality of the paragraphs they produced...")

Feelings of increased or decreased status-- ("I felt it was right for me to teach higher math. Asking me to teach lower math made me feel out of place and frustrated...")

Feelings of increased or decreased security-- ("After all that wondering and worrying I felt relieved and glad that things were going smoothly...")

Feelings of pride, inadequacy, guilt or shame --("It made me feel I was incapable of doing my job and I really lost confidence in myself...")

Feelings of fairness or unfairness-- ("The administration sees me as a person and treats me as such...")

Salary feelings --("I just had too many worries about finances and I worried too much about them while at work...")

Feelings of advancement or demotion --("It meant that I was really getting somewhere...")

Summary

Education and rehabilitation specialists have expressed concern recently about the widespread underemployment of deaf persons. Survey-type research into the employment status of the deaf has verified the validity of this concern. These investigations have identified two general but major factors that contribute to underemployment among deaf workers: 1) a lack of marketable work skills due to deficient training; and 2) unrealistic employer attitudes that deny the deaf worker advancement on his job or entry into higher level occupations.

Research into the other possible determinants of underemployment of the deaf in the areas of personality, work knowledge and job attitudes, is lacking. Hence research into these variables might prove

fruitful in providing insight about the underemployment and vocational adjustment problems of the deaf.

Deaf teachers of the deaf, the subjects of the present study, are apparently neither lacking in marketable skills nor have they been denied entrance into higher level employment. Although they may be denied deserved advancement in their field, they are underemployed in other ways heretofore unidentified. Therefore, it was hypothesized that a study of the job-attitudes of the deaf teacher of the deaf would reveal other determinants of underemployment and, consequently, of vocational maladjustment.

Results of this study could be applicable in schools for the deaf in classroom and individual and group counseling contexts dealing with the development of appropriate student work attitudes. They could also be used as instructional material for vocational rehabilitation and industrial counselors responsible for the appropriate placement of deaf adults aspiring to professional occupations.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

This study had as its main thesis that a worker's self-perceptions substantially influence his motivation to work. The individual regards his occupation as a major source for life satisfaction.

This chapter presents a review of literature relevant to the needs of the individual and their satisfaction in work. It is divided into seven sub-topics: (1) the self-actualization need, (2) kinds of needs and strengths of needs, (3) need levels and occupational levels, (4) The Herzberg et al. (1959) study, (5) studies on Herzberg's motivation-hygiene theory, (6) studies on the deaf worker, and (7) studies of the deaf teacher of the deaf.

The Self-Actualization Need

Some personality theorists have focused on the concept of self-actualization as central to an understanding of the overall needs of men. These theorists suggest that self-actualization should be viewed as being synonymous with psychological growth. When one is growing psychologically he can be said to be taking advantage of the opportunities in his environment in such a way that he experiences himself as unique, creative and worthy, and as being effectively in control of himself and his environment.

Jung (1954) conceived of self-actualization as the fullest, most complete differentiation and harmonious blending of all aspects of man's total personality. It is achieved to some degree through the "self" which is the midpoint of the individual and provides him with unity, equilibrium and stability. Jung believed that through the constant progression of the self from a less complete stage of development to a more complete one, man strives to individuate and find oneness within himself.

The theories of social psychologists, such as Adler and Fromm, are similar to Jung's in respect to self-actualization. For Adler (H. L. and Rowena Ansbacher, 1956), self-actualization was best expressed by his concept of the creative self. Man's ultimate goal is the realization of his self over the environment. The creative self acts upon the facts of the world and transforms them into a personality that is subjective, dynamic, unified, personal and uniquely stylized. Fromm (1955) listed five specific needs that rise from the conditions of man's existence but stressed the need for identity as the most important. Man strives to develop a sense of personal identity and to be a unique individual.

Holistic and organismic theorists such as Maslow (1954), Angyal (1941) and Goldstein (1939) viewed the individual as constantly striving to become the best possible version of himself. Maslow's general and pluralistic motivational hierarchy includes the need for self-actualization. Once man's survival or psychological needs and social requirements are achieved, he is free to grow to perfection and to develop fully in his own individual style. Angyal and Goldstein felt that there is a "master tendency" toward self-actualization. The

individual is constantly giving birth to himself and expanding at the expense of his surroundings. They apply this view to all men rather than only to those who have already provided for their basic needs.

Rogers (1951), from an essentially phenomenological base, believed that the individual has one basic need and striving--to actualize, maintain and enhance the experiencing organism. The individual has three continuing needs that he tries to satisfy: the need for positive regard for other people; the need for positive self-regard; and the need to acquire conditions of worth, i.e., any condition which helps the person to avoid or find self-experiences that are less or more worthy of self-regard.

In summary, these personality theorists suggested that motives--psychological needs--should not be studied piecemeal but in relation to their organization within the individual and to the way in which the individual sees himself, what he hopes to become, and the values he holds. They hypothesized internal forces as determinants of behavior and felt that these forces are beneficial. If left to unfold in their natural, benign way, they would result in healthy, normal and desirable behavior. They also suggested that maladjustments of behavior are the effects of an interfering and evil environment.

In the area of work, several vocational theorists have suggested that the achievement of work adjustment is contingent upon the satisfaction of various worker needs, and especially the self-actualization need. Roe (1956) stated that: "Occupations as a source of need satisfaction are of extreme importance in our culture. It may be that

occupations have become so important in our culture just because so many needs are so well satisfied by them (p. 33)."

Miller and Form (1964) felt that needs like belongingness and love have traditionally been frustrated by management policies, and as a result informal work groups and unions have been organized to satisfy these needs. They concluded that "increasing numbers of workers at all levels of the labor force are achieving high satisfaction of their physiological and safety needs" but that "deprivation is occurring in the social, esteem, and self-actualization needs (p. 618)."

Argyris (1957) pointed out that: "The degree of self-actualization increases sharply for individuals as their dependence, subordination and submissiveness are decreased and as their control over their work increases (p. 181)." He suggested that self-actualization in work is not occurring for most workers because the needs of the individual are in conflict with the needs of the organization.

Harrell (1958) concluded that this conflict is inevitable because neither the organization nor the individual could survive if they fully behaved as the other wanted them to. Yet, the conflict is destructive to both. It hurts the employee because it denies him the experience of psychological growth, i.e., the unfolding of internal growth forces. It hurts the employer because it contributes substantially to employee absenteeism, poor job performance, high turnover rates, mental discomfort and inefficiency, poor co-worker relations and negative job attitudes.

In summary, these vocational theorists suggested that an important dimension along which the degree or quality of an individual's vocational adjustment should be evaluated is the satisfaction of his self-actualization needs. They imply that extrinsic or environmental factors such as good working conditions, adequate pay, retirement benefits, and the like, may contribute to vocational adjustment, but that intrinsic factors related to the worker's psychological growth, e.g., achievement, feelings of worth, positive self-regard, a sense of individuality, creativity, uniqueness and involvement with the work, are some fundamental conditions for optimal vocational adjustment.

Kinds of Needs and Strength of Needs

Schaffer (1953) formulated and tested the following hypothesis: "Overall job satisfaction will vary directly with the extent to which those needs of an individual which can be satisfied in a job are actually satisfied; the stronger the need, the more closely will job satisfaction depend on its fulfillment (p. 3)." Schaffer measured need strength along the need dimensions proposed by Murray (1938). In Schaffer's study, the needs were listed as: recognition and approbation, affection and interpersonal relationships, mastery and achievement, dominance, social welfare, self-expression, socio-economic status, moral value scheme, dependence, creativity and challenge, economic security, and independence. Schaffer found significant positive correlations between need satisfaction and job satisfaction, and between need strength and job satisfaction.

Kuhlen (1964) refined and extended Schaffer's formulation. He hypothesized that: (1) those individuals whose measured needs are relatively stronger than the potential of the occupation for satisfying these needs (as they perceived this potential) will tend to be frustrated and hence to be less well satisfied with their occupation; (2) this relationship will hold to a greater degree among men than among women since the occupation is a major source of need satisfaction for the former; and (3) because the achievement need can be satisfied directly through work the satisfaction of this need would be particularly important (i.e., more highly related to) occupational satisfaction (Kuhlen, 1964, p. 56). In obtaining confirmation of the first hypotheses, Kuhlen lent support to Schaffer's hypothesis that need satisfaction is related to vocational satisfaction.

Morse (1953) found that interesting work (job content), pay, job status, and company involvement were needs that related to job turn-over. She concluded that two factors influence the amount of vocational satisfaction experienced by a worker: (1) how much his needs are fulfilled by being in a particular situation, and (2) how much his needs remain unfulfilled. Another result from the same study, which was in agreement with the Schaffer (1953) and Kuhlen (1964) findings, was that the relative strengths of different worker needs, as the worker perceives them, must be taken into account when assessments of job satisfaction are made. This conclusion also was reached by Froelich and Wolins (1960) and Youngberg, Hedberg and Baxter (1962).

Roe (1953) studied the needs of individuals engaged in scientific and artistic occupations. Two needs that these occupations

serve to satisfy were identified as the need for autonomy and the need for hemonomy. The former need referred to the need to gain control over and master the environment. The latter was defined as the need to fit oneself into larger social bodies, to conform to external expectations and injunctions, and to identify with " superindividual categories."

In a series of studies on the relationship of status-need with job satisfaction among mental health workers, i.e., psychiatrists, clinical psychologists, social workers, Rettig, Jacobson, and Pasamanick (1958) and Jacobson, Rettig, and Pasamanick (1959) substantiated two related hypotheses. The hypotheses were: (1) workers whose objective status is low, but who overestimate their status, will be as satisfied as those whose objective status is high but who do not overestimate it; (2) the overestimators would be more satisfied than accurate estimators of the same objective status. The major conclusion drawn from their data was that the status need, as it is manifested by the worker's vocational aspirations, may be fulfilled either in reality or in imagination.

Need Levels and Occupational Levels

Several investigators of job satisfaction and need satisfaction have interpreted the results of their studies along the need dimensions proposed by Maslow (1954) and across different occupational levels.

Centers (1948) and Centers and Bugental (1966) sought to determine whether workers on different occupational strata have different vocational needs. The results of these studies suggested that

higher-level workers, i.e., business, professional and white collar, preferred occupations which they perceived as having the potential to satisfy their needs for self-expression, self-esteem, independence, and interesting work. These needs were equated with Maslow's (1954) higher-order or "Being" needs. In contrast, lower-level workers, i.e., skilled manual, semi-skilled, unskilled, farm owners and managers, and farm tenants and laborers, preferred jobs that they perceived capable of satisfying their needs for job security. This need was regarded on the same level as Maslow's lower-order or "Deficiency" needs.

Blai (1964) identified three "Deficiency" needs that characterized the preferences of workers in lower-level occupations. These needs were money security, job security, and respect. Porter (1964) and Porter and Lawler (1965), reporting results of a series of studies by different investigators, found that the "Being" needs of self-esteem, autonomy or independence, and self-actualization characterized the need preferences of workers in higher-level occupations.

Roe (1956), in noting that the need for self-actualization is central in the choice of a vocation, stated that: "all that a man can be he must be if he is to be happy (p. 29)." Rather than to relate specific needs to specific occupations or groups of occupations, Roe suggested that any occupation may serve to satisfy needs at a given level.

Review of the Herzberg et al. (1959) Study

The present study is a replication of The Motivation to Work (Herzberg, Mausner, and Snyderman, 1959). A summary of this study is given here.

Herzberg, Mausner, Peterson, and Capwell (1957) reviewed the job-attitude literature and concluded:

> The one dramatic finding that emerged in our review of this literature was the fact that there was a difference in the primacy of factors, depending on whether the investigator was looking for things the worker liked about his job or things he disliked. The concept that there were some factors that were "satisfiers" and others that were "dissatisfiers" was suggested by this finding (p. 7).

In their review, Herzberg et al. (1957) could find no studies in which both satisfiers and dissatisfiers had been investigated in relation to the same variables. They, therefore, designed an investigation in which the basic hypothesis to be tested was that certain factors relating to the work itself or "job centered", would tend to associate with the expression of satisfaction but, if absent, these factors would not produce the opposite effect of dissatisfaction. Conversely, a second set of factors relating to the context in which the job is performed would tend to associate with the expression of dissatisfaction but when present would not enhance satisfaction.

To test this hypothesis, they decided on an approach that avoided an apparent weakness of previous studies, i.e., their fragmentary nature. This weakness is explained by Herzberg et al. (1959):

> Studies in which factors affecting a worker's attitude toward his job were intensively investigated rarely included any information as to the effects of these attitudes. Studies of effects, similarly rarely included any data as to the origin of the attitudes. In most cases in which either factors or effects

> were studied, there was inadequate information about the individuals concerned, their perceptions, their needs, their patterns of learning. The primary need that emerged was one for an investigation of job attitudes in toto, a study in which factors, attitudes, and effects would be investigated simultaneously. The basic concept was that the factors--attitudes--effects (F-A-E) complex needs study as a unit (p. 11).

Their approach was idiographic, and the semi-structured interview technique (Flanagan, 1954) was used to gather their data on F-A-E variables. At the beginning of the interview, each subject was asked the following question:

> Think of a time in the past when you felt exceptionally good or bad about your job. It may have been on this job or any other. Can you think of such a high or low point in your feelings about your job? Please tell me about it (Herzberg et al. 1959, p. 20).

Probe questions were then asked by the interviewer to gain further information, to determine the psychological meaning of the event to the individual, to check the accuracy of the story, and fill in missing details. Interviews were held with over two hundred accountants and engineers employed in the Pittsburg area.

The sequences of events related by the subjects were content analyzed (Lasswell,1949) by judges into the following categories corresponding to the F-A-E variables (Herzberg et al. 1959):

1. First-level factors: a description of the objective occurrences during the sequence of events, with special emphasis on those identified by the respondent as being related to his attitudes. Example: a promotion.

2. Second-level factors: these categorize the reasons given by the respondents for their feelings; they may be used as a basis for interferences about the drives or needs which are met or which fail to be met during the sequence of events. Example: "I felt good because the promotion meant that I was being recognized."

3. Effects: the relationship of the first- and second-level factors to the respondents productivity, turnover, interpersonal relations, attitude toward the company, satisfaction, and mental health (p. 28).

First- and second-level factor categories are given below:

First-level categories

1. Recognition
2. Achievement
3. Possibility of growth
4. Advancement
5. Salary
6. Interpersonal relations--supervisor
7. Interpersonal relations--subordinates
8. Interpersonal relations--peers
9. Supervision--technical
10. Responsibility
11. Company policy and administration
12. Working conditions
13. The work itself
14. Factors in personal life
15. Status
16. Job security

Second-level categories

1. Recognition
2. Achievement
3. Possibility of growth
4. Advancement
5. Responsibility
6. Group feeling
7. The work itself
8. Status
9. Security
10. Feelings of fairness or unfairness
11. Feelings of pride or shame
12. Salary

Effects were analyzed according to the following categories:

1. Performance effects
2. Turnover effects
3. Mental health effects
4. Interpersonal relations effects
5. Attitudinal effects
6. Miscellaneous effects

The sequences of events were also analyzed along three other dimensions: (1) the direction of the feeling expressed by a respondent, i.e., whether it was positive (high) or negative (low); (2) the range of the sequence, i.e., over a considerable period of time (long) or not (short); and (3) the duration of the feelings mentioned by the subject, i.e., long or short in time.

Findings relevant to the major hypothesis of the Herzberg et al. (1959) study are presented in Figure 1 and in Table 1, which show the distinction between satisfiers and dissatisfiers. The factors in Figure 1 which are relatively more to the right of the "0" percentage line, are achievement, recognition, work itself, responsibility, and advancement. These factors primarily stimulated satisfaction in the worker with his job. The factors found to the left of the "0" percentage line are company policy and administration, supervision-technical, interpersonal relations--supervision and working conditions. These factors usually stimulated feelings of job dissatisfaction. Salary is considered to have more potency as a dissatisfier although it appeared to contribute equally to both satisfaction and dissatisfaction (Herzberg et al. 1959, p. 82).

The width of the boxes in this figure indicate how frequently a factor led to a long duration high or low attitude toward the job. The shaded boxes signify that the factors were more often of short than of long duration.

Of the five satisfiers, work itself, responsibility, and advancement can be seen to contribute to long duration change of

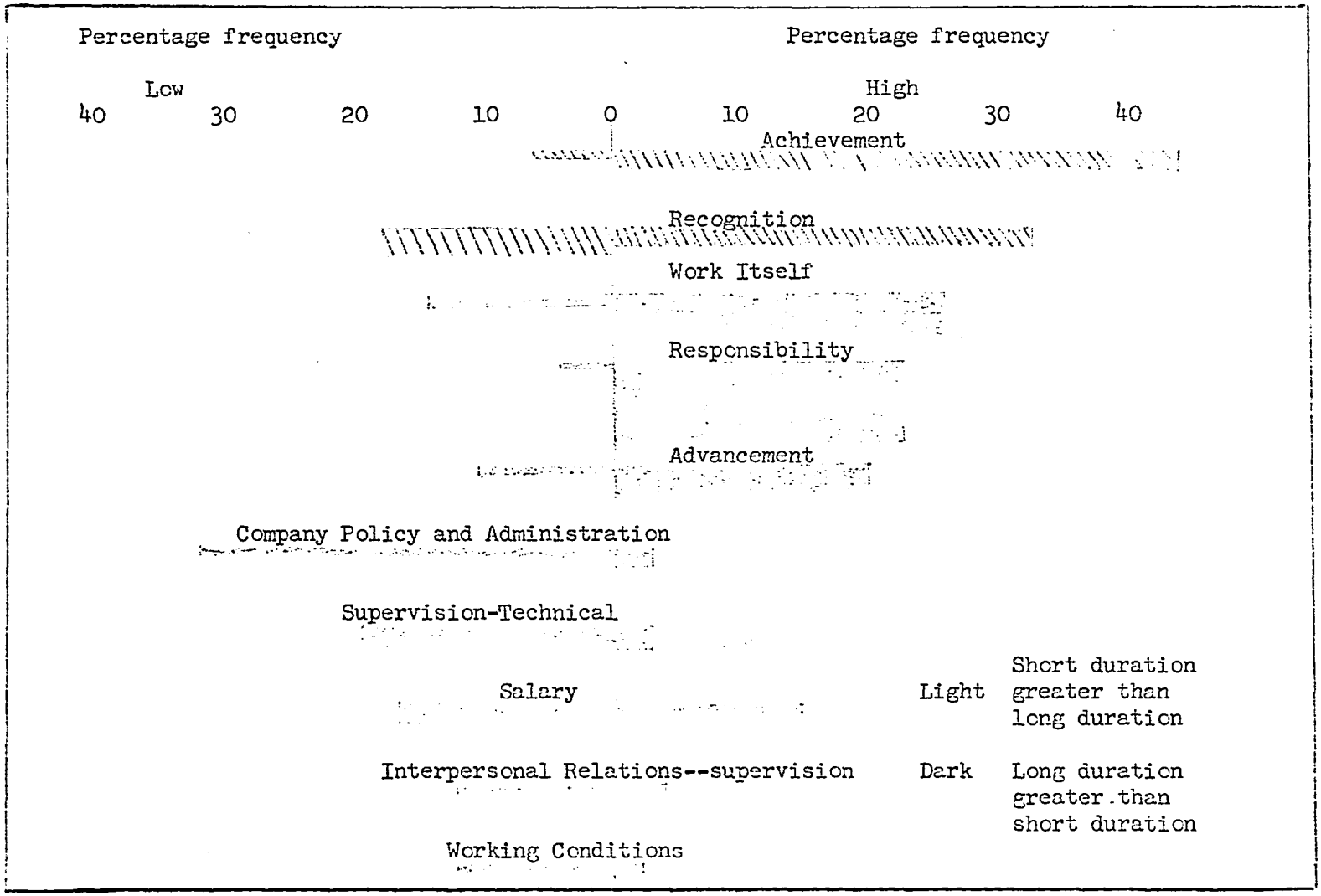

Figure 1. Factors contributing to dissatisfaction and satisfaction with work (From Herzberg, Mausner, and Snyderman, 1959, p. 81)

Table 1. Percentage of Each Second-Level Factor Appearing in High and Low Job-Attitude Sequences, Quoted from Herzberg, et al.,1959

	Duration of Feelings					
	High			Low		
	Long	Short	Total	Long	Short	Total
Recognition	57	64	59 a	27	24	26
Achievement	47	56	57 a	18	24	19
Possible Growth	42	18	38	43	07	33
Advancement	03	03	03	02	01	02
Responsibility	33	18	30 a	09	07	08
Group Feeling	11	08	10 a	03	04	02
Work Itself	33	08	29 a	16	04	13
Status	21	05	18	10	10	10
Security	07	05	07	11	06	09
Fairness--Unfairness	02	05	03	35	44	38 a
Pride, Guilt, Inadequacy	09	10	09	14	15	14
Salary	22	05	19	18	01	13

Source: Herzberg et al., 1959, p. 77

a: Difference between totals of high and low significant at .01 level

attitudes. The dissatisfiers consistently produced short-term changes in job attitudes.

In summing from the results shown in Figure 1, it was evident to Herzberg et al. (1959) that satisfiers were not as unidirectional as dissatisfiers. Consequently, they revised their original hypothesis to state that:

> The satisfier factors are much more likely to increase job satisfaction than they would be to decrease job satisfaction but that the factors that relate to job dissatisfaction very infrequently act to increase job satisfaction (p. 20).

In Table 1, the second-level factors of recognition, achievement, responsibility, and work itself are shown to appear significantly more frequently in the high sequences. In the low sequences, feelings of unfairness appears significantly more frequently as a dissatisfier.

In regard to the effects of positive or negative worker attitudes on overall job functioning, the results of the study suggested the following relationships. Positive performance effects resulted from high sequences (good feelings) with a much greater frequency than did negative effects from low sequences (bad feelings). Long-range high sequences had performance effects more frequently than any other category. Turnover effects appeared most frequently in long-range low sequences. These effects included "thoughts of quitting" and "quit". In changes in attitude toward the company, positive effects occurred more frequently than negative effects. Mental health effects were reported most frequently for long-range sequences. Interpersonal relationship effects were reported with comparable frequency for high

and low sequences. Attitudinal effects were found more frequently in the high and long-range sequences, high attitudes tending to change attitudes toward the company, profession, and self in terms of increased self-confidence. Low sequences, in contrast, had the greatest effect on attitudes toward specific individuals, e.g., a supervisor. In summarizing these results, the authors stated that: "The positive effects of high attitudes are more potent than the negative effects of low attitudes (p. 96)."

In a recapitulation and discussion of the essential findings of the Herzberg et al. (1959) research, Herzberg (1966) made the following observations:

1. The factors involved in producing job satisfaction were separate and distinct from the factors that led to job dissatisfaction. Hence, satisfaction and dissatisfaction are not opposites on one dimension; each appeared to fall on separate dimensions (p. 76).
2. Factors leading to satisfaction seemed to describe man's relationship to what he does, i.e., they related to the work itself and the need to develop within one's occupation as a source of personal growth. Termed "motivators", these factors satisfy the individual's approach or self-actualization needs. "Approach" as used here is concerned with approaching self-fulfillment or psychological growth through the accomplishment of tasks. Factors leading to dissatisfaction essentially describe the environment and serve primarily to prevent job dissatisfaction. Termed

"hygiene" factors (a term analogous to its medical meaning of "preventive and environmental"), these factors satisfy the individual's avoidance needs in that they operate to remove health and safety hazards from the environment (p. 74).

3. A "hygienic" environment prevents discontent with a job, but such an environment cannot lead the individual beyond a minimal adjustment consisting of the absence of dissatisfaction. A positive "happiness" seems to require some attainment of psychological growth. Hence, hygiene factors may lessen dissatisfaction but they cannot be expected to act as motivators, i.e., to contribute to psychological growth and self-actualization (p. 78).

Review of Studies on Herzberg's Motivation-Hygiene Theory

Several studies of different occupational populations have been conducted to test the motivation-hygiene theory since that theory's conception by Herzberg and his associates in 1959. Some of these investigations are basic replications and use the same methodology of the original research by Herzberg *et al.* (1959). In the other studies, variations in methodology were used. The results from some of these studies are reviewed below.

Replications

The results of studies replicating the original research of Herzberg *et al.* (1959), each of which was largely confirmatory of the original results, are reported as follows. Fifty professional female employees of the federal government were interviewed by Walt (1963).

Motivator factors emerging as satisfiers were achievement, recognition, work itself, and responsibility. Hygiene factors occurring significantly more frequently as dissatisfiers were company policy and administration, working conditions, status and personal life. Clegg's (1963) sample consisted of fifty-eight county agricultural administrators. Two of the motivators, achievement and recognition, and six hygiene factors, company policy and administration, working conditions, interpersonal relationships with subordinates and with peers, supervision and personal life were significantly in the predicted direction of satisfaction and dissatisfaction. In both the Walt and Clegg studies, second-level analysis of the factors, i.e., an anaylsis of the meaning the events had for the respondents, revealed that the basis for dissatisfaction stemmed from the individual's perception of unfair treatment in the work environment, while the basis for satisfaction lay in the individual's accomplishment.

Saleh (1964) obtained interview responses from 85 managerial pre-retirees between the ages of 60 and 65. He found that 89% of the positive-attitude sequences involved motivator factors in contrast to only 33% for the negative attitude events. Hygiene factors were six times as frequent in causing negative job attitudes as they were in bringing about positive feelings. Second-level analysis was similar to the Herzberg et al. (1959), Walt (1963), and Clegg (1963) studies, i.e., achievement and growth needs for the satisfaction responses, and objection to perceived unfair treatment for the dissatisfaction responses.

Myers (1964) investigated the job-attitudes of 282 employees of the Texas Instruments Company of Dallas. This population consisted of five occupational groups: scientists, engineers, manufacturing supervisors, hourly male technicians, and female assemblers. In each group, the factors of achievement and recognition appeared most frequently in the high sequences while company policy and supervision were most frequent in the lows.

Anderson (1961) and Gendel (1965) studied various employees in Veterans Administration hospitals. Anderson's population consisted of 29 professional nurses, 31 maintenance service workers, and an unskilled group of 35 workers in food services and routine engineering services. For each group, the first-level factors of achievement and recognition occurred significantly in the high sequences. Company policy and interpersonal relationships--superior emerged significantly more frequently in the low sequences. For the second-level factors, recognition, achievement, and advancement stood out in the high sequences while possible growth, insecurity, and unfairness appeared significantly more frequently in the low sequences. Gendel (1965) studied 119 housekeeping workers. Significant motivators were recognition, advancement, and responsibility. Significant hygienes were salary, working conditions, interpersonal relations with peers, company policy and administration and supervision. The findings of Walt, Clegg, and Selah in regard to second-level factors and performance effects were also confirmed by Gendel.

Schwartz, Jenusaitis, and Stark (1963) obtained responses from 111 male supervisors in 21 public utility companies. Achievement,

recognition, advancement, and possibility of growth were the factors that occurred more frequently in the high job-attitude sequences than in the lows. Company policy supervision, working conditions, and security emerged significantly more frequently as dissatisfiers in the low sequences.

Herzberg (1965) studied the responses of 139 Finnish foremen representing a wide cross-section of Finnish industry. The results were independently analyzed. Five motivators--responsibility, achievement, work itself, advancement, and recognition were found to be significantly unidirectional. Of the hygiene factors, supervision, company policy, working conditions, and interpersonal relationships with peers appeared with significantly greater frequency in the low sequences than in the high ones.

Studies of Varying Methodology

Several studies largely substantiated the motivation-hygiene theory while using methods different from the procedures of the original Herzberg et al. (1959) research. A review of the findings from these investigations is presented in this section.

Hahn (1959) used a number of different types of analyses to classify the approximately 1,000 responses from 800 United States Air Force officers ranging in rank from second lieutenant to colonel. The subjects were asked two questions designed to elicit their attitudes toward work events that stimulated exceptional personal satisfaction, and toward events that had caused them to question an Air Force career. The results suggested that 87% of the positive events

could be classified under motivator factors while 73% of the negative events could be classified as hygiene factors.

Friedlander and Walton (1964) used a semi-structured interview to obtain responses from 82 scientists and engineers employed in a research laboratory of the Armed Services. Respondents were asked for the most important factors keeping them in the organization and factors that might cause them to leave. Results showed that the reasons given for remaining in an organization were primarily motivator factors which were different from, and not merely opposed to, the reasons given for which one would leave an organization (primarily hygiene factors).

Friedlander (1965) factor analyzed responses to two identical 73-item questionnaires. His objective was to measure the importance of various job characteristics to satisfaction and dissatisfaction. The subjects were 1,935 government employees distributed into high, middle, and low GS rankings and into blue collar and white collar occupational levels. Three findings from this study verified the motivation-hygiene theory: (1) satisfaction and dissatisfaction are not the obverse of each other; (2) the motivators are important to satisfaction, and the hygiene factors are important to dissatisfaction; (3) extreme satisfactions and dissatisfactions are more important than lesser feelings.

Halpern (1966) obtained ratings of satisfaction with 4 motivators, 4 hygienes, and overall job satisfaction on respondent's best liked job. The sample was 93 male college graduates working in various occupations. The essential results showed that respondents

were equally satisfied with both the motivator and hygiene aspects of their jobs, but the motivators contributed significantly more to overall job satisfaction than did the hygienes.

Lodahl (1964) factor analyzed data obtained from a content analysis of interviews of 50 male auto-assembly workers and 29 female electronics assembly workers. Analysis yielded two technological and three attitude factors. The technological factors were different for the two samples, but the attitude factors corresponded. Two of the attitude factors resembled motivators and hygienes, one seeming to deal with conditions surrounding the work (hygiene) and the other with rewards from the work itself (motivator).

Rosen (1963) asked 94 research and development personnel of varying specialties, educational levels, and organizational levels, to rate the importance of the absence of 118 items to their desiring to leave their present position. Rosen found that the most important items which, if not present, would cause the individual to seek other employment were similar to the motivators of Herzberg et al. (1959).

Fantz (1962) tested the motivation-hygiene theory using a population of 30 male and female patients in a rehabilitation hospital in Cleveland. Six of the 30 subjects were employed professionals--while the remaining 24 represented the skilled, semi-skilled, and clerical occupations. Fantz found a positive relationship between progress in a rehabilitation therapeutic program and motivator emphasis.

Hamlin and Nemo (1962) applied the motivation-hygiene theory in a study of schizophrenic patients in a Veterans Administration

hospital in Illinois. Using a forced-choice activity questionnaire and a choice motivation scale, the investigators obtained responses from three groups of subjects: students (control group), improved schizophrenics, and unimproved schizophrenics. The results suggested that improved schizophrenics had significantly higher motivator and lower hygiene scores than the unimproved schizophrenics.

In summary, the studies reviewed in this section do not completely verify the motivation hygiene theory. Yet, to the degree that they are confirmatory, they indicate that it is a potent theory that has generated remarkably consistent results in investigations dealing with the needs of workers in diverse occupations.

Studies on the Deaf Worker

The Advisory Committee on the Education of the Deaf, (U.S. Department of Health, Education, and Welfare, 1965) reported that the prevalence of deafness over all ages and both sexes is estimated at 118 per 100,000. Extrapolation of this value to the present population of the United States yields a conservative total of 236,000 deaf persons. No reliable figures are currently available on the number of employed deaf adults (Block, 1968).

Most of the investigations into the vocational adjustment of deaf workers was survey research. Data from these and other studies suggest the following occupational status pattern among the deaf.

A majority of the employed deaf are in skilled, semi-skilled, and unskilled occupations whereas relatively few are in the professions. Lunde and Bigman (1959) found that 6.6% of the deaf held technical or

professional jobs as compared with 47% for the general working population. Seventy percent of the deaf were reported in skilled or semi-skilled occupations, a figure more than double the percentage for the population at large. Boatner et al. (1964) in a study of 236 young deaf adults in New England, reported that 71% of the males were employed in semi-skilled or unskilled positions. Kronenberg and Blake (1966) in a similar study of 269 young deaf adults in the southwestern states found that 61% of the males and 55% of the females were employed in semi-skilled and unskilled work. Less than 3% of their sample held professional or semi-professional positions. Rainer, Altshuler, and Kallman (1969) studied a sample composed of 382 deaf adults employed in New York State. Eighty-seven percent of this number were found to be working in some form of manual labor; 57% were in the printing, mechanical, or other trades while 30% fell into the unskilled category. Furfey and Harte (1964) reported that 74% of the employed deaf in their sample of 50 were working in skilled (32%), semi-skilled (26%), and unskilled (16%) positions. Only 20% were categorized as professional workers.

The deaf are regarded as satisfactory workers by supervisors and employers (Boatner et al. 1964; Furfey and Harte, 1964; Kronenberg and Blake, 1966; Rosenstein and Lerman, 1963) and have generally stable job-stability records (Boatner et al. 1964; Furfey and Harte, 1964; Lunde and Bigman, 1959; Rainer et al. 1969; Rosenstein and Lerman, 1963; Zabell, 1955). Individual earnings of the deaf seem to be situated at or somewhat above the median of the general population (Furfey and Harte, 1964; Justman and Moscowitz, 1963; Lunde and Bigman, 1959).

Several investigators concluded that, for the deaf, experiencing satisfaction and success at work is contingent upon certain psycho-social and environmental variables. Crammatte (1968), Rosenstein and Lerman (1963), and Zabell (1955) found that verbal skills proficiency, which included language comprehension and effective communication through speech and lipreading, was a contributing factor in the vocational success and satisfaction of the subjects in their samples. Numerous writers, on the basis of their experience in the field of vocational psychology of the deaf, made a similar observation (Holdt, 1970; Meadow, 1970; Sessions, 1966; Shinpaugh, 1956).

Rainer et al. (1969) and Rosenstein and Lerman (1963) found that the factor of psycho-social adjustment was related to job success and satisfaction. Several writers expressed agreement with this finding (Farber, 1959; Hoeman, 1967; Shinpaugh, 1956; Williams, 1958).

General awareness of the occupational world was another factor identified by Rosenstein and Lerman (1963) and Turechek (1965) as having a significant bearing on vocational attainment. This factor refers to the amount of understanding of relevant information possessed by the deaf worker in regard to work-situation variables, the principle elements in a wide range of jobs, and general industrial practices. This factor was recognized by other writers (Hoeman, 1965; Meadow, 1970; Sessions, 1966; Williams, 1958).

Other factors thought to be important in shaping vocational adjustment behavior were listed as: intelligence and aptitudes (Stuckless, 1967); interests and motivation (Rainer et al. 1969;

Rosenstein and Lerman, 1963); self-understanding and realistic level of aspiration (Farber, 1959; Hoeman, 1967; Stuckless, 1967; Troop, 1962).

The study by Rosenstein and Lerman (1963) was the only technique-type research on the deaf worker found in the literature review. The authors developed an attitude scale that yielded measures of job satisfaction of 125 female graduates of the Lexington School for the Deaf. The subjects named the factors of working conditions, interpersonal relations, and economic gain (salary or wages) as satisfiers. No other research could be found which touched on the need structure of deaf workers in higher and lower-level occupations.

In summary, the studies reviewed in this section tended to reflect the state of research activities in the area of vocational psychology of the deaf. In particular, the absence of technique, theoretical, and applied research was conspicuous. The comment made by Lerman (1965) in regard to research that had been undertaken into the vocational adjustment of the deaf previous to 1965 is apparently still applicable today. He stated:

> Many of the studies in the field of the deaf have been tabulatory (reporting where people work, what they do, and how they like what they do) and have not taken measures to fit such data into theoretical frameworks. Some offer data pertaining to such other areas as social relationships, community activities and communication skills, with no underlying concept or group of concepts employed to make meaningful the relationship between work adjustment and these somewhat tangenital areas (Lerman, 1965, p. 13).

Studies on the Deaf Teacher of the Deaf

No relevant study dealing with deaf teachers of the deaf could be located by this investigator.

Summary

This chapter presented a review of the literature relevant to the present study. The review included studies on: (1) the self-actualization need, (2) kinds of needs and strength of needs, (3) need levels and occupational levels, (4) the Herzberg et al. (1959) study, (5) studies on Herzberg's motivation-hygiene theory, (6) studies on the deaf worker, and (7) studies on the deaf teacher of the deaf.

Discussion of the results of several need studies indicated that: work satisfaction seems to be related to the satisfaction of a number of worker needs, as the worker perceives them; needs vary in kind and strength, and, therefore, they can be ordered on a heirarchy reminiscent of Maslow's (1954) "Being" and "Deficiency" need levels; occupations vary in their ability to satisfy worker needs, but the potential to satisfy most of those needs exists in most occupations; the need to experience self-actualization while at work seems to be a common need shared by workers in both the lower and higher occupations.

The motivation-hygiene theory, conceived by Herzberg, Mausner, and Snyderman (1959), was discussed. It was observed that this theory was largely confirmed by a number of replications of the original research by Herzberg and his associates and by other studies that used varying methodology. This theory held that the individual worker's self-actualization needs are satisfied by a set of factors--motivators--

that are separate and distinct from a second set of factors--hygienes--that satisfy the individual's health and safety needs.

Several studies on the deaf worker were presented. The results of these studies suggested that the deaf are over-represented in lower-level occupations and underrepresented in the professions, thus indicating that the deaf, as a group, are under-employed. It was also noted that several factors were identified by these investigations as being related to the vocational success and satisfaction of the deaf with the implication that deficiencies in the quality and quantity of these factors in the worker would contribute to job-dissatisfaction and job-failure. These factors were listed as: (1) psycho-social adjustment; (2) general awareness of the occupational world; (3) intelligence; (4) aptitude; (5) interest and motivation; (6) self-understanding, i.e., a healthy self-concept; and (7) realistic vocational aspirations.

It was observed, finally, that no relevant studies could be located which dealt with the need structure of deaf workers or with deaf teachers of the deaf in general.

CHAPTER 3

METHODOLOGY

Introduction

This chapter presents: (1) the hypotheses, (2) sample selection criteria, (3) the study population, (4) the interview, (5) data analysis, and (6) inter-judge and intra-judge reliability. Since the design and method of this study were replicated from the original research in The Motivation to Work, the intent of the present study was to determine whether the findings of the Herzberg study were applicable to deaf adults who teach. In particular, it was to be noted whether the deaf teacher's need for self-actualization approximated expressions of this need by non-deaf workers in other professional occupations. The central question that was being asked was: does deafness preclude in the deaf worker the development of the need for self-actualization?

The Hypotheses

For purposes of statistical testing, the hypotheses given in Chapter 1 are repeated here in null form. The hypotheses are:

1. There will be no significant difference in the frequency of mention of factors appearing as job-satisfiers or as job-dissatisfiers in the objective deaf-teacher stories for each of the following:

a) achievement

b) recognition

c) responsibility

d) advancement

e) possibility of growth

f) work itself

g) status

h) job-security

i) personal life

j) salary

k) interpersonal relations-supervisor

l) interpersonal relations-student

m) interpersonal relations-co-workers

n) supervision-technical

o) school policy and administration

p) working conditions

2. There will be no significant difference between the frequency of mention of the factors expressing motivational needs (achievement, recognition, responsibility, advancement, possibility of growth, work itself) and the factors expressing hygiene needs (status, job-security, personal life, salary, interpersonal relations-superior-students- and co-workers, supervision-technical, school policy and administration, working conditions) among the objective job-satisfaction and job-dissatisfaction stories of deaf teachers.

3. There will be no significant difference in frequency of mention of the factors appearing as job-satisfiers or as job-dissatisfiers in the subjective deaf-teacher stories for each of the following:

   a) achievement

   b) recognition

   c) possibility of growth

   d) advancement

   e) responsibility

   f) group feeling

   g) work itself

   h) status

   i) security

   j) feelings of fairness or unfairness

   k) feelings of pride or shame

   l) salary

4. There will be no significant difference between the frequency of mention of the factors expressing motivational needs (achievement, recognition, possibility of growth, advancement, responsibility, work itself, feelings of pride) and those factors expressing hygiene needs (status, security, group feeling, feelings of fairness or unfairness, feelings of shame, salary) among the subjective job-satisfaction and job-dissatisfaction stories of deaf teachers.

5. There will be no significant difference between the frequency of short-lasting feelings resulting from expressed attitudes

of job-satisfaction and the frequency of short-lasting feelings resulting from expressed attitudes of job-dissatisfaction.

6. There will be no significant difference between the proportion of the job-satisfaction stories leading to positive effects and the job-dissatisfaction stories leading to negative effects for all of the following:
   a) job performance
   b) turnover
   c) mental health
   d) interpersonal relations
   e) attitudinal
7. There will be no significant difference between the frequency of mention of positive effects and the frequency of mention of negative effects for all stories given by the deaf teachers regardless of whether the stories related to job-satisfaction or job-dissatisfaction.

The chi-square test of significance was applied to hypotheses 1, 3 and 5. This test was used in order to compare observed with theoretical frequencies along a mention/not-mentioned dichotomy with respect to the variables listed in each of these hypotheses. The Yates correction for continuity was used in all fourfold tables with one degree of freedom and whenever any expected frequency was less than 5 (Ferguson, 1959, p. 171).

The significance test applied to hypotheses 2, 4, 6, and 7 was the $\bar{z}$-ratio test (Ferguson, 1959, p. 169; Guilford, 1965, p. 186).

This test was used in order to measure the significance of difference in proportions of combined sets of variables.

Sample Selection Criteria

The criteria for subject participation in this study were: (1) subjects were deaf; (2) subjects had at least two years of experience teaching academic or vocational classes in a public residential school for the deaf; and (3) subjects had spent at least three-fourths of their paid time teaching academic or vocational classes in a public residential school for the deaf.

The primary judge of whether a subject was deaf was the subject himself as qualified below. If he considered himself deaf, it was because he had consistently experienced an inability to hear spoken words clearly, no matter their sources, e.g., in conversation with a student, a supervisor, a co-worker, by his own report. Hence, he stated that he relied little, if at all, on this receptive sensory means of communication in organizing and carrying out his job tasks or while otherwise interacting with people while at work. Also, a subject was adjudged deaf by his employer who used the same criterion to form the judgment, i.e., he observed a consistent inability of the subject to hear the spoken word for meaning.

A minimum of two years of experience in teaching in a public residential school for the deaf, in academic or vocational classes, tended to insure that the subject was sufficiently familiar with the teaching process and the environment in which it unfolds. Theoretically, the subject then could be able to discern with greater clarity

and relevance those of his work experiences that meaningfully bore upon his job-attitudes.

The final requirement, i.e., that the subject had spent at least three-fourths of his paid time in teaching deaf students in academic or vocational classes, was stipulated to insure that the subject's work experiences had been quantitatively and qualitatively related to teaching.

The Study Population

The population for the study was deaf teachers of the deaf located in four public residential schools for the deaf. These schools were: The California School for the Deaf, Berkeley; The California School for the Deaf, Riverside; The Texas School for the Deaf, Austin; and The New Mexico School for the Deaf, Santa Fe. A total of sixty-eight deaf teachers was reportedly employed in the four schools (Doctor, 1969). This number of teachers formed the pool from which the fifty subjects interviewed for the study was obtained.

The procedure used in recruitment of subjects was as follows. A letter was sent to each school for the deaf superintendent requesting permission for this research to be conducted within their school. A list of the names of all deaf teachers in each school was also requested in this letter. After permission and the lists of names were received by the investigator, each teacher was sent a letter in which the nature of the research was explained, the extent of the anticipated involvement of each respondent was outlined, and an invitation to participate in the research and to indicate the time of day and day of the

week he could be interviewed. Following the investigator's receipt of the filled out check-slips, each teacher who had expressed willingness to participate was mailed a biographical information form. After the biographical forms were returned, an interview schedule for each of the accepted respondents was constructed. Each teacher was notified by letter of the time and day he had been scheduled to be interviewed.

Of the original pool of 68 deaf teachers invited to serve as subjects, 6 teachers declined, another 6 revealed that they could hear conversational speech with a mechanical hearing aid and did not consider themselves deaf but hard of hearing. Consequently, these 6 teachers did not meet the criterion of "deaf" and were dropped from the study. Four deaf teachers had less than the required minimum of two years of teaching experience and were eliminated as subjects. Thus, the number of available respondents for the study stood at 52 (76%). This figure represents an exceptionally high rate of volunteers for this kind of research (Van Dalen, 1966). Some plausible reasons for this occurrence were: (1) the subjects anticipated preferential treatment during the personal interview thus prompting them to be more willing to communicate (the "Hawthorne effect"); (2) this investigator was a graduate of the same college for the deaf as were almost all of the volunteers and he was known personally or professionally by many of them.

After the interviews were begun, however, 3 respondents proved unable to give either a high or a low sequence of events. Since 5 interviews were later used for practice by the 3 judges responsible for analyzing and coding the sequences, the data obtained from these 5

subjects was not included in the main study. Hence a final total of 44 subjects provided the data for the present investigation.

The 44 teachers accepted as subjects were distributed as follows. The Texas School for the Deaf: 22 subjects; The Riverside School for the Deaf: 8 subjects; The Berkeley School for the Deaf: 12 subjects; and The New Mexico School for the Deaf: 2 subjects.

Copies of Letter to Superintendents, Letter to Teachers, Check-slip, and Biographical Information Form are presented in appendices C, D, E, and F, respectively.

The Interview

Most of the 50 interviews were conducted in the teachers' classrooms during free periods. A few were carried out in subjects' homes or in places convenient to them which were private and free of distraction. Subjects' responses to each question were immediately recorded in writing, verbatim, by the investigator who conducted all the interviews.

All the respondents and the interviewer were familiar with sign language and fingerspelling, and these modes of communication were used in all the interviews. However, to increase the clarity of the questions, the interviewer framed each question vocally to enable the subject to lipread if he so wished.

The semi-structured interview schedule by Herzberg et al. (1959), with minor modifications, was used. All instructions related to long and short-range sequences were omitted since subjects were free to give long or short sequences on all stories. Changes in the wording of two

questions were effected to increase their applicability to the profession of teaching. The schedule is presented below.

Think of a time when you felt exceptionally good or exceptionally bad about your job, or any other teaching job you have had. Describe the events that led to this feeling.

1. How long ago did this happen?
2. How long did the feeling last: Can you describe specifically what made the change of feelings begin? When did it end?
3. Can you tell me more precisely why you felt the way you did at the time?
4. What did these events mean to you?
5. Did the feelings affect the way you did your job? How? How long did this go on?
6. (For performance effects when the information was vague) Can you give me a specific example of the way in which your performance on the job was affected? How long?
7. Did what happened affect you personally in any way? How long? Did it change the way you got along with people in general or your family? Did it affect your sleep, appetite, digestion, general health?
8. Did what happened change the way you felt about teaching work, or about working in this school in particular? Why?
9. Did the consequences of what happened at this time affect your career? How?
10. How seriously were your feelings about your job affected by what happened? Pick a spot on the line below to indicate how

strong you think the (good or bad) feelings were. Circle that position on the line

Least							Average										Greatest
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

11. Could the situation you described happen again for the same reasons and with the same effects? If not, describe the changes that have taken place which would make your feelings and actions different today than they were then.
12. Is there anything else you would like to say about the events you described?

For the second sequence: Now that you described a time when you felt _____ about your job, please think of a time when you felt very _____.

Following the semi-structured interview technique, the probe questions were used only when the information was not given spontaneously or when it was vague. If a high sequence was given first, a low sequence was then requested and vice versa.

Data Analysis

The interview data was content analyzed according to the categories established by Herzberg et al. (1959) with minor modifications. These modifications pertained to word changes that made them more applicable to the teaching profession. Interview material was labeled under three major group categories: first-level factors, second-level factors, and effects.

Each subject was asked to give one high sequence and one low sequence. Analysis of each sequence yielded the first-level factors. These factors described the objective occurrences during the sequence of events with special emphasis on those identified by the respondent as being related to his attitudes. Second-level factors were derived from an analysis of the statements given by the respondent which contained the reasons he gave for his feelings. These factors were used as the basis for inferences about the drives or needs which are met or fail to be met during the sequence of events. The effects of positive and negative attitudes were derived from an analysis of the answers given to probe questions on the interview schedule.

The two judges individually analyzed and coded five interviews selected at random for practice. Comparisons of the coding of these interviews was undertaken and the percentage of agreement among the judges was noted. The instances of disagreement among them were discussed in order to establish a clearer understanding of the definitions of factors, effects, and categories.

The percentage of agreement between the judges on the remaining interviews that were later coded was then obtained.

Inter-Judge and Intra-Judge Reliability

Inter-judge reliability figures in terms of percentage of sequences in which both judges were in agreement were obtained for each of the category levels, i.e., for first-level factors, second-level factors and effects. An agreement was defined as a sequence in which at least one or more factor or effect listed by one judge matched the

factor or effect listed by the other judge. A disagreement was defined as a sequence in which no factor or effect named by one judge was matched by the other judge. Hence, the total number of sequences in which disagreement occurred (TSD) was divided by the total number of sequences in which disagreement was possible (TSDP) to yield the percentage of sequences in which agreement (A) between the judges took place. The formula used was: $A=1-\frac{TSD}{TSDP}$.

Intra-judge reliability figures were obtained in the same manner with respect to the formula $A=1-\frac{TSD}{TSDP}$. Two weeks after the judges had analyzed and coded the 87 sequences, they each were then given 10 high and 10 low sequences to re-analyze and re-code. The 20 sequences were randomly selected by this investigator. A comparison of the results of each judge's first with his second coding attempt was then obtained. This comparison yielded the percentage of sequences in which factors and effects resulting from the first coding matched those resulting from the second coding. Hence, the percentage of intra-judge agreement that was obtained was regarded as a relevant index of each judge's "internal consistency". Coding reliability figures are presented with the results in Chapter 4.

Summary

Chapter 3 presented the research methodology of this study. Reference was made to the following topics: the hypotheses; criteria for sample selection; the study population; the interview; analysis of the data; and inter-judge and intra-judge reliability.

CHAPTER 4

RESULTS OF THE STUDY

Introduction

This chapter presents the results of the study with respect to: (1) population sample descriptive data, (2) sequence analysis, and (3) the hypotheses and their statistical analysis.

Population Sample Descriptive Data

Analysis of the background information contributed by the respondents in this study revealed the following characteristics:

Race, sex, and marital status: All of the 44 respondents were of the caucasian race. Thirty-one, or 70%, were male, and 13, or 30%, females. Eighty-four percent were married (94% males; 62% females).

Age: Table 2 shows the breakdown by age. It can be noted that a majority of both males and females is represented in the 35-44 age bracket (45% and 38 respectively, and 43% of all respondents). Sixty-six percent of the total sample was between the ages of 25 and 44. The most significant finding, however, emerges when the number of teachers over the age of 35 is tabulated. Twenty-four out of 31 males and 10 of 13 females were over 35 years old (77% of the sample).

Table 2. Age

	Male (N=31)		Female (N=13)		Total (N=44)	
Age	Freq.	%	Freq.	%	Freq.	%
-25	0	0	0	0	0	0
25-34	7	23	3	23	10	23
35-44	14	45	5	38.4	19	43
45-54	8	26	3	23	11	25
55-64	2	6	2	15.3	4	9
Totals	31	100	13	99.7	44	100

Age at onset of deafness: Table 3 indicates that 90% of the male, 46% of the female, and 77% of all subjects were prelingually deafened, i.e., they were deaf previous to the age of 3 and before significant, natural and normal speech and language patterns could have been acquired and remembered.

Table 3. Onset of Deafness (N=44)

	Total Number of Subjects	Number of Males (N=31)		Number of Females (N=13)		Total Male and Female	
		Freq.	%	Freq.	%	Freq.	%
Birth - 3	34	28	90	6	46	34	77
4 - 7	4	1	3.2	2	15	3	7
8 - 12	2	1	3.2	1	8	2	5
13 - 19	4	1	3.2	4	31	5	11
20	0	0	0	0	0	0	0
Totals	44	31	100	13	100	44	100

Education: All but 1 of the male and all but 2 of the female respondents were certified to teach in schools for the deaf by either The Conference of Executives of American Schools for the Deaf or by their respective state departments of education. The 3 subjects not having certification were in the process of becoming certified by the Conference of Executives.

Ninety-four percent of the male subjects and all of the females had been graduated from Gallaudet College for the Deaf. All the respondents had at least a B.A. degree, and 32% of the men as contrasted with 15% of the women had a Master's degree.

The figures in Table 4 represent the number of years the respondents attended a public residential school for the deaf. It is seen from this table that 80% of the subjects had attended such a school for at least 9 years. Since none of the 35 subjects in this group had spent more than a total of 14 years in a public residential school for the deaf, it could be concluded that all of them had received, at minimum, the equivalent of an elementary-level education in a public residential school environment.

Table 4. Attendance in Public Residential School for the Deaf

Number of Years Attended	Number of Subjects	Number of Males	% Males	Number of Females	% Females	Total % Male and Female
0	0	-	-	-	-	0
1 - 4	4	1	3	3	23	9
5 - 8	5	2	7	3	23	11
9 - 12	23	19	61	4	31	53
13 - 16	12	9	29	3	23	27
Totals	44	31	100	13	100	100

Experience: Table 5 shows the breakdown with respect to the number of years of experience in teaching the deaf attained by the subjects. It is observed that 16 respondents (37%) had 2 to 5 years experience while 13 respondents (30%) had 14 or more years. As a whole, however, 64% of the sample had accumulated from 6 to 14 or more years as teachers of the deaf.

Table 5. Years of Teaching Experience

Years of Experience	Male (N=31)		Female (N=13)		Male & Female (N=44)	
	No. of Subjects	%	No. of Subjects	%	No. of Subjects	%
2 - 5	14	32	2	5	16	37
6 - 9	7	16	1	2	8	18
10 - 13	3	6	4	9	7	15
14	7	16	6	14	13	30
Totals	31	70	13	30	44	100

The number of academic teachers was 33 (75% of all respondents) and vocational teachers numbered 11 (25%). The distributions of

academic and vocational teachers with respect to sex and years of experience are given in Table 6. From this table, it is noted that 13 of 22 male (59%) and 9 of 11 female (82%) academic teachers had 6 or more years of teaching experience. For the vocational teachers, 4 of 9 male (44%) and both of the female (100%) had 6 or more years in teaching. These figures suggest that a majority of the respondents in this study was quite familiar with its role as professional teacher of the deaf.

Table 6. Teaching Experience - Academic and Vocational

Years of Experience	ACADEMIC (N=33) Male Frequency	%	Female Frequency	%	Total Frequency	%
2 - 5	9	27	2	6	11	33
6 - 9	6	18	1	3	7	21
10 - 13	3	9	3	9	6	18
14	4	12	5	15	9	27
Totals	22	66	11	33	33	99

Years of Experience	VOCATIONAL (N=11) Male Frequency	%	Female Frequency	%	Total Frequency	%
2 - 5	5	45	0	0	5	45
6 - 9	1	9	0	0	1	9
10 - 13	0	0	1	9	1	9
14	3	27	1	9	4	36
Totals	9	82	2	18	11	99

Communication method: Communication permeates almost every facet of a teacher's job. Hence, problems in communication between teacher and co-worker (including superiors) and teacher-pupil may have

a direct bearing on the teacher's job satisfaction or dissatisfaction. In the case of the teacher who is deaf, the communication variable takes on added significance. Apparently, the extent to which this variable significantly affects the deaf teacher's job attitudes largely depends upon whether the teacher, his co-workers, and his pupils have at their disposal a common method of communication which will insure that the possibility of communicating relevantly with each other a good deal of the time exists.

The respondents for the present study were asked to state the expressive and receptive communication method they felt was most effective for them and which they used most of the time with their co-workers and pupils. The results are tabulated in Tables 7 and 8. In communicating expressively to their deaf as well as non-deaf co-workers, 52% of the deaf teachers used a method combining speech, sign-language and fingerspelling (Table 7). Almost all the respondents (93%), however, used an essentially manual form of expression, i.e., both sign-language and fingerspelling. This same pattern obtained in receiving communications from co-workers. It is observed from Table 8 that, although 48% of all subjects reported that it received messages via a combination of lipreading, sign-language and fingerspelling, almost all of the subjects, 39 or 89%, received communications that were transmitted in basically manual form.

In communicating expressively with their pupils, 18, or 41%, of the deaf teachers used a combined method which included speech, fingerspelling, sign-language and writing (Table 7). Fifty-two percent of all respondents, however, used a combined method which excluded

Table 7. Communication Method - Expressive

	Expressive With Co-workers						Expressive With Students					
	No. of Subjects (N=44)		Male (N=31)		Female (N=13)		No. of Subjects (N=44)		Male (N=31)		Female (N=13)	
Method	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Speech Alone	2	5	1	3	1	8	0	0	0	0	0	0
With S-L	2	5	1	3	1	8	0	0	0	0	0	0
With F-S	2	5	1	3	1	8	1	2	1	3	0	0
With F-S & S-L	23	52	16	52	7	54	13	30	8	26	5	38
With F-S, S-L & W	1	2	0	0	1	8	5	11	0	0	5	38
Sign Language Alone	1	2	1	3	0	0	1	2	1	3	0	0
With F-S	5	11	5	16	0	0	19	43	16	52	3	23
With F-S & W	7	16	5	16	2	15	4	9	4	13	0	0
Writing Alone	1	2	1	3	0	0	0	0	0	0	0	0
With S-L	-	-	-	-	-	-	-	-	-	-	-	-
Totals	44	100	31	99.8	13	101	44	99.6	31	100	13	99.8

S-L = Sign language; F-S = Fingerspelling; W = Writing

Table 8. Communication Method - Receptive

	Receptive With Co-workers						Receptive With Students					
	No. of Subjects (N=44)		Male (N=31)		Female (N=13)		No. of Subjects (N=44)		Male (N=31)		Female (N=13)	
Method	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Lipreading Alone	0	0	0	0	0	0	0	0	0	0	0	0
With W	0	0	0	0	0	0	0	0	0	0	0	0
With F-S	1	2	1	3	0	0	1	2	1	3	0	0
With S-L	1	2	1	3	0	0	0	0	0	0	0	0
With S-L & F-S	21	48	13	42	8	62	23	52	17	55	6	46
With S-L, F-S & W	3	7	3	10	0	0	4	9	0	0	4	30
Sign Language Alone	1	2	1	3	0	0	1	2	1	3	0	0
With F-S	10	23	6	19	4	30	12	27	10	32	2	15
With F-S & W	5	11	4	13	1	8	3	7	2	6	1	8
Writing Alone	2	5	2	6	0	0	0	0	0	0	0	0
Totals	44	100	31	99.7	13	100	44	99.6	31	99.8	13	99.7

S-L = Sign Language; F-S = Fingerspelling; W = Writing

speech and stressed sign-language, fingerspelling and writing. Again, as was the case with the method of expression used with their co-workers, the deaf teachers' basic method of communicating to their pupils was manually in sign-language and fingerspelling (93% of all the subjects). Receiving communications from their pupils via a combined approach that was basically manual was reported by 42 of the 44 deaf teachers--95%--(Table 8).

Sequence Analyses

Each of the 44 subjects was asked to give one high and one low sequence for an anticipated total of 88 sequences. One subject, however, was unable to give a low sequence and, therefore, the final number of total sequences submitted for analysis was 87, 44 high and 43 low.

Inter-judge reliability: Table 9 presents the agreement figures between the two judges with respect to percentage of sequences in which agreement occurred. Analysis of combined first-level, second-level and effects categories resulted in an overall agreement of 91%. Greater agreement between the judges occurred at the second-level (94%) followed by the first-level (92%) and effects (86%). The overall percentage of agreement figures compares favorably with that of the original Herzberg et al. (1959) study which was 95%. For the present study, 91% agreement between two independent judges was considered as evidence that the analysis was sufficiently objective to provide reliable data.

Table 9. Inter-judge Reliability

	First-Level Factors	Second-Level Factors	Affects	Overall
Total Number of Sequences	87	87	87	87
Number of Sequence Disagreement	7 (.08)	5 (.06)	12 (.14)	8 (.10)
Percentage of Agreement $A=1-\frac{TSD}{TSDF}$	92%	94%	86%	91%

Intra-judge reliability: In Table 10, intra-judge reliability percentage figures are given. Each judge re-analyzed and re-coded 10 high and 10 low sequences. The results were compared with his first analysis and coding. In Table 10 it is observed that judge #1 achieved an overall agreement of 90% across the first-level, second-level and effects categories while, individually, 85% agreement was recorded for first-level factors, 95% for second-level factors and 90% for effects. Judge #2 reached an overall agreement percentage of 87%. His agreement percentages for individual categories were: first-level factors, 85%, second-level factors, 85%, and for effects, 90%. The high agreement percentages between the first and second analysis and coding achieved by each judge indicates that both judges were highly consistent in their interpretation of the research data.

Sequence distribution: Sequences in which no agreement between the judges occurred were not included in the final analysis of the data.

Table 10. Intra-judge Reliability

	First-Level Factors	Second-Level Factors	Affects	Overall
Judge #1				
Total Number of Sequences	20	20	20	20
Number of Sequences Disagreement	3 (.15)	1 (.05)	2 (.10)	2 (.10)
Percentage of Agreement $A=1-\frac{TSD}{TSDP}$	85%	95%	90%	90%
Judge #2				
Total Number of Sequences	20	20	20	20
Number of Sequences Disagreement	3 (.15)	3 (.15)	2 (.10)	2.66(.133)
Percentage of Agreement $A=1-\frac{TSD}{TSDP}$	85%	85%	90%	87%

These sequences numbered 9. Hence, a total of 78 sequences was recorded and scored. Forty were high sequences (satisfaction stories) and 38 lows (dissatisfaction stories). The distribution of sequences by range of sequence and duration of feeling is given in Table 11.

Table 11. Distribution of Sequences in the Six Duration Categories

	High	Low
Short-range sequences, short-duration feelings	4	18
Short-range sequences, long-duration feelings	10	9
Long-range sequences, long-duration feelings	26	11
Total N =	40	38

It is observed from the table that a larger percentage of short-range sequences occur in the lows. Thus, most stories of dissatisfaction recounted by the subjects were related to an event or set of events which occurred over a short period of time. Long-range sequences occur by far more frequently in the highs and indicate that stories of satisfaction were related to an event or events which occurred over a long period of time, i.e., two weeks and beyond. With respect to duration of feeling, it is noted from the table that a significantly greater percentage of short-duration feelings occurs in the low sequences and a significantly greater percentage of long-duration feelings is found in the highs.* Apparently, the feelings stemming from a dissatisfying

*Significant beyond .01 level

event tended to abate quickly while the feelings resulting from a satisfying event tended to linger.

High sequences, first-level factors: First-level factors refers to the satisfaction stories objectively recounted by the teachers. Table 12 contains the distribution of first-level factors within the high and low sequences. The duration of feeling is also given; the long column represents the percentage of long-duration feelings resulting from both short-range and long-range sequences. More than one factor was sometimes coded for the same sequence thus making a total percentage of over 100 possible.

It is noted from Table 12 that 5 factors, achievement, recognition, responsibility, interpersonal relations--superior and interpersonal relations--students occurred with 5% or greater frequency in the high sequences. Of these 5 factors, however, only achievement and recognition occurred significantly more frequently in the satisfaction stories than in the dissatisfaction stories ($p < .01$). Achievement was the most frequently occurring factor, appearing in 75% of the stories. In these stories, the teachers described situations and events in which they experienced successful completion of a task, or an aspect of it, and were able to see the results of their work. These situations and events, however, almost always involved the school-performance of the students. If the student showed evidence of improvement in learning ability and behavior the teacher saw himself as a catalyst between the student and the student's learning task and gave himself credit for it. Hence, he felt responsible for that improvement. The good feelings resulting from achievement tended to last for

Table 12. Percentage of Each First-Level Factor Appearing in High and Low Job-Attitude Sequences

	Duration of Feelings					
	High			Low		
	Long	Short	Total	Long	Short	Total
Achievement	75	75	75**	40	17	29
Advancement	03	00	03	00	11	05
School Policy & Administration	00	00	00	10	50	29**
Salary	00	00	00	10	00	05
Interpersonal Relations-superior	03	25	05	10	39	24*
Interpersonal Relations-co-worker	03	00	03	05	00	03
Responsibility	06	00	05	10	00	05
Recognition	28	75	33**	05	11	08
Work Itself	00	00	00	10	00	05
Interpersonal Relations - students	06	00	05	05	33	18
Supervision - technical	03	00	03	05	50	26**
Working Conditions	00	00	00	05	00	03
Possibility of Growth	00	00	00	00	00	00
Personal Life	00	00	00	05	00	03
Job Security	00	00	00	00	00	00
Status	00	00	00	00	00	00

* Difference between high and low totals significant at .05 level

** Difference significant at .01 level

a long time. It is seen from the table that this factor appeared in 75% of the satisfaction stories having long-lasting feelings.

The factor, recognition, appeared in 33% of the satisfaction stories. As did achievement, recognition led to long-lasting feelings of job satisfaction, appearing in 28% of the stories which involved long-duration feelings. In the stories in which recognition appeared, teachers spoke of being praised for their teaching performance. Usually the source of such praise came from a superior in the school; most often from the school principal, and infrequently from the school superintendent or supervising teacher. Only in three stories was recognition mentioned as coming primarily from students, co-workers, parents of the students, or from community sources, e.g., newspaper publicity. Praise almost always was reported as being proffered in an informal manner, e.g., a verbal compliment from the principal. Formal recognition in the form of a certificate of accomplishment, a letter or memo, a special award occasion, and the like, was rarely reported in the stories.

Since the factor, recognition, appeared relatively infrequently in the dissatisfaction stories (low sequences) the teachers apparently did not perceive the lack of recognition as importantly contributing to their job dissatisfaction. Achievement, however, occurred in 29% of the dissatisfaction stories; hence, lack of achievement was perceived as an important source of dissatisfaction.

The other factors appearing in the satisfaction stories were characterized as follows: stories in which the factor, responsibility, occurred contained teacher descriptions of events that indicated the

teacher was given sufficient latitude to perform his job without supervision and allowed to be responsible for his own efforts; the factor, interpersonal relations-students, was related to teacher-descriptions of situations in which the personal relationship between teacher and students was a positive one; interpersonal relationship-supervisor was found in stories which described the friendly personal relationship that existed between the teacher and his immediate supervisor, his principal or his superintendent. The teacher's good feelings issuing from a positive friendly relationship with his students tended to linger as did the good feelings that stemmed from the teacher's relative freedom from immediate supervision. The good feelings resulting from a positive personal relationship with the teacher's superiors tended to dissipate rapidly.

High sequences, second-level factors: Second-level factors refer to the respondents' subjective interpretation of the events he described which led to his job satisfaction or dissatisfaction. The results for these factors is given in Table 13. The table shows that six factors were mentioned with greater than 5% frequency in the satisfaction stories: achievement, recognition, work itself, status, security and feelings of pride. Four of these factors, achievement, recognition, work itself, and feelings of pride occurred significantly more frequently in the satisfaction stories than in the dissatisfaction stories ($p < .05$, and $.01$).

As in the first-level results, achievement was mentioned most frequently in the second-level analysis, appearing in 75% of the satisfaction stories while recognition appeared in 35%. In almost all the

Table 13. Percentage of Each Second-Level Factor Appearing in High and Low Job-Attitude Sequences

	Duration of Feelings					
	High			Low		
	Long	Short	Total	Long	Short	Total
Achievement	72	100	75**	55	11	34
Recognition	39	00	35**	10	17	13
Possibility of Growth	03	00	03	00	06	03
Advancement	00	00	00	05	00	03
Responsibility	03	00	03	10	17	13
Group Feeling	03	00	03	00	00	00
The Work Itself	31	50	33**	05	22	05
Status	06	00	08	15	89	50**
Security	03	25	05	10	83	45**
Feelings of Fairness, Unfairness	03	00	03	25	56	39**
Feelings of Pride, Shame	28	25	28*	15	00	08
Salary	00	00	00	10	00	05

* Difference between high and low totals significant at .05 level

** Difference significant at .01 level

second-level stories in which achievement was found the related first-level factor was also achievement. This indicates that the teachers' feeling of achievement stemmed from an act of achievement and not from some other factor. For example: in a few sequences, the teacher was praised (recognition) and interpreted this as the source of his feelings of achievement. Similarly, an act of recognition was always perceived by the teacher as the source of his feelings of recognition.

The factor, work itself, although not appearing in first-level objective descriptions, was mentioned in 33% of satisfaction stories as a second-level factor. The feeling described by the teachers was one involving an increased interest in most facets of their work. It is noteworthy that the primary source of these feelings as perceived by the teachers was the first-level factor of achievement. Hence, seeing the positive end results of his work or completing a task and judging it successful produced in the teacher the feeling that his overall work was interesting, challenging, and worthwhile. Feelings of pride occurred in 28% of the satisfaction stories on the second-level. The perceived primary source of this feeling was achievement. In a few stories, recognition was the perceived source. All four of the above factors were associated with feelings that persisted long after the events that generated them had terminated.

The other two factors, status and security appeared significantly more frequently in the dissatisfaction stories and are discussed at length in the next section.

Low sequences, first-level factors: The factors that generated teacher job dissatisfaction (low sequences) are seen from Table 12 to

be school policy and administration, supervision-technical and interpersonal relations-superior. These factors occurred significantly more frequently in job dissatisfaction stories than in satisfaction stories ($p < .05$, and .01). The recurring theme in the stories in which school policy and administration (29%) occurred as a dissatisfier concerned descriptions of harmful and ineffective organization and implementation of work and personnel policies. Teachers spoke of not being permitted to follow through with important phases of class projects; and having good ideas pertaining to improved classroom procedures left dangling if not unacknowledged. Supervision-technical (25%) occurred in stories which depicted the immediate supervisor, i.e., supervisor of teachers or principal, as consistently and highly critical of the teacher; reluctant to give deserved credit and unwilling to adequately communicate with teachers with respect to procedure, control and changes of teacher-work tasks. The third factor, interpersonal relations-superior (24%), appeared in dissatisfaction stories in which the events described reflected unfriendly relationships between the teacher and his superior. In most of these stories the superior (supervisor, principal, or superintendent) was perceived as overbearing and condescending in manner and attitude and insincere during interactions with the teacher.

From Table 12 it also can be noted that the three factors described above were associated with short-duration feelings, thus indicating that bad feelings generated by disagreeable incidents, or events tended to dissipate within a short period of time.

Other factors appearing with relevant frequency in the dissatisfaction stories were achievement (29%) and interpersonal relations-students (18%). Stories in which achievement appeared were marked by teacher inability to detect positive results from teaching as measured by student performance. Interpersonal relations-students involved stories which described the poor working relationships that existed between teacher and student in the classroom. This condition was seen as usually stemming from student attitudes of apathy and diffidence.

Low sequence, second-level factors: Table 13 shows that three factors, status (50%), security (45%), and feelings of unfairness (39%) emerged as dissatisfiers ($p < .01$) in the dissatisfaction stories. Feelings of diminished status and increased insecurity as a teacher and as a person were reported most often as resulting from dissatisfying experiences with technical-supervision. Teachers interpreted excessively critical and dominating supervision as a lack of confidence in the teachers' professional competence and personal judgment. Feelings of unfair treatment were perceived as following from school administration policies, especially those policies concerned with technical supervision of teachers' school activities. Perceived unfair treatment at the supervisory level and the consequent negative feelings it produced in teachers, e.g., of being un-appreciated, unrespected, not fully trusted or accepted, resulted in loss of teacher confidence in administrative accountability. With respect to duration of feelings, the three dissatisfiers described in this section led to negative feelings which tended not to linger for more than a short period of time.

Although not appearing significantly more frequently as dissatisfiers, four other factors emerged often enough to warrant mention. These factors are achievement (34%), recognition (13%), responsibility (13%) and feelings of shame (8%). Teachers attributed dissatisfaction feelings to lack of achievement, e.g., a feeling that their efforts had accomplished little or nothing tangible. When recognition was mentioned, however, it was related to the first-level factor of school policy and administration. Thus, failure of the administration to acknowledge to the teacher that the teacher was an important, needed, useful and valued employee and person was perceived by the teacher as a cause of his dissatisfaction. The factor, responsibility, was mentioned as a dissatisfier in stories in which the related first-level factor was supervision-technical. Teachers spoke of not being given enough control over their jobs, of their true skills not being used. The inference made by the teachers was that the type of technical supervision they received largely precluded their assuming a greater amount of responsibility for control of their work. The last factor, feelings of shame, also was perceived by the teacher as resulting from technical supervision. These feelings were characterized by an enforced dependency on the supervisor and consequent teacher loss of confidence in his own ability.

The effects: Teacher attitudes of job-satisfaction and dissatisfaction were examined relative to their effects on teachers' job performance, turnover, mental health, interpersonal relations and attitudinal changes (toward individuals, the school or section,

teaching profession, security and confidence). The results for each of these effects categories is presented individually.

Performance effects included positive or negative changes in quantity, quality, rate or nature of the work. Table 14 presents the breakdown of figures for performance effects with regard to satisfaction and dissatisfaction stories and their time spans.

Table 14. Percentage of Performance Effects Appearing in Long and Short Range Sequences

Sequence	High (N=40)	Low (N=38)
Long range	96	91
Short range	57	78
Total	83	82

Performance effects are seen to occur in 83% of the satisfaction stories, 82% of the dissatisfaction stories, and 82% of all stories. The difference in percentages between the high and low stories was not statistically significant. This finding suggested that positive job-attitudes (high sequences) and negative job-attitudes (low sequences) were equally potent in producing performance changes. Performance effects were reported more frequently in stories having events that developed over long periods of time (long-range) as contrasted to stories in which the events described had developed over a short time span ($p < .01$). Table 15 shows the frequency of occurrence of positive and negative performance effects. In Table 15 it is observed that positive effects were reported in all 33 of the high

stories while 26 of the 31 low stories contained negative effects while 5 had positive effects. Thus, a job satisfaction attitude led significantly more frequently to improved teacher work performance ($p < .01$), and a job dissatisfaction attitude led significantly more frequently to deterioration of teacher work performance ($p < .01$). Finally, the relative frequency of occurrence of positive effects resulting from satisfaction stories did not differ significantly from the frequency of occurrence of negative effects resulting from dissatisfaction stories. Thus, the factors leading to teacher job satisfaction were not more potent in producing positive performance changes than were the factors leading to teacher job dissatisfaction in producing negative performance changes.

Table 15. Positive and Negative Performance Effects

	Performance Effects Frequency	Positive Effects Freq.	%	Negative Effects Freq.	%
High (N=40)	33	33	100	0	00
Low (N=38)	31	5	16	26	84

Turnover effects are presented in Table 16. These effects are sub-divided into the categories Would Not Quit, Quit, Took Steps to Quit, and Thought of Quitting.

Table 16. Percentage of Turnover Effects Appearing in Long and Short Range Sequences

	High		Low	
	Would Not	Quit	Took Steps	Thought Of
Long Range	35	09	18	45
Short Range	14	10	07	52
Total	28	08	11	50

Would Not Quit was coded in satisfaction stories in which the teachers reported they would not quit their job because of positive feelings. The other sub-categories were related to the dissatisfaction sequences, i.e., when bad feelings about the job led to teachers' decision to quit their present job, to actively search for a better job, e.g., writing letters to prospective employers, or just to think about quitting without taking concrete steps to do so. It is seen from Table 16 that turnover effects appeared significantly more frequently in low sequences (68%) than in high sequences (28%) ($p < .01$); that over twice as many short than long-range sequences resulted in negative turnover effects. Hence, a job dissatisfaction attitude was more potent than a satisfaction attitude in producing turnover effects.

Table 17 gives the positive and negative turnover effects.

Table 17. Positive and Negative Turnover Effects

	Turnover Effects	Positive Effects		Negative Effects	
	Frequency	Freq.	%	Freq.	%
High (N=40)	11	11	100	0	00
Low (N=38)	26	0	00	26	100

The table shows that positive turnover effects resulted from satisfaction stories ($p < .01$) and negative effects from dissatisfaction stories ($p < .01$). However, the relative frequency of negative turnover effects from dissatisfaction stories was significantly greater than the frequency of positive turnover effects from satisfaction stories ($p < .01$). This result suggests that dissatisfiers were more potent than satisfiers in producing turnover effects.

Table 18 presents the mental health effects figures. Teachers were asked to report the onset or remission of physiological, psychological and psychosomatic symptoms that were related to their job satisfaction and dissatisfaction stories. Most reports contained descriptions of increased or decreased tension and nervousness as a result of a satisfying or dissatisfying experience. Other reports were of slight changes in the teachers' general mental or physical disposition. In only two or three sequences were serious mental health changes mentioned.

Table 18. Percentage of Mental Health Effects Appearing in Long and Short Range Sequences

	High	Low	
	Improvement	Psychosomatic	Tension
Long Range	58	09	45
Short Range	50	00	37
Total	58	03	39

From Table 18 it is seen that mental health effects occurred in 58% of the high and 42% of the low stories; the difference in percentages is not significant. Therefore, mental health effects were not due predominantly to either a satisfied job attitude or a dissatisfied job attitude. Effects from long-range and from short-range stories occur with approximately equal frequency; the difference is not statistically significant. Therefore, short-term events were just as likely to lead to mental health changes as were long-term events. Table 19 contains the results for the positive and negative mental health effects.

Table 19. Positive and Negative Mental Health Effects

	Mental Health Effects	Positive Effects		Negative Effects	
	Frequency	Freq.	%	Freq.	%
High (N=40)	23	22	96	1	04
Low (N=38)	16	0	00	16	100

The table shows that positive mental health effects resulted from high stories ($p < .01$) and negative effects from low stories ($p < .01$); the frequency of occurrence of positive effects from satisfaction stories was not significantly greater than the frequency of negative effects from dissatisfaction stories. It was concluded that a satisfied job attitude and a dissatisfied job attitude had equal potency in generating positive and negative mental health effects, respectively.

The results of the analysis of interpersonal relations effects appear in Table 20. Teachers reported the positive or negative interpersonal changes that occurred in the teachers' interactions with family members, friends, students, and co-workers.

Table 20. Percentage of Interpersonal Effects Appearing in Long and Short Range Sequences

	High	Low
Long Range	77	64
Short Range	50	78
Total	68	74

Interpersonal effects were mentioned in 68% of the high and 74% of the low stories (the difference in percentage not statistically significant); more effects occurred in long-range sequences (73%) than in short-range (68%) (difference in percentage not significant). These results indicate that job satisfaction and job dissatisfaction were equally potent in producing interpersonal effects, while short-term events had no advantage over long-term events in causing interpersonal changes.

Table 21 gives the frequency of occurrence of positive and negative interpersonal effects for the high and low stories.

Table 21. Positive and Negative Interpersonal Effects

	Interpersonal Effects	Positive Effects		Negative Effects	
	Frequency	Freq.	%	Freq.	%
High (N=40)	27	26	96	1	04
Low (N=38)	28	3	11	25	89

It is noted that positive interpersonal changes stem from satisfaction stories ($p < .01$) and negative changes from dissatisfaction stories ($p < .01$). The relative frequency of positive effects from satisfaction stories is not significantly greater than the frequency of negative effects from dissatisfaction stories. Therefore, it was concluded that job satisfaction was no more potent in generating positive interpersonal changes than job dissatisfaction in producing negative interpersonal changes. The positive interpersonal effects dealt with improved relations with students, family, and co-workers, in that order of frequency. Negative interpersonal effects usually concerned deteriorated relations with co-workers, students, and friends, in that order. Rarely mentioned in the low stories was the extension into the teachers' home of negative feelings produced by a dissatisfying event or situation at work.

Attitudinal effects are given in Table 22. It will be recalled that these effects dealt with changed teacher attitudes with respect to a superior (individual), the school, the teaching profession, and the teachers own security and confidence. The table shows that one or more effect was reported in 78% of the satisfaction stories and 74% of the dissatisfaction stories.

Table 22. Percentage of Attitudinal Effects Appearing in High and Low Job-Attitude Sequences

Toward:	High	Low
Individuals	25	39
School, Department	53	58
Profession	78	61
Security	73	61
Confidence	73	68
Total (1 or more)	78	74

Since the difference in percentage between these totals for the high and low stories was not statistically significant, it was concluded that satisfaction, or high morale, was not more potent in producing attitudinal changes than was dissatisfaction or low morale. It is also noted from Table 22 that a dissatisfied attitude produced changed teacher feelings toward an individual and the school more often than did a satisfied attitude, while changed feelings toward the profession, security and confidence were more frequently produced by a satisfaction attitude. Although not reported in Table 22, attitudinal effects

occurred in 29 of the 37 long-term stories (78%), while effects appeared in 30 of the 41 short-term stories (73%). Thus attitudinal effects tended to appear with equal frequency in events that developed over a long period of time as contrasted with those that developed over short periods. Table 23 gives the percentage figures for the positive and negative attitudinal effects.

Table 23. Positive and Negative Attitudinal Effects

	Attitudinal Effects	Positive Effects		Negative Effects	
	Frequency	Freq.	%	Freq.	%
High (N=40)	31	31	100	0	00
Low (N=38)	28	5	18	23	82

The table shows that more positive than negative effects resulted from job satisfaction ($p < .01$) and more negative than positive attitudinal effects resulted from job dissatisfaction ($p < .01$). Most of the positive attitude changes involved teacher descriptions of increased self-confidence and security, and an expressed renewed faith in the profession of teaching. Less frequently mentioned were positive changes in attitude toward the particular school in which they worked or toward a particular individual, e.g., a supervisor or principal. The negative attitude changes dealt with the same three categories found in most of the positive attitude changes, namely, self-confidence, security, and the teaching profession. Most frequently mentioned were negatively

changed attitudes toward their own teaching ability, their self-respect, and toward the teaching profession. In addition, frequently mentioned was a negative attitude towards working in a particular school. The final reported result of attitudinal effects (see Table 23) was that the positive attitudinal changes were mentioned with no significantly greater frequency than the negative attitudinal changes. This is another indication that the high morale of the teachers as well as their low morale were equally potent in effecting changes in the teachers' attitudes.

Hypotheses

The foregoing material on sequence analysis (Tables 12 through 23) reflect the results of the seven tested null hypotheses. In this section the results are related to each hypothesis individually.

Hypothesis 1

Hypothesis number one stated that: there will be no significant difference in the frequency of mention of factors appearing as job-satisfiers or as job-dissatisfiers in the objective deaf-teacher stories for each of the following: achievement, recognition, responsibility, advancement, possibility of growth, work itself, status, job-security, personal life, salary, interpersonal relations-superior, interpersonal relations-students, interpersonal relations-co-workers, supervision-technical, school policy and administration, working conditions.

Table 24 shows that a chi-square value of 3.841 with one degree of freedom was needed for significance at the .05 level and that five

Table 24. Frequency of Occurrence of Satisfaction (High) and Dissatisfaction (Low) Factors in Objective Stories

Factor	N	High	Low	Needed X^2 at .05 Level	Obtained X^2
Achievement	38	27	11	3.841	13.00**
Recognition	16	13	3	3.841	7.60*
Responsibility	4	2	2	3.841	-
Advancement	3	1	2	3.841	1.02
Possibility of Growth	0	-	-	-	-
Work Itself	2	0	2	-	-
Status	0	-	-	-	-
Job Security	0	-	-	-	-
Personal Life	1	0	1	-	-
Salary	2	0	2	-	-
Interpersonal relations-superior	11	2	9	3.841	5.40*
Interpersonal relations-students	9	2	7	3.841	3.62
Interpersonal relations-co-workers	2	1	1	-	-
Supervision-technical	11	1	10	3.841	9.10**
School Policy and Administration	11	0	11	3.841	14.16**
Working Conditions	1	0	1	-	-

* Significant beyond .05 level, 1 degree of freedom

** Significant beyond .01 level, 1 degree of freedom

factors appeared significantly more frequently as either a job-satisfier or a job-dissatisfier. Therefore, the null hypothesis was rejected with respect to these five factors. Achievement and recognition occurred significantly more frequently as job-satisfiers whereas school policy and administration, supervision-technical, and interpersonal relations-superior appeared significantly more frequently as dissatisfiers. Thus, achievement and recognition were uni-directional as factors that led to satisfaction but not to dissatisfaction. The other three factors were uni-directional as factors in the sense that they led to dissatisfaction but not to satisfaction.

Hypothesis 2

Hypothesis two stated that: there will be no significant difference between the frequency of mention of the factors expressing motivational needs (achievement, recognition, responsibility, advancement, possibility of growth, work itself) and the factors expressing hygiene needs (status, job-security, personal life, salary, interpersonal relations-superior-students-and co-workers, supervision-technical and school policy and administration) among the objective job-satisfaction and job-dissatisfaction stories of deaf teachers.

The $\bar{z}$-ratio test of significance for the difference between proportions was used to test this hypothesis.

As indicated in Table 25, a $\bar{z}$-value of 1.96 was needed for significance at the .05 level and the obtained $\bar{z}$-value of 6.08 was significant beyond the .05 level. Therefore, the null hypothesis was rejected. The factors achievement and recognition together appeared

Table 25. Frequency of Satisfaction and Dissatisfaction Factors Appearing as Motivators and Hygiene in Objective Stories

Factors Identified*	N	High	Low	Frequency				Proportion		
Achievement	41	30	11		High	Low			High	Low	
				Motivator	43	14	15	Motivator	.754	.246	1.00
Recognition	16	13	3								
				Hygiene	3	30	33	Hygiene	.090	.910	1.00
School Policy	11	0	11		46	44	90		.511	.489	
Supervision-Tech.	11	1	10								
Interpersonal - S.	11	2	9	$\bar{z} = 6.08$ **			Needed at .05 level = 1.96				
Total N	90	46	44								

* Four motivator factors (responsibility, advancement, possibility of growth, work itself) and seven hygiene factors (status, job security, personal life, salary, interpersonal relations-students, interpersonal relations-co-workers, and working conditions) appeared with negligible frequency in the objective stories given by the deaf teacher

** Significant beyond .01 level

significantly more frequently as motivators than as hygienes, and the factors school policy and administration, supervision-technical and interpersonal-relations-superior together occurred with significantly greater frequency as hygienes than as motivators.

Hypothesis 3

Hypothesis number three stated that: there will be no significant difference in the frequency of mention of factors as job-satisfiers or job-dissatisfiers in the subjective deaf-teacher stories for each of the following: achievement, recognition, possibility of growth, advancement, responsibility, group feeling, work itself, status, security, feelings of fairness or unfairness, feelings of pride or shame, salary.

Table 26 indicates that a chi-square value of 3.841 with one degree of freedom was needed for significance at the .05 level. Seven factors reached this significance and, therefore, the null hypothesis was rejected for each of them. Each of the factors--achievement, recognition, work itself, and feelings of pride--occurred significantly more frequently as a job-satisfier while each of the factors--status, security and feelings of unfairness--appeared significantly more frequently, as job-dissatisfiers. Thus, the first set of factors were uni-directional, leading to satisfaction but not to dissatisfaction while the latter set were uni-directional in that they lead to dissatisfaction but not to satisfaction.

Table 26. Frequency of Occurrence of Satisfaction (High) and Dissatisfaction (Low) Factors in Subjective Stories

Factor	N	High	Low	Needed X^2 at .05 Level	Obtained X^2
Achievement	43	30	13	3.841	11.60**
Recognition	19	14	5	3.841	5.21*
Possibility of Growth	2	1	1	-	-
Advancement	1	0	1	-	-
Responsibility	6	1	5	3.841	2.835
Group Feeling	1	1	0	-	-
Work Itself	15	13	2	3.841	9.50**
Status	22	3	19	3.841	17.70**
Security	19	2	17	3.841	16.60**
Feeling of Fairness/Unfairness	16	1	15	3.841	17.50**
Feelings of Pride/Shame	14	11	3	3.841	5.82*
Salary	2	0	2	-	-

* Significant at or beyond .05 level, 1 degree of freedom

** Significant at or beyond .01 level, 1 degree of freedom

Hypothesis 4

Hypothesis number four stated that: there will be no significant difference between the frequency of mention of the factors expressing motivational needs (achievement, recognition, possibility of growth, advancement, responsibility, work itself, feelings of pride) and those factors expressing hygiene needs (status, security, group feeling, feelings of fairness, or unfairness, feelings of shame, salary) among the subjective job-satisfaction of deaf teachers.

In Table 27 it is seen that the $\bar{z}$-ratio test of significance for the difference between proportions was applied to hypothesis four and resulted in an obtained $\bar{z}$ value of 8.0, which was more than the needed $\bar{z}$ value of 1.96 and therefore was significant beyond the .05 level. Therefore, the null hypothesis was rejected. The factors achievement, recognition, work itself and feelings of pride together appeared significantly more frequently as motivators than as hygienes, whereas the factors status, security, and feelings of unfairness together were mentioned significantly more frequently as hygienes than as motivators.

Hypothesis 5

Hypothesis number five stated that: there will be no significant difference between the frequency of short-lasting feelings resulting from expressed attitudes of job-satisfaction and the frequency of short-lasting feelings resulting from expressed attitudes of job-dissatisfaction.

Table 27. Frequency of Satisfaction and Dissatisfaction Factors Appearing as Motivators and Hygienes in Subjective Stories

Factors Identified*	N	High	Low
Achievement	43	30	13
Recognition	19	14	5
Work Itself	15	13	2
Feelings of Pride	14	11	3
Status	22	3	19
Security	19	2	17
Feelings of Unfairness	16	1	15
Totals	148	74	74

Frequency				Proportion			
	High	Low			High	Low	
Motivator	68	54	88	Motivator	.773	.227	1.00
Hygiene	6	20	60	Hygiene	.100	.900	1.00
	74	74	148		.500	.500	1.00

$\bar{z}$ = 8.0 Needed at .05 level = 1.96

* Three motivator factors (possibility of growth, advancement, responsibility) and four hygiene factors (group feeling, feeling of fairness, feeling shame, and salary) were mentioned with negligible frequency in the subjective stories given by the deaf teacher

** Significant beyond .05 level

The chi-square test of significance was used to test this hypothesis. Table 28 gives the obtained chi-square value of 15.30, significant beyond the .01 level with one degree of freedom. Hence the null hypothesis was rejected. The frequency of short-lasting feelings from expressed teacher dissatisfaction was significantly greater. Thus, the feelings that stemmed from a dissatisfying event tended to abate quickly while the feelings resulting from a satisfying event tended to linger.

Hypothesis 6

Hypothesis number six stated that: there will be no significant difference between the proportion of job-satisfaction stories leading to positive effects and the job-dissatisfaction stories leading to negative effects for all of the following: job-performance, turnover, mental health, interpersonal relations, attitudinal.

The $\bar{z}$ value for the comparison of positive effects resulting from satisfaction stories and negative effects resulting from dissatisfaction stories is presented in Table 29. As indicated in Table 29 the obtained $\bar{z}$-value of 14.00 was significant at the .01 level. Therefore, the null hypothesis was rejected. There was a significant difference in the proportion of stories in which job-satisfaction led to positive effects rather than negative effects and job-dissatisfaction led to negative rather than positive effects with respect to job-performance, turnover, mental health, interpersonal relations and attitudinal.

Table 28. Frequency of Occurrence of Short-lasting Feelings in Satisfaction and Dissatisfaction Stories

Satisfaction			Dissatisfaction				
	Duration of Feeling			Duration of Feeling			
N	Long	Short	N	Long	Short	Needed at .05 Level	Obtained Chi-Square
40	36	4	38	20	18	3.841	15.30**

** Significant at or beyond .01 level, 1 degree of freedom

Table 29. Frequency of Positive and Negative Effects Appearing in Satisfaction and Dissatisfaction Stories

Effects Category	Total Frequency	High Pos. Effects	High Neg. Effects	Low Pos.	Low Neg.
Perf.	64	33	0	5	26
Turn.	37	11	0	0	26
M H	39	22	1	0	16
Inter	55	26	1	3	25
Att	59	31	0	5	23
Totals	254	123	2	13	116

	Frequency				Proportion		
	High	Low			High	Low	
Pos.	123	2	125	Pos.	.984	.016	1.00
Neg.	13	116	129	Neg.	.100	.900	1.00
	136	118	254		.535	.465	1.00

$\bar{z}$ = 14.00 ** Needed at .05 level=1.96

** Significant at or beyond .01 level

Hypothesis 7

Hypothesis number seven stated that: there will be no significant difference between the frequency of occurrence of positive effects and the frequency of occurrence of negative effects for all stories given by the deaf teachers regardless of whether the stories related to job-satisfaction or job-dissatisfaction.

Table 30 contains the $\bar{z}$ value for the comparison of the positive effects that resulted from all job-satisfaction and dissatisfaction stories with the negative effects that resulted from all the stories. As indicated in Table 30, the obtained $\bar{z}$ value of 1.22 did not reach significance at or beyond the .05 level. Therefore, hypothesis number seven was not rejected: there was no significant difference between the proportion of stories leading to positive effects and the proportion of stories leading to negative effects. Hence, the factors leading to an attitude of job-dissatisfaction were equally potent in generating performance, turnover, mental health, interpersonal relations and attitudinal effects.

Summary

Chapter 4 presented the results of the study with respect to: description of the sample population; analysis of the satisfaction (high) and dissatisfaction (low) stories, or sequences; and analysis of the hypotheses.

A summary of the study, discussion of the results, conclusions, and recommendations for further research are given in Chapter 5.

Table 30. Comparison of the Relative Frequencies of Positive Versus Negative Effects

	Frequency				Proportion		
	Positive Effects	Negative Effects			Positive Effects	Negative Effects	
Mentioned	136	118	254	Mentioned	.535	.465	1.00
Not Mentioned	64	72	136	Not Mentioned	.471	.529	1.00
	200	190	390		.513	.487	1.00

$\bar{z} = 1.22$ Needed at .05 level = 1.96

CHAPTER 5

SUMMARY, DISCUSSION OF RESULTS, CONCLUSION, AND RECOMMENDATIONS

This chapter summarizes the study, presents a discussion of the results, outlines the conclusions based on the results and offers recommendations for further research.

General Summary

A review of the literature indicated that the deaf worker is almost universally underemployed and suggested that the factors contributing to this condition are measurable along a satisfaction-dissatisfaction dichotomy. No research, however, had been undertaken with respect to the need structure of the deaf worker, i.e., what basic needs exist in the worker that he expects his job to satisfy? In particular and conspicuous by its absence has been research into the deaf workers psychological and environmental needs and whether they are quantitatively and qualitatively different from those of other workers in similar occupational levels. Hence the purpose of this study was to investigate the nature of the factors that fulfill or do not fulfill the psychological and environmental needs of deaf adults professionally employed as teachers of the deaf. It was hypothesized that these factors would be revealed as important determinants of underemployment with respect to the deaf worker in professional employment and the deaf adult aspiring to professional work.

The Design and Method: The present study was based on the general hypothesis that the results of this investigation would approximate the results of the original study by Herzberg et al. (1959) and of relevant, subsequent replications that confirmed the motivation-hygiene theory formulated by the Herzberg study. This theory posits that certain factors relating to the work itself tend to associate with the expression of satisfaction, but when absent, do not strongly stimulate dissatisfaction. Conversely, a second set of factors relating to the context in which the job is performed, if absent stimulate dissatisfaction, but when present do not enhance satisfaction.

Further, it was felt that the deaf person himself is an important source of information about his work values; that these values would most likely be similar to those of non-deaf workers; and that the fact of deafness notwithstanding, the deaf worker's aspiration toward self-actualization approximates the expression of that aspiration by non-deaf workers. Consequently, an idiographic approach was used in the study to permit the deaf worker to express his values as an individual and to judge the meaning of his own perceptions of those values.

In order to determine whether the work values of the deaf teacher of the deaf approximate those of non-deaf professionals in other occupations, the following null hypotheses were tested:

1. There will be no significant difference in the frequency of mention of factors appearing as job-satisfiers or as job-dissatisfiers in the objective deaf-teacher stories for each

of the following: achievement, recognition, responsibility, advancement, possibility of growth, work itself, status, job-security, personal life, salary, interpersonal relations-superior, interpersonal relations-students, interpersonal relations-co-workers, supervision-technical, school policy and administration, working conditions.

2. There will be no significant difference between the frequency of mention of the factors expressing motivational needs (achievement, recognition, responsibility, advancement, possibility of growth, work itself) and the factors expressing hygiene needs (status, job-security, personal life, salary, interpersonal relations-superior-students-and co-workers, supervision-technical and school policy and administration) among the objectives job-satisfaction and job-dissatisfaction stories of deaf teachers.

3. There will be no significant difference in the frequency of mention of factors as job-satisfiers or job-dissatisfiers in the subjective deaf-teacher stories for each of the following: achievement, recognition, possibility of growth, advancement, responsibility, group feeling, work itself, status, security, feelings of fairness or unfairness, feelings of pride or shame, salary.

4. There will be no significant difference between the frequency of mention of the factors expressing motivational needs (achievement, recognition, possibility of growth, advancement, responsibility, work itself, feelings of pride) and those

factors expressing hygiene needs (status, security, group feeling, feelings of fairness or unfairness, feelings of shame, salary) among the subjective job-satisfaction of deaf teachers.

5. There will be no significant difference between the frequency of short-lasting feelings resulting from expressed attitudes of job satisfaction and the frequency of short-lasting feelings resulting from expressed attitudes of job-dissatisfaction.
6. There will be no significant difference between the proportion of job-satisfaction stories leading to positive effects and the job-dissatisfaction stories leading to negative effects for all of the following: job performance, turnover, mental health, interpersonal relations, attitudinal.
7. There will be no significant difference between the frequency of occurrence of positive effects and the frequency of occurrence of negative effects for all stories given by the deaf teachers regardless of whether the stories related to job-satisfaction or job-dissatisfaction.

Results: This study had as its population sample deaf teachers of the deaf located in four public residential schools for the deaf. Most of the deaf teachers were over 35 years old; had lost their hearing before the age of 3; were qualified professionally with respect to level of education, years of teaching experience and certification by accredited agencies; and had been in attendance for at least nine

years in a public residential school for the deaf. In addition, the teachers, their co-workers, students, and superiors shared a common method of communication, i.e., signing and fingerspelling, thus indicating that relatively normal and relevant communication could take place among them. This fact suggests that the communication variable, per se, was a constant in this research.

The overall results obtained from the study's analysis of the data were consistent with that of the Herzberg study and of other motivation-hygiene research. The first six of the seven hypotheses formulated on the basis of previous research were significant at or beyond the .05 level:

1. Two sets of factors emerged from the analysis of the objective teacher stories. One set contained two factors--achievement and recognition--that related predominantly to job-satisfaction. The other set contained three factors--school policy and administration, supervision-technical, and interpersonal relations-superior--that related predominantly to job-dissatisfaction.
2. The two satisfaction factors were related to psychological growth needs (motivators) while the three dissatisfaction factors were related to environmental needs (hygienes) of the deaf teacher.
3. Two sets of factors emerged from the analysis of the subjective teacher stories. One set contained four factors--achievement, recognition, work itself and feelings of pride--that related predominantly to job-satisfaction, while the other set

contained three factors--status, security, feelings of fairness--that related predominantly to job-dissatisfaction.

4. The four satisfaction factors were related to psychological growth needs (motivaters) which the three dissatisfaction factors were related to the environmental needs (hygienes) of the deaf teacher.
5. Bad feelings generated by attitudes of dissatisfaction tended to be short-lasting, while good feelings generated by attitudes of satisfaction tended to endure for long periods.
6. Positive effects, i.e., in terms of job-performance, turnover, mental health, interpersonal relations and attitudinal, resulted from attitudes of satisfaction, while negative effects resulted from attitudes of dissatisfaction.

The seventh hypothesis yielded no significant difference. This result suggested that:

7. Positive effects were not mentioned more than negative effects and therefore attitudes of satisfaction and the factors associated with them were not perceived by the deaf teachers to be more potent in producing positive effects than were attitudes of dissatisfaction and the factors related to them in producing negative effects.

In comparison with the results in The Motivation to Work, the present study yielded several similar factors although some different factors also appeared. In the objective satisfaction stories the Herzberg study found five factors: achievement, recognition, work

itself, responsibility and advancement. In the present study only achievement and recognition appeared as satisfiers. Hence the needs for achievement and recognition were expressed by the deaf teachers as well as by accountants and engineers. In the subjective stories, the engineers and accountants mentioned achievement, recognition, responsibility and group feeling while the deaf teachers named achievement, recognition, work itself and pride as sources for feelings of satisfaction. Hence, with respect to the achievement and recognition factors, similar psychological interpretations of the events they described that led to satisfaction were made by the subjects of both studies.

The objective dissatisfaction stories yielded six factors in The Motivation to Work: Company policy and administration, supervision-technical, interpersonal relations-superior, working conditions, interpersonal relations-peers (co-workers) and personal life. The first three of these six factors emerged as dissatisfiers in the present investigation. Therefore, for the engineers, accountants and teachers of the deaf dissatisfaction was generated by unfair and ineffective administrative policies and organization, incompetent, mediocre or overbearingly critical technical supervision, and demeaning interpersonal interactions with superiors.

In the subjectively interpreted dissatisfaction stories one factor, unfair treatment, appeared in The Motivation to Work while three factors, status, security and unfair treatment emerged in the present investigation. Thus the factor, unfair treatment, was commonly perceived by engineers, accountants and deaf teachers as a major

source of dissatisfaction. It is of special note that the deaf teacher, unlike the accountant or engineer, felt that the lack of personal status and personal feelings of adequacy were also major sources for dissatisfaction. Apparently the deaf teacher received far less than he needed and expected of positive personal reinforcement from his administrators and supervisors with respect to their acknowledgement of his importance, worth and dignity as a person and as a worker.

Other studies having comparable professional populations and yielding similar factors as those named above were: county agricultural administrators (Clegg, 1963); scientists, engineers and manfacturing supervisors (Myers, 1964); public utility company supervisors (Schwartz et al., 1963) and professional female federal employees (Walt, 1963). Hence the professional deaf teacher of the deaf has a need structure which closely resembles that of non-deaf adults in other professional occupations.

It must be mentioned, however, that several psychological factors appearing in the objective descriptions of satisfaction in The Motivation to Work were conspicuously absent from the present study. These factors are responsibility, advancement, and work itself. It should be asked whether their failure to emerge as satisfiers was due to: (1) the nature of the job, i.e., of teaching the deaf; (2) the environment in which the work was performed, i.e., the organizational and administrative system of a residential school for the deaf; and (3) the deaf teacher himself, i.e., the needs of the deaf teacher for advancement, responsibility and work itself were not strongly developed needs.

It could be argued that the work environment prevented the deaf teachers from expressing their needs for advancement and responsibility. Traditionally, few opportunities have existed for deaf teachers to advance to positions which carry greater responsibility, e.g., principal, supervising teacher or superintendent, in public residential schools for the deaf (Vernon, 1970). Hence the unlikelihood of promotion and, consequently, of growing in stature, competence and professional outlook and of assuming higher levels of responsibility, did not encourage the expression of these needs. On the other hand, the analyzed data of this study provides no evidence that the needs for advancement and responsibility exist with sufficient strength within the need structure of the deaf teacher. On the contrary, the simple fact that these factors were so infrequently mentioned in their stories argues that the teachers did not perceive them as important to their job-satisfaction.

The frequent appearance of the factor, work itself, in the subjective stories was regarded as evidence that the need for intrinsically interesting and worthwhile work is a strong need of the deaf teacher. It could be argued that the absence of work itself from the teachers' objective descriptions was due to the nature of the work of teaching the deaf. It may be recalled (see tables 12 and 13) that the teachers reported and perceived that a lack of achievement was frequently the factor behind their dissatisfaction. Lack of achievement involved the teacher's failure to see successful results from his teaching efforts, i.e., in terms of student improvement. Hence, student learning progress occurred at an apparently less-than-acceptable rate and depth. This

indicates that the job tasks assigned the deaf teacher were generally regarded as minimally challenging, and as providing few opportunities for the teacher to be creative, innovative, and highly interested in his work.

Analysis of the effects also provided results that were consistent with those of The Motivation to Work. Satisfaction led to positive effects and dissatisfaction to negative effects. When their needs for achievement recognition and intrinsically rewarding work were satisfied the deaf teachers were motivated to do better and more productive work (performance), committed themselves more decisively to their job (turnover), were less bothered by unwanted, nagging tension (mental health), felt psychologically closer to their students and co-workers (interpersonal relations), and experienced improved attitude changes towards a superior, the teaching profession, the school in which they worked, their teaching ability and self-confidence.

In contrast, when the teachers were denied what they perceived to be just and comprehensible school policies and competent administration, good technical supervision, good interpersonal relations with superiors, fair treatment from the administration and feelings of security and status, the absence of these factors produced job-dissatisfaction and negative consequences. These consequences had two characteristics which explain them: (1) the teacher withdrew psychologically from the job of teaching, and (2) the teacher felt disinclined to hold himself accountable for his work beyond the basic accountability required to keep his job. These two characteristics were reflected by the high number of teacher reports of below-par work

performance, increased thoughts of quitting the job, increases in disruptive tension levels, deteriorated interpersonal relations with students and deteriorated attitudes towards the school, the teaching profession, self-respect and personal security.

A significant difference between The Motivation to Work and this study was the finding in the present investigation that high morale (job-satisfaction) was not more potent in producing effects than low morale (job-dissatisfaction). Therefore, for the deaf teacher, the satisfaction of his expressed environmental needs was valued as much as the satisfaction of his expressed psychological needs. Both sets of factors apparently exist in obvious strength within his need structure.

With respect to the duration of effects: high morale or satisfaction was more potent in producing positive effects that lasted much longer, and therefore was more likely to be instrumental in shaping teacher behavior and attitudes than was low morale or dissatisfaction.

Conclusions

1. Deaf teachers of the deaf have some psychological and environmental needs that are similar in strength and quality to those of non-deaf adults in several other professional occupations.
2. The predominant psychological needs of the deaf teacher are for achievement and for intrinsically rewarding and worthwhile work. These factors are highly valued by the deaf teacher and

satisfy his basic need for self-actualization, or self-realization.

3. The deaf teacher's self-actualization needs are relatively stronger than the potential of his occupation for satisfying them. This is particularly true of the achievement need upon which depend the satisfaction of his recognition and work itself needs. A relatively unfulfilled achievement need therefore can be considered as a psychological determinant of underemployment in the deaf teacher.
4. The need structure of the deaf teacher does not include sufficiently strong needs for advancement in status or position or for higher level responsibility. Hence the lack of development of these needs in the deaf teacher reduces the amount of self-actualization attainable to him. Therefore the underdeveloped needs for advancement and responsibility are also psychological determinants of underemployment in the deaf teacher of the deaf.
5. The administrative and organizational structure and function of public residential schools for the deaf contain elements which are not conducive to fostering and developing in the deaf teacher the self-actualization needs of advancement and responsibility. These elements are related to: (1) lack of promotion opportunities for the deaf teacher, and (2) work assignments which appear to the deaf teacher as exceptionally difficult, unattractive, and lacking in sufficient success potential.

6. The predominant environmental needs of the deaf teacher are the needs for fair treatment and competent, effective guidance or leadership from school administrators and immediate supervisors, for sincere and compatible personal interactions with superiors, and for the tendering of respect to the deaf teacher from the administration. These factors are perceived by the deaf teacher as satisfying his need for mastery and control over his work environment.
7. The ability of public residential schools for the deaf to satisfy the valued basic environmental needs of the deaf teacher is exceeded by the strength of these needs. This is particularly true with respect to the needs for fair treatment from the administration and for fair and competent technical supervision. Therefore the relatively unfilled needs for good school policy and administration, good supervision, and respect from and good personal relations with superiors are environmental determinants of underemployment in the deaf teacher of the deaf.
8. Prelingual deafness, a condition common to a majority of the respondents in the study, with its concomitant and pernicious handicaps in language development and communication skill did not preclude the development in the deaf teacher of the basic need for self-actualization, i.e., higher order values of achievement, recognition for achievement, worthwhile work and pride, or self-esteem.

Recommendations for Further Research

1. A study similar in design and method to the present study should be undertaken to compare the job-attitudes of deaf teachers of the deaf versus non-deaf teachers of the deaf in the same public residential schools. This study would provide information on whether deafness, per se, is related to differences in perceived job-attitudes.
2. Future research should include an investigation into the job-attitudes of deaf adults engaged in teaching the deaf versus deaf adults in other professional occupations, e.g., engineering, art, architecture, rehabilitation counseling, etc.
3. A study similar in design and method to the present study should be conducted using deaf teachers of the deaf in different public residential schools for the deaf in other parts of the United States, and the results compared with this study. Such a study would provide information on whether geographical location of deaf teachers makes a significant difference in their perception of job-attitudes.
4. The job-attitudes of deaf teachers of the deaf and hearing teachers of the deaf could be compared with the job-attitudes of teachers in regular public schools. Results could be especially revealing of attitude differences related to administrative and organizational school system differences.
5. Motivation-hygiene research similar to the present investigation should be undertaken with non-professional deaf adult

populations, e.g., skilled, semi-skilled and unskilled. It needs to be determined whether the work need structure of deaf adults in these occupations differs significantly from the structure of non-deaf workers in similar occupations and from other deaf adults in the professions. Such research may lead to a clearer conception of underemployment and vocational adjustment and the major factors that contribute to them on different occupational levels.

6. A study should be undertaken of the attitudes of the deaf person toward work and certain (selected) professions as possible outlets for his employment needs which form the basis for his perception of the self in relation to work.

APPENDIX A

JOB ATTITUDES - PATTERNED INTERVIEW
[Reproduced from Herzberg et al. (1959)]

Think of a time when you felt exceptionally good or exceptionally bad about your job, either your present job or any other job you have had. This can be either the "long-range" or the "short-range" kind of situation, as I have just described it. Tell me what happened.

1. How long ago did this happen?
2. How long did the feeling last? Can you describe specifically what made the change of feelings begin? When did it end?
3. (For obviously SR sequences.) Was what happened typical of what was going on at the time?
4. Can you tell me more precisely why you felt the way you did at the time?
5. What did these events mean to you?
6. Did these feelings affect the way you did your job? How? How long did this go on?
7. Can you give me a specific example of the way in which your performance on the job was affected? (For productivity effects when the effect information was vague) How long?
8. Did what happened affect you personally in any way? How long? Did it change the way you got along with people in general or

your family? Did it affect your sleep, appetite, digestion, general health?

9. Did what happened basically affect the way you felt about working at that company or did it merely make you feel good or bad about the occurrence itself?

10. Did the consequences of what happened at this time affect your career? How?

11. Did what happened change the way you felt about your profession? How?

12. How seriously were your feelings (good or bad) about your job affected by what happened? Pick a spot on the line below to indicate how strong you think the good or bad feelings were. Circle that position on the line.

Least										Average									Greatest
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

Note: 1 should be used for a sequence that hardly affected your feelings at all; 21 should be used for a sequence that affected your feelings as seriously as the most important events in your working experience.

13. Could the situation you described happen again for the same reasons and with the same effects? If not, describe the changes that have taken place which would make your feelings and actions different today than they were then.

14. Is there anything else you would like to say about the sequence of events you have described:

What did you think of the interview?

Have you any other comments on the interview or on the research?

Notes:

For second sequence

Now that you have described a time when you felt _____ about your job, please think of another time, one during which you felt exceptionally _____ about your job, preferably a _____ range sequence of events.

APPENDIX B

CONTENT ANALYSIS CATEGORIES

Analysis of Factors

1. Recognition - first level

   0. Not mentioned.

   1. Work praised - no reward.

   2. Work praised - reward given.

   3. Work noticed - no praise.

   4. Work not noticed.

   5. Good idea(s) not accepted.

   6. Inadequate work blamed or criticized - no punishment.

   7. Inadequate work blamed or criticized - punishment given.

   8. Successful work blamed or criticized - no punishment.

   9. Successful work blamed or criticized - punishment given.

   R. Credit for work taken by supervisor or other.

   X. Idea accepted by school.

2. Achievement - first level

   0. Not mentioned.

   1. Successful completion of job, or aspect of it.

   2. The having of a good idea - a solution to a problem.

   3. Added prestige for the School.

4. Vindication - demonstration of rightness to doubters or challengers.
5. Failure in job, or aspect of it.
6. Seeing results of work.
7. Not seeing results of work.

3. Possibility of growth - first level
   0. Not mentioned.
   1. Growth in skills - objective evidence.
   2. Growth in status (advancement) - objective evidence.
   3. Lack of opportunity for growth - objective evidence.

4. Advancement - first level
   0. Not mentioned.
   1. Received unexpected advancement.
   2. Received advancement (expected or expectation not mentioned).
   3. Failed to receive expected advancement.
   4. Demotion.

5. Salary - first level
   0. Not mentioned.
   1. Received wage increase (expected or expectation not mentioned).
   2. Received unexpected wage increase.
   3. Did not receive expected increase.
   4. Received wage increase less or later than expected.

5. Amount of salary.
6. Wages compare favorably with others doing similar or same job.
7. Wages compare unfavorably with others doing similar or same job.

6. Interpersonal relations - supervisor - first level
   0. Not mentioned.
   1. Friendly relations with supervisor.
   2. Unfriendly relations with supervisor.
   3. Learned a great deal from supervisor.
   4. Supervisor went to bat for him with administration.
   5. Supervisor did not support him with administration.
   6. Supervisor honest.
   7. Supervisor dishonest.
   8. Supervisor willing to listen to suggestions.
   9. Supervisor unwilling to listen to suggestions.
   R. Supervisor gave credit for work done.
   X. Supervisor withheld credit.

7. Interpersonal relations - students - first level
   0. Not mentioned.
   1. Good working relationship with students.
   2. Poor working relationship with students.
   3. Good personal relationship with students.
   4. Poor personal relationship with students.

8. Interpersonal relations - peers - first level

   0. Not mentioned.
   1. Liked people he worked with.
   2. Did not like people he worked with.
   3. Cooperation of people he worked with.
   4. Lack of cooperation on the part of his co-workers.
   5. Was part of a cohesive group.
   6. Was isolated from group.

9. Supervision - technical - first level

   0. Not mentioned.
   1. Supervisor competent.
   2. Supervisor incompetent.
   3. Supervisor tried to do everything himself.
   4. Supervisor delegated work well.
   5. Supervisor consistently critical.
   6. Supervisor showed favoritism.

10. Responsibility - first level

   0. Not mentioned.
   1. Allowed to work without supervision.
   2. Responsible (for his own efforts).
   3. Given responsibility for the work of others.
   4. Lack of responsibility.
   5. Given new responsibility - no formal advancement.

11. Company policy and administration - first level

0. Not mentioned.
1. Effective organization of work.
2. Harmful or ineffective organization of work.
3. Beneficial personnel policies.
4. Harmful personnel policies.
5. Agreement with school goals.
6. Disagreement with school goals.
7. High school status.
8. Low school status.

12. Working conditions - first level

0. Not mentioned.
1. Work isolated.
2. Work in social surroundings.
3. Good physical surroundings.
4. Poor physical surroundings.
5. Good facilities.
6. Poor facilities.
7. Right amount of work.
8. Too much work.
9. Too little work.

13. The work itself - first level

0. Not mentioned.
1. Routine.
2. Varied.

3. Creative (challenging).

4. Too easy.

5. Too difficult.

6. Opportunity to do a whole job - all phases.

14. Factors in personal life - first level

0. Not mentioned.

1. Family problems.

2. Community and other outside situations.

3. Family needs and aspirations salarywise.

15. Status - first level

0. Not mentioned.

1. Signs or appurtenances of status.

2. Having a given status.

3. Not having a given status.

16. Job security - first level

0. Not mentioned.

1. Tenure or other objective signs of job security.

2. Lack of objective signs of security (i.e., school instability).

17. Recognition - second level

0. Not mentioned.

1. First-level factors perceived as source of feelings of recognition.

2. First-level factors perceived as source of failure or to obtain recognition.
3. First-level factors perceived as source of disapproval.

18. Achievement - second level

0. Not mentioned.
1. First-level factors perceived as leading to possible growth.
2. First-level factors perceived as block to growth.
3. First-level factors perceived as evidence of actual growth.

19. Possible growth - second level

0. Not mentioned.
1. First-level factors perceived as leading to possible growth.
2. First-level factors perceived as block to growth.
3. First-level factors perceived as evidence of actual growth.

20. Advancement - second level

0. Not mentioned.
1. Feelings of advancement derived from changes in job situation.
2. Feelings of demotion derived from changes in job situation.

21. Responsibility - second level

0. Not mentioned.
1. First-level factors leading to feelings of responsibility.
2. First-level factors as source of feelings of lack of responsibility or diminished responsibility.

22. Group feelings - second level

0. Not mentioned.
1. Feelings of belonging - social.
2. Feelings of isolation - social.
3. Feelings of belonging - sociotechnical.
4. Feelings of isolation - sociotechnical.
5. Positive feelings toward group.
6. Negative feelings toward group.

23. The work itself - second level

0. Not mentioned.
1. First-level factors leading to interest in performance of the job.
2. First-level factors leading to lack of interest in performance of the job.

24. Status - second level

0. Not mentioned.
1. First-level factors as source of feelings of increased status.

2. First-level factors as source of feelings of decreased status.

25. Security - second level

0. Not mentioned.

1. First-level factors as source of feelings of security.

2. First-level factors as source of feelings of insecurity.

26. Feelings of fairness or unfairness - second level

0. Not mentioned.

1. First-level factor perceived as fair.

2. First-level factor perceived as unfair.

3. First-level factor perceived as source of feelings of disappointment in others.

27. Feelings of pride or shame

0. Not mentioned.

1. First-level factors as source of feelings of pride.

2. First-level factors as source of feelings of shame.

3. First-level factors as source of feelings of diminished pride.

28. Salary - second level

0. Not mentioned.

1. First-level factors perceived as source of ability to improve well-being.

2. First-level factors perceived as source of lack of ability to improve well-being.

3. First-level factors perceived as source of more money (need undetermined).
4. First-level factors perceived as source of lack of more money (need undetermined).

Analysis of Effects

1. Performance effects
   0. Not mentioned.
   1. General statements regarding positive change in quality or output of work.
   2. General statements regarding negative change in quality or output of work.
   3. Positive changes in rate or amount of time spent in work.
   4. Negative changes in rate or amount of time spent in work.
   5. Specific reports of positive changes in quality or nature of work.
   6. Specific reports of negative changes in quality or nature of work.
   7. Reports of positive changes in both rate and quality of work.
   8. Reports of negative changes in both rate and quality of work.
   9. Statement affirming lack of change in amount or quality of work.

2. Turnover effects

    0. Not mentioned.
    1. Quit.
    2. Made connections.
    3. Read papers - looked around - took steps but without contacting other schools or agencies.
    4. Thought of quitting.
    5. No thought of quitting despite negative feelings.
    6. Would not quit now because of positive feelings.
    7. Would not quit despite specific offers.
    8. Factor in decision to quit at later date.

3. Mental health aspects

    0. Not mentioned.
    1. Loss of sleep.
    2. Psychosomatic effects.
    3. Psychological effects of tension (anxiety, loss of appetite, headaches, etc.).
    4. Psychosomatic effects and tension symptoms.
    5. Improvement in psychosomatic conditions.
    6. Improvement in tension symptoms.
    7. Improvement in psychosomatic conditions and tension symptoms.

4. Interpersonal relations effects.

    0. Not mentioned.
    1. General statements regarding positive effects.

2. General statements regarding negative effects.

3. Positive effects on family.

4. Negative effects on family.

5. Positive effects on friends.

5a. Positive effects on students.

6. Negative effects on friends.

6a. Negative effects on students.

7. Positive effects on co-workers.

8. Negative effects on co-workers.

9. Many specific positive effects on interpersonal relations.

R. Many specific negative effects on interpersonal relations.

5. Attitudinal effects

0. Not mentioned.

1. Positive toward individual (supervisor).

2. Negative toward individual (supervisor).

3. Positive toward school.

4. Negative toward school.

5. Positive toward profession.

6. Negative toward profession.

7. Positive security feelings.

8. Negative security feelings.

9. Positive effects regarding confidence.

R. Negative effects regarding confidence.

X. Multiple effects on attitude (positive).

6. Miscellaneous effects

   0. Not mentioned.

   1. By products - effects of effects affecting other than job life.

   2. Direct effects of attitudes affecting other than job life.

APPENDIX C

LETTER TO SUPERINTENDENT

Dear _____:

I am a doctoral candidate at The University of Arizona. I am working on my dissertation which is entitled "The Motivation to Work In Deaf Teachers of the Deaf." I hope to personally interview 50 deaf teachers of the deaf employed in public residential schools for the deaf in California, Texas and New Mexico. Each interview would take approximately one hour and will be scheduled so as to avoid imposing on the teacher's classroom time.

I would like to ask for your permission and cooperation in recruiting deaf teachers in your school as subjects for this research and in conducting their interviews on the school campus. To start, I would need from you the names of all deaf teachers in your school so that I can later contact them individually to ask if they will volunteer to participate as subjects. From there, all that would be needed would be to arrange with each volunteer a suitable time for his interview.

All interview material will be treated with strict care, confidentiality and scientific objectivity.

I would very much appreciate your favoring me with an early reply to my request.

Sincerely,

Geno M. Vescovi

APPENDIX D

LETTER TO TEACHERS

Rehabilitation Center
University of Arizona
Tucson, Arizona

Dear _____:

I am a doctoral student at The University of Arizona. I am working on a dissertation which is entitled, "The Motivation to Work in Deaf Teachers of the Deaf." I would like to invite you to be a subject in this research.

The purpose of this study is to investigate what deaf people themselves have to say about what they want from their jobs. I feel that this kind of research will perhaps lead to a better understanding of the deaf worker's needs in different occupations.

If you agree to participate in the study you will be personally interviewed by me, one time, and it would take approximately one hour. In addition, you will be asked to fill in a short form giving biographical information, e.g., age, onset of deafness, etc., and this would require about 15 or 20 minutes. The form will be sent to you about one month before your scheduled interview.

I am deaf myself and will conduct the interviews in sign-language, fingerspelling and speech, as needed. Your name will be kept confidential. The material collected from you will not be identified with it. This approach will be used to respect your privacy and to allow you to express yourself freely, spontaneously, and accurately. The data secured from you will be treated with as much scientific objectivity as possible.

With this letter I am enclosing a check-slip and a self-addressed and stamped envelope for your use. Please check whether you will accept or decline to participate in the study.

May I hear from you soon?

Sincerely,

APPENDIX E

CHECK-SLIP MAILED TO RESPONDENTS

Please fill out this slip to indicate whether you can participate in this research. A self-addressed stamped envelope is provided for your reply.

Your Name: _____

Check One:

Can you participate in the study ( )
Can not participate in the study ( )

If you can participate check your preferred day of the week and time of day for the interview I will soon schedule for you.

1st choice: Day of the Week:_____Time:___a.m.___p.m.

2nd choice: Day of the Week:_____Time:___a.m.___p.m.

3rd choice: Day of the Week:_____Time:___a.m.___p.m.

Comments:

Thank you for your cooperation.

APPENDIX F

BIOGRAPHICAL INFORMATION FORM

BACKGROUND INFORMATION

1. Name:
   Home Address:

2. ( ) Married--Children ( )
   ( ) Single
   ( ) Widowed--Children ( )

3. Your Age:
   ( ) Under 25
   ( ) 25-34
   ( ) 35-44
   ( ) 45-54
   ( ) 55-64

4. Your Race:
   ( ) White
   ( ) Negro
   ( ) Indian
   ( ) Other (Specify)_____

5. Sex:
   ( ) Male
   ( ) Female

6. Age you Became Deaf:
   ( ) Birth to 3 years
   ( ) 4-7
   ( ) 8-12
   ( ) 13-19
   ( ) 20-30
   ( ) 31-Above

7. How did you become deaf?
   Specify _____

   _____

8. Do you consider yourself:
   ( ) Deaf or ( ) Hard of Hearing. If "Hard of Hearing", can you hear the conversational voice:
   ( ) Without a hearing aid
   ( ) With a hearing aid

9. Why did you choose "teaching the deaf" as your occupational field?
   _____
   _____

10. Did you ever consider another occupational field? If "Yes" describe it briefly._____

    _____

11. If you were to choose a different field now, what would it be and why?_____

    _____

12. Where did you obtain your education?

Elementary:	No. of Years
Residential	
Public ( )	_____
Private ( )	_____
Day School	
Public ( )	_____
Private ( )	_____
High School:	
Residential	
Public ( )	_____
Private ( )	_____
Day School	
Public ( )	_____
Private ( )	_____

13. Highest level attained was:
    High School or less ( )
    1-3 years of college ( )
    Bachelors Degree ( )
    Masters Degree ( )
    Doctoral ( )
    Other (Specify)_____

    _____

14. College Attended:
    Gallaudet ( )
    Other (Name)_____
    _____

15. Certification:
    Conference of executives of American Schools ( )
    Other (Specify)_____

16. What is your present position?

	Full Time	Part Time	Experience 2-5	6-9	10-13	14
( ) Academic Teacher, lower grades	( )	( )	( )	( )	( )	( )
( ) Academic, Intermediate grades	( )	( )	( )	( )	( )	( )
( ) Academic, Advanced grades	( )	( )	( )	( )	( )	( )
( ) Vocational, Intermediate	( )	( )	( )	( )	( )	( )
( ) Vocational, Advanced	( )	( )	( )	( )	( )	( )
( ) Other (Specify)_____	( )	( )	( )	( )	( )	( )
_____	( )	( )	( )	( )	( )	( )

17. With which communication method do you feel most effective when using with your co-workers and students?

	With Co-Workers		With Students	
	Expressive	Receptive	Expressive	Receptive
1. Sign Language	( )	( )	( )	( )
2. Fingerspelling	( )	( )	( )	( )
3. Speech	( )	( )	( )	( )
4. Lipreading	( )	( )	( )	( )
5. Writing	( )	( )	( )	( )
6. Gestures, Mime	( )	( )	( )	( )
7. A combination of the above. Place numbers in parentheses)	( )	( )	( )	( )

THANK YOU VERY MUCH FOR YOUR PATIENCE IN COMPLETING THIS FORM.

Return to:

Geno Vescovi
Rehabilitation Center
University of Arizona
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