A STUDY OF THE RELATIONSHIP BETWEEN SELECTED INTERVIEWER VARIABLES AND THE INTERPRETATION OF INTERVIEW INFORMATION

A Dissertation Presented to the Faculty of the Department of Psychology University of Houston

> In Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy

> > by

Richard Wade Wheeler January, 1969

FORMARD

I would like to express special appreciation to Dr. John F. MacMaughton, who served as committee chairman, for his invaluable assistance and encouragement in this project. My sincere gratitude is extended to the other members of my committee, Dr. Hobart Caburn, for his advice on statistical methods, and to Dr. Daniel Sheer, Dr. Richard I. Evans, and Dr. Leslie Munnecke, for their assistance and continued interest.

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> Richard W. Wheeler Houston, Texas

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ABSTRACT

The purpose of this investigation was to determine the relationship between selected interviewer variables and the interpretation of interview information in terms of favorability ratings.

The selected variables included the interviewer's (1) age, (2) educational background (technical or nontechnical), (3) years of interviewing experience, (4) frequency of participation in interviews, (5) managerial position in an organization, as well as his degree of (6) ascendency, (7) responsibility, (8) emoticnal stability, (9) mental alertness, (10) sociability, and (11) dogmatism.

In order to study the problem, sixty-two male, department supervisors and superintendents of a large utility company, who are responsible for interviewing job applicants in their particular departments, served as subjects in this study.

The subjects were classified into interviewer variable categories based on information obtained from their personnel records, and from their performance on the following instruments: The <u>Gordon Personal Profile</u>, the <u>Thurstone</u> <u>Test of Mental Alertness</u>, and the <u>Dogmatism Scale</u> developed by Milton Rokeach. An interview information rating form was constructed which consisted of 60 items of interview information about hypothetical job applicants. This form was presented to each subject with instructions to rate independently each item on a seven-point favorability scale. The composite favorability score of each judge was used in determining the statistical relationships between favorability ratings and interviewer variables.

A standardized procedure was used in the administration and scoring of all materials. The subjects were not aware of the purpose of the study at the time the materials were presented.

In analyzing the data, which were treated by methods of "t" scores, product moment correlations, rank order correlations, analysis of variance, Scheffe's method of post hoc comparisons, and Chi Square test, the following conclusions were reached.

(1) While interviewers agree closely on their ratings of some items of applicant information, they differ considerably on their ratings of others.

(2) Unfavorable interview information elicits more variability from raters than does favorable information.

(3) The more responsible and the more dogmatic interviewers are judged to be, the less favorably they rate job applicant information.

(4) Personality factors such as the degree of responsibility and dogmetism exhibited, have greater influence on the favorability of applicant information ratings than do the interviewer's age, level of intelligence, amount of interviewing experience, frequency of interview participation, or managerial position in an organization.

(5) The untested use of applicant information favorability ratings from one study to another is unwarranted.

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CHAPTER I

INTRODUCTION TO THE PLOBLEM

After 50 years of research the practical utility of the employment interview is still unknown. Yet it serves, almost universally, as an important source of information on which personnel selection, placement, and transfer decisions are made. Its economic importance is reflected by the fact that virtually every company in the United States, large or small, includes it in their selection program. A survey of 852 firms, conducted in 1958, showed that 97% of them interviewed applicants before hiring (Spriegel and James, 1958). Thirteen years ago, Bellows and Estep (1954) estimated that in the United States alone, 150 million selection interviews were conducted annually.

However, the lack of generalized knowledge from past research has led recent reviewers of the literature (Ulrich and Trumbo, 1965 and Mayfield, 1964) to express rather negative views of the interview as a basis for making behavioral predictions, and led Dunnette and Bass (1963) to describe it as:

a costly, inefficient, and usually nonvalid procedure, often used to the exclusion of more thoroughly researched and validated procedures. In their opinion, the interview should be retired from its role as an assessment tool and be retained only as a public relations, recruiting, and information disseminating device.

However, since the interview serves as the only means by which the interviewer can become acquainted with an applicant as a person, and since applicants have come to expect the personal treatment accorded by the interview, its retirement as a selection tool is not likely (Crissy, 1952, and Dunnette and Hakel, 1966).

I. THE PROBLEM

<u>Background to the problem</u>. For the most part, research on the employment interview over the past five decades has been directed toward assessing its validity and reliability. This rather narrow approach has shown that inter-rater agreement and decision validities are quite low, and that interview decisions add little to predictions based on other techniques (Dunnette, 1966).

Recent reviewers of the literature (Ulrich and Trumbo, 1965, and Mayfield, 1964) concur that the most promising recent development in the study of interviewing concerns the decision-making process as it occurs in the interview. They agree that such studies could lead to a better

understanding of certain problem areas, such as empathy and interpersonal communications, and could provide some information as to why different results have been obtained from different research studies.

Most of the investigations involving decision making in the interview have been carried out under the direction of E. C. Webster at McGill University (Webster, 1964). His research and that of his students has focused primarily on how interviewers form impressions of interviewees. Underlying these studies is the notion that:

Until factors which play a systematic role in determining the final decision of the interviewer are revealed, the limits of reliability and validity cannot be known (Nebster, 1964; p.2).

That interviewers are more influenced by unfavorable than by favorable information in the evaluation of job applicants is one of several important and interesting findings of the McGill studies. But what is favorable information? There is evidence from the available literature that when interviewers obtain the same information, they are likely to interpret it differently (Wentworth, 1953, Ash, 1946, Mayfield and Carlson, 1966). Little systematic research has been done to isolate the personal variables that relate to interviewer differences in the interpretation of employment interview information.

<u>Statement of the problem</u>. This study represents an exploratory attempt to determine the effects of selected interviewer variables such as, age, amount of interviewing experience, type of educational background, managerial position in an organization, intellectual ability, and personality characteristics, on the interpretation of interview information.

<u>Value of the study</u>. A major cause of the unreliability of the employment interview could stem from the tendency on the part of interviewers to assign different weights to the same information. The identification of the personal variables which effect the interpretation and differential weightings of information could contribute markedly to the problem of interview reliability, and perhaps point to areas of weakness in interview training.

CHAPTER II

REVIEW OF THE LITERATURE

Fifty-two years ago Scott (1915) reported one of the first studies concerned with the reliability of the employment interview. In this study six personnel managers interviewed 36 applicants for jobs and ranked them in terms of their estimated suitability for the job. The rankings made by the different managers showed little relationship to each other. In 78 percent of the cases the managers disagreed as to whether the applicant should be placed in the top or bottom half of the group.

A year later, Scott, Bingham and Whipple (Scott,1916) published an article concerned with the validity of the selection interview. In this study, the sales ability of 12 salesmen was rated by 13 executives. The relationship between their ratings and the ratings the salesmen received in earlier interviews was negligible.

In 1922, Hollingsworth reported a study in which 57 sales applicants were interviewed and ranked by 12 sales managers in terms of their suitability to sales work. The results are well-known, interviewers ranked applicants in markedly different orders. In one case, an applicant who was rated 1st by one interviewer was rated 56th by another. As a result of these early studies, the limitations of the interview as a basis for judging human behavior were brought to the attention of psychologists. As a consequence, the various sources of interview error began to receive attention in the literature.

The term "halo effect" was first used by Thorndiko (1920) to describe the observation that trait ratings tended to intercorrelate higher than one could reasonably expect, judging by the intercorrelations among actual traits rated. Thorndike used the term "halo" because he felt these correlations resulted from an overall general impression which the interviewer had of an applicant.

Hollingsworth (1922) described other sources of error: (1) the error of central tendency of judgment according to which high scorers on a test tended to be under-estimated and low scorers over-estimated, (2) the error of "general standoutishness" or the tendency to judge on the basis of one outstanding trait, and (3) the indefiniteness and aubiguity of trait definitions.

Bingham and Moore (1931) mentioned errors due to a misunderstanding on the part of an applicant of what the interviewer wants, faulty preparation for the interview, and the tendency on the part of interviewers to judge from stereotypes.

Rice (1926-27) showed evidence of the existence of stereotypes by demonstrating the ability of subjects to identify the occupations of individuals whose photographs appeared in a Boston newspaper. That attitudes of interviewers affect their interpretation of what interviewees say was also demonstrated by Rice (1929). In what is now considered a classic study, he showed that prohibitionist and socialist interviewers differed widely in their interpretation of the causes of unemployment.

Hyman (1954), in a summary of research on opinion polling, showed that attitudes affected the interpretation of interview information, but it has not been determined which attitudes are most biasing or the manner in which they change interpretations (Mayfield, 1964).

Cronbach (1955-56) has discussed the possibility that different perceivers or interviewers may differ in their implicit personality theories, which contribute to errors in the interpretation of the same data. He suggests that perceivers may differ in terms of: (1) the central tendency of their ratings on any trait, (2) the dimensions they use to differentiate between others, and (3) the interrelationships of these dimensions.

In regard to perceiver differences, Jones (1954) conducted a study in which he compared authoritarian and non-

authoritarian subjects on ratings given of prospective leaders. He found marked differences between the two groups of subjects in the traits associated with various kinds of leaders, i.e., authoritarians thought of the democratic leader as being more "wishy-washy," "unambiticus," and "undependable," while non-authoritarians saw the democratic leader as more "non-suspicious," "popular," and "modest." Both groups saw the democrat as "sensitive to others," "generous," and "warm."

Interview validity and reliability. Early investigations on the employment interview emphasized low inter-rater agreement and low validity. These studies were criticized by McMurry (1947) on a number of counts including lack of job specifications, differences among interviewers in terms of training, experience, and intellect, and the lack of job information, as well as a lack of organization in the structure of the experimental interview.

Since the early studies, a number of investigations concerning the validity and reliability of the interview have appeared in the literature, but very little sound research has been conducted. Of the 109 articles reviewed by Wagner (1949) only 25 were based on experiments and 23 of those were limited to the problem of validity and reliability. Wagner reported studies which showed reliabilities for

interview-based ratings to range from .23 to .97, with a median of only .57. In addition, he found only 22 validity coefficients which involved 16 of 96 traits rated in various studies. The coefficients ranged form .09 to .94, with a median of .19.

Some of the first reports to appear after Wagner's (1949) review were concerned with the prediction of success in professional training. Kelley and Fisk (1950), 1951) reported a five-year study concerned with the prediction of success in the Veterans Administration training program in clinical psychology. More than 500 students from nearly 40 psychology departments were given a wide range of objective, projective and situational tests. Predictions of success based on a number of combinations of tests, credentials, and interview data were validated against several criteria. It was found that the most efficient clinical predictions were based on information contained in the credentials file and in the objective test profiles. Median validity of predictions from credentials alone was .24. The addition of a one-hour interview to the same data increased the median validity to only .25. With both test scores and credentials available, validity coefficients ranged about a median of .30, and the addition of a two-hour interview served to increase

the median value to only .31. Thus the interview appears to have contributed little to the predictive validity of the ancillary data. The authors advanced the following hypothesis to account for the above findings:

The essence of clinical evaluation and integration of data involves permitting the clinician to assign to each item of opinion "beta weights," which vary from case to case according to the clinician's perceived patterning of the data. Our findings suggest that this technique may result in increasing the ratio of error variance to true variance with successive ratings based on increments of information. This may lead to a subjective feeling of increased knowledge about the assessee without a parallel awareness of the fact that many of the additional items of information are not actually correlated with the criteria, and hence should not be weighted in arriving at a prediction about the assessee.

Kelly and Fisk (1951) further conclude that:

Although the unstructured interview is one of the most widely used tools in personnel selection, the writers know of no evidence in the literature to suggest that such interviews have other than extremely low validity, which hardly justifies the degree of confidence and esteem with which they are held by users of the interview.

Another study involving the prediction of success in a professional area was reported by Anderson (1954). Interviewers, using a 30 minute guided interview, interviewed and then rated 278 applicants for the doctoral candidacy. The interviews were tape recorded and subsequently played back for faculty members who also rated the candidates from the recordings alone. The ratings made without the

face-to-face contact were compared with the ratings of the interviewers. A level of consistency of .85 was obtained in this manner. When the interviewer summary ratings were correlated with combined ratings of two faculty members who knew the interviewees well, a validity of .51 was found for the two sets of ratings. This validity coefficient, based on a 30 minute interview, was from .23 to .37 higher than that achieved from noninterview data, including test scores, college grades, and essay examinations.

In a concurrent validity study of personality trait ratings in the interview, Tupes (1950) administered a number of objective and projective type tests to 128 male college graduates who had been accepted under the Veterans Administration training program in clinical psycholcgy. In addition, the subjects received both an initial interview, which lasted one hour, and an intensive interview, which lasted for two hours. The interviews were conducted by 30 clinical psychologists. Various types of ratings were made based on different combinations of materials; test results, credentials, and interviewer ratings of surface traits. The ratings were validated against a final pooled rating of three staff members who used all the available information on the subjects. The results

showed that when predictions were made on the basis of credentials alone and prior to the initial interview, median validities of .21 and .28 were obtained for predictions of source traits and criterion ratings. When the initial interview was added to the same data, median validity coefficients of .42 and .46 were obtained. With credentials plus psychometric data, but without the interview, validity increased to .49 and .57. Finally, interview predictions correlated on the average, .61 and .69 with the criteria, when all the previous data plus the intensive interview served as the basis for predictions. Thus the more comprehensive the psychological data available, the more valid the personality trait ratings based on that data. In reviewing this study Ulrich and Trunbo (1965) point out however, that:

Each successive increase in the data, which were the basis of the interview predictions made the prediction situation that much more like the criterion situation, so that, in the final phase predictions were made on essentially the same information as the criterion ratings. The question arises, then, as to whether the validities for the post interview condition should be construed as anything more than reliability coefficients.

Rains and Roher (1955) reported a study in which a group of psychiatrists interviewed for 20 minutes each, a group of 886 highly selected officer candidates. On the basis of the interview, validities of .30 and .35 were obtained for the psychiatrists' predictions of Junior Combat Officer effectiveness when line officer and peer ratings served as the criteria.

The authors presented additional data demonstrating that different psychiatrists tended to see different traits in the same man, and offered the following hypothesis to explain these differences:

The differences observed in diagnostic judgments of psychiatrists result from differing frames of reference which are derived from the transactional life experiences of the psychiatrists. This results in a greater sensitivity on the part of the psychiatrists for certain facets of the patient's personality structure. Once perceived, correctly or distortedly, each item of information is subjected to the psychiatrists' value system.

No hypothesis was offered however, to suggest the specific nature of the differing frames of reference which lead to perceptual differences on the part of the psychiatrists.

In a study involving an industrial sample composed of 44 male candidates for supervisory positions, Handyside and Duncan (1954) report relatively high validities for interviewer predictions. Predictors included management recommendation forms, two intelligence tests, an interview in which the interviewer was provided with test data, biographical data and supervisors recommendations, ratings based on three group discussions, and a review of all the evidence by managers and investigators. Only managers' recommendations failed to predict criterion ratings better than chance, all other predictors yielded validities above .50. In studies such as these, it is difficult to determine the relative contribution of the interview per se, since interviewers use a large amount of ancillary data.

Yogue (1956) reported another study involving an industrial sample in which 46 employees of a pharmaceutical manufacturing firm were rated on the basis of a structured interview. Interviewer predictions were correlated with a criterion of composite ratings by four judges on both productivity, and job relations. The validity coefficients ranged from .48 to .99 for five subgroups of a total sample of 46 subjects. While these validities are impressively high, they would be much more meaningful if the interviews had been conducted with job applicants rather than employees.

Shaw (1952) and Bonneau (1957) reported studies involving predictions of rated success in teaching. Shaw's study compared predictions of success of 70 junior level, undergraduate teacher candidates at the University of Minnesota, based on scholastic aptitude and academic

records with and without an interview. A rating by the supervising teacher on practice-teaching performance some two years subsequent to the predictions, served as the criterion. Shaw found a non-significant Chi Square when objective data alone were used, but found a significant Chi Square (p<01) with an associated coefficient of contingency of .42, when the objective data ard the interview were combined. He concluded that the interview was an effective means of contributing to the determination of the fitness for high school science teacher training.

Bonneau's (1957) study was designed to determine the efficiency of the interview for predicting teacher ability to establish rapport with students. Pupil ratings served as a criterion. Bonneau obtained a validity coefficient of .65 based on the interview as compared to validities of .42 and .33 respectively, based on ratings of superintendents and principals, who knew the teachers well. He concluded that the ability to develop rapport with students could be predicted with a higher probability from the teacher interview than by school administrators' ratings.

Campbell, Prien, and Brailey (1960) reports a study in which test scores and performance ratings were obtained for 95 women and men employed by a large public utility.

Using four predictor categories and supervisory ratings as a criterion, they found that two scores of the <u>Gordon</u> <u>Personal Profile</u> (Responsibility, and Emotional stability) yielded higher validities than the interview or performance tests.

Holtzman and Sells (1954) reported a study in which 19 clinical psychologists attempted to predict flight training success from a battery of tests, without benefit of an interview. The subjects were 100 aviation cadets of which 50 had been successful in training and 50 had been eliminated because of overt personality disturbances. The clinicians' global, pooled, and test-by-test predictions failed to predict better than chance.

Campbell, Otis, Liske, and Prein (1962) found that psychologists were able to make predictions of successful and unsuccessful job performance using a combination of interview information, objective test data, and clinical reports of projective test data. They report correlations ranging from -.05 to .50 between eight appraisal dimensions and ratings made six months later. From a correlation matrix the authors concluded that actuarial predictions would not be effective in cases where a small number of people were being selected for a small number of jobs.

In a study designed to determine the effectiveness of ratings based on interview information, as a predictor of

future job performance in sales and non-sales jobs, Prein (1962) obtained supervisory ratings for 161 employees of various companies. Validities for the prediction of ratings in sales positions were non-significant. Significant validity coefficients of .22 - .26 were obtained however, for the prediction of over-all effectiveness of non-sales positions. Prein concluded that the interview has some validity for the assessment of higher level personnel. As Ulrich and Trumbo (1965) suggest in this regard, perhaps predictive success "may be highly specific to requirements of the job."

Another study concerned with the prediction of success in training was reported by Trankell (1959). Validities for predictions based on interviews exceeded those for statistical predictions when pass-fail in pilot training for a Scandinavian airline, served as the criterion. Trankell concluded that the predictions based on interview information alone have predictive validity; however, the effeciency of predictions can be improved by providing the interviewer with more extensive information regarding the interviewee, such as test data.

Based on a study in which 1,168 ratings by company interviewers and a like number of reciprocal ratings by college seniors were obtained, Johnson (1958) concludes: in the final analysis, personnel selection ---appears to be largely a matter of harmony of personal characteristics of the interviewer and the interviewee.

Although brief reviews and comments have appeared in the <u>Annual Peview of Psychology</u> (Brown and Giselli, 1952; Dudek, 1963; Dunnette, 1962; Loevinger, 1959; Sells, 1964) since Wagner's review, only two comprehensive surveys of the literature on the employment interview have been presented. One by Mayfield (1964) and the other by Ulrich and Trumbo (1965). Both reviews included over 80 references (of which some 25 were in common) and stressed those studies which pointed to low interview validity and reliability.

Mayfield (1964) found that only intelligence had been predicted satisfactorily, while Ulrich and Trumbo (1965) suggested that the greatest potential promise of interview validity lies in predicting motivation and competence in personal relations. They refer to the study by Rundquist (1947) wherein a rare validity coefficient of .37 was obtained when the interview was limited specifically to the assessment of "sociability."

In regard to the question of interview reliability, Wagner (1949) reported studies which should reliabilities for interview based ratings to range from .23 to .97, with

a median of only .57. In a review of the research from 1949 to 1965, Ulrich and Trumbo (1965) report trait rating reliabilities ranging from .15 to .90. They maintain that "reliability remains a serious source of attenuation for any validity coefficients that might be found." Mayfield (1964) draws a similar conclusion based on his review of the literature.

Test versus interviews. The merits of "actuarial" versus the "clinical" method of evaluation has long been debated (Meehl, 1954). Thorndike (1918) suggested that by developing test batteries which minimize inter-test correlations, personnel selection could be improved. This statistical or actuarial method had support from several including Hull (1925), Cronbach (1949), and Cuilford (1949). Vitelles (1925) advocated the clinical approach on the basis that quantitative data alone resulted in an incomplete use of information.

Based on a review of some 300 articles, Mayfield (1964) concluded that in studies utilizing objective test information, predictions based on interview inferences have rarely been more and usually been less accurate than those based on tests alone.

The accuracy of interview information. Few studies have been reported on the accuracy of information obtained in the interview. One study which showed encouraging

results was reported by Keating, Patterson, and Stone (1950). These investigators randomly selected cases from the Minnosota State Employment Service office for evaluation of the accuracy of job applicant reports of past employment with regard to weekly wages, duration of employment, and job duties. The authors concluded:

The validity of the work histories when checked by employers reports was found to be suprisingly high - - - in terms of correlation coefficients, the validities may be generalized as being from .90 to .98.

In a study involving the physically handicapped, Weiss and Dawis (1960) report that accuracy of interview information varied from 100 percent for sex of the applicant to 50 percent for whether or not the interviewee had received assistance from the Vocational Rehabilitation Agency. Consistent with reports of social-desirability biases in the survey interview (Naccoby and Maccoby, 1954), accuracy seemed to be a function of social desirability, i.e., errors tended to be in the direction of the more socially acceptable responses.

<u>Content analysis of the interview</u>. A number of studies have appeared in the literature which report various attempts to analyze the content of interviews. For example, Daniels and Otis (1950) recorded sixty actual employment interviews at eight different

companies. Fifty-four interviews were subsequently analyzed in terms of the exchange, which the authors defined as " a question, statement, or other utterance on the part of the interviewer followed by a reply on the part of the applicant. Each exchange was then classified into one or more of the following twentysix categories:

- Time interviewer spoke l.
- 2. Time applicant spoke
- 3. 4. Total time of pauses
- Total time of interview
- Total number of exchanges
- 5. Mean time per exchange
- <u>7</u>: Number of questions asked by the interviewer Number of "old information" questions; i.e.,
- questions concerning information which was already a matter of record on the application blank
- 9. Number of "new information" questions, i.e., questions concerning information not on the application blank
- Number of answers by the applicant Number of "old information" answers 10.
- 11.
- Number of "new information" answers 12.
- 13. Volunteered information statements by the applicant
- 14. New information volunteered by the applicant
- Old information volunteered by the applicant 15.
- 16. Job information given by the interviewer
- 17. 18. Company information given by the interviewer
- Suggestions or advice to the applicant
- 19. Questions asked by the applicant
- 20. Exchanges not concerned directly with the the job, or the company
- Interruptions by the applicant 21.
- 22. Interruptions by the interviewer
- 23. Applicant's monosyllabic responses
- 24. Applicant's responses which were not monosyllabic but did not fit into any of the above classifications
- 25. Interviewer's monosyllabic responses
- 26. Interviewer's responses which were not monosyllabic

Based on an intercorrelation matrix of these categories, the investigators found that the average interview lasted 10 minutes, of which the interviewer spoke 5.72 minutes and the applicant 3.02 minutes. The authors concluded that the interviewer, more than the applicant, controlled the length of the interview, while the applicant had more control over the total number of exchanges; that interviewers did not spend much time on information already available from other sources, but talkative interviewers tended to talk about irrelevant matters; and that the number of volunteered information statements was related to the nondirective responses of the interviewer.

Daniels (1953) in a follow-up study, factor analyzed 14 of the 26 categories described above. Five factors emerged and were labeled (1) interviewer pertinency, (2) interviewer dominance, (3) time of the interview, (4) applicant dominance, and (5) interviewer verbosity. Daniels concluded that the interviewer should stick to the point, listen, not dominate, but control, be permissive, and give no advice. He also felt that it was possible to conclude the interview in 20 minutes provided the above suggestions were followed.

In a study designed to relate the verbal behavior of employment interview participants to interview decisions, Anderson (1960) analyzed 115 taped interviews made by six Canadian personnel officers. He measured the amount of time the applicant spoke, the interviewer spoke, and vacant time, or the time that neither spoke. He found that interviewers talk more with applicants they accept than with applicants they reject, that the applicant spends the same amount of time talking in acceptable cases as in rejection cases, and that regardless of whether an applicant is accepted or rejected, the length of the interview is approximately the same.

Employing essentially the same design in a later, more detailed study, Anderson (1961) found that the favorable or unfavorable nature of the interviewer's final decision was related to the amount of time he talked, the extent to which the content of his speech was discomforting for the applicant, the amount of discomfort expressed by the applicant, and the length of time the applicant hesitates before speaking. Anderson suggested that " the results of this study are compatible with the proposition that the interviewer uses the interview to confirm an impression of an applicant that is initially favorable or unfavorable."

In a series of recent reports Sydiaha (1959,1961, 1962) used a different approach to analyze the interview. In the first report Sydiaha (1959) addressed himself to the question of acturarial versus clinical predictions. Eight interviewers assessed from 14 to 50 Canadian Army applicants using information obtained from biographical and test data, and from interview conversation. Each applicant was described on a 120 item Q-sort check list. These data were quantified and combined into composite statistical scores (biographical and test data) and clinical scores (Q-sort data). The correlations of clinical scores and statistical scores with the acceptreject decisions of interviewers were evaluated. It was predicted that clinical decisions would correspond more closely to real decisions than statistical predictions, and that the two methods would not yield identical predictions. Both predictions were supported.

This study also emphasized the similarity between different interviewers of what they perceived to be desirable characteristics of a good soldier. Intercorrelations between different interviewer's Q-sort descriptions of an ideal recruit ranged between .56 and .98 with a median r of .81. Sydiaha summarizes his findings as follows:

The most important facts emerging from this investigation are that the decisions of personnel interviewers are highly correlated with fairly simple descriptive statements of applicant characteristics, and that these characteristics are equally correlated with the decisions of all interviewers. The results are consistent with the view that personnel interviewers tend to attach the same importance to systematic information such as bicgraphical and test data, and they tend to support their decisions by referring to the same hypothetical attributes. Using the word "stereotype" in a non-avaluative sense, it would appear that there is a stereotype of a good soldier, which accounts for a great deal of decision making. This stereotype is common to all interviewers and serves as a standard against which applicants are matched for suitability to Army service.

With regard to Sydiaha's study cited above, Ulrich and Trumbo (1965) point out:

One finds it difficult to interpret this study as Sydiaha did, as being a test of the actuarial versus the clinical-prediction problem. In the first place, neither score was used to predict an independent criterion of performance; instead both scores were evaluated in terms of their power to predict the interviewer's decisions.

In his second study, Sydiaha (1961) applied Bales' (1950) interaction-process analysis to the interview. Samples of personnel selection interview conversation were analyzed according to Bales' interaction-process analysis. Scores obtained were correlated with decisions made by interviewers about whether applicants were recommended for acceptance or rejection. The results showed that inter-interviewer differences in interaction
process are confined to interviewer conversation only. This suggest that interviewer decisions are more nearly predictable from their own actions than from those of the applicant.

Sydiaha's (1962) last report was concerned with the inter-interviewer consistency in the use of empathic models in acceptance-rejection decisions. His basic approach involved three principal measures: (1) accuracy of the closeness of fit between the predictions of a judge and replies of a candidate, (2) assumed similarity or the comparison of predictions concerning a candidate and the judges' self perception, and (3) similarity or a comparison of the average replies of a group of candidates with the judges' self description. These three measures based on predicted and actual responses to two tests, served as empathy dimensions. Empathy processes were found to be highly specific to certain interviewers, with correlations between empathy scores and criterion scores ranging from -.45 to .84. Evidence of projection of unwarranted characteristics to applicants by interviewers was cited, as well as evidence that such projections were used as a basis for acceptance or rejection decisions. Reviewing all his data, Sydiaha concluded that:

--- there is considerable danger in resorting to empathy as a basis of decision making in selection. While there may be some apparent gain in additional cues by doing so, this gain would appear to be offset by the fact that an empathic basis of decision making may be inconsistent from one interviewer to another.

The interpretation of interview information. When interviewers obtain the same information they are likely to interpret it differently. Wentworth (1953), used a tape of an actual interview to find that raters differed greatly as to how each of five items of information affected their impressions of an applicant. Some items led to extremely unfavorable impressions on the part of some raters and to extremely favorable impressions on the part of others.

Springbett (1954) designed a study to determine how early in an interview an interviewer reached a hiring decision. Eight senior personnel interviewers in six companies interviewed a total of 20 job applicants. An initial appraisal of each applicant was made solely on information obtained from an application form. The applicant was then seen for the first time, and after answering a question or two, was rated again. The interviewer then started a stop watch which he stopped when he felt no further information would change his opinion about the applicant. After the interview had continued for its normal duration, a final applicant rating was made and the over-all time recorded. While the average length of the interview was 15 minutes, the mean decision time was only 4 minutes.

Impressed by the importance of early impressions in determining the final decision to hire or reject the applicant, Springbett (1958) sought to determine the relation between interviewers' final decisions and the kind of information presented, as well as the order of its presentation in the interview. Using both civilian and military personnel interviewers, he varied the order of presentation of three types of information; a personal history record, an application form, and the applicant's personal appearance. Results showed that first ratings regardless of the type of information on which they were based, were significantly related to final decisions. Further, when any change in decisions occured, it tended to change from accept to reject more often than from reject to accept.

From these studies Springbett concluded that early _____ impressions play a dominant role in determining the final outcome of the employment interview, and that the interview is primarily a search for negative evidence. Even

one unfavorable impression was followed by a reject decision in 90 percent of the cases. Springbett states:

All results indicate that applicant appraisal is a search for negative evidence. This attitude, or set, on the part of the interviewer appears to be created and sustained by the system of rewards and punishment that mark the relationships of the employment department to the production side of business. Two facts are clear: punishment is more certain than reward, and, only one type of error is punished. As to the first, the interviewer is criticized because misfits are hired, praise for hiring good employees rarely cccurs.

The difficulty of overcoming early impressions and the effects due to the ordering of information had been demonstrated earlier by Ash (1946, 1953), Kelly (1950), and Haire and Grunes (1950). The Ash studies demonstrated that first words, such as "cold," "warm," "polite," or "blunt," in a list of qualities attributed to a person, dominated the organized descriptions given of this person by subjects. His results also demonstrated the difficulty subjects experience in changing first impressions when presented with new and conflicting information about the same individual.

Kelly (1950) got similar results when observers were required to judge a class instructor after he had been described by the Ash adjectives. Kelley distributed two forms of a printed introduction of a guest speaker to his class. Both forms were identical except the speaker was described as very warm in one and very cold in the other. After the speaker had appeared and left the room, the students were asked to write their impressions of him. The description of the speaker the students had received prior to his appearance, affected their impressions of him.

Haire and Grunes (1950), in a study of industrial relations, gave subjects lists of adjectives describing a factory worker, the lists being identical with the exception of including the word "intelligent" for some of the subjects described and not for others. The investigators demonstrated individual differences among observers in the way they incorporated new information into their over-all impressions based on previous knowledge. Some subjects failed to recognize the existence of new information, others stated that it was unimportant, and a few integrated the new kind of knowledge by modifying their impressions of the person being described.

Bolster and Springbett (1961) designed a study to evaluate the question of recency and primacy, and to determine the roles of positive and negative information in interview decisions. Sixteen Canadian Army personnel officers were provided with protocols containing combi-

nations of statements scaled for favorableness or unfavorableness. Their recults confirmed earlier findings of interviewer sensitivity to negative evidence, i.e., shifts in the direction of rejection are more easily induced than shifts in the direction of acceptance. Furthermore, most ready to commit themselves were also more ready to change their decisions in the face of contrary evidence. Primacy effects, defined in terms of the first item of information that changed the direction of the evidence, rather than the first item in the protocol, were found to influence decisions. The authors state:

an item of information, or the uncovering of some characteristic, toward the end of the interview, which runs counter to the general trend of evaluation is apt to exert undue influence - undue in the sense that it will carry more weight than if it had been encountered earlier.

The tendency on the part of interviewers to express negative evidence in defense of their decisions was demonstrated by Crissy and Reagan (1951). In their study a group of 82 applicants for an executive program were dichotomized, according to the ultimate disposition of the company, into an accepted and rejected group. Statements in support of identical judgement qualifications, trait by trait for nine traits, were analyzed and compared. The rejected group received significantly more negative evidence than did the accepted group when the interview reports were considered as a whole.

Crowell (1961) conducted three laboratory experiments on the same group of subjects in an effort to determine what effects recording preliminary decisions would have on final decisions. The major aim of the studies was the investigation of decisions reached on the basis of various anounts of partial information. The final perceptions of subjects making preliminary decisions based on various fragments of information were compared with the perceptions of other subjects who had the total amount of information available to them. Crowell found that (1) decisions based on partial information differed from these based on all information, (2) decisions about the hypethetical others changed from first to final perceptions as new informationwas added. The change was usually in the direction of reflecting the most recent information, and (3) wide variation in the final perception of subjects was found even when the subjects were required to attend to all information. These results led Crowell to suggest that " it may be difficult in a particular situation, to know what constitutes genuinely unfevorable information.

In this connection Rove (1963) reported a study concerned with interviewer differences as related to

selection decisions. She confirmed earlier findings which indicated that unfavorable characteristics carry more weight in the evaluation of a person than do favorable statements. Using 30 unfavorable and 30 favorable statements, she constructed descriptions for 100 hypothetical persons by combining three favorable and three unfavorable statements to describe each person.

These descriptions were presented to 146 Canadian Army Personnel Officers who were asked to make an accept or reject decision for each of the hypothetical persons. In addition, the officers were asked to rate each statement on a seven point over-all favorableness scale. Results showed that unfavorable characteristics accounted for more variance than did favorable characteristics in the decision to accept or reject an applicant, and that the officers made more discriminate use of the favorable than they did of the unfavorable statements, i.e., there seemed to be a greater difference of opinion as to how good a favorable characteristic was than to how bad an unfavorable one was. Moreover, the officers differed in terms of the proportion of applicants they were willing to accept. Three officers accepted 80 or more of the 100 applicants, sixteen officers accepted between 60 and 70, -

and forty officers accepted fewer than 20 applicants. The more experienced officers tended to accept fewer candidates.

Perhaps the most important finding, in terms of the current investigation, was that the lenient and stringent decision makers perceived the meaning of the unfavorable statements differently. The former group rated the unfavorable statements much more favorably than did the latter group. Thus Rowe's study showed that interviewers' individualized perception of the meaning of applicant information can affect the proportion of applicants they are willing to accept and that these perceptions can be shown to be related to interviewer characteristics such as job experience.

Rowe's study confirmed an earlier report designed to evaluate the reliability of interview data in an officer candidate selection program. Newman, Bobbitt, and Cameron (1946) found that perfect agreement among interviewers was most likely to occur at the level of the lowest interview rating, suggesting that unfavorable information elicits less variability from raters than does favorable information.

In a very recent study, Mayfield and Carlson (1966) constructed over 200 items of information concerning job

applicants. The items consisted of factual information that might have been obtained from an application blank or from an interview, statements which an applicant might have made during an interview, and items which described the applicant's mannerisms and appearance. The items were then presented to over 100 insurance managers to be rated on a seven-point favorability scale. The investigators found that while there was a high degree of agreement among the managers on some items of information, there was extreme disagreement on the ratings of a large number of items. For example, a bimedal distribution of ratings was found for such items as "the applicant feels he's gotten nowhere for the last 5 years and it's change jobs now or never" and the "applicant is presently active in eight outside groups." Items such as these were rated by some managers as extremely favorable while other managers rated them so unfavorable that they would no longer consider for employment, the applicant to whom they applied. Since neither company differences nor low intrarater agreement could account for the wide differences in ratings, the authors concluded that "the disagreement must come from other sources."

Decision making in the employment interview. Under the direction of E. C. Webster (1964), a series of investigations have been conducted at McGill University in an effort to determine the effects of several variables on the nature of

decision making in the employment interview. Many of these studies have cited earlier (Anderson, 1960, 1961, Crowell, 1961, Rowe, 1963, Springbett, 1954, 1958, Sydiaha, 1959, 1961, 1962).

In contrast to many of the research studies on the interview, the McGill studies have focused on the interview process rather than on the validity or reliability of the interview.

In Webster's summary of the McGill studies, several recurring findings are put forward. They are:

(1) Interviewers develop a stereotype of a candidate and seek to match men and stereotypes.

(2) A bias is established early in the interview and this tends to be followed by a favorable or by an unfavorable decision.

(3) Interviewers are more influenced by unfavorable than by favorable information.

(4) Interviewers seek information to support or refute hypothesis and when satisfied, they turn their attention elsewhere.

(5) Empathy relationships are specific to individual interviewers.

(6) Feeding information piece by piece to the interviewer affects the decision.

(7) Experienced interviewers rank applicants in the same order although they differ in the proportion they are willing to accept.

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<u>Surmary</u>. An examination of the research on the employment interview reveals numerous shortcomings. First, few experimental investigations providing quantitative evidence have been conducted. Second, because of differences in the design, purpose, samples, and interviewer skill and training, few inter-study comparisons can be made. Finally, few studies have isolated the contributions of the interview per se to behavioral predictions.

Despite these and other shortcornings of the research, the following tentative conclusions appear to be justified:

(1) The reliability and validity of interview based inferences are generally below the level regarded as necessary for individual assessment and prediction.

(2) Predictions based on interview inferences are rarely more accurate than predictions based on tests or other selection tools.

(3) Validation of interview based trait ratings are consistently higher for "intelligence" than other trait ratings.

(4) Structured interviews provide higher reliability and validity results than non-structured interviews.

(5) When interviewers receive the same information, they are likely to interpret it differently.

(6) Interviewers tend to make their decisions of acceptance or rejection early in the interview.

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CHAPTER III

METHODS AND PROCEPURES

Research designed to determine the differential effects of interviewer variables on the evaluation of applicant information and to meet statistical test requirements, required a sufficient number of comparable interviewers and applicant information about which the interviewers would differ.

<u>Subjects</u>. Since no one company in the greater Houston area could possibly supply a sufficient number of employment interviewers, 62 male supervisors with a large utility company served as judges in the current investigation. As a matter of company policy, final accept or reject decisions, with respect to hiring new employees, are made by departmental supervisors following a personal interview with each applicant recommended by the personnel department. As a consequence all the subjects had varying degrees of actual interview experience.

The subjects ranged in age from 23 years to 62 years, with a mean age of 43.76 years and a standard deviation of 10.71 years. All were college graduates with three holding advanced degrees, one in engineering and two in law.

The classification of subjects. Biographical data on each subject were obtained through a brief personal interview conducted by the author, and through an inspection of the companies' personnel records. Based on these data the subjects were placed in the following categories:

- (l) Age
 - a. 20 35 years b. 36 50 years
 - c. 51 years or older
- (2) Educational background
 - a. Technical b. Non-technical
- (3) Years of interviewing experience
 a. less than 5 years
 b. more than 5 years
 but less than 10 years
 c. more than 10 years
- (4) Frequency of interviews conducted
 - a. Fever than 5 per month b. more than 5
 but fewer than 15 per month c. more than 15
 per month
- (5) Position in the organization
 - J. Middle management line
 - b. Middle management staff
 - c. First-line supervisor
 - d. First-line staff supervisor

II. DEFINITIONS OF TERMINOLOGY

<u>Dogmatism</u>. For the purpose of this study, dogmatism is defined as a tendency on the part of an individual, as measured by the <u>Dogmatism Scale</u>, to; evaluate others according to their agreement with his own belief system; receive, evaluate and act on relevant information from the outside based on irrelevant factors arising from within himself or from the outside; view the world he lives in and the situation in which he finds himself at a particular time as threatening, and believe that authority is absolute and that people are to be accepted or rejected according to their agreement or disagreement with authority (Rokeach, 1959).

Line and Staff positions. While there is some disagreement among management theorist as to what line and staff are, the most widely held definition is that "line functions are those which have direct responsibility for accomplishing the objectives of the enterprise" and that staff "refers to those elements of the organization that help the line to work most effectively in accomplishing the primary objectives of the enterprise" (Knootz and O'Donnell, 1959). In this study, positions in the production and sales organizations are considered "line" while positions in personnel, purchasing, accounting, and

finance organizations are considered staff.

<u>Middle Management Line</u> position. A position in the production or sales organizations of a particular company in which there are two levels of management above and two levels of management below that position.

<u>Middle Management Staff</u> position. A position in the personnel, finance, purchasing, or accounting organizations of a particular company in which there are two levels of management above and two levels of management below that position.

<u>First-line</u> <u>supervisory</u> position. A position in the sales or production organizations of a particular company below which no managerial levels exists.

<u>First-line Staff supervisory</u> position. A position in the personnel, finance, purchasing, or accounting organizations of a particular company below which no managerial levels exists.

<u>Technical and Non-technical</u> educational background. Subjects who had earned a college degree in the applied sciences, chemistry, physics, mathematics, or engineering were considered to have a technical educational background, while subjects who had earned a college degree in accounting, marketing, personnel, management, or finance were considered to have a non-technical educational background.

MATERIALS USED

The Thurstone Test of Mental Alertness. This test is designed to measure problem-solving abilities. It contains 126 items of four general types; same-opposite word meanings, word definition, arithmetic reasoning, and number series. It has a 20 minute time limit, and yields linguistic, quantitative, and total scores.

The Gordon Personal Profile. This instrument is a self-administering, factorally designed, forced-choice personality inventory consisting of 18 sets of four descriptive phrases, called tetrads. It is designed to measure four aspects of personality: ascendency, responsibility, emotional stability, and sociability. These four aspects of personality are defined by Gordon (1963), in terms of high and low scores on each of the scales, as follows:

<u>Ascendency</u>. Those individuals who are verbally ascendent, who adopt an active role in the group, who are self-assured and assertive in relationships with others, and who tend to make independent decisions, score high on this scale. Those who play a passive role in the group, who listen rather than talk, who lack self-confidence, who let others take the lead, and who tend to be overly dependent on others for advice, normally make low scores.

<u>Responsibility</u>. Individuals who are able to stick to any job assigned them, who are persevering and determined, and who can be relied on, score high on this Scale. Individuals who are unable to stick to tasks that do not interest them, and who tend to be flighty or irresponsible, usually make low scores.

Emotional Stability. High scores on this Scale are generally made by individuals who are well-balanced, emotionally stable, and relatively free from anxieties and hervous tension. Low scores are associated with excessive anxiety, hypersensitivity, nervousness, and low frustration tolerance. Generally, a very low score reflects poor emotional balance.

Sociability. High scores are made by individuals who like to be with and work with people, and who are gregarious and sociable. Low scores reflect a lack of gregariousness, a general restriction in social contacts, and, in the extreme, an actual avoidance of social relationships.

The <u>Dogmatism Scale</u>. The primary purpose of the Dogmatism Scale is to measure individual differences in the openness or closedness of belief systems. Because of the way dogmatism is defined, the scale purports also to measure general authoritarianism and general intolerance. The scale consist of 40 dogmatic items or statements to which subjects are asked to rate on a six-point scale, ranging from complete disagreement (-3) to complete agreement (+3). A total dogmatism score is obtained by the algebraic addition of the 40 item ratings. The <u>applicant information form</u>. An applicant information form consisting of 60 items of information about hypothetical job applicants, such as, "the applicant is divorced," or the applicant "graduated in the top ten percent of his college graduating class," was constructed in the following manner.

The first 30 items of information were selected from a similar form containing over 200 items developed by Mayfield and Carlson (1966) in a previous study. The items were selected on the basis of their average favorability rating as judged by over 100 life insurance managers. The 30 items selected for the current study included 5 items each with a mean rating of 6 or greater, 5 items with a mean rating of 5 or greater, 5 items with a mean rating of 4 or greater, 5 items with a mean rating of 3 or greater, 5 items with a mean rating of 2 or greater, and 5 items vith a mean rating of 1 or greater. All 30 items chosen had a standard deviation of 1.00 or greater.

The last 30 items were selected on the basis of their influence on accept-reject employment interview decisions of utility company supervisors collected over a one year period, i.e., information about applicants which served to influence greatly the supervisors' decisions during this period were used as items of information to be rated on the applicant information form.

Methods of administering materials. The subjects were first presented with the Gordon Personal Profile and the Dogmatism Scale. They were asked to complete both instruments independently following exactly the instructions provided by the authors. Next, each subject was provided with the applicant information form with the instructions to rate independently each item of information as if it was the only thing he knew about the applicant. Ratings were made on a seven-point scale ranging from "extremely favorable" to "extremely unfavorable." In addition, a separate category was provided whereby the subject could indicate that the item was so unfavorable he would "no longer consider the applicant" for employment.

Since the Thurstone Test of Mental Alertness has a 20 minute time limit, it was administered on an individual or small group basis. The testing took place at a specially designated room in the employment office of the company where timing equipment was available. In each case, the instructions were read directly from the test booklet prior to beginning the test period.

A code number was assigned to each instrument in order to identify the subjects. The subjects were not aware of the purpose of the study at the time the materials

were presented. They were encouraged to respond to all materials with honesty, and were assured of complete anomynity. A standardized procedure was used in the administration of all materials. The same individual presented all the instruments using an identical approach and instructions.

Scoring of the data. All the instruments were scored by the same individual, and the data were rechecked for accuracy. The scoring of the Gordon Personal Profile and The Thurstone Test of Mental Alertness followed exactly that method of scoring described in their respective test manuals (Gordon, 1963, Thurstone and Thurstone, 1952)

The scoring of the Dogmatism Scale followed exactly the scoring procedure suggested by Roheach (1959). Each subject rated the 40 statements contained in the Scale from -3, indicating strong disagreement with the statement, to +3, indicating strong agreement with the statement. A total "D" score was obtained for each subject by the algebraic addition of the 40 ratings. The higher the "D" score, the more dogmatic the individual was judged to be.

Upon receiving the completed interview information forms from the subjects, a value of zero was assigned to the category indicating that the information was "so unfavorable" the subject would "no longer consider the applicant."

The category "extronely unfavorable" received a value of one, and each rating category thereafter received an increment value of one, resulting in a value of seven being assigned to the final category "extremely favorable." The summation of the individual item scores yielded a composite score which was used in the statistical analysis of the data.

CHAPTER IV

PRESENTATION OF RESULTS

In order to treat the results of the various tests and the interviewer's independent ratings of applicant information statistically, it was necessary to compile the data into master charts (Appendix A and Appendix B). The data contained in Appendix A reflect the variable classifications and variable scores for each subject. This made the variables under study readily available for both inspection and statistical application.

Appendix B contains a summary chart reflecting individual interviewer ratings on the 60 items of interview information. A composite rating score for each subject was obtained by summing the rows in the chart. This provided an over-all rating score for each subject which was used in the statistical analysis of the data.

The basic statistical methods used in this study were the calculation of the product moment correlation coefficient, the "t" test, the Chi Square, the analysis of variance, and Scheffe's method (Hays, 1963) of post hoc comparisons. The basic objective of this study as defined in Chapter I, was to determine the relationship, if any, between selected interviewer variables and the interpretation of interview information.

The remainder of this chapter will be devoted to a presentation in tabular form of the data obtained in this study, along with a brief description of each table with a summary of results.

TABLE I

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MEANS AND STAND. RD DEVIATIONS OF INDIVIDUAL ITEM RATINGS

Item		Mean	SD
(1. 2.	
(1)	Says he likes regular hours for work	4•13	⊥.3⊥
(2)	Has collected unemployment twice in his life	3.08	.80
(3)	Is presently spending a little more than he is making	2.71	•74
(4)	Says he likes to spend his spare time with his children	6.00	•8 ₇ ÷
(5)	Says he never has colds or minor illnesses during the year	5.71	•79
(6)	Has been on his present job for five years	5.69	•69
(7)	Says he has difficulty getting acquainted with strangers	3.00	•92
(8)	Says after he has done the big and difficult parts of a job, he hates to finish up the odds and ends	2.36	1.12
(9)	Says he dislikes working on complex and difficult problems	2.06	1.09
(10)	Says he often craves excitement	3.45	1.18
(11)	Says he can correct others without giving offense	5 •7 3	. 86
(12)	Says he likes energetic people	5.52	.89

TABLE I (continued)

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(13)	Is single and says he dates a lot during the week	3.36	•94
(14)	Says he never attends regular religious services	2.87	•93
(15)	Says he enjoyed the regimentation the armed scrvices required of him	3.47	1.28
(16)	Says his minimum expenses per month will be \$650	2.87	1.38
(17)	Has 100 acquaintances in the community	4.60	•83
(18)	Says he likes to take the lead in group activities	5.66	.80
(19)	Has held four jobs in the last four years	1.60	1.25
(20)	Says he would rather not take chances or run risks	3•37	1.C ¹ +
(21)	Says he tends to act on hunches	2.29	1.04
(22)	First actively considered making a change in jobs a week ago	3.48	. 88
(23)	Says he likes to spend money	3.58	1.02
(24)	Has a net worth of 360,000	4.24	1.30
(25)	Says he is leaving his present job because he can't get along with the people he has to work with	1.86	1.10
(26)	Says his feelings are sometimes easily hurt	2.53	•84
(27)	Says he supervises three people on his present job and dosen't care for the responsibility	2.11	1.06

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TABLE I (continued)

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(28)	Says he often acts on the spur of the moment	2.42	•94
(29)	Never swears when conversing	5.08	•87
(30)	Says he can meet emergencies quickly and effectively	5.80	1.08
(31)	Is divorced	3.55	•74
(32)	Has a peptic ulcer	2.80	.82
(33)	Ranked in the lower one-third of his college graduating class	2.90	•98
(34)	Is narried	5.10	•73
(35)	Is a diabetic	2.80	1.05
(36)	Has a I-O-A draft classification (conscientious objector)	2.00	1.27
(37)	Lives with his uncle	3.76	•4·8
(38)	Admits that he sometimes drinks to excess	2.20	1.33
(39)	Earned 5% of his college expenses	4•37	1.07
(40)	Is buying his home	5-37	.82
(41)	Has a IY draft classification (history of asthma)	3.40	•88
(42)	Says he dislikes detail work	2.70	•77
(43)	Says at times he gets "quite nervous"	2.37	•92
(<u>,†</u> ,†)	Says he was active in extra- curricular activities while in college and as a consequence failed to make good grades	2.8 ¹ +	•98
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TABLE I (continued)

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(45)	Was arrested when he was twenty years old for driving while intoxicated	2.60	1.10
(46)	Is separated from his wife	3.13	•92
(47)	Participated very little in extra curricular activities while in college	3• ¹ +7	. • 50
(48)	Describes his parents as "not very religious"	3.65	• 7 2
(49)	Says he has five really close friends	4•34	•76
(50)	Feels that security is the most important aspect of a job	3.66	1.39
(51)	Lost 15 days from his last job the past year due to illness	3.03	•96
(52)	Refers to his father as "my old man"	3.03	•90
(53)	Says as a teenager he was more interested in members of the opposite sex than others his age	4.00	•79
(54)	Received a general discharge from the army (unable to adjust to military life)	1.80	1,22
(55)	Eventually expects to earn at least \$1,500 per month	5.02	1.25
(56)	Admits to having domestic difficulties	3.02	1.05
(57)	Ranked in the upper one-fourth of his college graduating class	5.85	•73
(58)	"Grew up" in a farming community	4.61	•83
(59)	Describes his parents as "very religious"	4.91	•81+
(60)	Has lived in the community two years	4.74	•68

Table I reflects the means and standard deviations of supervisory ratings for each of the sixty items of applicant information. It can be seen that there are substantial differences between the mean ratings of the various items, ranging from 1.06 for item #19 to 6.00 for item #4. Substantial differences between the standard deviations can also be observed. The range being from .48 for item #37, to 1.39 for item #50. This indicates that while raters closely agree on their ratings of some items of information about applicants, they disagree on their ratings of others.

TABLE II

THE DIFFERENCE IN VARIANCE BETWEEN "FAVORABLE" AND "UNFAVORABLE"ITEM RATINGS

Category						Frequency	x ²
Above	median	mean,	above	median	SD	10	
Above	median :	mean,	below	nedian	SD	21	11.46*
Below	median	mean,	above	median	SD	22	
Below	nedian	mean,	below	median	SD	7	

*Significant at the .01 level of confidence

The items of information contained in Table I were partitioned into a "favorable" and an "unfavorable" category according to the distribution of mean ratings for all items. Those items above the median mean of 3.38 were considered to be "favorable," while those items with a mean rating of 3.38 or lower were considered to be "unfavorable." The standard deviations of item ratings were also partitioned into two categories, those above the median SD, and those below the median SD. These four categories were then arranged to form the 2 x 2 Chi Square table shown in Table II. The Chi Square test was applied to determine the significance of the difference between the variance associated with "favorable" item ratings, and that associated with "unfavorable" item ratings.

As can be seen in Table II, a Chi Square of 11.46 was found to be statistically significant at the .01 level of confidence. This indicates that unfavorable interview information elicits more variability from raters than does favorable information.

TABLE III

Variable	Range	Mean	SD
Age	39	43.76	10.71
Sociability	30	22,00	6.16
Emotional Stability	23	25.50	5.28
Ascendency	23	23.41	4 . 91
Responsibility	20	25.00	4.37
Dogmatism	110	12.53	19.92
Mental Alertness	55	75.42	14,21

RANGES, MEANS AND STANDARD DEVIATIONS OF INTERVIEWER VARIABLES

Table III shows the range, mean and standard deviation for the age variable, the mental alertness scores, and the personality trait scores of the subjects under study. Tables IV and V show how these statistics compare to appropriate normative data.

TABLE IV

roup		A	R	E	S
(N=1324)	Nean	21.61	27.92	26.22	21.40
	SD	5.82	4.10	5.31	5.80
I (N=62)	Mean	23.1+1	25.00	25.52	22.01
	SD	4.90	4.31	5.24	6.11

MEANS AND STANDARD DEVIATIONS OF GORDON PERSONAL PROFILE SCALE SCORES AND A COMPARISON WITH NORMATIVE DATA

Table IV shows a comparison of Gordon Personal Profile Scale score means and standard deviations with normative data supplied by the test author (Gordon, 1963). In this table, group I refers to 1.384 lowest level supervisors of a large public utility, while group II refers to the 62 subjects in the current investigation. The letters A, R, E, and S, represent Ascendency, Responsibility, Emotional Stability, and Sociability respectively. It can be noted that there is a high degree of consistency with respect to both the means and standard deviations of the two groups on all four traits measured.

TABLE V

Group		N	Median
I	Supervisors in present study	62	73
II	Sales supervisors	278	61
III	Business executives	60	85

A COMPARISON OF THE GROUP MENTAL ALERTNESS MEDIAN SCORE WITH NORMATIVE DATA

The median mental alertness score for the group under study was 73.00. It can be noted in Table V that this score, when compared with normative data supplied by the test authors (Thurstone and Thurstone, 1952), is somewhat lower than the median score achieved by sixty business executives and slightly higher than the median score of 278 sales supervisors.

A realistic comparison of dogmatism scores cannot be made since normative data on an industrial group are not available.

TABLE VI

INTEPCORRELATIONS OF INTERVIEWAR VARIABLE SCORES

Variable

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1)	Age	x	•09	 38*	•13	•37 [*]	16	.01
(2)	Dogmati	ism	x	15	10	•08	.11	.01
(3)	Mental	Alert	ness	x	•06	.06	•13	.18
(4)	Ascende	ency			x	•09	12	•31
(5)	Respons	sibili	ty			x	•25 [*]	10
(6)	Inotior	nal Sta	ability				x	C ¹ +
(7)	Sociabi	ility						x

* Significant at the .05 level of confidence

The intercorrelations between seven of the selected interviewer variables can be observed in Table VI. It can be noted that there is neither a significant positive or negative relationship between the age of the subjects and scores on dogmatism, ascendency, emotional stability, or sociability. However, a significant negative correlation of -.38 was found between age and scores on the Thurstone Test of Mental Alertness, i.e., older subjects in the experimental group tended to make lower scores than the younger subjects.

A significant positive correlation of .37 was found between the age of the subjects and scores on the responsibility scale of the Gordon Personal Profile, suggesting that older members of the group tended to perceive themselves as being more "responsible" than the youngor subjects perceived themselves as being.

No significant relationships, either negative or positive, were found between dogmatism scores and the other variable scores included in Table VI. It is interesting to note, however, that the negative correlation of -.15 between dogmatism scores and mental alertness scores is reasonably consistent with the findings of Rokeach (1959), who reports a correlation of only .02 between dogmatism and intelligence (as measured by the American Council on Education Test).
While a significant positive correlation of .31 was found between ascendency and sociability scores, reflecting the tendency for those individuals who perceived themselves as being rather highly ascendent to also perceive themselves as being highly sociable, ascendency scores failed to relate significantly to the other variable scores considered in Table VI.

A positive correlation of .25 between responsibility scores and emotional stability scores was found to be significant at the .05 level of confidence. Again, it appears that those subjects who perceived themselves as being highly responsible also tended to perceive themselves as being highly stable emotionally.

None of the other intercorrelations were found to be statistically significant at the .05 level of confidence.

TABLE VII ·

MEANS AND "t" VALUES OF INTERVIEWER VARIABLES FOR THE TECHNICAL AND NON-TECHNICAL CATEGORIES OF EDUCATIONAL BACKGROUND (N=62)

Variable	Techn: Mean	ical (N=22) SD	Non-te Mean	chnical SD	(X= ¹ +0) "t"
Mental Alertness	79.00	11.53	73.95	12.28	1.56
Ascendency	23.54	4 .48	23.60	3.78	.06
Responsibility	27.60	5.19	26.80	6.20	•59
Emotional Stability	26.18	4.35	25.10	6.2 ¹ +	.67
Sociability	20.77	3.70	22.72	6.08	1.35
Dogmatism	-9.22	15.58	-14.42	24.75	•89

None of the "t" values are significant at the .05 level of confidence.

Table VII shows the means and "t" values of six interviewer variable scores when only the educational background (technical or non-technical) of the subjects is considered. As can be noted, none of the "t" values approach statistical significance at the .05 level of confidence, suggesting little difference between the two samples in terms of mental alertness, ascendoncy, responsibility, emotional stability, sociability or dogmatism.

TABLE VIII

PEARSON PRODUCT MCHENT CORRELATION COEFFICIE.TS BETWEEN SIX INTERVIEWER VARIABLES AND INDIVIDUAL INTERVIEWER COMPOSITE RATHIGS OF 60 ITEMS OF JOB APPLICANT INFORMATION

Variable	r
Menta] Alertness	•12
Ascendency	07
Responsibility	42-
Dogmatism	59*
Sociability	21
Emotional Stability	07

* Statistically significant at the .05 level of confidence

Table VIII reflects the correlation coefficients between the subject's scores on six interviewer variables and individual composite ratings of 60 items of job applicant information. According to the correlations noted, there is little, if any, relationship between mental alertness, ascendency, or emotional stability scores and the composite item ratings. However, significant negative correlations of -.42 and -.59 were found between responsibility and item ratings and dogmatism and item ratings respectively. a correlation coefficient of -.21 found between sociability scores and composite interview item ratings approaches significance at the .05 level of confidence (P .250). These findings will be discussed in detail in the following chapter.

TABLE IX

MEANS, STANDARD DEVIATIONS, AND "t" SCORE FOR IT MS OF INFORMATION RACINGS BY TECHNICAL AND NON-TECHNICAL INTERVIENERS (N=62)

Variable	Techn Mean	Group Lical (N=22) SD) llon-tec Nean	hnical (1= SD	" t" 40)
Composite ratings of 60 items of applicant infor- mation	218.95	14.50	220.20	20.75	•25*

* Lot significant at the .05 level of confidence

From Table IX it can be noted that there is no significant difference between the mean item ratings within the two groups tested. Apparently the educational background of the subjects, as defined in this study, has little influence on the favorability with which applicant information ratings are made.

TABLE X

MEANS AND "t" SCORE OF THE FREQUENCY OF "WOULD NO LONGER CONSIDER" RATINGS TO ITEMS OF INTER-VIEW INFORMATION BY DEGMATIC AND NON-DOGMATIC INTERVIEWERS (N=62)

Variable	Group				"t"	
<u></u>	Dognatic Nean SD (N=31)			Non-dogmatic Neam SD (N=31)		
Response to item scale alternative- "would no longer consider the applicant"	2.30	2.62		•60	2.09	2.50

* Significant at the .05 level of confidence

The means, standard deviations and "t" score of the frequency with which dogmatic and non-dogmatic interviewers checked the rating alternative "would no longer consider the applicant," based on 60 items of interview information, are reflected in Table X. The mean frequency rating of the dogmatic group was 2.30 with a standard deviation of 2.62, while the mean frequency of the non-dogmatic group was .80 with a standard deviation of 2.09. A "t" ratio of 2.50 was found to be significant at the .05 level of confidence, indicating a significant difference between the mean rating frequency of the two samples, i.e., dogmatic interviewers checked this rating alternative more frequently than did non-dogmatic interviewers to a statistically significant degree.

The significant difference in the frequency of zero ratings found between these two samples led to an inspection of those items receiving such a rating in an effort to determine whether or not these items could be used to discriminate between dogmatic and non-dogmatic interviewers.

A review of the applicant information item ratings revealed that of the 85 zero values assigned by all interviewers, nine items accounted for approximately 78 percent of the total, while the remaining 22 percent of the zero ratings were distributed over 19 different items, none of which accounted for more than two percent of the total ratings.

Those items of applicant information accounting for over three-fourths of the total zero ratings were:

- #19. Has held four jobs in the last four years.
- #54. Received a general discharge from the service (unable to adjust to military life).
- #25. Says he is leaving his present job because he can't get along with the people he has to work with.
- #36. Has a I-O-A draft classification (conscientious objector).
- #38. Admits that he sometimes drinks to excess.
- #45. Was arrested when he was 20 years old for driving while intoxicated.
- # 9. Says he dislikes working on complex and difficult problems.
- #27. Says he supervises three people on his present job and dosen't care for the responsibility.
- #16. Says his minimum expenses will be 650 dollars per month.

These items, which seem to reflect on the applicant's lack of emotional adaptability, and lack of conformity to social and industrial values, fail to differentiate between dogmatic and non-dogmatic interviewers. They account for approximately 79 percent of the total zero values assigned by the dogmatic interviewers, and account for approximately 70 percent of the zero values assigned to items by nondogmatic interviewers. As was indicated earlier in Table VIII, a significant negative correlation of -.42 was found between responsibility scores of interviewers and the favorability of applicant information item ratings. For this reason a similar analysis of zero ratings was made for high and low responsibility samples of interviewers. It was found that the same nine items listed above accounted for approximately 70 percent of the total zero ratings by the high responsibility sample (N=31), and approximately 80 percent of the zero ratings made by the low responsibility sample of interviewers. In terms of the zero ratings assigned by the interviewers, the content of items failed to discriminate between high and low responsibility samples, high or low dogmatism samples, or between high or low responsibility or high or low dogmatic samples of interviewers.

Since the first thirty items of applicant information contained in Table I were taken from a study by Mayfield and Carlson (1966), it was possible to compare the average item ratings of the 100 insurance manangers used in their study to the average item ratings of the 62 utility company supervisors who participated in the present study. A comparison of ratings was made as follows: For both groups, the average rating for each of the thirty items of applicant information was ranked from most favorable to least favorable. A rank

order correlation coefficient was determined from the two sets of ranked data. A non-significant Rho of .22 was obtained, suggesting very little inter-rater agreement among the two groups of judges. This finding lends support to the observation made by Crowell (1961) to the effect that "it may be difficult in a particular situation to know what constitutes generally unfavorable information."

Tables XI through XXVIII (Appendix E) reveal the analysis of variance results of the subjects' scores cn mental alertness, responsibility, emotional stability, ascendency, sociability, and dogmaticm in terms of the following categories: Three categories of interviewing experience, three categories of interviewing frequency, and four categories of managerial positions within an organization. It can be noted that only one F ratio is statistically significant at the .05 level of confidence, namely that involving the mental alertness scores for three categories of interviewing experience. In view of this over-all significance of difference, a post hoc comparison of the means was made using Scheffe's method (Hays, 1963). This resulted in a 95 percent confidence interval $\psi_g = -9.31 \pm \psi_g$ $\angle \psi g$ +9.31, and identified the mean of the "zero to five years" interviewing experience category as the one contributing to the over-all significance of F. This finding

is probably a result of the interviewer classification procedure rather than true differences in interviewing experience per se, i.e., younger subjects in this category would normally have less interviewing experience, and evidence has already been presented which indicates that younger people generally make higher scores on intelligence tests where time limits are imposed (Anastasia, 1958).

Tables XXVIV through XXXII (Appendix F) show the analysis of variance results of composite interviewer ratings on the favorability of applicant information for: three categories of age, three categories of interviewing experience, and four categories of managerial positions in an organization. Non-significant F ratios suggest that the several means of each variable category could have been drawn from the same population of scores. Apparently these interviewer variables, as defined in the present investigation, have little influence on the favorability ratings of the 62 judges who participated in this study.

TABLE XXXIII

THE DIFFERENCE IN VARIANCE OF FAVORABILITY RATINGS ON ITELS OF INTERVIEW INFORMATION MADE BY DOGMATIC AND NON-DOGLATIC JUDGES (N=62)

Category	Frequency	x ²
Dogmatic, above median SD	18	
Dogmatic, below median SD	13	1 02*
Non-dogmatic, above median SD	14	T•C2
Non-dogmatic, below median SD	17	

* Not significant at the .05 level of significance

Table XXXIII above, shows the Chi Square arrangement used to determine whether or not dogmatic and non-dogmatic interviewers differed significantly with respect to the variability shown in applicant information ratings. This table was arranged by classifying as dogmatic all subjects who scored above the group median score on the Dogmatism Scale, and as non-dogmatic all those who scored below the group median score; determining the standard deviation of favorability ratings on items of applicant information for each subject, and then partitioning the SD's into above the median SD and below the median SD categories. The Chi Square test was applied to determine the significance of difference between the variance in ratings made by the two samples. A resulting Chi Square value of 1.03 was found not to be significant at the .05 level of confidence, indicating no real difference in the rating variability of dogmatic and non-dogmatic interviewers.

CHAPTER V

DISCUSSION OF RESULTS

It is clear from the data presented in the previous chapter that interviewers differ in terms of how they interpret the same interview information. The data shown in Table I support the findings of Mayfield and Carlson (1966) which indicate that while interviewers agree closely on their ratings of some items of information, they differ considerably on their ratings of others. There is little support for the findings of Rove (1963) which suggest that greater inter-rater agreement is associated with ratings of favorable information than with ratings of unfavorable information (see Table II).

Perhaps the most striking result of this study is that certain interviewer variables seem to influence the favorability ratings of applicant information more than others. The remainder of this chapter will be devoted to a discussion of the interviewer variables under study, their relationship to each other and to the over-all favorability ratings of applicant information.

Age. The significant negative relationship found between the age of the subjects and mental alertness scores reported in Table VI, indicate that older subjects tended to make lower scores. This is consistent with the research findings which have consistently shown that older persons are generally handicapped on tests that emphasize speed (Anastasi, 1958, p. 245). It can be noted also that older subjects in the experimental group tended to perceive themselves as being more responsible than did the younger subjects, as evidenced by the significant positive relationship found between age and responsibility scores. Perhaps since clder subjects have had more opportunity to observe the rewards of tenacity and perserverance through past learning experiences, they tend to perceive this trait as being more socially acceptable.

Since the age of the subjects was not found to be significantly related to the composite favorability ratings of interview information, the observed rating differences must come from other scurces.

<u>Dogmatism</u>. A major source of variability in the interview item ratings appears to stem from the degree of dogmatism exhibited by the subjects, as indicated by the significant negative correlation coefficient of -.59 found between dogmatism scores and favorability ratings of interview information, i.e., composite item ratings of applicant information by interviewers classified as dogmatic were found to be significantly less favorable than ratings of the

judges classified as non-dogmatic. A possible explanation of this finding is offered as follows:

In designing this study the concept of dogmatism appeared to be especially relevant to the evaluation process and a logical dimension on which to categorize interviewers since, according to Rokeach (1959):

The more closed a person's belief system, the more he should evaluate others according to their agreement with his own system, also the more difficult it would be to discriminate between and separately evaluate a belief and the person holding that belief. Conversely, the more open the belief system the less should beliefs held in common be a criterion for evaluating others and the more others would be positively valued, regardless of their beliefs.

The openness of a person's belief system is further characterized by Rokeach as:

the extent to which a person can receive, evaluate and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors arising from within the person or from the outside.

By irrelevant external pressure, Rokeach had in mind most particularly the pressures of reward and punishment arising from external authority, for example, that exerted by parents, other authority figures, or institutional norms.

In addition, the closed-minded (dogmatic) individual "views the world and the situation in which he finds himself at a particular moment as threatening," while the open-minded individual generally views the world and the situation in which he finds himself as "friendly."

Finally, the dogmatic individual's beliefs about authority is to the effect that authority is "absolute and that people are to be accepted or rejected according to their agreement or disagreement with authority."

Keeping in mind the characteristics of the dogmatic individual outlined above and assuming that Springbett's hypothesis concerning the system of rewards and punishments stemming from the relationship between the personnel and production departments of a company is valid, it seems reasonable to assume that the same kind of relationship would exist between supervisors and their superiors as far as selection decisions are concerned, i.e., punishment is fairly certain on hiring an incompetent individual, while reward for hiring a good employee is seldom forthcoming. Springbett suggests that this type of relationship produces a sense of cautiousness on the part of interviewers. This being the case, dogmatic interviewers, because of their view of the world in which they live and the situation in which they find themselves as "threatening," may develop a greater sense cf caution in judging interview information than would non-dogmatic or open-minded interviewers. This cautiousness may then manifest itself in terms of low favorability ratings of applicant information and also in terms

of the rejection of a greater number of job applicants.

With respect to the latter hypothesis it has been shown that dogmatic interviewers found a significantly greater number of items of interview information so unfavorable they would no longer consider the applicant, than did the non-dogmatic sample of interviewers (see Table X). From this result it seems plausible that dogmatic interviewers would also tend to reject more applicants than would non-dogmatic interviewers.

Cauticusness on the part of interviewers may also be expected to express itself in terms of a tendency to show less variability in their ratings of applicant information, i.e., the safest rating would be the mean or near the mean for each item. If this was the case one may expect dognatic more than non-dognatic interviewers to show less variability in their ratings. However, the non-significant Chi Square obtained and reported in Table XXXIII indicates that no real difference exists between rating variability of the two samples of interviewers.

<u>Responsibility</u>. The significant positive correlation coefficient found between responsibility scores of the subjects and the age of the subjects has already been discussed. No other significant relationships were found between this dimension and the other interviewer variables

included in this investigation. A significant negative correlation coefficient of -.42 was found between responsibility scores of the subjects and individual composite ratings of interview information, indicating that the more responsible the subjects perceived themselves to be, the nore unfavorable they rated the items of applicant information. It is not entirely clear why such a relationship was found. Perhaps more responsible subjects take rating tasks more seriously or perhaps they tended to perceive the items of information as reflecting irresponsibility on the part of the hypothetical applicants they described.

Sociability. It might be expected on an a priori basis that highly sociable individuals would be more lenient in their ratings of information concerning others and therefore rate items of information generally more favorably than less sociable judges. The results however, indicate that judges who perceive themselves as being highly sociable are no less severe in their ratings than those judges who perceive themselves as being less sociable. As a matter of fact, the highly sociable raters in the present investigation tended to rate applicant information generally less favorable than the low sociability sample, as evidenced by the -.21 correlation coefficient found between sociability

scores and applicant information item ratings. A value which approaches statistical significance at the .05 level of confidence. Apparently the perception of oneself as being gregarious has little influence on the severity of applicant information ratings.

Educational background of subjects. It was found that there were no significant differences between the technically and non-technically educated samples on any of the other interviewer variables measured (see Table VII). Here, the nature of the subject's educational background did not seem to have a great deal of influence on the general quality of their responses to the various instruments used in this investigation. Similarly, no significant differences were obtained between these two samples with respect to interinformation item ratings (Table IX). Generally, the educational background of the subjects, as defined in this study, had little influence on the favorability with which items of information were rated. Perhaps different results would have been obtained had the categories been more narrowly defined, and more rigid controls imposed to eliminate the effects of such variables as differences in human relations or supervisory training received subsequent to graduation from college.

Interviewing experience and the frequency of interviews conducted. In examining the differences between the subjects' intellectual and personality inventory scores, in terms of three levels of interviewing experience and t three levels of interviewing frequency, it is apparent that these differences are small (Table XI through XXII). None of the F ratios approached statistical significance at the .05 level of confidence. In like manner, no significant differences in favorability ratings of interview information were obtained (Tables XXX through XXXI). As was the case when only the educational background of the subjects was considered, these two variables scemed to have little effect on the favorability of interview information ratings.

<u>Hanagerial position in an organization</u>. It might be expected that members of higher level management in an organization would rate applicant information differently than would members of lower level management. However, this conjecture was not borne out statistically. The differences between favorability ratings of applicant information between four levels of management were not found to be statistically significant at the .05 level of significance. (Table XXXII). Apparently when faced with the task of rating the favorability of applicant information, the level of managerial responsibility as defined in this investigation, has little influence on such ratings. No significant differences were found between the four managerial levels and the other interviewer variables included in this study.

Comparison with a related study. The obtained rankorder correlation coefficient of .22 between the ratings of 100 insurance managers and the ratings of the 62 supervisors in the present study on the same items of information, reflects little inter-rater agreement. While company and regional differences, as well as differences in stereotypes of a "suitable" applicant may account for much inter-rater disagreement, the negative relationship between dogratic and responsibility scores and item ratings, discussed earlier, suggest that the perceived degree of the favorability of applicant information is at least partially dependent on the differential strengths of personality characteristics of interviewers. Unless these characteristics can be identified and their relationship to rating tendencies of interviewers made known, the untested use of applicant information from study to study is hazardous.

CHAPTER VI SUMMARY AND CONCLUSIONS

This study has dealt with the problem of determining the relationship between selected interviewer variables and the interpretation of interview information in terms of favorability ratings.

The selected variables included the interviewer's (1) age, (2) educational background (technical or nontechnical), (3) years of interviewing experience, (4) frequency of participation in interviews, (5) managerial position in an organization, as well as his degree of (6) ascendency, (7) responsibility, (8) emotional stability, (9) mental alertness, (10) sociability, and (11) dogmatism.

Sixty-two male, departmental supervisors and superintendents of a large utility company, who are responsible for interviewing job applicants for their particular sections, served as subjects in this study.

The subjects were classified into interviewer variable categories based on information obtained from their personnel records, and from their performance on the following instruments: The <u>Gordon Personal Profile</u>, <u>The Thurstone</u> <u>Test of Mental Alertness</u>, and the <u>Dornatism Scale</u> developed by Milton Rckeach.

An interview information rating form was constructed

which consisted of 60 items of interview information about hypothetical job applicants. This form was presented to each subject with instructions to rate independently each item on a seven-point favorability scale. The composite favorability score of each judge was used in determining the statistical relationships between favorability ratings and interviewer variables.

A standardized procedure was used in the administration and scoring of all materials. The subjects were not aware of the purpose of the study at the time the materials were presented.

In analyzing the data, which were treated by methods of "t" scores, product moment correlations, rank order correlations, analysis of variance, Scheffe's method of post hoc comparisons, and the Chi Square test, the following conclusions were reached.

(1) While interviewers agree closely on their ratings of some items of applicant information, they differ considerably on their ratings of others.

(2) Unfavorable interview information elicits more variability from raters than does favorable information.

(3) The more responsible and the more dognatic interviewers are judged to be, the less favorably they rate

job applicant information.

(4) Personality characteristics of interviewers, such as, responsibility and dogmatism, have a greater influence on the favorability ratings of applicant information than do other interviewer variables such as, age, intellectual level, amount of interviewing experience, frequency of interview participation, or managerial position in an organization.

(5) The untested use of applicant information favorability ratings from one study to another is unwarranted.

In closing, it should be stated that the investigator recognizes the artificiality of the rating situation under which this experiment was conducted. As a consequence, generalizations to the rating behavior of interviewers in actual interview situations is hazardous. Further research is needed to determine the effects of the variables included in the present study, as well as other important variables such as, the interviewer's sensitivity to individual differences and the particular stereotype of a "good applicant" held by different interviewers, on interviewer favorability ratings in face-to-face situations.

With respect to the question of differences in the stereotypes held by interviewers, it should be noted that the items of information used in this study were judged on a favorability basis without regard to occupational designation.

It would appear that an item of information which suggested a high degree of aggressiveness on the part of an applicant may well be rated more favorably by a sales supervisor than would the same information when rated by an accounting section manager.

Finally, cross validation studies on independent samples are needed to determine whether or not the present findings are unique to the group studied. BIBLIOGRAPHY

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APPENDIX A

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INTERVIEWER VARIABLE CLASSIFICATIONS AND VARIABLE SCORES

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LEGEND

- S Subject
- A Age: 20-35 years
- B Age: 36-50 years
- C Age: 51 years or older
- D Technical Education
- E Non-technical Elucation
- F Interviewing Experience: Less than 5 years
- G Interviewing Experience: Nore than 5 years-less than 10
- H Interviewing Experience: More than 10 years
- I Frequency of interviews: Less than 5 per month
- J Frequency of interviews: More than 5 per month-less than 15
- K Frequency of interviews: More than 15 per month
- L Position in an Organization: Middle Management Line
- M Position in an Organization: Midlle Management Staff
- N Position in an Organization: Line Supervisor
- 0 Position in an Organization: Staff Supervisor
- P Mental Alertness Score
- Q Gordon Personal Profile A Score
- R Gordon Personal Profile R Score
- S Gordon Personal Profile E Score
- T Gordon Personal Profile S Score
- U Dogmatism Scale Score

Subject	Title	Department
(1)	C	-
(1)	Supervisor	Commercial
(2)	Supervisor	Customer Service
(3)	Supervisor	Accounting
(4)	Supervisor	Personnel
(5)	Supervisor	Sales Research
(6)	Supervisor	Commercial
(7)	Supervisor	Commercial
(8)	Superintendent	Engineering
(9)	Supervisor	Personnel
(10)	Supervisor	Data Processing
(11)	Supervisor	Commercial
(12)	Supervisor	Accounting
(13)	Supervisor	Accounting
(14)	Manager	Advertising
(15)	Supervisor	Commercial
(16)	Supervisor	Accounting
(17)	Supervisor	Personnel
(18)	Supervisor	Commercial
(19)	Supervisor	Commercial
(20)	Supervisor	Commercial
(21)	Supervisor	Advertising
(22)	Superintendent	Engineering
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(23)	Supervisor	Customer Service
(24)	Supervisor	Credit
(25)	Supervisor	Customer Service
(26)	Supervisor	Accounting
(27)	Supervisor	Commercial
(28)	Supervisor	Treasury
(29)	Superintendent	Data Processing
(30)	Supervisor	Credit
(31)	Supervisor	Data Processing
(32)	Manager	Customer Service
(33)	Supervisor	Purchasing
(34)	Supervisor	Right of Way
(35)	Supervisor	Engineering
(36)	Supervisor	Engineering
(37)	Supervisor	Engineering
(38)	Supervisor	Rate and Research
(39)	Supervisor	Commercial
(40)	Supervisor	Customer Service
(41)	Superintendent	Engineering
(42)	Superintendent	Accounting

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(43)	Superintendent	Treasury
(44)	Superintendent	Treasury
(45)	Supervisor	Commercial
(46)	Supervisor	Commercial
(47)	Supervisor	Commerical
(48)	Manager	Commercial
(49)	Manager	Commercial
(50)	Superintendent	Power
(51)	Supervisor	Data Processing
(52)	Supervisor	Data Processing
(53)	Supervisor	Commercial
(54)	Supervisor	Engineering
(55)	Supervisor	Engineering
(56)	Superintendent	Engineering
(57)	Supervisor	Engineering
(58)	Superintendent	Engineering
(59)	Superintendent	Engineering
(60)	Superintendent	Engineering
(61)	Supervisor	Commercial
(62)	Supervisor	Data Processing

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(17)	1		x			1	;x	x					x			60	24	 32	30	2.1	-36
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APPENDIX B

INDIVIDUAL INTERVIEWER RATINGS ON ITENS OF INTERVIEW INFORMATION

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(1)	6	3	2	6	6	5	3	2	2	6	6	6	4	2	3	2	4	6	6	3
(2)	3	2	3	6	6	6	2	2	1	3	5	5	3	3	6	1	6	Ó	0	0
(3)	5	3	2	5	. 4	3	4	2	2	4	4	S	3	4	5	2	5	5	2	4
(4)	3	3	4	6	6	6	4	5	2	4	6	6	4	3	3	3	5	5	2 [.]	4
(5)	3	3	2	7	6	6	2	4	3	6	7	7	3	2	2	4	5	7	3	2
(6)	3	4	2	6	4	6	1	0	0	0	5	5	3	4	3	0	4	6	0	3
(7)	5	4	4	6	6	7	4	3	3	4	7	6	4	4	5	3	5	6	3	3
(8)	5	2	2	6	5	6	3	1	1	3	7	6	. 2	3	2	4	4	6	0	2
(9)	5	2	3	6	7	6	3	3	2	. 4	5	5	3	4	S	4	4	5	2	4
(10)	3	3	4	6	6	6	3	2	1	4	7	4	4	4	3	4	4	5	2	3
(11)	2	2	3	6	6	6	2	2	3	5	6	6	5	3	4	5	5	5	0	5
(12)	4	2	2	6	6	5	3	1	1	2	5	5	2	1	4	2	6	6	0	4
(13)	4	4	5	5	5	5 .	3	3	2	3	6	6	5	3	3	2	5	6	2	3
(14)	3	3	2	6	5	5	.3	2	2	3	ć	5	3	2	2	5	5	6	2	3
(15)	5	3	3	6	5	6	1	1	2	5	7	6	5	. 4	1	4	6	7	ο	1
(16)	3	3	2	6	7	6	3	1	2	3	5	6	4	4	5	1	5	6	0	6
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(19)	4	2	3	6	7	6	1	2	1	5	7	7	3	2	4	3	6	7	0	2
(20)	6	4	3	6	7	6	3	2	2	3	6	6	5	٨	4	2	4	5	3	4
(21)	२	2	2	6	6	6	3	1	2	2	5	6	4	2	2	о	4	5	. 3	3

SUBJECTS

والشماك ويجاجبه مبالا فاستعمالها المتعليات فالاجهم ويستعديهم والمراجع

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(22)	3	2	3	6	5	5	3	5	3	5	5	5	4	3	1	3	5	6	3	3
(23)	3	2	4	7	7	4	4	3	3	4	5	5	4	· 4	3	4	4	7	2	4
(24)	3	4	4	6	6	5	4	3	. 3	4	5	5	5	3	4	4	4	6	3	4
. (25)	5	5	3	. 5	6	6	4	3	3	4	5	4	2	4	4	4	5	4	4	3
(26)	5	4	3	Ó	6	5	3	3	2	3	£	6	5	.	2	2	5	5	2	. 3
(27)	5	3	3	6	6	6	3	3	2	2	5	4	2	3	3	4	4	5	3	4
(28)	5	4	3	6	7	6	3	3	2	4	4	5	4	4	5	4	4	4	3	2
(29)	0	3	3	6	5	5	4	0	0	3	6	6	·2	3	3	5	.4	5	3	3
(30)	6	4	3	6	6	6	3	2	3	· 4	7	6	4	3	6	1	5	6	0	3
(31)	5	3	2	7	7	7	3	2	3	3	6	5	3	2	5	3	6	6	1	. 5
(32)	5	2	3	7	6	6	3	2	4	5	4	4	4	3	0	4	5	0	3	4
(33)	5	4	3	6	6	6	4	3	2	4	5	4	4	3	3	0	4	5	1	3
(34)	6	3	1	7	6	7	2	ı	2	3	7	6	3	3	3	1	5	6	1	2
(35)	5	3	3	6	6	4	4	3	3	4	5	5	4	3	4	2	4	6	3	4
(36)	2	4	4	6	6	7	0	4	3	5	6	7	4	3	4	4	5	7	1	2
(37)	6	3	3	Ú	7	6	3	3	7	3	Ó	6	5	4	6	7	4	6	1	5
(38)	4	3	4	6	6	6	4	3	1	2	6	5	3	3	4	4	4	5	1	3
(39)	3	2	2	6	6	6	2	2	2	4	5	6	3	2	6	1	4	6	1	5
(40)	4	3	2	6	6	5	2	1	2	3	6	5	3	3	3	2	4	5	3	3
(41)	4	3	3	6	5	7	3	1	1	3	6	4	3	5	3	2	4	5	2	3

SUBJECTS

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(10)	(17)	(18)	(19)	(20)
	(42)	4	3	2	5	4	6	4	1	0	2	4	5	4	3	3	2	4	5	2	3
	(43)	4	4	3	5	6	6	3	3	3	3	6	6	4	3	3	2	4	6	2	4
	(44)	6	2	1	7	6	6	2	1	2	1	7	7	1	1	3	2	4	7	0	4
	(45)	3	2	1	6	6	6	3	4	1	4	6	7	3	1	2	2	4	5	2	3
	(46)	4	3	3	6	4	5	2	3	3	4	5	6	4	4	. 3	3	5	6	2	3
	(47)	3	3	2	6	4	5	3 [`]	2	1	3	5	5	4	2	2	3	4	6	1	3
	.(48)	6	4	3	7	6	6	4	3	3	4	5	6	.4.	3	3	3	4	7	3	3
	(49)	5	2	0	6	5	5	4	2	0	2	5	5	4	3	5	2	4	6	0	5
SI SI	(50)	5	4	3	6	6	6	4	3	3	4	6	7	4	4	3	3	5	6	2	3
JECI	(51)	5	4	3	7	5	6	4	3	2	2	6	7	4	4	3	2	5	6	3	3
SUB	(52)	2	3	2	4	5	5	4	2	4	5	4	4	5	3	4	5	1	4	2	1
	(53)	6	5	4	6	5	5	4	3	2	3	6	4	3	5	3	4	6	3	3	2
	(54)	6	4	3	5	6	6	3	3	4	6	5	3	5	4	5	5	2	4	3	3
••	(55)	5	3	3	6	6	6	4	[.] 3	2	4	7	7	4	1	4	4	5	6	0	4
	(56)	3	2	3	6	5	5	3	5	3	.5	5	4	3	1	3	5	6	3	3	2
	(57)	4	3	2	6	6	6	4	3	1	1	6	6	3	2	1	0	4	6	1	3
	(58)	3	2	3	6	5	5	3	5	• 3	4	• 4	5	4	3	1	3	5	6	3	3
	(59)	6	4	2	7	7	5	4	2	2	6	6	3	2	4	4	6	6	1	6	2
	(60)	4	2	2	6	6	5	3	3	. 4	6	5	2	2	4	4	4	5	1	2	3
	(61)	2	3	2	5	3	6	2	2	1	3	5	6	4	.3	3	3	5	0	5	5
	(62) [·]	• 4	4	2	5	6	5	3	6	3	2	7	6	3	2	3	4	5	6	2	5

ITEMS OF INFORMATION

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	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	.(40)
(1)	2	2	5	5	2	2	2	2	U	5	2	2	3	6	3	4	4	2	5	6
(2)	2	2	6	3	0	1	2	4	4	7	4	3	3	6	2	0	4	2	G	7
(3)	3	3	5	3	2	3	3	3	5	6	4	4	3	5	3	3	4	2	4	E
(4)	1	4	4	5	3	3	2	4	4	7	4	3	3	5	3	3	4	3	4	6
(5)	2	3	3	4	ο	?	ο	2	5	5	4	3	3	4	3	0	4	0	.3	5
(6)	3	3	4	4	3	3	2	3	5	6	4	4	3	4	4	3	4	3	5	5
(7)	3	3	4	4	3	3	2	3	5	6	4	4	3	4	4	3	4	3	5	5
(8)	3	3	4	4	3	3	2	3	5	6	4.	4	3	4	4	3	4	3	5	5
(9)	3	3	4	4	2	3	3	3	4	6	3	3	3	5	3	3	4	3	4	5
(10)	4	4	4	4	0	2	2	3	7	7	4	3	3	6	3	0	4	0	3	7
(11)	3	3	4	5	2	2	2	2	5	6	3	2	2	5	3	2	4	3	5	6
(12)	2	3	3	1	1	1	1	l	5	5	3	3	3	5	2	0	4	1	4	6
(13)	2	4	4	4	3	3	2	2	6	6	4	2	1	5	2	3.	4	2	4	.5
(14)	5	4	4	5	2	2	3	3	6	5	3	2	1	6	3	3	4	2	5	5
(15)	5	5	5	5	3	1	ο	3	6	7	4	3	3	6	5	1	4	0	4	6
(16)	2	4	3	4	0	1	1	· 1	Û	6	4	4	3	5	2	1	4	0	6	ъ
(17)	4	4	4	7	0	2	4	2	6	7	4	2	3	4	2	2	4	2	4	4
(18)	3	3	3	4	ο	. 1	1	3	4	6	2	2	3	5	3	1	4	3	3	6
(19)	5	5	6.	4	0	1	1	3	6	7	3	3	1	7	3	2	4	6	د .	. 6
(20)	3	4	4	3	2	4	2	3	6	S	4	3	3	6	3	3	4	5	3	6
(21)	2	2	2	0	2	2	1	1	4	<u>6</u>	1	1	1	5	4	2	4	0	4	5

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	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
(22)	2	3	4	6	1	3	1	З	5	5	3	3	3	5	3	2	3	2	4	5
(23)	4	4	4	4	3	3	1	1	4	7	4	4	3	5	3	2	4	3	3	4
(24)	5	4	3	5	2	3	2	3	5	6	5	4	4	6	4	3	3	4	4	5
(25)	4	4	4	4	3	. 3	4	3	4	4	4	3	4	5	4	3	4	4 ·	5	5
(26)	4	4	4	3	2	3	2	2	5	£	4	2	3	5	3	2	4	2	3	5
(27)	4	4	3	4	3	3	2	2	4		3	1	1	5	3	2	3	1	3	5
(28)	3	4	4	4	3	3	4	3	4	4	5	. 4	5	6	4	3	3 .	3	4	. 5
(29)	3	4	4	4	3	3	3	3	3	6	3	3	2	5	3	3	4	1	4	5
(30)	2	4	3	6	2	3	- 2	1	6	7	3 .	2	3	5	1	0	4	1	4	5
(31)	3	2	4	6	2	3	2	3	6	7	4	4	3	6	3	3	4	1	5	7
(32)	4	4	4	3	2	3	3	3	5	5	4	3	4	5	3	1	4	4	5	5
(33)	4	3	3	4	3	3	3	3	4	4	5	3	1	5	3	3	4	3	4	4
(34)	1	6	3	6	5	3	3	1	6	6	3	3	3	5	1	2	2	1	5	6
(35)	3	4	4	4	3	4	2	3	5	5	4	4	3	5	4	2	4	2	4	4
(36)	3	4	4	5	2	2	3	3.	4	7	4	2	.4	5	4	2	4	3	4	6
(37)	3	2	2	5	1	2	2	1	5	7	3	2	3	5	1	4	4	1	5	5
(38)	2	4	2 '	5	1	2	2	1	6	6	4	3	3	5	3	4	4	2	4	5
(39)	2	3	4	5	0	2	1	2	6	6	2	2	1	5	1	0	3	1	5	6
<u>(</u> 40)	3	. 3	2	4	2	3	3	3	5	6	4	3	3	5	3	2	4	3	4	5
(41)	2	4	3	4	2	3	2	2	5	6	3	3	2	5	3	4	4	2	5	5

ITEMS OF INFORMATION

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	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
(42)	1	4	4	4	3	2	0	0	4	[°] 5	4	3	0	5	0	0	4	3	5	4
(43)	3	4	4	5	• 1	3	4	3	5	6	4	4	3	5	4	4	4	3	5	6
(44)	3	3	1	7	1	2	3	2	6	7	3	2	1	7	1	1	4	1	Ó	7
(45)	3	5	2	5	2.	3	3	3	6	7	3	3	3	5	3	3	3	2	6	6
(46)	4	. 3	4	4	2	3	2	3	5	6	3	3	3	5	4	3	4	1	4	b
(47)	2.	4	· 3	2	1	4	3	2	4	5	4	2	4	5	4	1	3	1	4	4
(48)	3	4	4	5	3	3	3	4	5	7	4	4	3	5	3	2	4	3	6	6
(49)	2	2	2	4	0	3	ο	3	5	5	3	2	3	4	0	0	4	0	4	4
(50)	4	4	4	6	2	3	3 <u>.</u>	.3	5	4	4	4	3	5	4	3	4	3	5	6
(51)	4	3	2	5	3	3	3	3	5	4	3	3	3	6	3	3	4	3	4	6
(52)	2	1	4	4	2	4	4	2	5	6	4	3	3	4	4	2	4	3	4	4
(53)	2	2	2	4	3	3	•;	2	4.	4	3	3	2	4	2	3	4	3	5	5
(54)	3	3	4	4	3	4	2	3	6	6	4	3	4	4	3	4	4	4	4	5
(55)	3	4	4	4	3	. 2	2	3	7	7	4	4	4	5	4	0	4	3	5	6
(56)	4	4	6 ·	1	3	1	3	5	5	S	3	3	3	5	3	2	3	2	4	5
(57)	3	4	4	6	2	3	0	1	5	7	3	1	3	6	3	0	4	2	6	7
(58)	2	3	4	6	1	3	1.	3	. 5.	5	5	3	3	3	5	3	2	3	2	4
(59)	2	4	2	4	2	2	2	2	6	6	4	2	6	4	2	1	4	1	5	6
. (60)	3	3	3	4	1	1	1	1	4	5	3	2	3	6	2	0	4	2	4,	6
(61)	5	• 4	4	4	1	1	1	1	5	5	4	3.	3	5	2	0	· 2	2	3	5
1623	2	2	3	6	2	2	2	2	6	6	4	2	2	4	2	Ĺ	4	2	5	5

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		(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
(1)	4	3	4	2	2	3	4	3	5	5	3	3	5	3	. 6	3	6	4	4	4
((2)	3	2	2	.3	3	3	4	4	4	5	3	4	3	2	6	3	, 6	4	4	4
((3)	3	2	2	3	3	4	4	4	4	3	3	3	4	3	5	5	6	5	4	. 5
((4)	3	4	3	3	2	3	4	5	3	3	3	4	2	2	5	3	6	5	5	.4
((5)	3	2	2	4	2	2	2	2	4	3	2	3	4	3	5	3	6	5	6	4
((6)	6	0	0	0	0	4	3	4	4	3	3	2	3	0	6	3	6	4	4	4
((7)	4	2	3	3	3	4	4	4	5	3	. ³	4	4	3	5	5	6	5	6	6
((8)	1	2	3	3	3	3	4	3	3	3	2	3	3	0	5	2	7	4	4	. 4
ł	(9)	3	3	3	3	3	3	3	• 4	4	· 5	4	4	4	1	6	3	5	4	4	4
1	(10)	3	0	1	1	1	. 4	4	4	4	3	1	3	3	0	7	4	7	4	4	5
	(11)	· 5	2	2	3	3	2	2	3	5	5	3	3	4	1	5	2	6	4	4	4
	(12)	4	2	1	3	0	3	4	3	2	ľ	1	4	4	0	6	2	7	6	6	5
	(13)	2	3	3	2	3	3	3	4	5	3	3	2	5	1	5	4	6	4	5	
	(14)	2	2	3	3	3	• 3	2	4	5	3	2	3	4	3	6	2	6	7	6	2
•	(15)	5	3	. 2	· · 3	3	4	3	4	6	2	3	3	5	0	6	3	6	4	2	г
	(16)	1	6	1	1	. 2	4	4	. 4	5	6	3	l	4	0	6	1	7	5	4	ر م
	(17)	3	4	· 2	2	4	4	. 4	4	. 6	1	4	2	5	0	6	5		4	-44 -	** E
	(18)	4	1	Ľ	4	1	1	2	3	3	1	2	2	4	0	6	1	6	5	5 E	د د
	(19)	4	6	3	6	1	1	5	4	3	3	3	3	4	2	4	1	7	د م	>	ר ב
	(20)	.4	3	3	4	4	4	4	4	4	5	4	ب	4	3	5	3	0	4	- -	.) F
	(21)	4	5	3	3	2	2	3	3	4	3	4	1	4	2	5	3	7	3	2	• 2

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	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(43)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
(22)	3	3	2	3	3	3	3	4	4	3	3	3	5	2	6	3	5	5	4	4
(23)	3	2	3	3	3	4	4	4	4	6	3	3	4	2	6	3	6	6	4	5
(24)	4	3	3	3	4	5	4	4	5	6	4	3	4	3	6	4	5	5	6	6
(25)	3	3	3	4	4	4	3	4	5	2	4	4	4	2	5	3	5	4	4	5
(26)	3	3	2	4	4	4	3	4	5	6	4	4	4	3	5	3	5	4	4	ø
(27)	3	2	3	3	2	2	3	.4	5	3	3	4	A	2	5	3	5	4	5	5
(23)	4	5	3	5	4	4	4	4	5	5	4	4 、	4	3	5	4	6	5	6	6
(29)	4	0	3	3	4	3	3	4	4	2	2	.4	4	2	5	3	6	5	4	4
(30)	4	3	1	2	3	2	4	4	6	2	4	3	3	0	3	5	5	4	4	5
(31)	3	2	3	3	1	4	· 4	4	4	5	2	3	3	2	1.	2	7	4	4	6
(32)	3	0	1	3·	4	4	4	4	4	3	3	3	4	0	5	3	5	4	4	5
(33)	3	3	c	2	4	3	3	2	4	4	4	3	A	2	5	5	6	5	5	6
(34)	3	3	3	1	2	3	4	3	5	5	3	3	5	1	3	3	6	4	5	5
(35)	3	3	3	3	3	4	4	4	4	4	3	3	4	3	4	4	5	4	5	4
.(36)	4	3	2	3	3	4	4	4	5	5	2	1	4	0	6	3	6	4	4	5
(37)	5	3	3	3	3	3	4	Ą	4	3	4	4	4	2	5	3	ú	6	4	5
(38)	3	1.	2	2	3	4	4	4	4	3	2	2	4	1	5	4	6	5	5	4
(39)	3	1	1	2	2	1	3	2	4	3	4	3	4	2	5	2	6	6	6	5
(40)	· 3	3	3	3	3	4	4	4	4	5	4	4	4	3	4	3.	5	4	4	4
(41)	3	3	2	3	2	3	3	4	4	4	3	2	4	2	5	3	6	5	4	5

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ITEMS OF INFORMATION

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	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(00)
(42)	3	1	1	2	3	4	3	4	4	1	4	4	4	0	4	4	6	5	4	4
(43)	3	4	3	3 ·	4	4	3	4	4	5	4	4	4	3.	5	3	6	4	4	4
(44)	3	2	1	5	0	2	3	2	6	6	3	1	4	2	6	2	7	6	7	6
(45)	3	. 4	3	3	2	3	3	3	4	3	4	3	5	2	5	3	5	5	5	5
(46)	4	. 3 ·	3	2	3	3	4	4	4	v	4	4	4	1	5	3	6	5	5	5
(47)	4	4	.2	3	2	3	4	3	4	4	4	3	4	1	5	. 3	6	4	5	4
(48)	4	4	3	2	2	4	4	3	4	5	4	4	5	3	6 ·	4	5	6	6	6
(49)	4	3	3	3	0	2	3	4	. 4	. 5	ວ່		3 ·	0	0	0	6	6	5	5
(50)	4	4	3	3	4	3	4	4	5	3	3	4	5	3	5	3	6	6	6	5
(51)	4	4	3	3	2	2	3	3	5	6	5	4	4	3	6	4	3	3	6	6
(52)	· 4	1	3	3	4.	3	4	4	4	3	3	4	4	3	2	4	6	` 5	5	4
(53)	3	3	3	2	2	3	4	4	5	3	3	2	3	3	5	4	. 5	5	ú	5
(54)	3	3	3	3	3	4	4	4	4	ý	3	4	4	2	5	4	Ó	5	4	4
(55)	4	3	3	2	3	l	4	2	5	5	1	2	4	4	5	2	6	4	6	4
(56)	3	3	2	3	3	3	3	4	4	કં	2	3	3	4	5	2	6	3	5	5
(57)	3	3	2	. 1	3	3	3	3	4	2	4	3	3	1	6	3	7	4	5	4
(58)	5	3	3	· 2	3	3	3	4	4	3	3	3	5	2	6	3	5	5	4	4
(59)	4	2	3	4	1	4	4	4	3	2	2	1	2	4	6	1	5	4	6	4
(60)	. 2	2	1	4	1	1	4	4	4	5	3	2	4	0	5	4	5	5	4	4
(61)	2	• 2	2	3	3	3	3	3	4	:	3	3.	2	3	5	3	6	4	5	4
(62)	3	3	2	2	2	4	3	3	5	3	3	2	5	1	4	3	6	4	6	5

SUBJECTS

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APPENDIX C

THE DOGMATISM SCALE

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your <u>personal opinion</u>. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one.

Write +1, +2, +3 or -1, -2, -3, depending on how you feel in each case. +1: I AGREE A LITTLE -1: I DISAGREE A LITTLE

+2:	I AGREE ON THE WHOLE	-2:	I DISAGREE ON THE WHOLE
+3:	I AGREE VERY MUCH	-3:	I DISAGREE VERY MUCH

- 1. The United States and Russia have just about nothing in common.
- The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.
- 3. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
- 4. It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.
- 5. Man on his own is a helpless and miserable creature.
- 6. Fundamentally, the world we live in is a pretty lonesome place.
- 7. Most people just don't give a "damn" for others.
- 8. I'd like it if I could find someone who would tell me how to solve my personal problems.
- 9. It is only natural for a person to be rather fearful of the future.
- 10. There is so much to be done and so little time to do it in.
- 11. Once I get wound up in a heated discussion I just can't stop.
- In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.
- 13. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what others are saying.
- 14. It is better to be a dead hero than to be a live coward.

- 15. While I don't like to admit this even to myself, my secret ambition is to become a great man like Einstein, Beethoven, or Shakespeare.
- 16. The main thing in life is for a person to want to do something important.
- 17. If given the chance I would do something of great benefit to the world.
- 18. In the history of mankind there have probably been just a handful of really great thinkers.
- 19. There are a number of people I have come to hate because of the things they stand for.
- 20. A man who does not believe in some great cause has not really lived.
- 21. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
- 22. Of all the different philosophies which exist in this world there is probably only one which is correct.
- 23. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.
- 24. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.
- 25. When it comes to differences of opinion in religion we must be careful not to compromise with those who believe differently from the way we do.
- 26. In times like these, a person must be pretty selfish if he considers primarily his own happiness.
- 27. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.
- 28. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's camp than by those in the opposing camp.

- 29. A group which tolerates too much differences of opinion among its own members cannot exist for long.
- 30. There are two kinds of people in this world: Those who are for the truth and those who are against the truth.
- 31. My blood boils whenever a person stubbornly refuses to admit he's wrong.
- 32. A person who thinks primarily of his own happiness is beneath contempt.
- 33. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.
- 34. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.
- 35. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.
- 36. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.
- 37. The present is all too often full of unhappiness. It is only the future that counts.
- 38. If a man is to accomplish his mission in left it is sometimes necessary to gamble "all or nothing at all".
- 39. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.
- 40. Most people just don't know what's good for them.

APPENDIX D

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ITEMS OF INTERVIEW INFORMATION RATING FORM

INSTRUCTIONS

You have been asked to participate in a study designed to determine how different interviewers rate interview information.

This form contains a number of statements about job applicants. For each statement decide how favorable or unfavorable it would be if it was the only information you had about an applicant.

Please keep in mind that there are no " right or wrong" answers. We are interested in your <u>personal opinion</u>. Record your choice by making a check (\checkmark) in the proper space on the answer sheet, where in your judgement, the statement belongs.

If you change your mind about an item, be sure to erase the first mark completely.

PAGE 1

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1.	Says he likes regular hours for work
2.	Has collected unemployment twice in his life
3.	Is presently spending a little more than he is making
4.	Says he likes to spend his spare time with his children
5.	Says he never has colds or minor illnesses during the year
6.	Has been on his present job five years
7.	Says he has difficulty getting acquainted with strangers
8.	Says after he has done the big and difficult parts of a job, he hates to finish up the odds and ends
9.	Says he dislikes working on complex and difficult problems
10.	Says he often craves excitement
11.	Says he can correct others without giving offense
12.	Says he likes energetic people
13.	Is single and says he dates a lot during the week
14.	Says he never attends regular religious services
15.	Says he enjoyed the regimentation the armed services required of him
16.	Says his minimum expenses per month will be \$ 650
17.	Has 100 acquaintances in the community
18.	Says he likes to take the lead in group activities
19.	Has held four jobs in the last four years
20.	Says he would rather not take chances or run risks

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ANSWER SHEET

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FAGE 1

Extremely favorable	Quite favorable	Somewhat favorable Neutral	somewhat Unfavorable	Quite unfavorable	Extremely unfavorable	I would no longe: consider
. ()	()	() ()	()	· ()	()	().
2. ()	· ()	() ()	()	()	()	()
3. (,)	()	() ()	()	()	()	()
4. ()	()	. () ()	. ()	.()	(.)	()
5. ()	()	() ()	()	()	()	• ()
6. ()	()	() ()	()	()	()	()
7. ()	()	() ()	()	()	()	()
8. ()	()	() ()	()	()	()	()
9. ()	()	()· () [•]	()	· ()	()	()
ıc.()	()	() ()	()	()	()	()
11.()	()	() ()	()	()	()	()
12.()	()	() ()	()	()	()	()
13.()	()	() ()	()	()	()	()
11.()	()	() ()	()	()	· ()	()
15. ()	. (,)	() ()	()	()	()	()
16.()	()	() ()	()	()	()	()
17.()	()	() ()	()	()	· ()	()
18.()	· ()	(•) ()	()	()	()	()
19. ()	()	() ()	()	()	()	()
żo.()	()	() ()	·()	()	()	()

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PAGE 11

- 21. Says he tends to act on hunches
- 22. First actively considered making a change in jobs a week ago
- 23. Says he likes spending money
- 24. Has a net worth of \$60,000
- 25. Says he is leaving his present job because he can't get along with the people he has to work with
- 26. Says his feelings are sometimes easily hurt
- 27. Says he supervises three people on present job and dosen't care for the responsibility
- 28. Says he often acts on the spur of the moment
- 29. Never swears when conversing
- 30. Says he can meet emergencies quickly and effectively
- 31. Is divorced
- 32. Has a peptic ulcer
- 33. Ranked in the lower one-third of his college graduating class
- 34. Is married
- 35. Is a diabetic
- 36. Has a 1-0-A draft classification (conscientious objector)
- 37. Lives with his uncle
- 38. Admits that he sometimes drinks to excess
- 39. Earned 5 % of college expenses
- 40. Is buying his home

ANSWER SHEET PAGE 11

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Extremely favorable	Quitc favorable	Somewhat favorable Neutral	so mewha t Unfavorable	Quite unfavorable	Extremely unfavorable	I would no longe consider
21.()	()	() ()	()	()	()	()
fr. ()	()	() ()	()	()	()	()
es. (;)	()	() ()	()	()	()	()
21.()	()	() ()	. ()	• ()	()	()
nz. ()	()	() ()	()	()	()	()•
25.()	()	() ()	()	()	()	()
27.()	()	() ()	()	()	()	()
20. ()	()	() ()	()	()	()	()
29.()	()	()· ()	()	()	()	()
°0. ()	()	() ()	()	()	· ()	()
?1.()	()	() ()	()	()	()	()
32.()	. ()	(') ()	()	()	()	()
··· ()	()	() ()	()	· (,)	()	()
31.()	()	() ()	()	()	· ()	()
?:.()	. (_)	() ()	()	()	()	()
36.()	()	() ()	()	()	()	()
77.()	()	() ()	()	()	()	()
38.()	()	() ()	()	()	()	()
39.()	()	() ()	()	. ()	()	()
40 . ()	· ()	() ()	·()	()	()	()

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PAGE 111

- 41. Has a 1-Y draft classification (history of asthma)
- 42. Says he dislikes detail work
- 43. Says that at times he gets "quite nervous"
- 44. Says he was active in extra-curricular activities while in college and as a consequence failed to make good grades
- 45. Was arrested when he was twenty years old for driving while intoxicated
- 46. Is seperated from his wife
- 47. Participated very little in extra-curricular activities while in college
- 48. Describes his parents as " not very religious "
- 49. Says he has five really close friends
- 50. Feels that security is the most important aspect of a job
- 51. Lost 15 days from his job the past year due to illness
- 52. Refers to his father as " my old man "
- 53. Says as a tecnager he was more interested in members of the opposite sex than others his age
- 54. Recieved a general discharge from the Army (unable to adjust to military life)
- 55. Eventually expects to earn at least \$ 1,500 per month
- 56. Admits to having domestic difficulties
- 57. Ranked in the upper one fourth of his college graduating class
- 53. " Grew up " in a farming community.
- 59. Describes his parents as " very religious *
- 60. Has lived in the community two years

ANSWER SHEET -PAGE 111

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xtremcly avorable	Quite favorable	Somewhat favorable Ne	utral	somewhat Unfavorable	Quite unfavorable	Extremely unfavorable	I would no longer consider
1.()	(.)	() ()	()	()	() -	. ()
2.()	()	() ()	(),	()	()	()
?.()	()	() ()	()	()	()	· ()
:.()	()	() ()	()	()	()	()
- ()	()	() ()	()	()	()	()
ř. ()	()	() ()	()	.()	()	()
7,()	()	() ()	()	()	()	()
n.().	()	() ()	()	()	()	()
n.()	()	()· ()	· · ()	()	()	()
0.()	()	() ()	()	()	()	()
1.()	()	() ()	()	· ()	()	Ċ)
2.()	()	() ()	()	()	()	()
3.()	()	() ()	()	(,)	()	()
4.()	()	() ()	()	()	·()	()
5.()	. (,)	() ()	()	()	()	()
6.()	()	() ()	()	()	()	()
7.()	()	() ()	()	()	()	()
s.()	()	() ()	()	()	()	()
9 .()	()	() ()	()	()	()	. ()
D.()	()	() ()	·()	()	· ()	()

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APPENDIX E

ANALYSIS OF VARIANCE RESULTS OF INTELLIGENCE AND PERSONALITY TRAIT SCORES FOR THREE LEVELS OF INTERVIEWING EXPERIENCE, THREE LEVELS OF INTERVIEWING FREQUENCY, AND FOUR LEVELS OF MANAGERIAL POSITICNS

TABLE. XI

ANALYSIS OF VARIANCE OF SOCIABILITY SCORFS FOR THREE CATEGORIES OF INTERVIEVING EXPERIENCE

Source of variance	sum of squares	đf	Keen Square	F
Between groups	137	2	69 [.]	
Within groups	. 5020	59	34	2.03
Total	2167	61		
	•			

TABLE XII

ANALYSIS OF VARIANCE OF FROTIONAL STABILITY SCORUS FOR TFPFF CATEGORIES OF INTERVIEWING FXPERIENCE

				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Source of variance	sum of squares	ſ	Mean Square	
Between groups	100	2	50	· · ·
Within groups	1568	59	23	1.79
Total	1663	61		, <u>-</u>

#### TABLE XIII

ANALYSIS OF VARIANCE OF DOGMATISM SCORES FOR THREE CATEGORIES OF INTERVIEWING EXPERIENCE

• •	• • •	•	·• .	•	
Source of variance	Sum of squares	15	Mean Squar	re !F	
Between group	2849	2	1424 .	··	
Within group	35812	59	606		
Total	38661	61	· · · ·	•	
	مىرىمىيىتىكى بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغ بىيىلىغان بىيى بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلىغان بىيىلى				

#### TABLE XIV

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ANALYSIS OF VARIANCE OF ASCENDENCY SCORES FOR THREE CATEGORIES OF INTERVIE'ING EXPERIENCE

Source of variance	Sum of sq uares	15	Liean Square	F
Betreen group	- 23	2	12	
Vithin group	1568	<b>5</b> 9	· 27	•44.
Total	1591	61		

#### TABLE XV

#### ANALYSIS OF VARIANCE OF RESPONSIBILITY SCORES FOR THREE CATEGORIYS OF INTERVIETING EXPERIENCE

Sum of squares	đſ	Kean Square	, F
13	2	6.50	
750	59	. 13.00	•50
· 763	61		
	Sum of squares 13 750 763	Sum of squares df 13 2 750 59 763 61	Sum of squares df Mean Square 13 2 6.50 750 59 13.00 763 61

#### TABLE XVI

* ANALYSIS OF VARIANCE OF MENTAL ALERTWISS SCORES FOR THREE CATEGORIES OF INTERVIEWING EXPERIENCE

Source of veriance	Sum of squares	đf	Mean Square	F
Between group	1329	2	664	
Tithin group	10623	59	180	3.69
Total	11951	ől	-	•

* Significant at the .05 level of confidence

#### TABLE XVII

#### ANALYSIS OF VARIANCE OF MENTAL ALERTNESS SCORFS FOR THREE CATEGORIES OF INTERVIEWING FREQUENCY

Source of variance	Sum of squares	đf	Mean Square	F
Between group	. 8	2	4 [·]	
Vithin group	2947	59	50	.03
Total	2955	ől		
· .	· ·			

#### TABLE XVIII

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#### ANALYSIS OF VARIANCE OF ASCENDINCY SCORES FOR THREE CATEGORIES OF INTERVIEWING FREQUENCY

Source of variance	Sum of squares	df.	Mean Square	F
Between group	16	2	. 8	- <u></u> -
Within group	874	59 [°]	. 15	•53
Total	890	61		•

#### TABLE XVIV

#### ANALYSIS OF VARIANCE OF RESPONSIBILITY SCORES FOR THREE CATEGORIES OF INTERVIEWING FREQUENCY

	<u>`</u>		• •	
Source of variance	Sum of squares	df	Mean Square	ן זי
Between group	22	2	11	
Within group	8-11	59	14	.78
Total	. 863	61	A	
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#### TABLE XX

ANALYSIS OF VARIANCE OF EMOTIONAL STABILITY SCORES FOR THREE CATEGORIES OF INTERVIEWING FREQUENCY

Source of variance	Sum of squares	đf	Mean square	F
Between group	<u>.</u> 97	2	48	· · ·
Within group	• 4371	59	117	.41
Total ·	- 4562	. 51		

TABLE XXI

ANALYSIS OF VARIANCE OF SOCIABILITY SCORES FOR THREE CATEGORIES OF INTERVIEWING FREQUENCY

Sum of squares	s df	Nean squa	re F
86	2	43	
2293	59	39	1.10
. 2379	61		<del></del>
	Sum of squares 86 2293 2379	Sum of squares df 86 2 2293 59 . 2379 61	Sum of squares df Mean squa 86 2 43 2293 59 39 2379 61

#### TABLE XXII

ANALYSIS OF VARIANCE OF DOGLATISM SCURVS FOR THREE CATEGORIES OF INTERVIEWING FREQUENCY

Source of variance	Sum of squares	đſ	Mean square	P
Between group	637 .	2	318	
Fithin group	35611	<b>5</b> 9	603	•52
Total	36248	61		
:	••			-

#### TABLE XXIII

#### ANALYSIS OF VARIANCE OF MENTAL ALERTNESS SCORFS FOR FOUR CATEGORIES OF MANAGERIAL POSITIONS

Sum of squares	đf	Mean squ	ere F·
99	· 3	33	
3307	58	57	•58
3406	61	•	• •
	Sum of squares 99 3307 3406	Sum of squares df   99 3   3307 58   3406 61	Sum of squares df Mean squares   99 3 33   3307 58 57   3406 61 51

#### TABLE XXIV.

#### ANALYSIS OF VARIANCE OF ASCENDENCY SCORES FOR FOUR CATEGORIES OF MANAGERIAL POSITIONS

Source of variance Sum of squares df Mean square F Between group 25 3 8 Within group 1399 58 24 Total 1424 61
#### TABLF XXV

# ANALYSIS OF VARIANCE OF RESPONSIBILITY SCORES FOR FOUR CATEGORIES OF MANAGERIAL POSITIONS

Source of variance	Sum Of squares	df	Mean square F
Between group	62	3	20.66
Within group	792	58	13.65
Total	854	61	· ·

# TAFLE YXVI

ANALYSIS OF VARIANCE OF FMOTIONAL STABILITY SCORTS FOR FOUR CATEGORIES OF MANAGERIAL POSITIONS

Source of variance	Sum of squares	đſ	Mean squa	re F
Between group Within group	74	3	24.7	
	1339	58	23.0	1.07
Total	1413	61	· · · · ·	

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# TABLE XXVII

ANALYSIS OF VARIANCE OF SOCIABILITY SCORFS FOR FOUR CATEGORIFS OF MANAGERIAL POSITIONS

<u></u>				
Source of variance	Sur of squar	es df	Kean sçu	are F
Between group	GO	3	20.0	
Fithin group	846	58	14.6	1.36
Total	 906	61 ·		
- · ·	TABLE XXVII	I		
			• •	
ANALYSIS OF V FOUR CATEGO	ARIANCE OF DOGM RIES OF MANAGER	ATISM SCO IAL POSI	DR <b>VS FOR</b> FIONS	
ANALYSIS OF V FOUR CATEGO	ARIANCE OF DOGM RIES OF MANAGER Sum of squar	ATISM SCO IAL POSIC	DRVS FOR FIONS Mean squ	are F
ANALYSIS OF V FOUR CATEGO Source of variance Between group	ARIANCE OF DOGM RIES OF MANAGER Sum of squar 2979	ATISM SCO TAL POSI Pes Cf 3	DRUS FOR FIONS Mean squ 993	are F
ANALYSIS OF V FOUR CATEGO Source of variance Between group Within group	ARIANCE OF DOGM RIES OF MANAGER Sum of squar 2979 30269	ATISM SCO TAL POSI Tes Cf 3 58	DRUS FOR FIONS Mean squ 993 522	are F 1.90

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# APPENDIX F

ANALYSIS OF VARIANCE RESULTS OF INTERVIEWER RATINGS FOR THREE CATEGORIES OF AGE, THREE CATEGORIES OF INTERVIENING EXPERIENCE, AND FOUR LEVELS OF MANAGERIAL POSITIONS TABLE XXVIV

ANALYSIS OF VARIANCE OF COMPOSITE INTERVIEWER ITEL RATINGS FOR THREE DIFFERENT AGE CLASSIFICATIONS

•			•	f 
Source of variance	Sum of squares	đſ	Lean squar	e F
Between group	, 162	2	81	3 17
Fithin group	12881	59	218	•37
Total	13043	61 -	· ·	
	·		-	
· · ·	TABLE XXX		a and a second se	
ANALYSIS OF V RATINCS FOR	ARIANCE OF CONFOST THREE DIFFERENT CA VIEWER FXPERIFT	ITE 11 ATEGOR MOF	T'RVIF'FR IT ITS OF INTER	741. I -
	•		•	•
Source of variance	Sum of squares	đſ	Mean square	) F
Botween group	· 192	2	96	• •
Within group	21781	59	369	•26
Total	21973	51		

#### TABLE XXXI

#### ANALYSIS OF VARIANCE OF COMPOSITE INTERVIEWER ITEM RATINGS FOR THREE DIFFERENT CATEGORIES OF INTERVIEWING FREQUENCY

¢ .	· · ·····		· · ·	
Source of variance	Sum of squares	ċſ	Mean square	F
Between group	494	2	247	
Vithin group	22479	59	381	•54
Total	22973	61	•	

#### TABLE XXXII

### ANALYSIS OF VARIANCE OF COMPOSITE INTERVIEWER ITEM RATINCS FOR FOUR CATEGORIES OF MANAGERIAL POSITIONS

Source of variance	Sum of squares	đſ	Mean square	F.
Between group	444	3	148	•40
Fithin group	21462	59	:364	
Total	21906	61		• <u></u>
	• •			

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