A Study of Decision Making
of a VTR Simulation of
an Assessment Center

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ABSTRACT

A STUDY OF DECISION MAKING OF A VIRTUAL SIMULATION OF AN ASSESSMENT CENTER

A. Bakr Ibrahim, Ph.D., 1982.
Concordia University

Prior to this research, the bulk of experimental research dealing with the assessment center followed the traditional psychometric paradigm. The central focus was upon the concepts of validity and reliability of the assessment process and the accuracy of selection decisions based upon this information. While this type of macroanalytic research is critically important in terms of evaluating assessment effectiveness within a specific situation, the results do not lend themselves to generalities that could be used in different situations. Macroanalytic studies tell us that a given relationship can exist but contributes little to the understanding of the necessary and/or sufficient conditions for the existence of such relationships.

The principal objective of the present research is to determine those factors which affect decision making in an assessment center simulation. Thus, in this research, the focus shifted from issues related to one very limited situation (macroanalytic) to issues which bear upon the essence of the assessment approach (microanalytic).

Thus, it will be the purpose of this research to study those factors which affect decision making in the assessment approach.
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My friend Robert Rosenfield is responsible for whatever merits the VTR material possesses.

I wish to dedicate this research to the memory of my mother, Professor Nour-El Dean.

I have never experienced stress at such a high level before, and my wife Eva Margareta is certainly responsible for getting me through this alive, if not well. She, like Dr. Joe Kelly, believes in me.

A.S.I.
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CHAPTER I

THE ASSESSMENT CENTER

Research on the Assessment Center

The spread of the assessment center method to managerial selection ever since the pioneering studies by Douglas Bray (1964) at AT & T has been phenomenal. Development Dimension (1977) reported that since early 1960's, over 200,000 employees have attended assessment centers and since 1977 more than 1,000 business, government and non-profit organizations were using the assessment center approach to predict later job performance. Despite the widespread use of the assessment center, little is known about the psychological process underlying the information processing and decision making.

Most of the earlier studies dealing with the assessment center followed the classical validity approach in personnel selection. Almost total emphasis has been placed on measurement and prediction and the primary objectives has been to maximize the correlation (simple or multiple) between predicted and actual criterion scores (Bray and Grant, 1966; Dickens and Black, 1965; Greenwood and McNemare, 1967; Byham, 1970; Dunnette, 1971; Huck, 1973; Bray, Campbell and Grant, 1974; Howard, 1974; Cohen, Mosés and Byham, 1974; Mitchell,
Rationale For The Present Study

In short, prior to this research, all experimental studies dealing with assessment procedures followed the traditional paradigm in personnel selection, the central focus was upon the concepts of validity and reliability of the assessment center and the accuracy of the selection decision. However, little or no attention was given to the study of the underlying psychological process. While this traditional type of validity research is critically important in terms of evaluating assessment center effectiveness within a given specific situation, the results do not lend themselves to «generalities» of assessment center procedures that could be employed in different situations. The reason for this emphasis on validity research may be due to the fact that the assessment center is a selection device that uses a battery of tests. As a result the canon of tests and measurements in industrial psychology was applied to the assessment approach.

The term macroanalytic studies could be used in this context to describe these validity studies which focus upon the psychometric properties of this assessment process since they were concerned with the assessment approach as a «single entity» or within a given situation.

However, certain problems or critical issues arise in the interpretation of these classical macroanalytic research results. Macroanalytic studies are «analogous to case studies; i.e., observations of isolated instances of the occurrence or
non-occurrence of relationships between certain variables. Because of the observational, non-experimental nature of these investigations and the large number of potentially important factors, macroanalytic studies add little to our scientific knowledge. Macroanalytic studies can be used to demonstrate that a given relationship can exist but contribute little to the understanding of the necessary and/or sufficient conditions for the existence of such relationships (Farr, 1971, p.2).

So although the macroanalytic or the psychometric focus in assessment center research has helped to estimate the magnitude of error, it does not increase our understanding of the actual process. Thus traditional macroanalytical research has failed to provide the explanation and control of assessment center error.

The present microanalytical research is intended to cover this gap and in general, is devoted to identifying the factors affecting the psychological process involved in decision making in the assessment center. Until these microanalytical factors are revealed, the limits of reliability and validity cannot be known. Microanalytic research in this context is the separation of the assessment center into different parts and studying one or several of those components while either ignoring or holding constant other parts of the total assessment center process (Farr, 1971).

Because of the nature of this approach, the microanalytic research needs to consist of a series of "interlocking investigations" if it is to provide a maximum of information (Wright, 1969).
Historical Background and Industrial Usage

In general terms, an assessment center is a multiple selection method that uses a variety of different techniques, including tests, interviews and case studies to evaluate a potential candidate (Taft, 1959; Kelly, 1980).

While the use of the assessment center in industry is described in the AT & T study led by Bray (1964), the original use of assessment centers on a systematic basis goes back to the military. In response to wartime needs, one of the first assessment centers was set up in the U.S. by the Office of Strategic Service (OSS) in 1943, similar in many respects to the War Office Selection Boards (WOSB) set up in Great Britain. As reported in an article titled "A Good Man Is Hard to Find", in Fortune Magazine in 1946, and in the "Assessment of Men" (1948), the main purpose of the OSS assessment center was to select and train agents and spies. Interestingly, the exercises used in OSS - Station S - assessment center to select spies bear a close resemblance to the contemporary centers used now to select managers.

An early and significant investigation of the assessment center in industry was reported in the Management Progress Study undertaken by Bray (1964) at AT & T, which established the validity of the assessment center as a method of predicting future executive performance. Encouraged by the success at AT & T, the use of the assessment center as a selection procedure spread to Standard Oil of Ohio, IBM, General Electric and Sears. In Canada, the list of assessment centers' users includes Steinberg, CN, Bank of Montreal and the
The Assessment Center Process

Since the assessment center process is important to the present research, a brief description is in order. The assessment process can be described in five sequential steps:

1. Identification of job dimensions: This step requires the identification and translation of the job behavioral variables into measurable dimensions relevant to success in the management job.

2. Selection and design of the instruments of measurement: The second step requires the selection and construction of the various instruments needed, such as, the pressure interview, the irate customer, the leaderless group and the in-basket exercise.

3. Observation and reporting: The assessment center activities may take as little as three hours or as much as three days. In a typical center participants are assessed in groups of six or twelve after being nominated by their immediate supervisors. While at the center candidates may play a business game, undergo an extensive interview, participate in group discussions or interview simulations (role playing), and be exposed to an in-basket exercise. During these exercises, the assessors observe and evaluate the different candidates.

4. The evaluation process: After the candidates have returned to their original job, assessors meet to review their
individual evaluations which they have formulated during the assessment activities.

5. Feedback: Following the evaluation process a summary report is developed on each candidate outlining potential training needs and placement. Candidates are then informed of the assessment results by the personnel officer in charge of the assessment center in an individual meeting (Kelly, 1980).

Variations on a Theme

To conclude this chapter, it must be noted as Erwin Tylor (cited in Finkle, 1970) has suggested, that no two assessment centers are alike, but rather there are "variations on a theme" among assessment centers.
CHAPTER II

THE RESEARCH PROBLEM
DECISION MAKING - A MICROANALYTICAL APPROACH

Ever since Webster's pioneering research "Decision making in the employment interview" (1964), a wealth of findings has been reported (Springbett, 1958; Bolster and Springbett, 1961; Crowell, 1961; Carlson, 1967 and 1969; Blakeney and McNaughton, 1971; Hakel, Dobmeyer and Dunnette, 1970; Shaw, 1972b; Rowe, 1967; Wexley, 1972; Sydiaha, 1958; Johns, 1975; Constantin, 1975; Schmitt, 1976; Petit and Mullins, 1981).

In fact, three major research programs utilizing the microanalytic approach have been conducted. First, the studies conducted at McGill University by Webster (1964) and his students demonstrated the feasibility of research on the decision making process in personnel selection. The major findings of the McGill studies are:

(a) Interviewers develop a stereotype of a good applicant;

(b) a bias seems to be established early in the interview which strongly influences final decisions;

(c) decisions are influenced more by unfavorable than by favorable information;
(d) whole versus partial information affects the rater's decision.

Second the LIAMA studies of Mayfield and Carlsson (1966) reported data relevant to the development of informational items which could be used to study decision making process in personnel selection. The principal findings of the LIAMA studies are:

(a) Unfavorable information receive more weight in the rater’s decision;
(b) interviewers have specific as well as common stereotypes of good applicants;
(c) that most of the variance in decisions are accounted for by information of known validity.

Third, a series of studies were conducted by Hakel, Dunnette and their associates (1970). Among their major findings were that there is a contrast effect between applicants; and that unfavorable information carries more weight in decision making than favorable ones.

These studies were concerned with the decision making process using only one selection technique, the employment interview. However, with the increasing research and application of the assessment center approach ever since the AT & T pioneering study, there is an urgent need for a shift in assessment research from macroanalytic to microanalytic, from the psychometric to the decision process focus for the following reasons:
1. The Clinical Nature of the Assessment Center.  

The Assessment of Men (1948), which documents the beginning of the assessment center activities in selection, sought to contrast «elementalistic» with «organismic» approaches to prediction, asking «which method has a high predictive validity in personnel selection.» The organismic method of assessment depends for its success upon the ability of the psychologists to observe the applicant's behavior and his strengths and weaknesses. While the elementalistic approach relies on objective and statistical measures, the authors conclude that the assessment prediction is an «organismic» type of prediction.

There has long been disagreement as to the merits of these two approaches of prediction. Thorndike (1918) advocated the «actuarial» approach in prediction by using test batteries to minimize inter-test correlation, which was later supported by Cronbach, (1949); Guilford, (1954); and McNemar, (1955). On the other hand Viteles (1925) recommended the clinical method of prediction in which judgment is used to predict behavior, claiming that actuarial or statistical method cannot predict all aspects of behavior.

Meehle (1954) indicates that clinical prediction involves the use of judgment to weigh the different kind of information regarding applicant behavior in order to predict future performance or behavior. So Meehle views the role of the clinician as «interpreter who makes inferences about the applicant from rarely occurring idiosyncratic and other qualitative information» (Gough, 1962. p.570). While the actuarial
approach in prediction uses quantitative measures to maximize the correlation (simple or multiple) between predicted and actual criterion behavior.

In short, the assessment center involves typical clinical approach procedures in which judgment is utilized to weigh and combine different kinds of information from which a decision is made to predict future performance of a certain applicant (Thomson, 1970; Moses and Byham; 1977). This clinical nature of the assessment prediction, however, goes to the heart of what might be the greatest weakness of this approach. Therefore, the focus should be on the factors or variables affecting the assessors' exercise of these clinical functions.

2. The assessment center approach uses a variety of techniques as mentioned earlier, the order in which these techniques are presented and the time spent in the assessment center may also have an effect on the decision making process.

The Purpose of the Present Study

This study is intended to investigate those microanalytical or clinical factors which affect decision making in the assessment center. Thus, in this research, the emphasis is shifted from macroanalytic to microanalytic issues. Previous research had acknowledged that certain processes do take place in assessment situations that lead assessors to make decisions, but for the most part, these processes had escaped scientific investigation. Therefore, it is the purpose
of this study to investigate the events and factors of the decision making process that lead to go / no-go assessment decisions.

The critical question is, what triggers decision-making in the assessment center? The research will focus on these factors:

1. The effect of nature and order of information on the decision made by assessors. The extent to which primacy effect operates.

2. The tendency of assessors to «carry» a stereotype of an ideal applicant.

3. The effect of assessors' characteristics on their final decision (i.e., pattern of traits, sex, age and experience).

The scope of the present research will be to conduct a simulated experiment to investigate the degree to which these variables affect the decision making process. In addition the present research is intended to study the reliability of VTR simulation of an assessment center.

**Research Hypotheses**

**Hypothesis 1:** An assessor's early commitment will play a dominant role in his or her final decision. The confirmation of this hypothesis would support the explanation that early impressions play a significant role in determining the final
decision.

**Hypothesis 2:** Assessor's decision is triggered by certain critical incidents at a certain time. Confirmation of this hypothesis would support the explanation that item favorability is an important information characteristic affecting decision making.

**Hypothesis 3:** An assessor will develop a common stereotype of a good applicant and will seek to match applicants and stereotype. Confirmation of this hypothesis would support the finding that raters develop a common stereotype of a good applicant.

**Hypothesis 4:** Applicants with personality traits similar to assessors are more likely to be accepted than are applicants (assesseees) with personality traits different from those of the subjects (assessors). Confirmation of this hypothesis would support the finding that attitude similarity significantly influenced rater's decision, and the explanation that impressions of others is partly affected by the perceiver's own traits.

**Review of Related Research**

1. **Nature and Order of Information - Early Impression:**

   In a series of experimental interview sessions, Springbett (1958) studied the relation between the interviewer's final decision (accept-reject) and the kind and order of information presented. Springbett reported that early
impressions play a significant role in determining the final decision. Interviewers reached a final decision in an average of four minutes, and initial ratings and final ratings were in agreement in 73% of the cases.

Springbett also studied the influence of negative or unfavorable information on the interviewer's final decision. He found that just one unfavorable rating led to a reject decision in 90% of the cases. He concluded that unfavorable information about an applicant had a greater impact on the rater's final decision than favorable information, and that the interview seems to be primarily a search for negative information.

In another related study, Bolster and Springbett (1961) designed an experiment in which 16 army personnel rated items concerning applicant characteristics varying in favorableness. This study confirmed earlier findings of interviewer sensitivity to negative information, and suggested that as the interviewer commits himself to one position and moves from a non-committal position, the more radically he reacts to information which threatens the validity of his commitment. Furthermore interviewers were found to react more readily to negative than to positive evidence, but differences among raters were more accurately observed in terms of readiness to commit themselves, both negatively and positively.

Hollman (1972) is critical of the methodological shortcomings in Springbett (1958) and Bolster and Springbett's (1961) research. In a study of rating methodology, Hollmann
investigated the interviewers' error in processing positive and negative information. He reviewed the previous studies and cited two methodological problems that may have led to their findings. The first problem was the assumption that each unit of information is perceived as independent or to have «equivalent symmetrical patterns» of intercorrelation. The second problem was concerned with the rating scale. He indicated that individuals differ regarding the probability that a candidate will be successful, and also that this probability is above .50 and therefore above the neutral point on the rating scale. Hollman noted that the psychological neutral point is actually on the positive side of the scale and that each increment on the negative side is greater than on the positive side because of the shifted neutral point.

In an attempt to counter these methodological shortcomings, Hollmann (1972) asked each of his subjects to indicate: a base rate of success (BRS); the probability an applicant will be successful; and the probability of success, p(s) for each unit of information presented. Hollmann concluded that interviewers accurately weigh negative information, but give less weight to positive information.

Blakeney and MacNaughton (1971) studied the effect of temporal placement of unfavorable information in the decision interview. The subjects (126 science students) evaluated an audio tape of a simulated interview in which the location and content of negative information was systematically varied. Blakeney and MacNaughton found that variance due to
information content and order of negative information were negligible.

In a similar research, Carlson (1967) studied the effect of the type of information input (i.e., written description vs. applicant photograph). Carlson found that 40% of the decision variance was related to written description information while 5% of the variance related to photographs. Based on this result Carlson suggested that factual information about an applicant plays an important role in the interviewer's final decision. In a related study, Carlson (1969) confirmed this result and suggested that favorable information plays a dominant role in the interviewer's final decision.

In another research, Carlson (1970, 1971) studied the effect of order of information, favorability of information and quality of the preceding applicant in the interviewer's final decision. The subjects were 600 life insurance agency managers who were asked to evaluate eight hypothetical applicants. The data about each applicant consisted of a valid test result, and eight items of personal history information presented in a serial-cumulative fashion. So each subject rated each applicant nine times. Personal history items were arranged in four different combinations of favorable and unfavorable traits: (FF, FU, UF and UU). There were three different levels of test decision: the applicant had passed, not taken, or failed the selection test. The results indicated that unfavorable items caused a greater rating shift following favorable items. Analysis of variance indicated that information favorability accounted for 12% of
the variance in rater's evaluation. Carlson suggested that contrast effect seems to be due to the primacy-recency effect rather than to the overall degree of information favorability.

Carlson (1971) suggested also that primacy-recency effect is a result of negative information, and that contrast effect of negative information with any pre-established set may generate a primacy effect. Carlson also suggested that the primacy and recency effect of negative information tend to limit the absolute effect of valid test information.

Hakel, Dobmeyer and Dunnette (1970) approached the interview decision as a case of information processing in interpersonal perception. First, they developed a set of instrument-checklists for describing job applicants for seven different occupational categories. The items were designed to ascertain what the applicant did and said, what impressions he created, and what characteristics he possessed. The authors reported a moderating effect of the relative weight of various categories of information in the relationship between information favorableness and the favorableness of the interview decision.

Hakel (1971) suggested that the unreliability of interview decisions may be due to a large extent to the wide differences that exist in first data and first impression, and that unfavorable information seems to carry out more weight than favorable information.

Shaw (1972b) asked 132 college recruiters to rate
hypothetical job applicants for engineering and science jobs and for management trainee jobs. His idea was to examine the assumption that the effect of unfavorable information on the evaluation of a job applicant might be greater when the applicant's information is ambiguous rather than unambiguous. His choice of evaluating science vs. management students was based on the assumption that evaluation of science students represent less ambiguous criteria than that of management training. Shaw (1972b) found that the effect of unfavorable information for the two professional categories (science vs. management) differed according to the content of information.

Farr (1973) constructed eight hypothetical applicants based on Hakel and Dunnette's (1970) items. Based on the attention hypothesis, Farr (1973) suggested that recency effects are produced when interviewers make repeated judgment concerning hypothetical job applicants. Last information presented to the rater about an applicant had a larger effect on the final decision than information presented early in the simulated interview when the rater was asked to evaluate each applicant several times. Farr (1973) went on to suggest that when only a single judgment was required, the results were less consistent, although a primacy effect was found for one type of decision. These results seem to contradict earlier findings (Springbett, 1958). However, the obtained recency effects are consistent with data from impression-formation studies.

Farr's (1973) attention hypothesis was supported by
other studies. Peters and Terborg (1975) for example, suggested that defining specific job qualification reduces the negative influence of primacy effect for unfavorable applicant information. Farr's (1973) study is also supported by an earlier study by Anderson (1960) in which it was found that a favorable decision was positively related to time span (the time the interviewer spent talking to an applicant).

Johns (1975) discovered that interviewers who received information in a random order processed that information more competently than interviewers who chose the order in which they evaluated applicant information. Furthermore, Johns (1975) found that interviewers considered more information and could recall more about the applicant when the information is in a random order than when interviewers control the order in which information was received.

A similar research was conducted by Crowell (1961). Crowell studied the effect of the amount and nature of information available about an applicant on the interviewer's decision. In his early research, Crowell (1961) compared the effect of incomplete information in perceptual accuracy and in decision making. His subjects (187 army men) were shown picture slides which were manipulated to study the effect of partial information on decision making. Crowell (1961) found that when all information about the applicant was presented immediately or gradually, accuracy of perception was very high.
In a related study Crowell (1961) found that rater's decision (about a hypothetical applicant) changed as new information about the applicant was added. In other words, the rater's decision based on complete information was different from those based on incomplete information.

To further examine the effect of partial information on perception, Crowell (1961) designed a third experiment in which the subjects were exposed to varying amounts of information (based on two written descriptions containing favorable and unfavorable information, placing the unfavorable ones at the end of the description, to allow the rater to form an impression before reading the unfavorable information). Crowell found that decision was more favorable when unfavorable information was preceded by early favorable information than when made in isolation.

Recent research on the effect of information favorableness on interviewer's decision was provided by London and Hakel (1974). They found that when the interviewer perceives the applicant as of high quality, the weight of unfavorable information is significantly reduced.

To further examine the role of positive and negative information in selection, Weiner and Schneiderman (1974), examined the effect of objective information in the interview situation. They found that relevant information accounted for a large percentage of the decision variance when objective information about the job was present than when it was absent. Wiener and Schneiderman (1974) stated that interviewers seem to reject more candidates when job information
is not provided to them. This finding is supported by Constantin's recent research (1976). He suggested that interviewers rate irrelevant information more extremely than they rate normative information. This is also consistent with previous research by Kanouse and Hansones (1972) who suggested that unfavorable information attracts more attention from the rater because it deviates from norms.

Constantin (1976) research findings also suggest that the dominant role of unfavorable information in the decision making process is a function of the information value of such data. The same research also found that negative information that is relevant to the job is judged lower than negative information that is irrelevant to the job. These findings are consistent with three other previous researches by Peters and Terborg (1975); Wiener and Schneidermah (1974) and Hamilton and Fallot (1974), which indicated that when the interviewer does not have enough information about the job, they may rely on other factors less relevant, and that detailed job requirements reduce primacy effect for negative information and reduce irrelevant information.

Constantin (1976) research also found that the favorable information led to favorable rating of the applicant regardless of the relevancy of information.

2. Stereotyping:

Common sense observation, social psychology, and the sociology of knowledge emphasize the effect of stereotypes, snap judgments, preconceptions, or sets in reducing the adequacy of observations. (Wyatt and Campbell, 1951. p.496)

Sydiaha (1958; 1959; 1961) tended to confirm that a
strong bias is developed early in the employment interview. Sydiaha (1958) suggested that the interviewer tends to have a stereotype of an ideal applicant. In his study of Canadian Army recruits, Sydiaha asked four army personnel officers to interview 2,565 army recruits and make a decision (accept/reject). He also asked his subjects to Q-sort 120 critical impression statements according to their applicability to recruits. Then at the end of his experiment, Sydiaha (1958) asked his subjects to sort the statements and form an ideal type. Item analysis of these 120 statements of 90 interviews against accept/reject judgment yielded a scoring key of 67 items. These were cross validated on a second set of 89 interviews by the same interviewers and yielded $r = .85$. Using the same key with another 77 interviews conducted by four different interviewers yielded a correlation of .80. Sydiaha correlated the Q-sort description of the ideal recruit of the different interviewers and found the intercorrelation ranging from .56 and .98 with a media of .81.

Based on the above results, Sydiaha (1958) suggested that the stereotype of an ideal applicant (recruit) plays a dominant role in decision making. According to Sydiaha (1958) findings, interviewers tend to support their decision to accept or reject a recruit by referring to the same ideal type they have formed in their minds. As Sydiaha concluded:

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 decision of all interviewers. The results
are consistent with the view that personnel interviewers tend to attach the same importance to systematic information such as biographical and test data and that they tend to support their decisions by referring to the same hypothetical attributes.

The evidence obtained in these studies argues that individualized selective attention does not occur to any significant extent. It would appear that the eight officers were comparable in that they looked for the same things in Army applicants.

(Sydiaha, in Webster, 1964. pp.70-71)

Sydiaha (1958) «stereotype» research is based on interviews conducted by only eight personnel army officers and as Hakel and Dunnette (1970) indicated, Sydiaha «stereotype» may seem just «common response tendency» from his subjects. Therefore Hakel and Dunnette (1970) felt that future research should incorporate social desirability.

To further examine the role of stereotyping in interview decision, Rowe (1960, 1963) extended Sydiaha/McGill study. In her study, 146 personnel officers in the Canadian Army were asked to interview hypothetical applicants and to rate 60 descriptions from Sydiaha's 120 critical impression items (30 favorable and 30 unfavorable). Based on the subject's agreement on items rating, Rowe (1960) supported Sydiaha's ideal type. She concluded:

The notion that officers compared each applicant against a well-defined class of «good applicant» may be questioned on the ground that interviewers base their decision more on unfavorable than favorable information and this whole series of studies suggests that the well-defined class of «good applicant» is characterized more by a belief that certain unfavorable characteristics bar a man from being a good applicant than that certain favorable characteristics make him a good one.

(Rowe, in Webster, 1964. p.82)
It is worth noting, that early research by Webster (1964) indicated that interviewers tend to develop a stereotype of an ideal candidate and then seem to match applicants with such a stereotype.

Mayfield and Carlson (1966) support these previous findings. Mayfield and Carlson identified two types of stereotyping: (1) a common stereotype held by almost all interviewers and; (2) a stereotype held by a particular interviewer. As they concluded:

... any one interviewer's overall stereotype of the ideal applicant will consist of the «common» stereotype defining one set of requirements plus his own «specific» stereotype which adds another set of requirements.
(Mayfield and Carlson, 1966, p.49)

Hakel, Hollman and Dunnette (1970) studied the accuracy of interviewers to identify stereotypes of the «ideal applicant.» Twenty-three CPA's and fourteen students and personnel interviewers were given a forced choice stereotype accuracy test to determine how these three groups could accurately identify accountant's interests. Test results did not show significant differences among the three groups. However, the study identified differences in accuracy between CPA's and the other two groups. Hakel, Hollman and Dunnette (1970) suggested that these stereotype differences between interviewers lead to differences in the accept/reject decision.

Additional evidence on the effect of stereotype on interview decision was provided by Hakel and Schuh (1971). An item concerning job applicants which had been rated by
experienced interviewers as described by Hakel and Dunnette (1970) was selected as being important across occupation if the rater's agreement as to importance was at least 90 percent in the occupational groups studied (general management, management trainee, general sales, engineer, blue collar, secretary and clerk-typist). Subjects identified 22 descriptive items of job applicant attributes which were judged most important by interviewers across seven occupational groups. This study suggests a common stereotype of important attributes.

London and Hakel (1974) demonstrated that stereotypes of an ideal job applicant could be induced by presenting information to interviewers. They examined the concepts of «ideal applicant» and «expected typical applicant.» The two researchers felt that the «expected typical applicant» could serve as an anchor for the applicant evaluations in almost the same way the «base rate of success» would serve as the neutral point in Holmann's study. The «expected typical» and «ideal applicants» were induced by giving descriptions of each to the subjects. London and Hakel reported that unfavorable information have a greater effect than favorable information; however, the effect of unfavorable incidents is modified by both concepts — ideal and expected typical applicant.

It is worth noting that Shaw (1972a) tried to test Webster's (1964) finding about interviewer's similarity in relation to commonality of stereotype of an ideal applicant. He found that analysis of interrater agreements indicated
little support for Webster's finding and analysis of variance in interviewers ratings with similar 13 semantic differential items indicated significant differences for the item "a good management consultant." Comparison of the response profiles of 5 categories indicated some significant differences between the "good" and "mediocre" categories but not between "good" and "typical" categories. Shaw suggested that while there are differences in interviewers experience, it does not necessarily follow that the categories of "good applicant" exist as a distinctive common stereotype among interviewers with common business experience.

3. Raters Differences in the Decision Process and Situational Variables:

Cronback's (1958) factor analytic study suggested that prediction of interviewer's decision could be improved and inter-rater differences could be identified.

Rowe (1960; 1963; using Sydiaha, 1958 descriptive statement of critical attributes) asked a sample of 146 personnel officers from the Canadian Army to make (accept/reject) decisions for 100 hypothetical applicants and to rate Sydiaha 60 favorable and unfavorable items on a seven point scale. She found significant differences among inter-rater's accept/reject decisions. These differences were mainly a result of rater's pattern of trait rating and experience. Rowe (1960, 1963) suggested that the interview decision variance could be predicted using a rater's pattern of trait ratings and experience as independent variables. Rowe concluded her study of individual differences in decision making
with the following:

This section, dealing with the application of the findings of the present investigations to problems in the employment interview, has tended to emphasize the role of the interviewer. That is to say, the characteristics of the interviewer has emerged as more important in the final decision than have the characteristics of the applicant. This suggests that further investigations should be directed more to the personality, motivational and attitudinal attributes of the interviewer himself.

(Rowe, in Webster, 1964. p.84)

Using resumés, Hakel, Hollman and Dunnette (1970) found a higher intra-class correlation (.68) for interviewers than for students (.48) examining the same material. Carlson (1967) found no differences in either intra or inter-rater agreement in written descriptions. Langale and Weitz (1973) using a limited sample contradicted the post hoc hypothesis, revealing somewhat less reliability among veteran interviewers.

Schuh (1973) found that in dealing with novice raters, the content of the interview summary evaluation form can affect the interviewer's impressions and decision about an applicant. On the other hand, experienced raters made the same decision regardless of the content of the rating forms. However, novice interviewers with a rating form composed of highly important items made the same decision as experienced interviewers. Also, interviewers using a rating form composed of highly important job characteristics made the same selection decision regardless of the number of highly important items or experience level. Dobmeyer (1970) found that individual
recruiters differ widely in cue utilization, practices. He found that an important kind of information for one campus recruiter could be completely ignored by another recruiter.

Dobmeyer (1970) also reported data on configural cue used by 35 campus recruiters. Again, Dobmeyer (1970) found substantial individual differences in effective cue weights.

Valenzi and Andrews (1973) examined individual differences in the decision process of employment interviews. Four females interviewed 243 secretarial job applicants based on five types of information cues. They found that an important source of inter-rater disagreement was the failure of raters to process cues consistent with their estimate of perceived relative importance.

In short, the evidence points to systematic relationships between variables representing properties of applicant's information, interviewer's characteristics and conditions of interview and favorableness of interview decision. The evidence also suggests that interviewers tend to judge applicants against stereotype of ideal attributes.

The above reviewed research has provided much basic knowledge regarding the determinants of decision making in personnel selection. Major findings indicate that:

(a) a bias seems to be established early in the interview which influences final decision;
(b) interviewers develop a common stereotype of a good applicant;
(c) whole versus partial information affects the rater's decision;
(d) item favorability seems to be an important information characteristic affecting rater's decision;
(e) experience level appears to promote more accurate decision, and;
(f) evidence points to a systematic relationship between raters' characteristics and favorableness of interview characteristics.

These studies have shown the value of the micro-analytic approach to the study of personnel selection.
CHAPTER III

RESEARCH METHODOLOGY

I. Simulated Experiment.

Within the context of the simulated assessment center, the objective of the present research will be to conduct an experiment utilizing VTR to investigate the degree to which the microanalytical or clinical variables affect the decision making and evaluation process.

Frankin and Streufert (cited in Dunnette, 1976) define experimental simulation as "a research method where:
1) participants are placed into a complex environment in which they are, at least partly free to behave as they like;
2) participants attempt through actions to cope with environmental characteristics (i.e., change);
3) all events (over time) are predetermined, and;
4) the number of independent variables are strictly limited."

(P. 425)

II. Sample.

The sample is composed of 20 under-graduate students, 20 MBA students and 20 personnel officers and managers working in the Montreal area who are routinely involved in the hiring process. The sample consists of male as well as female assessors.
Assessors' characteristics were obtained via a personal data questionnaire included with the research material. Their ages ranged from 20 to 45 with a median of 28; educational level ranged from high school diploma to MBA with a median of a B.A.; experience level ranged from no experience to highly specialized personnel officers with a median of three years experience. Some representative job titles of the experienced group were personnel manager, personnel officer, personnel assistant, director of personnel and director of administration. Assessors were divided on the basis of preliminary analysis, into two groups: a) experienced; b) inexperienced.

Assessors were randomly assigned to the four experimental conditions. Participation was voluntary.

III. Preparation of Stimulus Materials.

Building the Instrument

A videotape of an assessment center simulation was constructed consisting of male as well as female job applicants, applying for a "sales manager" job in a large retail firm. Each of these hypothetical applicants was exposed to different exercises, commonly used in assessment centers, as follows:

The Leaderless Group Exercise

The hypothetical applicant participated in a leaderless group exercise. This is a competitive group problem, designed
to evaluate interpersonal skills, in which all applicants
arrive at a mutual decision (Bray, 1970). In this research,
the case describes a layout department of five people of an
advertising agency. Recently, the manager had had to cut back
the department budget by two people, one to be let go, and
the other to be absorbed by other departments. Within a month
the two people were back to work because they were found to
be indispensable.

Applicants were given all the documents pertaining to
the case and were asked to assess, first the original decision
made by the manager and then to reach a group consensus in
regard to which two employees they should let go.

Interview Simulations (Role Playing)

These role playing exercises present management pro-
blems to the individual applicant. Applicants were placed in
the target role and were instructed to deal with the problem
as they would in the real situation (Moses and Byham, 1977;
Bray, 1970).

In this research, two role playing exercises were
introduced, the stress interview and the irate customer:

The Stress Interview

In the stress interview, each of the hypothetical
applicants was asked to assume the role of Mr. (Ms.) Ladislaw,
the manager of the Garbeck Drug Company. As the manager, the
applicant was asked to defend his company's action of hiring
away a Mr. McCawber (a vital researcher for the Barbour
Company, a competitor) which occurred while the manager was on holiday.

The manager was summoned by the Ethics Committee of the Federal Food and Drug Administration for a preliminary investigation into the matter due to a complaint lodged by the Barbour Company (See Appendix A).

The Irate Customer

The irate customer exercise is commonly used by AT & T and other organizations applying the assessment center approach. In this simulated exercise, each hypothetical applicant was asked to assume the role of a retail store manager who is being confronted by an "irate" customer concerning a watch which had been purchased. Each applicant was given the store's policy and procedure manual concerning the warranty on refunds and repairs (See Appendix A).

The Background Interview

This exercise is commonly used in assessment centers, and is designed to elicit information concerning the candidate's interests and career expectations (Bray, 1970). In this simulated exercise, each applicant was asked to fill a background biographical questionnaire. Based on these biographical questionnaires, an interview was conducted with each applicant. The interviews roved freely over many areas of the applicant's past and current life.
Decision Time Code

After recording the assessment center simulation on videotape, a time code was constructed in all the assessment center exercises, using a special device. The purpose of the time code is to allow assessors to write down the decision time while viewing the VTR.

Editing and Manipulation

The original videotape was edited and different versions of the master videotapes were constructed to manipulate research variables (i.e. order of information).

Why VTR Simulation?

In the pilot study of this research, VTR was found to be very useful in manipulating research variables (i.e., information order, recency and primacy effect, and mainly decision time).

Concerning the loss in fidelity from the real situation, at least two studies suggest that videotape viewing of a person and face-to-face viewing produce substantially the same ratings. (Lewin, Dubno and Akula, 1975; Moore and Lee, 1974).

Tullar, Mullins and Caldwell (1979) noted that at least two measures of decision time are possible using VTR. If an overt behavior (such as checking a sheet when the decision is made) is required, then the experimenter can covertly time the interval between the start of the tape and the behavior. Or alternatively, subjects could be asked to give a stream of consciousness report of their impressions.
indicating the critical point at which the decision was made. This second measure, hereinafter called «talk through time», is perhaps more obtrusive than the first, but both of these measures appear to be less obtrusive than Springbett's (1954) stopwatch pressing measure.» (p. 670).

IV. Building the Evaluation Booklet

Based on the above materials, a test booklet was constructed containing a set of detailed instructions which assessors were asked to use (See Appendix A).

The Assessors Evaluation Booklet

The booklet consisted of three parts and was designed to evaluate the decision making process.

Contents and Description:

Part I - Background Biographical Questionnaire:

This part was mainly designed to correlate assessors background information, such as; sex, experience level, age and personality traits with their judgments.

Part II - Job Description and Instructions

This part was designed to give assessors background information about the job. This part also contains instructions which assessors were asked to read before viewing the VTR.

Part III - Evaluation Forms

The booklet contains mainly two types of evaluation forms:
1. Talk Through Time Decision (TTTD): in which assessors were asked to make a judgment while viewing the exercise on the VTR.

2. A Summary Rating Form (Complete Information Decision, CID): in which assessors were asked to make a second judgment at the end of each exercise.

V. Procedure

Assessors were asked to view the assessment simulation on the VTR and evaluate the hypothetical applicants using the Assessors Evaluation Booklet. Assessors were instructed to read the booklet instructions carefully before the experiment begins. Assessors were then asked to make two types of judgment on each hypothetical applicant: one while viewing each exercise and a second judgment at the end of each exercise. In the first type, Talk Through Time Decision (TTTD), assessors were instructed to write down the decision time using the VTR time code. Judgments were made on the appropriate forms attached in the assessor's booklet. This type of decision measures the nature and order of information input. Assessors were also asked to make a second type of judgment at the end of each exercise based on complete information about all applicants (Complete Information Decision - CID). This type of decision measures the effect of complete information (specially as assessors go along from the first exercise to the last one).
VI. Research Variables

Independent Variables. In order to test the research hypotheses of the present study, three independent variables were utilized.

   The original videotapes were edited and four different versions of the master tapes were constructed with different sequence as shown below.

   SEQUENCE OF ASSESSMENT CENTER INFORMATION PRESENTED IN THE FOUR EXPERIMENTAL CONDITIONS

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>SEQUENCE OF INFORMATION PRESENTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>LG, PI, IC, BG</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>PI, BG, LG, IC</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>IC, LG, BG, PI</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>BG, IC, PI, LG</td>
</tr>
</tbody>
</table>

   (LG: leaderless group, PI: pressure interview, IC: irate customer, BG: background interview).

2. Decision Time.
   A time code was constructed on the bottom of the master videotape and subsequently in the edited versions, and a portion of the Evaluation Booklet was also constructed to allow subjects to write down the decision time code while viewing the VTR as shown in Table 1.
TABLE 1

Decision Time Code in TTTD

<table>
<thead>
<tr>
<th>Decision</th>
<th>Time Code</th>
<th>Reason(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/R</td>
<td>001220</td>
<td></td>
</tr>
</tbody>
</table>

A script of the assessment center simulation was developed word by word in a written format from the original master tape.

A time analysis sheet was prepared of critical incidents and impression statements.


An 18 personality items, from Crowell (1961) semantic differential scales, were constructed as part of the Assessors Evaluation Booklet, and assessors were asked to rate each applicant while viewing the VTR (See Figure 1).
Figure 1: The Semantic Differential Scales

<table>
<thead>
<tr>
<th>active</th>
<th>friendly</th>
<th>insensitive</th>
<th>weak</th>
<th>unselfish</th>
<th>soft</th>
<th>excitable</th>
<th>optimistic</th>
<th>shy</th>
<th>prohibitive</th>
<th>aimless</th>
<th>cautious</th>
<th>sociable</th>
<th>aggressive</th>
<th>deliberate</th>
<th>immature</th>
<th>deep</th>
<th>tolerant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>passive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Assessor's Characteristics.

Assessor's characteristics were obtained via a personal data questionnaire, included with the research material. Assessors were also asked to rate themselves on the 18 personality items of the semantic differential scale, shown in Figure 1.

Dependent Variable - Judgments

Two types of judgment about each applicant in the four different tests were obtained. In the first type, assessors were asked to make an accept (A) / reject (R) decision while viewing the VTR. (Talk Through Time Decision - TTTD). In the second type (end of each test), assessors were asked to make a final decision accept/reject and to rank applicants from one to six (High/Low). (Complete Information Decision - CID).
Data Analysis

1. **Reliability of the instrument**: To test the reliability of VTR assessment center simulation of the pilot study, a test/re-test was administered with a 90 day interval. Different statistical methods were utilized: Binomial test for tests stability, McNemar test for test/re-test, Wilcoxon matched-pairs signed for test/re-test ranks and Spearman rank order correlation. Coefficient alpha was also computed to establish a rank order for the six applicants (Guion, 1965; Conover, 1971; Nunnally, 1978).

2. To test the early commitment hypothesis, contingency tables were utilized. The chi-square and the contingency coefficient statistics were computed (Kerlinger, 1973; Blalock, 1972; Costner, 1965).

3. To test the critical incidents-time hypothesis, the following steps were taken:
   a) a time analysis sheet was constructed;
   b) a word-by-word script was developed including behavioral gestures;
   c) decision times were analyzed statistically using frequencies table. (Blalock, 1972)
   d) critical incident's tables were then constructed for favorable (accept) as well as unfavorable (reject) incidents.
   e) graphic forms of the statistical analysis were then constructed
4. To test the common stereotype hypothesis, different statistical methods were utilized:
   
a) a T-Test (Two-tailed probability test) was conducted along with graphic representations. (Blalock, 1972; Hays, 1963; Nunnally, 1978).

b) the Semantic Differential data was factor analyzed (Harman; 1967).

c) Discriminant analysis - Canonical discriminant analysis was then utilized using the step-wise procedure (Wilk’s Lambda) to select variables that separate accept «good» from reject «bad» applicants (Tatsuoka, 1971; Nunnally, 1978).

5. To test traits similarity, analysis of variance was conducted along with a posteriori contrast test (Multiple Range - LSD test) (SPSS, 1975; Kerlinger, 1973; Nunnally, 1978).

Pilot Study

To check the adequacy of the videotapes and to develop suitable instrumentation for measuring observer perceptions and the decision making process, a pilot study was conducted and conditions were alternated. Discussion afterwards revealed that students and executives thought they were viewing videotapes of actual assessment center exercises, not simulations. The different tests used in the assessment process are a replication of the ones
reported by AT & T, Steinberg Ltd., and IBM with reported validity of over .70. To test for the reliability of the instrument used (the VTR assessment simulation), and to establish a rank order of applicants, the following steps were taken.

1. A pilot study sample was selected, composed of 20 undergraduate students, 20 MBA students and 20 personnel officers. The sample consisted of male as well as female assessors.

2. Assessors were randomly assigned to four different experimental conditions, each representing one of the four different tests used in the assessment simulation.

3. Assessors were asked to make the following judgments based on watching the six applicants on the VTR simulation.
   a - Accept (A) / Reject (R) decision
   b - Rank the six candidates (1 high / 6 low)

4. Assessors were asked to write down decision time on the evaluation booklet provided to them.

5. Test / Re-test: A test / re-test was administered to the pilot sample with 90 days interval.

**Statistical Analysis of the Pilot Study**

To test the stability of the different tests and to establish a rank order, the following tests were administered:
a) **Binomial test for stability**

A binomial test was computed separately for test and re-test. Binomial test is recommended when data are dichotomous (2 valued - i.e., accept/reject). The test computes whether or not a significant difference exists between the expected number in each category and the number actually observed. If the number of cases expected in each category is not the same, a test proportion may be specified (Conover, 1971; Hollander and Wolfe, 1956).

Table 2 indicates the total number of cases (360), numbers of cases in each category (Reject/Accept), the test proportion, and the probability level. A small probability level indicates that the group proportions differ from the expected proportion tested against, which indicates that different tests in the VTR simulation are very stable ($P < .001$).

b) **McNemar Test - Re-Test**

McNemar test is most useful in test - re-test experimental designs, to detect any significant changes in proportions of subjects from one category to another. The test is recommended when data are dichotomous (accept/reject), with two related samples (Conover, 1971; Hollander and Wolfe, 1956; Siegel, 1956).

As shown in Table 3, a 2 X 2 contingency table of response (for test and re-test was formed). From these cases that actually changed value, a chi-square statistic was
TABLE 2

Binomial Test—Stability of Original Test and Re-Test:
Indicating Total Number of Cases, The Accept Cases, the Reject Cases and the Probability Level

Stability of Original Test

<table>
<thead>
<tr>
<th>Cases</th>
<th>Reject</th>
<th>Accept</th>
<th>Test Proportion</th>
<th>2-Tailed Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>360</td>
<td>.238</td>
<td>122</td>
<td>.5000</td>
<td>.0000</td>
</tr>
</tbody>
</table>

Stability of Re-Test

<table>
<thead>
<tr>
<th>Cases</th>
<th>Reject</th>
<th>Accept</th>
<th>Test Proportion</th>
<th>2-Tailed Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>360</td>
<td>.240</td>
<td>120</td>
<td>.5000</td>
<td>.0000</td>
</tr>
</tbody>
</table>

N = 360
P < .001
TABLE 3

McNemar Test - Re-Test:
Indicating Total Number of Cases, Accept and Reject Cases In Original Test And Re-Test, Chi-Square and Probability Level.

<table>
<thead>
<tr>
<th>Original Test</th>
<th>ACCEPT</th>
<th>REJECT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re-Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reject</td>
<td>13</td>
<td>225</td>
<td>238</td>
</tr>
<tr>
<td>Accept</td>
<td>107</td>
<td>15</td>
<td>122</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>240</td>
<td>360 (N)</td>
</tr>
</tbody>
</table>

N = 360
Chi-Square: .036
2-Tailed Probability: .850
Column Total: Re-Test (A or R)
Row Total: Original Test (A or R)
computed along with 2-tailed probability. A large probability as shown in the Table (.850) indicates no significant change when the test was repeated, which suggests that the instrument (VTR-simulation) is highly stable.

c) **Spearman Rank Order Correlation**

Spearman Correlation coefficient was computed to correlate the ranking in the original test and the ranking in the re-test. Table 4 indicates the correlation coefficient, number of cases upon which correlation was calculated, and the level of statistical significance. As shown in the table, the correlation coefficients is extremely high (.9417), which indicates a high agreement in the ranking order.

d) **The Wilcoxon Matched-Pairs Signed-Ranks Test:**

This test was conducted to test the differences between the original test and the re-test samples (paired variables). The Wilcoxon matched-pairs signed rank test combines some of the features of both the T-test and the sign-test with respect to power efficiency (Blalock, 1960; Siegel, 1956). Table 5 indicates the number of cases, number of positive differences and their mean; number of negative differences; 'z' and its 2-tailed probability. As shown in the table, the probability is quite large (.964) which suggests a high agreement (no significant change) in rank order between the original test and the re-test.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation coefficient</td>
<td>.9417</td>
</tr>
<tr>
<td>Number of Cases</td>
<td>360</td>
</tr>
<tr>
<td>Significance</td>
<td>.001</td>
</tr>
</tbody>
</table>
TABLE 5

Wilcoxon Matched-Pairs Signed-Ranks Test
Between Ranking In Original Test
And Re-Test

<table>
<thead>
<tr>
<th>Cases</th>
<th>Ties</th>
<th>29 - Ranks Mean</th>
<th>27 + Ranks Mean</th>
<th>Z</th>
<th>2-Tailed Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>360</td>
<td>304</td>
<td>27.71</td>
<td>29.35</td>
<td>-.045</td>
<td>.964</td>
</tr>
</tbody>
</table>
e) **Reliability Coefficients - Applicants Rank Order**

To establish a rank order for the six applicants, a coefficient alpha was computed. Reliability coefficient indicates the extent to which the results obtained from a measurement method are repeatable. Nunnally (1978) recommends coefficient alpha as an index of the effectiveness of the instrument if the data are in dichotomous form. Alpha is equivalent to the reliability coefficient KR-20 (Kuder-Richardson-20). Table 6 indicates the rank order of the six applicants and the reliability coefficient. As shown in the table, Alpha is extremely high (.94599), which indicates the effectiveness of the instrument.
TABLE 6

Reliability Coefficient of the Rank Order of the Six Applicants

1. Fred
2. Diane
3. Ethel
4. Colin
5. Louis
6. Einar

Reliability Coefficient

Number of Cases = 60
Alpha = .94699
Number of Items = 6
CHAPTER IV

RESULTS

Hypothesis (1) Assessors early commitment will play a dominant role in the final assessment decision. However, experienced assessors will tend to modify their early commitment when more information is introduced in the assessment process.

The type of statistical analysis chosen depended upon the characteristics of the variable, their level of measurement, as well as upon the research design. Since the dependent variable is dichotomous (accept/reject), contingency analysis was utilized. The display of the distribution of cases by their position on two or more variables is the chief component of contingency analysis, and indeed, the most commonly used analytic method in the social sciences. (Kerlinger, 1973; Blalock, 1972). Different forms of contingency tables were used (2x2, 2x3, and 2x4).

To analyze for statistical significance, the chi-square ($\chi^2$) test was computed to determine whether or not the variables are statistically independent. The contingency coefficient was also utilized as a measure of association which describes the degree to which the values of one variable predict or vary with those of another (Kerlinger, 1973; Blalock, 1972).
To test the major statement that early commitment will play a dominant role in assessment final decision, a 2x2 contingency table was developed to explore if assessors changed their initial decision (early commitment) when more information was introduced along the assessment process. Table 7 indicates that 269 cases (75%) did not change their early decision (commitment), while 91 cases (25%) did modify their early commitment, which suggests a strong relationship between early commitment and final decision.

To test for statistical significance, chi-square was computed which indicates that a systematic relation between early decision (commitment) and final decision does exist ($\chi^2=99.52543$, 1 d.f., and $P<.001$). To test the magnitude of strength of association, the contingency coefficient was computed, which indicated a strong relationship between early commitment and final decision.

To examine the relation in depth, the following variables were manipulated:

1. **Order of presentation**: As mentioned earlier in the methodology part of this research, to investigate the effect of the order of the four different tests of the assessment process on early commitment, assessors were randomly assigned to four different cells reflecting different orders of presentation: BG, IC, PL, LG (Background interview, irate customer, pressure interview, and leaderless group.). Visual inspection of the contingency analysis of
TABLE 7

Relation of Early Commitment to Final Decision:
Indicating Number and Percentage of Assessors
Who Did Not Change Their Early Commitment and
Those Who Did Change Their Decision Throughout
The Assessment Process

<table>
<thead>
<tr>
<th>Change in Decision (Early Commitment)</th>
<th>Late Change</th>
<th>Early Change</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Change</td>
<td>269</td>
<td>0</td>
<td>269 Cases</td>
</tr>
<tr>
<td></td>
<td>74.7%</td>
<td>0</td>
<td>74.7 %</td>
</tr>
<tr>
<td>Change</td>
<td>59</td>
<td>32.0</td>
<td>91 Cases</td>
</tr>
<tr>
<td></td>
<td>16.4%</td>
<td>8.9%</td>
<td>25.3%</td>
</tr>
</tbody>
</table>

\[ N = 360 \]

**Corrected Chi-Square** = 99.52543 with 1 degree of freedom
significance = .0000

**Raw Chi Square** = 103.82203 with 1 degree of freedom
significance = .00

**Contingency Coefficient** = .47312
<table>
<thead>
<tr>
<th>Change in Decision (Early Commitment)</th>
<th>Test Order</th>
<th>LG PI IC</th>
<th>PI BG LG</th>
<th>IC LG BG</th>
<th>BG IC PI</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BG</td>
<td>IC</td>
<td>PI</td>
<td>LG *</td>
<td></td>
</tr>
<tr>
<td>No Change</td>
<td></td>
<td>64</td>
<td>64</td>
<td>70</td>
<td>71</td>
<td>269 Cases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17.8%</td>
<td>17.8%</td>
<td>19.4%</td>
<td>19.7%</td>
<td>74.7%</td>
</tr>
<tr>
<td>Change</td>
<td></td>
<td>26</td>
<td>26</td>
<td>20</td>
<td>19</td>
<td>91 Cases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.2%</td>
<td>7.2%</td>
<td>5.6%</td>
<td>5.3%</td>
<td>25.3%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>360 Cases</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

\[ N = 360 \]

Raw Chi Square = 2.51481 with 3 degrees of freedom  
Significance = .4736

Contingency Coefficient = .08329

(* LG: Leaderless Group, PI: Pressure Interview, IC: Irate Customer, BG: Background Interview)
Table 8 indicates no significant difference between those who did not change their early commitment in the four different cells (cell(1) 17.8\%, cell(2) 17.8\%, cell(3) 19.4\%, and cell(4) 19.7\%). As shown in Table 8, the chi-square implies statistical independence or absence of relationship between the order presentation of the four different tests of the assessment process and early commitment (chi-square = 2.51481, 1 d.f., \( P < .4736 \)).

2. **Experience level:** As shown in Table 9, the contingency analysis indicates that 43\% of the experienced personnel modified their early commitment when more information was introduced along the assessment process. While only 17\% of the novice assessors did in fact modify their early commitment. Chi-square computed implies that a systematic relationship between experience level and change of early commitment (decision) does exist (\( x^2 = 38.68415, 2 \) d.f., \( P < .001 \)). The contingency coefficient computed indicate a moderate relationship.

3. **Age:** Assessor's ages were manipulated (young/old), and a T-test (2-tailed probability) was conducted. Results as shown in Table 10 imply that a systematic relationship between age and early commitment does exist (\( P < .001 \)). The results indicate that those who modified their early commitment were significantly older. This again reflects the fact that experienced raters were represented in the


<table>
<thead>
<tr>
<th>Change in Decision (Early Commitment)</th>
<th>No Experience</th>
<th>Some Experience</th>
<th>Experienced Personnel</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Change</td>
<td>118</td>
<td>72</td>
<td>79</td>
<td>269 Cases</td>
</tr>
<tr>
<td></td>
<td>89.4</td>
<td>80.0</td>
<td>57.2</td>
<td>74.7%</td>
</tr>
<tr>
<td></td>
<td>32.8%</td>
<td>20.0%</td>
<td>21.9%</td>
<td></td>
</tr>
<tr>
<td>Change</td>
<td>14</td>
<td>18</td>
<td>59</td>
<td>91 Cases</td>
</tr>
<tr>
<td></td>
<td>10.6</td>
<td>20.0</td>
<td>42.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.9%</td>
<td>5.0%</td>
<td>16.4%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>360 Cases</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

*N = 360*

Raw Chi Square = 38.68415 with 2 degrees of freedom significance = .0000

Contingency Coefficient = .31150
TABLE 10
Relation of Assessor's Age to Early Commitment:
Indicating Means, Standard Deviations and t-Value of Age Group and Corresponding Decision

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th># OF CASES</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>STANDARD ERROR</th>
<th>F 2-TAIL</th>
<th>T 2-TAIL</th>
<th>DEGREES OF FREEDOM</th>
<th>2-TAIL PROB.</th>
<th>POOLED VARIANCE ESTIMATE</th>
<th>SEPARATE VARIANCE ESTIMATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>YEARS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GROUP 1</td>
<td>269</td>
<td>26.8699</td>
<td>6.621</td>
<td>.404</td>
<td>1.12</td>
<td>477</td>
<td>-5.97</td>
<td>358</td>
<td>000</td>
<td>-5.80</td>
</tr>
<tr>
<td>GROUP 2</td>
<td>91</td>
<td>31.7363</td>
<td>7.019</td>
<td>.736</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p < .001

1 - GROUP 1 YOUNG = No Change
2 - GROUP 2 OLD = At least one change
TABLE 11

Relation of Assessor Sex to Early Commitment:
Indication Sex Group and Corresponding Decision.

<table>
<thead>
<tr>
<th>Change in Decision (Early Commitment)</th>
<th>Female</th>
<th>Male</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No change</td>
<td>86</td>
<td>183</td>
<td>268 Cases</td>
</tr>
<tr>
<td></td>
<td>23.9%</td>
<td>50.8%</td>
<td>74.7%</td>
</tr>
<tr>
<td>Change</td>
<td>34</td>
<td>57</td>
<td>91 Cases</td>
</tr>
<tr>
<td></td>
<td>9.4%</td>
<td>15.8%</td>
<td>25.3%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>360 Cases</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

N = 360

Corrected Chi Square = .66363 with 1 degree of freedom
significance = .4153

Raw Chi Square = .88974 with 1 degree of freedom
significance = .3455

Contingency Coefficient = .4965
TABLE 12

Relation of Education Level to Early Commitment:
Indicating Education Levels and Corresponding Decision

<table>
<thead>
<tr>
<th>Change in Decision (Early Commitment)</th>
<th>Educational Level</th>
<th>High School College</th>
<th>Bachelors Plus</th>
<th>Row Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Change</td>
<td></td>
<td>134</td>
<td>135</td>
<td>269 Cases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>37.2%</td>
<td>37.5%</td>
<td>74.7%</td>
</tr>
<tr>
<td>Change</td>
<td></td>
<td>34</td>
<td>57</td>
<td>91 Cases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9.4%</td>
<td>15.8%</td>
<td>25.3%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>360 Cases</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

\[N = 360\]

Corrected Chi Square = 3.75022 with 1 degree of freedom
Significance = .0528

Raw Chi Square = 4.23573 with 1 degree of freedom
Significance = .0396

Contingency Coefficient = .10784
sample by relatively older subjects than novice raters who were almost all undergraduate students.

4. Sex and Education: Other variables, sex and education were also manipulated. Visual inspection of Tables 11, and 12 suggest no relationship between early commitment and sex of applicants (male/female), or between educational level. Chi-square computed indicates the absence of a relationship between sex and early commitment ($x^2 = .66363, \text{ld.f.}, P < .3455$), and between educational level and early commitment ($x^2 = 3.75022, \text{ld.f.}, P < .0528$).

Hypothesis (2) Assessors decisions are triggered by certain critical incidents (favorable or unfavorable) at a certain time.

A frequency distribution table was developed indicating time code (decision time, absolute frequencies, relative frequencies, adjusted frequencies and cumulative frequencies). Frequencies tables were constructed on the basis of two categories: Accept decision time and Reject decision time for each of the different tables. Table 13 presents a summary of critical decision time (accept-favorable, and reject-unfavorable), and Table 14 presents examples of critical incidents, decision time, number of assessors making the decision at that particular time and percentage-to-total category. Appendix B illustrates examples of critical incident decision time for the six different applicants.
### TABLE 13

Summary of Critical Incidents and Related Decision Time (Accepted) Group; Indicating Decision Time, Absolute Frequencies and Adjusted Frequencies (%) for the Four Different Tests

<table>
<thead>
<tr>
<th>TEST</th>
<th>LEADERLESS GROUP</th>
<th>PRESSURE INTERVIEW</th>
<th>IRATE CUSTOMER</th>
<th>BACKGROUND INTERVIEW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ABS.</td>
<td>ADJ.</td>
<td>ABS.</td>
<td>ADJ.</td>
</tr>
<tr>
<td></td>
<td>TIME</td>
<td>FREQ.</td>
<td>TIME</td>
<td>FREQ.</td>
</tr>
<tr>
<td>FRED</td>
<td>M.S.</td>
<td>13.12</td>
<td>19</td>
<td>48.7%</td>
</tr>
<tr>
<td></td>
<td>16.18</td>
<td>9</td>
<td>23.1%</td>
<td>32.03</td>
</tr>
<tr>
<td>LOUIS</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>EINAR</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>COLIN</td>
<td>M.S.</td>
<td>12.29</td>
<td>9</td>
<td>39.1%</td>
</tr>
<tr>
<td></td>
<td>12.50</td>
<td>8</td>
<td>34.8%</td>
<td>40.05</td>
</tr>
<tr>
<td>ETHEL</td>
<td>M.S.</td>
<td>10.02</td>
<td>11</td>
<td>64.7%</td>
</tr>
<tr>
<td>DIANE</td>
<td>M.S.</td>
<td>15.09</td>
<td>19</td>
<td>48.7%</td>
</tr>
<tr>
<td></td>
<td>16.42</td>
<td>12</td>
<td>30.8%</td>
<td>26.56</td>
</tr>
</tbody>
</table>

**TIME:** Integers = minutes (m), Decimal = seconds (s)
### Table 13 (Cont'd) - Rejected Group

<table>
<thead>
<tr>
<th>TEST</th>
<th>LEADERLESS GROUP</th>
<th>PRESSURE INTERVIEW</th>
<th>IRATE CUSTOMER</th>
<th>BACKGROUND INTERVIEW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TIME</td>
<td>FREQ.</td>
<td>ABS.</td>
<td>ADJ.</td>
</tr>
<tr>
<td>FRED</td>
<td>M.S.</td>
<td>5.28</td>
<td>7</td>
<td>19.0 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>5.38</td>
<td>4</td>
<td>19.0 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>7.44</td>
<td>7</td>
<td>33.3 %</td>
</tr>
<tr>
<td>LOUIS</td>
<td>M.S.</td>
<td>2.25</td>
<td>7</td>
<td>12.5 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>2.48</td>
<td>9</td>
<td>16.1 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>7.34</td>
<td>10</td>
<td>17.9 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>8.55</td>
<td>14</td>
<td>25.0 %</td>
</tr>
<tr>
<td>EINAR</td>
<td>M.S.</td>
<td>3.42</td>
<td>5</td>
<td>8.9 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>3.44</td>
<td>24</td>
<td>42.9 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>16.42</td>
<td>9</td>
<td>16.1 %</td>
</tr>
<tr>
<td>COLIN</td>
<td>M.S.</td>
<td>3.35</td>
<td>13</td>
<td>35.1 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>5.53</td>
<td>9</td>
<td>24.3 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>11.44</td>
<td>7</td>
<td>18.9 %</td>
</tr>
<tr>
<td>ETHEL</td>
<td>M.S.</td>
<td>4.23</td>
<td>16</td>
<td>37.2 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>6.15</td>
<td>13</td>
<td>30.2 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>10.08</td>
<td>4</td>
<td>7.7 %</td>
</tr>
<tr>
<td>DIANE</td>
<td>M.S.</td>
<td>5.33</td>
<td>15</td>
<td>71.4 %</td>
</tr>
<tr>
<td></td>
<td>M.S.</td>
<td>5.33</td>
<td>15</td>
<td>71.4 %</td>
</tr>
</tbody>
</table>

*Time: Integer = Minutes  Decimal = Seconds*
in graphic form. Results suggest the following:

Assessors are clearly triggered by certain impression statements or incidents at a certain time. For example, in the case of applicant Fred, as shown in Table 14, one critical incident-time code (19.20 m.s.) accounted for 23 (77%) reject decisions of the 30 reject decisions made by assessors. The script matching the time-code, indicated the applicant saying, «I haven't really had that much...uh...business...real...experience.»

A different example could be cited here in the case of applicant Louis where a behavioral incident (time code 39.05 m.s.) accounted for 41 (76%) rejection out of the 54 reject decisions made by assessors. The script matching the time code indicated the applicant pausing for a few seconds with no answer to the interviewer's question except a negative facial expression and «uh...uh...uh.»

It is interesting to note that assessors' reasons given in the evaluation booklet matched the assessment script in 89.8% of the cases, i.e., subjects gave reasons similar to the critical incidents.

However, when the results of the decision time were examined in relation to early commitment, it was found that in 75% of the cases, assessors during the assessment process were merely in search for a critical incident (favorable or unfavorable) to support their early commitment.

Another related result, is concerning early commit-
TABLE 14
Examples of Critical Incidents and Related Decisions
For the Six Applicants in Different Tests

<table>
<thead>
<tr>
<th>Applicant</th>
<th>Time</th>
<th>Numbers of Subjects</th>
<th>Percentage</th>
<th>Decision (A/R)</th>
<th>Critical Incident</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Accepting or Rejecting Applicants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRED</td>
<td>13.12</td>
<td>14</td>
<td>48.7</td>
<td>A</td>
<td>&quot;basically if you want business you have to go and get it&quot;</td>
</tr>
<tr>
<td></td>
<td>20.16</td>
<td>18</td>
<td>60.0</td>
<td>A</td>
<td>&quot;uhm, I feel I like to move up in the company and get more into an executive type position&quot;</td>
</tr>
<tr>
<td></td>
<td>21.33</td>
<td>6</td>
<td>20.0</td>
<td>A</td>
<td>&quot;Uh, I think I would rather work with a lot of people...&quot;</td>
</tr>
<tr>
<td></td>
<td>19.20</td>
<td>23</td>
<td>76.6</td>
<td>R</td>
<td>&quot;Uhm, well, I haven't had that much, uh business real... experience...&quot;</td>
</tr>
<tr>
<td></td>
<td>29.05</td>
<td>41</td>
<td>76.0</td>
<td>R</td>
<td>&quot;Uh... uh... Pausing with no answer to interviewer's question.&quot;</td>
</tr>
<tr>
<td>LOUIS</td>
<td>59.31</td>
<td>32</td>
<td>59.3</td>
<td>R</td>
<td>&quot;Uh. I'll see... what I can do about that...&quot;</td>
</tr>
<tr>
<td></td>
<td>31.03</td>
<td>23</td>
<td>45.0</td>
<td>R</td>
<td>&quot;Uhm, I usually do my work last minute and uh... I like to be told you have to do this in one week, and specifically told what to do...&quot;</td>
</tr>
<tr>
<td>EINAR</td>
<td>42.50</td>
<td>26</td>
<td>53.1</td>
<td>R</td>
<td>&quot;I dislike public speaking&quot;</td>
</tr>
<tr>
<td></td>
<td>43.42</td>
<td>7</td>
<td>14.3</td>
<td>R</td>
<td>&quot;I don't think I enjoy being a subordinate&quot;</td>
</tr>
<tr>
<td>Applicant</td>
<td>Time</td>
<td>Numbers of Subjects Accepting or Rejecting Applicants</td>
<td>Percentage Accept or Reject</td>
<td>Decision (A/R)</td>
<td>Critical Incident</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>-----------------------------------------------------</td>
<td>-----------------------------</td>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>COLIN</td>
<td>36.01</td>
<td>10</td>
<td>47.6</td>
<td>R</td>
<td>&quot;... I was working in resource based industries and uh it was clear to me that the job, uh, uh, that, uh, I needed to have uh further uh education and primarily the business uh business education.&quot;</td>
</tr>
<tr>
<td></td>
<td>40.05</td>
<td>7</td>
<td>33.3</td>
<td>A</td>
<td>&quot;... I have the eagerness, I have the ability to learn as well um, and now with my education to make uh decision. ... I like responsibility.&quot;</td>
</tr>
<tr>
<td></td>
<td>38.28</td>
<td>8</td>
<td>20.5</td>
<td>R</td>
<td>&quot;I've had positions where I've been uh, uh, responsible for other people, I had to direct other people and uh I haven't done too well in that.&quot;</td>
</tr>
<tr>
<td>ETHEL</td>
<td>36.42</td>
<td>12</td>
<td>75.0</td>
<td>A</td>
<td>&quot;... We are a company and we want good people to work for us.&quot;</td>
</tr>
<tr>
<td></td>
<td>26.50</td>
<td>5</td>
<td>41.7</td>
<td>A</td>
<td>&quot;When I start something, I like to finish it and do that effectively so, I think, uh, that's my primary motivation.&quot;</td>
</tr>
<tr>
<td></td>
<td>25.55</td>
<td>25</td>
<td>52.1</td>
<td>R</td>
<td>&quot;Bad temper can be an asset, when I have a subordinate uh that aren't keeping in line, you can put them back in in er perspective.&quot;</td>
</tr>
<tr>
<td>Applicant</td>
<td>Time</td>
<td>Numbers of Subjects Accepting or Rejecting Applicants</td>
<td>Percentage Accept or Reject</td>
<td>Decision (A/R)</td>
<td>Critical Incident</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>-----------------------------------------------------</td>
<td>-----------------------------</td>
<td>---------------</td>
<td>------------------</td>
</tr>
<tr>
<td>DIANE</td>
<td>25.56</td>
<td>11</td>
<td>30.6</td>
<td>A</td>
<td>As soon as I came back I told him that I felt that is unethical practice. . . .</td>
</tr>
<tr>
<td></td>
<td>52.52</td>
<td>9</td>
<td>36.0</td>
<td>R</td>
<td>I can't stand behind that product that SEKO uh . . . .</td>
</tr>
<tr>
<td></td>
<td>17.22</td>
<td>20</td>
<td>80.0</td>
<td>R</td>
<td>This is something that is going to be very difficult for me because its going to be a sort of readjustment of my life . . . they . . . my family still first, still more important</td>
</tr>
<tr>
<td></td>
<td>13.52</td>
<td>14</td>
<td>40.0</td>
<td>A</td>
<td>The skills that I have developed in the MBA program, I thought perhaps I should look into a position in management . . .</td>
</tr>
<tr>
<td></td>
<td>14.21</td>
<td>7</td>
<td>20.0</td>
<td>A</td>
<td>. . . More importantly, I think uh that understanding myself has enabled me to be productive in my relationships with other people</td>
</tr>
</tbody>
</table>
TABLE 15

Means and Standard Deviations of Early Commitment Time

<table>
<thead>
<tr>
<th>Decision</th>
<th>N</th>
<th>Mean(min)</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accept Decision</td>
<td>60</td>
<td>4.29</td>
<td>1.10 (minutes)</td>
</tr>
<tr>
<td>Rejett Decision</td>
<td>60</td>
<td>2.01</td>
<td>.50</td>
</tr>
<tr>
<td>Initial Decision (A or R)</td>
<td>60</td>
<td>3.04</td>
<td>1.02</td>
</tr>
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</table>
moment decision time. The decision-time-analysis indicates as shown in Table 15, that assessors reached a decision in an average of three minutes. However, assessors seem to spend more time to make an accept decision, than to make a reject decision. Assessors made an initial reject decision in an average of two minutes, while they reached a decision to accept an applicant in an average of four and a half minutes (more than twice the time to reject).

_Hypothesis (3)_ Assessors develop a common stereotype of a good applicant and will seek to match applicants and stereotype.

To test this hypothesis, a T-test (two-tailed probability test) was conducted and the means for accept and reject ratings were computed for eighteen semantic differential items. The T-test provides the facility to test the significance of the difference in the means of a variable in two independent subgroups of the sample (Blalock, 1972). As shown in Table 16, the results indicate a statistically significant difference ($P < .001$) between the mean of the accept group and the mean of the reject group.

Comparison of the means of the two groups (the accept and the reject) indicates that assessors have a common notion or stereotype of a "good" applicant and seek to match applicants and stereotype.

Figure 2 illustrates a profile for a "good applicant"
TABLE 16

Means, Standard Deviations, and Resulting t Values of the Accept Group Profile and Reject Group Profile

GROUP 1: AT LEAST ONE REJECTION
GROUP 2: NO REJECTIONS (ACCEPT)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th># OF CASES</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>T VALUE</th>
<th>2-TAIL PROB.</th>
<th>VARIABLE</th>
<th># OF CASES</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>T VALUE</th>
<th>2-TAIL PROB.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAR.1</td>
<td>Active - Passive</td>
<td>279</td>
<td>3.4982</td>
<td>1.386</td>
<td>24.81</td>
<td>.000</td>
<td>VAR.5</td>
<td>Unselfish - Selfish</td>
<td>279</td>
<td>3.0645</td>
<td>1.532</td>
</tr>
<tr>
<td>GRP.1</td>
<td>279</td>
<td>3.4982</td>
<td>1.386</td>
<td>24.81</td>
<td>.000</td>
<td>GRP.1</td>
<td>279</td>
<td>3.0645</td>
<td>1.532</td>
<td>18.99</td>
<td>.000</td>
</tr>
<tr>
<td>GRP.2</td>
<td>81</td>
<td>1.1235</td>
<td>.430</td>
<td>1.1235</td>
<td>.430</td>
<td>GRP.2</td>
<td>81</td>
<td>1.1111</td>
<td>4.18</td>
<td>6.55</td>
<td>.000</td>
</tr>
<tr>
<td>VAR.2</td>
<td>Friendly - Unfriendly</td>
<td>279</td>
<td>3.5735</td>
<td>1.355</td>
<td>7.89</td>
<td>.000</td>
<td>VAR.6</td>
<td>Soft - Hard</td>
<td>279</td>
<td>2.4050</td>
<td>1.433</td>
</tr>
<tr>
<td>GRP.1</td>
<td>279</td>
<td>3.5735</td>
<td>1.355</td>
<td>7.89</td>
<td>.000</td>
<td>GRP.1</td>
<td>279</td>
<td>2.4050</td>
<td>1.433</td>
<td>- 9.59</td>
<td>.000</td>
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<tr>
<td>GRP.2</td>
<td>81</td>
<td>2.0741</td>
<td>1.547</td>
<td>2.0741</td>
<td>1.547</td>
<td>GRP.2</td>
<td>81</td>
<td>4.1358</td>
<td>1.430</td>
<td>.000</td>
<td>.000</td>
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<tr>
<td>VAR.3</td>
<td>Insensitive - Sensitive</td>
<td>279</td>
<td>2.5090</td>
<td>1.765</td>
<td>- 6.32</td>
<td>.000</td>
<td>VAR.7</td>
<td>Excitable - Calm</td>
<td>279</td>
<td>2.7204</td>
<td>1.373</td>
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<td>GRP.1</td>
<td>279</td>
<td>2.5090</td>
<td>1.765</td>
<td>- 6.32</td>
<td>.000</td>
<td>GRP.1</td>
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<td>2.7204</td>
<td>1.373</td>
<td>- 4.95</td>
<td>.000</td>
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<td>1.192</td>
<td>3.5802</td>
<td>1.192</td>
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<td>3.5309</td>
<td>3.276</td>
<td>.000</td>
<td>.000</td>
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<tr>
<td>VAR.4</td>
<td>Weak - Strong</td>
<td>279</td>
<td>2.5090</td>
<td>1.471</td>
<td>- 23.90</td>
<td>.000</td>
<td>VAR.8</td>
<td>Optimistic - Pessimistic</td>
<td>279</td>
<td>3.2186</td>
<td>1.543</td>
</tr>
<tr>
<td>GRP.1</td>
<td>279</td>
<td>2.5090</td>
<td>1.471</td>
<td>- 23.90</td>
<td>.000</td>
<td>GRP.1</td>
<td>279</td>
<td>3.2186</td>
<td>1.543</td>
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<td>.000</td>
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<td>GRP.2</td>
<td>81</td>
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<td>.418</td>
<td>4.8889</td>
<td>.418</td>
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<td>81</td>
<td>2.0247</td>
<td>1.414</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

P < .001   N = 360
**TABLE 16 (Cont'd)**

**GROUP 1: AT LEAST ONE REJECTION**  
**GROUP 2: NO REJECTIONS (ACCEPT)**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th># OF CASES</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>T VALUE</th>
<th>2-TAIL PROB.</th>
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<tr>
<td>Shy - Forward</td>
<td></td>
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</tr>
<tr>
<td><strong>GRP.1</strong></td>
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<td>2.3799</td>
<td>1.459</td>
<td>-10.15</td>
<td>.000</td>
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<td>1.494</td>
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<td>Prohibitive - Permissive</td>
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<tr>
<td>Aimless - Motivated</td>
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<td>Cautious - Rash</td>
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<tr>
<td>Sociable - Unsociable</td>
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<th>T VALUE</th>
<th>2-TAIL PROB.</th>
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<td><strong>VAR.15</strong></td>
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<td>Deliberate - Impulsive</td>
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</tr>
<tr>
<td>Deep - Shallow</td>
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<td></td>
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<td>Tolerant - Intolerant</td>
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<td>1.6750</td>
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</tr>
</tbody>
</table>

\[ P < .001 \]
\[ N = 360 \]
FIGURE 2

Profile of a "Good" Applicant

active
friendly
insensitive
weak
unselfish
soft
excitable
optimistic
shy
prohibitive
aimless
cautious
sociable
aggressive
deliberate
immature
deep
tolerant

passive
unfriendly
sensitive
strong
selfish
hard
calm
pessimistic
forward
permissive
motivated
rash
unsociable
passive
impulsive
mature
shallow
intolerant
FIGURE 3

Profile of a «Bad» Applicant
<table>
<thead>
<tr>
<th>Active</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendly</td>
<td>Unfriendly</td>
</tr>
<tr>
<td>InSensitive</td>
<td>Sensitive</td>
</tr>
<tr>
<td>Weak</td>
<td>Strong</td>
</tr>
<tr>
<td>Unselfish</td>
<td>Selfish</td>
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<td>Soft</td>
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<td>Excitable</td>
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<td>Pessimistic</td>
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<td>Shy</td>
<td>Forward</td>
</tr>
<tr>
<td>Prohibitive</td>
<td>Permissive</td>
</tr>
<tr>
<td>Aimless</td>
<td>Motivated</td>
</tr>
<tr>
<td>Cautious</td>
<td>Rash</td>
</tr>
<tr>
<td>Sociable</td>
<td>UnsoCiable</td>
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<tr>
<td>Aggressive</td>
<td>Passive</td>
</tr>
<tr>
<td>Deliberate</td>
<td>Impulsive</td>
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<tr>
<td>Immature</td>
<td>Mature</td>
</tr>
<tr>
<td>Deep</td>
<td>Shallow</td>
</tr>
<tr>
<td>Tolerant</td>
<td>Intolerant</td>
</tr>
</tbody>
</table>

**Figure 4**
Profiles of «Good» and «Bad» Applicants
as seen by the assessors while Figure 3 illustrates a profile for «bad applicant». Figure 4 illustrates «good» and «bad» profiles together in graphic form based on the statistical analysis.

**Canonical Discriminant Analysis**

- Discriminant analysis was also utilized to classify applicants in «good» or «bad» categories. The mathematical objective of discriminant analysis is to weight and linearly combine the discriminating variables in some fashion so that the groups are forced to be as statistically distinct as possible. The discriminating variable in this instance were the eighteen semantic differential items. Stepwise discriminant analysis was used to eliminate the less useful variables before preforming the actual analysis. Wilk's Lambda was used as the stepwise criterion. The stepwise procedure begins by selecting the single, best-discriminating variable. The second and subsequent variables are similarly selected according to their ability to contribute to further discrimination. Eventually, either all variables will have been selected or it will be found that the remaining variables are no longer able to contribute to further discrimination. The stepwise procedures are summarized in Table 17. Only 6 of the original 18 variables were selected. These 6 variables produced a very high degree of separation as indicated by the final Wilk's Lambda (.481) and a canonical
TABLE 17

Discriminant Analysis Indicating a Summary of the Stepwise Method (Wilk's Lambda) to Select the Variables that Separate the Two Groups Most - The Maximum Difference

<table>
<thead>
<tr>
<th>STEP</th>
<th>ACTION - ENTERED REMOVED</th>
<th>VAR. IN</th>
<th>WILKS LAMBDA</th>
<th>SIG.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VAR.17 Deep-Shallow</td>
<td>1</td>
<td>.506916</td>
<td>.0000</td>
</tr>
<tr>
<td>2</td>
<td>VAR.11 Aimless-Motivated</td>
<td>2</td>
<td>.493300</td>
<td>.0000</td>
</tr>
<tr>
<td>3</td>
<td>VAR.13 Sociable-Uncial</td>
<td>3</td>
<td>.487989</td>
<td>.0000</td>
</tr>
<tr>
<td>4</td>
<td>VAR.18 Tolerant-Intolerant</td>
<td>4</td>
<td>.486008</td>
<td>.0000</td>
</tr>
<tr>
<td>5</td>
<td>VAR. 5 Selfish-Unselfish</td>
<td>5</td>
<td>.483815</td>
<td>.0000</td>
</tr>
<tr>
<td>6</td>
<td>VAR.12 Cautious-Rash</td>
<td>6</td>
<td>.480767</td>
<td>.0000</td>
</tr>
</tbody>
</table>

TABLE 18

Discriminant Analysis, Indicating the Canonical Discriminant Function Based on the Stepwise Procedure (Wilk's Lambda) To Select the Variables That Separate the Two Groups Most - Maximum Difference

<table>
<thead>
<tr>
<th>Function</th>
<th>Eigen Value</th>
<th>Cumulative Variance</th>
<th>Canonical Wilks Lambda</th>
<th>Chi-Square</th>
<th>DF</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.080</td>
<td>100.00</td>
<td>100.00</td>
<td>.72</td>
<td>.481</td>
<td>259.260</td>
</tr>
</tbody>
</table>
correlation of (.72) for the first (and only) discriminating function. As shown in Table 18, the eigen values and their associated canonical correlations denote the relative ability of the function to separate the two groups. The right side of Table 18 shows Wilk's Lambda and their associated chi-square test of statistical significance. This indicates that considerable discriminating power exists in the variables being used (the larger Lambda is, the less discriminating power is present).

Only one discriminating function is possible as mentioned earlier. The standardized coefficients for this function are reported in Table 19, along with the variables contributing to the function.

Further evidence about the group differences can be derived from the group centroids and a plot of the cases. The group centroids are reported in Table 20. These are the mean discriminant scores for each group on the function. These are more easily visualized after plotting them on a graph defined by the discriminant function. As shown in Figure 5, the asterisks represent the group centroids and the number represents cases from the group with the corresponding numbers.

Discriminant analysis is also a powerful technique in computing discriminant scores and classification probabilities for the cases. The purpose of classifying these cases is to show how effective the discriminating variables
Group Centroids

FIGURE 5: The Mean Discriminant Scores for the Accepted Group (Good) Applicants, and the Rejected Group (Bad) Applicants.

1 = Bad Applicants
2 = Good Applicants
TABLE 19

Discriminant Analysis Indicating Standardized Canonical Discriminant Function Coefficient for "Good" and "Bad" Applicants Based on The Semantic Differential Items

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable 5</td>
<td>Unselfish - Selfish</td>
</tr>
<tr>
<td>Variable 11</td>
<td>Aimless - Motivated</td>
</tr>
<tr>
<td>Variable 12</td>
<td>Cautious - Rash</td>
</tr>
<tr>
<td>Variable 13</td>
<td>Sociable - Unsociable</td>
</tr>
<tr>
<td>Variable 17</td>
<td>Deep - Shallow</td>
</tr>
<tr>
<td>Variable 18</td>
<td>Tolerant - Intolerant</td>
</tr>
</tbody>
</table>

TABLE 20

Canonical Discriminant Function:
Evaluation of Group Means,
"Group Centroids"

<table>
<thead>
<tr>
<th>GROUP</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rejected (Bad)</td>
<td>-.55494</td>
</tr>
<tr>
<td>Accepted (Good)</td>
<td>1.93534</td>
</tr>
</tbody>
</table>
are. If a large mis-classification occurs, then the variables selected are poor. As shown in Table 21, the classification routine correctly identified 86.91% of these cases as members of the group to which they actually belong thus indicating that the two groups are clearly separate.

Factor Analysis

The 18 semantic differential items were also factors analyzed. The factorial solutions yielded three clearly distinguishable factors with eigenvalues greater than one, accounting for 100% of the total routine variance for each group (accepted and rejected). The varimax rotated factor analysis matrices, the variances of the factor loadings of the rotated factors and the commonalities of the assessment variables are presented in Appendix C.

The three factors were defined in terms of the assessment variables loading highest on each. The criteria for inclusion of an assessment variable in the factor definition was that it load .60 or greater on one factor in either group (accept or reject) and no greater than .40 of any of the other factors.

Factor 1 contributed 54% of the rating variance for the accept (good) applicants and 69% of the variance for the ratings of reject (bad) applicant. The variables which load on Factor 1 (accept group), reflect an individual who is effective in interpersonal situations. A «good» applicant is friendly, hard-working, calm, optimistic, forward,
### TABLE 21

Classification Results of Canonical Discriminant Analysis Indicating Percentage of Group Cases Correctly Classified

<table>
<thead>
<tr>
<th>ACTUAL</th>
<th>GROUP</th>
<th># OF CASES</th>
<th>PREDICTED GROUP MEMBERSHIP</th>
</tr>
</thead>
</table>
| «Bad» Applicants | Rejected | 279        | REJECTED: 233, 83.5%  
                             |         |            | Accepted: 46, 16.5%          |
| «Good» Applicants | Accepted | 80         | REJECTED: 1, 1.2%  
                             |         |            | Accepted: 79, 98.7%          |

Percent of Grouped Cases Correctly Classified 86.91%

Total Number of Cases 360
permissive, sociable, deliberate and tolerant. Factor 1 was labeled interpersonal effectiveness.

Factor 2 accounted for 38.8% of the rating variance for «good» applicants, and 22.7% of the variance for «bad» applicants. A «good» applicant is active, strong, unselfish, aggressive, mature and deep. Factor 2 was labeled social maturity.

Factor 3 accounted for 7% of the variance for «good» applicants, and 7.8% of the variance for «bad» applicants. A «good» applicant is an individual who is aware of the needs of others (sensitive). Factor 3 was labeled sensitivity.

In short, the results of the statistical analysis suggest that assessors have a common stereotype of a good applicant and seek to match applicants and stereotype.

Hypothesis (4) Applicants with personality traits similar to assessors, are more likely to be accepted than are applicants with personality traits different from those of assessors.

Assessors were asked in the Background Biographical Questionnaire of Applicant Evaluation Booklet (AEB) to rate themselves on the semantic differential scale (SD). They were also asked on the evaluation part of the AEB to evaluate the different applicants using the same semantic differential scale.

A one-way analysis of variance was conducted; Table 22 presents a summary of the analysis of variance. The
## TABLE 22

Summary of Analysis of Variance of Traits
Similarity Between Accept, Reject and Assessors Self Evaluation

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>SOURCE OF VARIANCE</th>
<th>F RATIO</th>
<th>F PROB.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Active-Passive</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>196.152</td>
<td>.0000</td>
</tr>
<tr>
<td>2. Friendly-Unfriendly</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>47.524</td>
<td>.0000</td>
</tr>
<tr>
<td>3. InSensitive-Sensitive</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>14.863</td>
<td>.0000</td>
</tr>
<tr>
<td>4. Weak-Strong</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>180.104</td>
<td>.0000</td>
</tr>
<tr>
<td>5. Unselfish-Selfish</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>104.174</td>
<td>.0000</td>
</tr>
<tr>
<td>6. Soft-Hard</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>69.257</td>
<td>.0000</td>
</tr>
<tr>
<td>7. Excitable-Calm</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>12.553</td>
<td>.0000</td>
</tr>
<tr>
<td>8. Optimistic-Pessimistic</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>24.301</td>
<td>.0000</td>
</tr>
<tr>
<td>9. Shy-Forward</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>69.283</td>
<td>.0000</td>
</tr>
<tr>
<td>10. Prohibitive-Permissive</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>41.105</td>
<td>.0000</td>
</tr>
<tr>
<td>11. Aimless-Motivated</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>273.411</td>
<td>.0000</td>
</tr>
<tr>
<td>12. Cautious-Rash</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>199.610</td>
<td>.0000</td>
</tr>
<tr>
<td>13. Sociable-Unsociable</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>47.823</td>
<td>.0000</td>
</tr>
<tr>
<td>15. Deliberate-Impulsive</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>101.599</td>
<td>.0000</td>
</tr>
<tr>
<td>16. Immature-Mature</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>256.140</td>
<td>.0000</td>
</tr>
<tr>
<td>17. Deep-Shallow</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>284.794</td>
<td>.0000</td>
</tr>
<tr>
<td>18. Tolerant-Intolerant</td>
<td>Accept, Reject &amp; Self Eva.</td>
<td>108.028</td>
<td>.0000</td>
</tr>
</tbody>
</table>

P < .001
cases were divided into groups on the basis of their values on the independent variable. Group (1) in the table indicates the mean of the reject cases by the subjects on the SD. Group (2) indicates the mean of the accept cases by the subject on the SD. Group (3) indicates the mean of the assessors self-rating on the scale.

Results as shown in Table 22, indicate a statistically significant difference between the three groups (P < .001). However, the results do not indicate where the difference lies between the three groups. Therefore, a posteriori contrast test was conducted, using Multiple Range-Least Significant Difference (LSD) test as shown in Table 23. A posteriori contrast test is a systematic procedure for comparing all possible pairs of group mean. The groups are divided into homogeneous subsets, where the difference in the means of any two groups in a subset is not significant at the prescribed level (P < .05).

The multiple range test results indicate that Accepted (group 2) and Self-rating (group 3) are similar or (homogeneous subset), while Reject (group 3) are significantly different. For example, in variable 1 in Table 22, the analysis of variance indicates statistically significant difference between the means of the three groups (P < .001). To know where the difference lies and to test for homogeneity, the multiple range test compares possible pairs of group means (accept and reject, accept and self-evaluation, reject and self-evaluation). As shown in Table 23, the re-
<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>SUBSET 1</th>
<th>SUBSET 2</th>
<th></th>
<th>SUBSET 2</th>
<th>SUBSET 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GROUP</td>
<td>MEAN</td>
<td>GROUP</td>
<td>MEAN</td>
<td>GROUP</td>
</tr>
<tr>
<td>1. Active-Passive</td>
<td>Accept</td>
<td>1.1235</td>
<td>Self Eva.</td>
<td>1.1500</td>
<td>Reject</td>
</tr>
<tr>
<td>2. Friendly-Unfriendly</td>
<td>Accept</td>
<td>2.0741</td>
<td>Self Eva.</td>
<td>2.2000</td>
<td>Reject</td>
</tr>
<tr>
<td>3. Insensitive-Sensitive</td>
<td>Reject</td>
<td>2.5090</td>
<td>-</td>
<td>-</td>
<td>Accept</td>
</tr>
<tr>
<td>4. Weak-Strong</td>
<td>Reject</td>
<td>2.5090</td>
<td>-</td>
<td>-</td>
<td>Accept</td>
</tr>
<tr>
<td>5. Unselfish-Selfish</td>
<td>Accept</td>
<td>1.1111</td>
<td>Self Eva.</td>
<td>1.2000</td>
<td>Reject</td>
</tr>
<tr>
<td>6. Soft-Hard</td>
<td>Reject</td>
<td>2.4050</td>
<td>-</td>
<td>-</td>
<td>Accept</td>
</tr>
<tr>
<td>7. Excitable-Calm</td>
<td>Reject</td>
<td>2.7204</td>
<td>-</td>
<td>-</td>
<td>Accept</td>
</tr>
<tr>
<td>8. Optimistic-Pessimistic</td>
<td>Accept</td>
<td>2.0247</td>
<td>Self Eva.</td>
<td>2.3000</td>
<td>Reject</td>
</tr>
<tr>
<td>9. Shy-Forward</td>
<td>Reject</td>
<td>2.3799</td>
<td>-</td>
<td>-</td>
<td>Accept</td>
</tr>
<tr>
<td>10. Prohibitive-Permissive</td>
<td>Reject</td>
<td>2.5699</td>
<td>-</td>
<td>-</td>
<td>Accept</td>
</tr>
<tr>
<td>11. Aimless-Motivated</td>
<td>Reject</td>
<td>1.7527</td>
<td>-</td>
<td>-</td>
<td>Accept</td>
</tr>
<tr>
<td>12. Cautious-Rash</td>
<td>Accept</td>
<td>1.3827</td>
<td>Self Eva.</td>
<td>1.6667</td>
<td>Reject</td>
</tr>
<tr>
<td>13. Sociable-Unsocial</td>
<td>Accept</td>
<td>1.7037</td>
<td>Self Eva.</td>
<td>1.7167</td>
<td>Reject</td>
</tr>
<tr>
<td>14. Aggressive-Passive</td>
<td>Accept</td>
<td>1.1111</td>
<td>Self Eva.</td>
<td>1.3167</td>
<td>Reject</td>
</tr>
<tr>
<td>15. Deliberate-Impulsive</td>
<td>Accept</td>
<td>1.9259</td>
<td>Self Eva.</td>
<td>2.3167</td>
<td>Reject</td>
</tr>
<tr>
<td>16. Immature-Mature</td>
<td>Reject</td>
<td>2.3971</td>
<td>-</td>
<td>-</td>
<td>Accept</td>
</tr>
<tr>
<td>17. Deep-Shallow</td>
<td>Accept</td>
<td>1.0741</td>
<td>Self Eva.</td>
<td>1.1333</td>
<td>Reject</td>
</tr>
<tr>
<td>18. Tolerant-Intolerant</td>
<td>Accept</td>
<td>1.6543</td>
<td>Self Eva.</td>
<td>1.6667</td>
<td>Reject</td>
</tr>
</tbody>
</table>
result indicates that Accepted and Self-evaluation are homogeneous (subset-1), since the mean of the Accepted group (1.1235), and for Self-evaluation (1.1500) do not differ by more than the shortest significant range for a subset of that size (P < .05). On the other hand, the Rejected group mean (3.4987) is significantly different and therefore is placed in a different subset (subset-2).

Results suggest that applicants with personality traits similar to assessors, are more likely to be accepted than are applicants with personality traits different from those of assessors.
CHAPTER V.
DISCUSSION AND CONCLUSION

Reliability of VTR Assessment Simulation

The results of the pilot study of the present research suggest the high reliability as well as face validity of VTR in measuring research variables. This finding implies the tremendous potential of VTR in research and training. The present research finding is consistent with reported results by Lewin, Dubno, and Akula (1975), Moore and Lee (1974), and by Tullar, Mullins and Caldwell, (1979), who noted that VTR viewing and live presentation produce substantially the same ratings. Schuh (1973), also reported similar results and indicted that point biserial correlation between trained or not-trained and test score for the VTR training group was .805 and was significant compared to .883 for the live-lecture trained group.

It has also been noted in this research, that VTR could be utilized as a highly effective research instrument in manipulating research variables (order of information, decision time, voice -vs- picture). VTR was also highly effective in standardizing the stimulus materials (the assessment center tests) to be presented to different assessors at different times in this research. Indeed, these
advantages cannot be insured by live presentation. Factors, such as awkward pauses, picking up behavioral cues, and asking assessors to give a stream of consciousness report of their impression indicating the critical point at which the decision was made could have only been studied by utilizing VTR as a major research instrument in this research. Besides, VTR demonstrated a major advantage over live presentation, in being available for demonstration on demand. These findings are supported by Schuh (1973), who reported similar results and indicated that standardizing the stimulus materials (interviews and tests) and the availability of the instrument on demand can only be insured by utilizing VTR as a major research instrument.

Tullar, Mullins, and Caldwell (1979) noted similar finding and indicated the tremendous potential of utilizing VTR in measuring different types of decision time in personnel selection, which at least appear to be less obstructive than Springbett’s (1954) stop-watch pressing time.

Early Impression (Commitment)

The results of this investigation suggest that early impression (initial decision) plays a significant role in determining final decision. Initial ratings and final ratings were in agreement in 75% of the cases.

This finding suggests that a bias appears to be established early in the assessment process which strongly
influenced final decision. This finding was originally reported by Springbett (1958), who reported 73% agreement between initial and final ratings. The finding is also supported by Sydiaha (1961) and Anderson (1960) who reported similar results within the context of employment interviews.

The present research finding tends to suggest that certain perceptual processes do take place in interpersonal judgment. The *ex post facto* explanation goes like this:

During the first test of the assessment process, each assessor tends to categorize different candidates to reduce ambiguity. Categorization may be based on similar personality traits, a common notion of a good applicant or any other positive or negative information. Assessors then quickly form an impression (initial decision). These early commitments remain relatively stable during the assessment process and the final judgment will reflect the goodness of this early commitment; that is, once the subject commits himself to one position, the assessment process will be more or less a search for information (positive or negative) to confirm and support his early decision.

It was noted from the data analysis of early decision and the critical decision time analysis that the assessment process in the second, third, and fourth test was merely a confirmation check, subjects were looking either for favorable information, to support an early commitment to
accept the applicant, or for negative information to support and confirm an early reject commitment.

This ad hoc interpretation could be illustrated in the model, shown in Figure 6.

FIGURE 6: An Information Processing Model
This finding is pervasive not only in personnel selection literature but has also been demonstrated in the area of impression formation and interpersonal judgment (Kanouse and Hanson, 1972). In fact, the ad hoc interpretation suggested earlier support Bruner’s (1957) perceptual categorization model, in which he reported that decision making processes can be explained as follows:

1. Primitive categorization; perceptual isolation of an environmental event.
2. Cue search: to answer such questions as “What is the thing.” In our situation, subjects were looking for favorable or unfavorable information.
3. Confirmation check.
4. Confirmation completion.

Central to this model and to our discussion is the concept of “gating” in the decision-making process. The decreased receptivity for information or narrowing of the cue search represents the gating process.

Critical Decision Time

Another finding related to the early impression results is concerning decision time. Results suggest that assessors were looking for critical incidents to support their earlier commitment. It was noted that if a certain assessor accepted a certain applicant earlier in the assess-
ment process, more weight will be given to positive or favorable information and less weight would be given to information that threatens his position. The same thing happens if the applicant was rejected early, the assessor will give more weight to negative (unfavorable) information than to favorable information.

This finding implies that assessors may develop a favorable or unfavorable attitudinal set toward an applicant on the basis of incomplete information and proceed thereafter to seek confirmation of their early impression. This finding is consistent with the literature in the area of impression formation and interpersonal judgment. (Bruner, 1957; Kanouse and Hanson, 1972).

Another related research finding is concerning early commitment-decision time. The results indicate that assessors reached their initial decision (early commitment) in an average of three minutes, which support earlier findings of the role of primacy effect. This is also consistent with Springbett (1958) who noted that raters reached a final decision in an average of four minutes after the interview began. This finding may also imply that the individual raters have a limited capacity to process information, which support Simon's (1957) "bounded rationality" concept.

However, it was found that assessors spend more time to accept candidates while they were quick to reject them.
Assessors made a reject decision in an average of two minutes and more than twice this time to reach an accept decision (4.30 min. on average). This finding implies that raters seem to be in search of negative information, and may also suggest that negative behavior is viewed as more genuine or sincere than positive information. This is consistent with Popper's (1959) "falsification" concept, that, in the scientific process we set out to collect negative information to challenge a hypothesis. The assessment situation is more "falsification than verification" in process. This finding is also supported by other studies in the context of impression formation, that raters give greater weight to negative information than to positive information (Hamilton and Huffman, 1971; Hamilton and Zanna, 1972; and Kanouse and Hanson, 1972). However, it has been noted as mentioned earlier that once the assessor commits himself to one position and moves from a non-committal position, the whole assessment process afterwards is a search for cues (positive or negative) to support his decision.

Thus the present research finding predicts that information presented early in the assessment process would have a greater effect upon final decision than information presented later.

**Experience Level**

However, it is interesting to note that experience
level when manipulated in this research was found to have a noticeable effect on avoiding this perceptual error of early impression. Experienced personnel officers tended to change their early impression when additional information was presented. This finding implies the effect of experience on the accuracy of assessment decision and suggests that raters or assessors can be trained using VTR simulation to avoid early impressions during the assessment process.

This finding may also suggest that unlike the employment interview, a certain level of experience is needed to process information about applicants in different assessment tests more competently.

**Stereotype of a Good Candidate**

Another finding of the present research is that in the assessment process, assessors develop a stereotype of a good applicant and seek to match applicants and stereotype.

Though this is not a new concept, it is interesting to note that a common stereotype across assessors was found even when of rather diverse age, experience and sex, and that the stereotype tended to be of the good candidate.

A wealth of research in decision making in the employment interview context supports this finding.

As early as 1954, Springbett, in his study which later shaped much of the McGill work, reported the idea of
a "good" applicant as one of his major findings. Sydiaha (in Webster, 1964) also reported the existence of stereotype. Crowell and Rowe (in Webster, 1964) reported similar findings.

Going further, the LIMA study, Mayfield and Carlson (1966) indicated that subjects seem to have a mental picture of the stereotype.

Thus when these results are evaluated in total, the only conclusion that can be drawn is that, there appears to be some notion of a "good" stereotype in the assessment simulation decision, common among assessors and not a specific stereotype.

**Traits Similarity**

Another research finding is that assessors tend to accept candidates who have the same personality traits. In fact, this finding suggests that the whole essence of this research could be based on personality evaluation.

With this in mind, it would seem logical to assume as did Bruner and Tagiuri, (1954) that errors in interpretation of tests tend to arise from the judge's implicit personality theory.

This research finding seems to indicate that assessors possess some notion or idea concerning personality characteristics which he utilizes to reduce and organize the cues obtained in the early assessment process.

In fact, this research finding suggests that im-
pressions of others is partly affected by the perceiver's own traits, and suggests that people tend to ascribe their own attributes when they describe others.

This is consistent with other research studies reported by Dornbusch, Hastorf, Richardson, Muzzy and Vree- land (1965); and by Leary (1957). Rowe (1960, 1963) also suggested that rater's decision variance could be predicted using a rater's pattern of trait ratings.

Dunnette and Borman, (1979) in their latest review of personnel selection, reported the effects of trait similarity between the applicant and the assessor continue to receive attention and noted that «an attitude similarity effect is said to exist when applicants with attitudes similar to the interviewer are more likely to receive favorable ratings than are applicants with attitudes different from those of the interviewer.» (p. 507).

Dunnette and Borman (1979), cited three different studies in support of attitude similarity. Peters and Terborg, (1975) reported results similar to the present study. Attitude similarity significantly influenced personnel decisions even when subjects were provided with more information about the job.

Similar findings to the present research were reported by Rand and Wexley (1975) and Wexley and Nemeroff (1974), and by Glen Baskett (1973) who reported that similarity tended to influence rater's judgments.
CONCLUSION

Certain limitations of the present study must be stated before any conclusion may be drawn.

Although available data from the pilot study and later from the actual research, gave support to the internal validity and reliability of the VTR simulation and to the notion that assessors were serious about their ratings, a simulated task is just that and not the real world.

As Fromkin and Streufert (cited in Dunnette, 1976) indicated, experimental research strategies do not prescribe a specific organizational setting. It is unlikely that any single experiment will resemble a large number of organizations because there is as much variation from one real-life situation to another life situation as occurs between the laboratory and real-life. Realism then, like 'generality', and artificiality, may be reduced to a matter of judgment. The basis for such judgment resides in the identification of critical similarities and differences between specific experimental setting and a particular organizational setting (Campbell and Stanley, 1963; Sidman, 1960; Fromkin and Streufert, 1976).

In short, experimental research strategies may vary in the quantity and kind of organizational properties which can be presented in any single experiment. In addition, organizational phenomena and corresponding laboratory strategies can be selected based on their relevance to a parti-
cular theoretical or organization phenomenon of interest to the researcher. Fromkin and Streufert (1975) suggested that «laboratory setting merely imposes identifiable limitations upon the range of criterion situations to which a particular set of laboratory findings may be practically applied,» (p. 442). The potential user of the research data can use his judgment and experience to decide if the laboratory features of a specific experiment are critical for his organization and the criterion behavior under consideration.

With these cautions stated, one may conclude on the basis of the results of the present investigation that:

1. The present research finding reinforces other reported studies by Tullar, Mullins and Caldwell (1979), Schuh (1973), Lewin, Dubno, and Akula (1975), Moore and Lee (1974), that video-tape simulation of assessment situation is a highly reliable technique for the investigation of the decision making process. This research also suggests the tremendous potential in utilizing VTR for research and training purposes. Many advantages of utilizing VTR have been noted in this research, including: the ability to manipulate research variables; standardization of the stimulus materials; the ability to study behavioral cues and awkward pauses; as well as availability, time and cost savings. In addition, this research has introduced a built-in-time code in the VTR that allows the researcher to study critical deci-
stop time in a less obtrusive way than Springbett's (1954) stop-watch pressing measure. It therefore is recommended that VTR be utilized in future research, specifically to investigate the decision-making process in personnel assessment:

2. Initial decision or early impression plays a dominant role in assessors' final judgments. The present research suggests that information presented early in the assessment process would have a greater effect upon the final decision than information presented later. However, this is not the case with experienced assessors. Experienced assessors seem to be able to avoid such perceptual error. This suggests the effect of experience on the accuracy of decision made by assessors.

Along with the explicit assumption that personnel assessment is an acquired skill, is the implicit assumption that training may improve the accuracy of decision made by assessors.

It is recommended that a training course could be presented to potential assessors via video-tape assessment simulation. It is hoped that the VTR and assessment materials developed for this research would be used to good advantage, in this way.

3. Another related finding is concerning decision time. Research finding suggests that assessors may develop a favorable or unfavorable attitudinal set toward applicants
on the basis of incomplete information and proceed thereafter to seek confirmation on their early impression. An ex post facto model concerning the interaction between early commitment and critical incidents, was offered to account for the observed results.

4. Assessors develop a stereotype of a good applicant and seek to match applicants and stereotypes. It is worth noting that a common stereotype was found across assessors with different backgrounds.

5. Applicants with attitudes similar to assessors are more likely to receive favorable ratings than are applicants with attitudes different from those of assessors.
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APPENDIX A

THE ASSESSOR'S EVALUATION BOOKLET

1. Instructions
2. Assessors Background Information
3. Job Description, Managing Supervisor - Retail Store
4. Instructions - Leaderless Group
5. Talk Through Time Evaluation Form
6. Instructions - The Stress Interview and Accompanied Document
7. Talk Through Time Evaluation Forms for the Six Different Applicants - Stress Interview
8. Rating Summary Evaluation - Stree Interview
9. Instructions - Irate Customer
10. Talk Through Time Evaluation Forms for The Six Different Applicants
11. Rating Summary Evaluation - Irate Customer
12. Talk Through Time Evaluation Forms for the Six Different Applicants - Background Interview
13. Rating Summary Evaluation - Background Interview.
**Instructions**

Please read the following instructions carefully.

The video-tape you are about to watch now is an assessment center series of tests to select a candidate for a manager job in the retail business.

This booklet contains a series of evaluation forms which we would like you to use to evaluate six job applicants while viewing the videotape.

Proceed as follows:

1. **Assessor Background Information sheet:** Before we start we would like to get some information about you. Please fill the attached background information sheets.

2. **Job Description:** Read now the attached job description. Remember, you are supposed to select an applicant for this job.

3. Now you are ready to start the evaluation process. However, before viewing each exercise, read carefully the instructions provided.

4. You will find two types of evaluation forms that you are supposed to use in rating the six different applicants. The first type you are supposed to use while viewing the videotape. The second type is a rating summary sheet which you should use at the end of the test.

You will be allowed a time pause to fill this last type of form and to read the instructions for the following test.

* The VTR was a group assignment by the N.B.A. students attending Dr. Joe Kelly OB course.
ASSESSORS BACKGROUND INFORMATION

Name: ____________________________
  Surname   First Name

Address: ____________________________

Telephone: __________  Date of Birth: __________

Sex: M ______ F ______  Birth Place: ________________________
    City, Prov., Country

Canadian Citizen: ________  Marital Status: ________

Health: ________  Height: ________  Weight: ________

Languages:

<table>
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<tr>
<th></th>
<th>Speak</th>
<th>Read</th>
<th>Write</th>
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</thead>
<tbody>
<tr>
<td>English</td>
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<tr>
<td>French</td>
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<tr>
<td>Other (specify)</td>
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</tbody>
</table>

Note degree of ability in each box:
Fluent (F)
Working Knowledge (WK)
Limited Usage (LU)

Education: (Most recent first)

<table>
<thead>
<tr>
<th>School</th>
<th>Dates Attended</th>
<th>Degree, Level Major Subjects</th>
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</thead>
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</tbody>
</table>
Work Experience: (Most recent first; include summer jobs)

<table>
<thead>
<tr>
<th>Company</th>
<th>Dates</th>
<th>Position</th>
<th>Duties</th>
<th>Salary</th>
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</tbody>
</table>

Describe yourself briefly.

What are your major strengths, weaknesses?

Of what achievements are you most proud? Why?

Do you describe yourself as introvert or extrovert?

Place a check mark in the appropriate column you think describes you most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of yourself. If you consider yourself to be neutral on the scale, or if the scale is completely irrelevant, then you should place your check mark in the middle space.

Example: active ___: ___: X: ___: ___ passive

friendly ___: ___: ___: ___: ___
insensitive ___: ___: ___: ___: ___
weak ___: ___: ___: ___: ___
unselfish ___: ___: ___: ___: ___
soft ___: ___: ___: ___: ___
excitable ___: ___: ___: ___: ___
optimistic ___: ___: ___: ___: ___
shy ___: ___: ___: ___: ___
prohibitive ___: ___: ___: ___: ___
aimless ___: ___: ___: ___: ___
cautious ___: ___: ___: ___: ___
sociable ___: ___: ___: ___: ___
aggressive ___: ___: ___: ___: ___
deliberate ___: ___: ___: ___: ___
immature ___: ___: ___: ___: ___
deep ___: ___: ___: ___: ___
tolerant ___: ___: ___: ___: ___

unfriendly ___: ___: ___: ___: ___
sensitive ___: ___: ___: ___: ___
strong ___: ___: ___: ___: ___
selfish ___: ___: ___: ___: ___
hard ___: ___: ___: ___: ___
clam ___: ___: ___: ___: ___
pessimistic ___: ___: ___: ___: ___
forward ___: ___: ___: ___: ___
permissive ___: ___: ___: ___: ___
motivated ___: ___: ___: ___: ___
rash ___: ___: ___: ___: ___
unsociable ___: ___: ___: ___: ___
passive ___: ___: ___: ___: ___
impulsive ___: ___: ___: ___: ___
mature ___: ___: ___: ___: ___
shallow ___: ___: ___: ___: ___
intolerant ___: ___: ___: ___: ___
MANAGING SUPERVISOR
RETAIL STORE

(Department Manager, Store Manager)

Qualification: M.B.A. Graduate with 1 to 2 years experience.

Duties:

Plans, organizes, directs and controls the operations of a retail-trade establishment or unit of an establishment concerned with buying goods and reselling them to the public on owner's behalf, and supervises and co-ordinates activities of sales personnel.

Estimates consumer demands, and determines or recommends types and quantities of merchandise to be sold, and price and credit policies to be implemented. Defines operating procedures. Plans budget, prepares or supervises preparation of purchase orders for stock and supplies, and authorizes or obtains authorization for expenditures. Establishes layout of premises. Determines staff functions and numbers, and hires or arranges hiring of staff. Assigns duties, sets salaries, and initiates personnel action such as promotions and discharges. Supervises and trains workers, or oversees supervision and training. Coordinates activities of workers to ensure efficient operations. Counts and deposits money received, or supervises handling of money, takes or verifies inventories, and keep accounts and other records. Ensures that safety, health and security regulations are followed. Promotes the sale of establishment goods or services, and approves advertising and display work. Receives and acts on customer complaints. Confers with workers or their
representatives to resolve grievances and other employee problems.

May be designated according to type of merchandise sold in retail store or department, for example.

**Personal Characteristics**

- strong interpersonal skills
- aggressive, self-motivated with strong goal and success orientation
- demonstrated leadership skills
- proven problem-solving abilities
- decisiveness and judgment
- creativity and resourcefulness
- strong oral and written communication skills
- maturity and ability to cope with a high pressure situation

**Professional Skills**

- marketing
- problem-solving abilities
Instructions - Leaderless Group

This exercise involves all the six applicants. The case describes a layout department of five people of an advertising agency. Recently, the manager had had to cut back the department budget by two people, one to be let go and the other to be absorbed by other departments. Within a month the two people, Mona and Jim, were back to work because they were found indispensable.

The applicants now have to assess, first the original decision made by the manager Mr. Beat, and then reach a group consensus on which two they should let go.

Now before you watch the leaderless group exercise study the chart below to know who is who in the group exercise.

<table>
<thead>
<tr>
<th>Diane</th>
<th>Einer</th>
<th>Louis</th>
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<tbody>
<tr>
<td>Fred</td>
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<td>Ethel</td>
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<td>Colin</td>
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Exercise: **Leaderless Group**

Based on the Videotape:

**Part I**

1. Make a decision to accept (A) or reject (R) each applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Rank applicants from 1 to 6 (1-high, 6-low), in the column labelled (Rank) below;

4. Indicate the reason(s) for your decision in the column labelled (Basis of Decision). Write down any information that triggered your action.

<table>
<thead>
<tr>
<th>Applicant</th>
<th>Decision A or R</th>
<th>Time of Decision</th>
<th>Rank 1-6</th>
<th>Basis of your Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diane</td>
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<td>Elnar</td>
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<td>Colin</td>
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Part II

Answer the following questions:

1. What triggered your decision?  

2. What information in the video influenced your decision?  

3. Did you change your decision about a certain applicant?  
   If yes, why?  

4. What is your view of an ideal applicant?  
THE STRESS INTERVIEW

In this exercise, the candidates are asked to assume the role of Mr. (Ms.) Ladislaw, the president of the Garbeck Drug Company.

As the president, the candidate is asked to defend his company's action of hiring away a Mr. McCawber (a vital researcher for the Barbour Company, a competitor) which occurred while the president was away on holiday.

The president has been summoned by the Ethics Committee of the Federal Food and Drug Administration to Washington for a preliminary investigation into the matter due to a complaint lodged by the Barbour Company.

The incident you will see involves the initial meeting of the Ethics Committee with the President.
Ethics Committee  
Drug Industry Association  
Washington, D.C.  

June 20, 1981  

Mr. William Ladislaw  
The Garbeck Drug Company  
567 Harrelson Street,  
East Orange, New Jersey  

Dear Mr. Ladislaw:  

You are hereby summoned to appear before this Committee on June 30, 1981 at 10:30 a.m. at the Association's Head Office, with regards to a complaint registered by The Barbour Company alleging that unethical hiring practices have been committed by your company.  

The hearing will be a preliminary investigation only, designed to verify the facts submitted by the Barbour Company and establish if further action by this Committee will be required.  

Yours sincerely,  

John Q. Senior, Jr.  
President,  
Ethics Committee
Exercise  Interview-Stress  Applicant Einar

Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

<table>
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<th>Decision (A or R)</th>
<th>Time of Decision</th>
<th>Reason(s)</th>
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Part II - Answer the following Questions:

1. What triggers your decision?

2. What information in the videotape influenced your decision most?

3. Did you change your decision about a certain applicant? If yes, why?

4. Did the previous applicant influence your decision? Yes____  No____

5. Did the order of information in the video influence your decision? Yes____  No____

6. In your own words, describe the applicant.

7. What are the applicant's major strengths (if any)?
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

  e.g. active _________ X: _______ passive
        friendly _______ ______: _______ unfriendly
        insensitive _______ ______: _______ sensitive
         weak _______ ______: _______ strong
       unselfish _______ ______: _______ selfish
        soft _______ ______: _______ hard
       excitable _______ ______: _______ calm
      optimistic _______ ______: _______ pessimistic
       shy _______ ______: _______ forward
    prohibitive _______ ______: _______ permissive
      aimless _______ ______: _______ motivated
      cautious _______ ______: _______ rash
      sociable _______ ______: _______ unsociable
     aggressive _______ ______: _______ passive
   deliberate _______ ______: _______ impulsive
    immature _______ ______: _______ mature
      deep _______ ______: _______ shallow
    tolerant _______ ______: _______ intolerant

13 - Would you describe the exercise you are watching as:
       Effective Put an X mark
       Ineffective

14 - Describe an ideal applicant for the job as you see it.
Exercise  Interview-Stress  Applicant Colin

Part I - Based on the videotape:

1 - Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2 - Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3 - Indicate the reason(s) for your decision in the column labelled (Reason).

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<th>Decision (A or R)</th>
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Part II - Answer the following Questions:

1 - What triggers your decision?

2 - What information in the videotape influenced your decision most?

3 - Did you change your decision about a certain applicant? If yes, why?

4 - Did the previous applicant influence your decision? Yes_____ No_____

5 - Did the order of information in the video influence your decision? Yes_____ No_____

6 - In your own words, describe the applicant.

7 - What are the applicant's major strengths (if any)?
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

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<tr>
<th>e.g. active</th>
<th>friendly</th>
<th>X</th>
<th>passive</th>
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<td>insensitive</td>
<td>sensitive</td>
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<td></td>
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<tr>
<td>weak</td>
<td>strong</td>
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<tr>
<td>unsnelfish</td>
<td>selfish</td>
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<td>soft</td>
<td>hard</td>
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<td></td>
</tr>
<tr>
<td>excitable</td>
<td>calm</td>
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<td>optimistic</td>
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<td>shy</td>
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<td>prohibitive</td>
<td>permissive</td>
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<td>aimless</td>
<td>motivated</td>
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<tr>
<td>cautious</td>
<td>rash</td>
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<tr>
<td>sociable</td>
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<tr>
<td>aggressive</td>
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<td>deliberate</td>
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<tr>
<td>tolerant</td>
<td>intolerant</td>
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13 - Would you describe the exercise you are watching as:

- Effective
- Ineffective

Put an X mark

14 - Describe an ideal applicant for the job as you see it.

__________________________

__________________________

__________________________
Exercise Interview-Stress Applicant Diane

Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

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<tr>
<th>Decision (A or R)</th>
<th>Time of Decision</th>
<th>Reason(s)</th>
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Part II - Answer the following Questions:

1. What triggers your decision?

2. What information in the videotape influenced your decision most?

3. Did you change your decision about a certain applicant? If yes, why?

4. Did the previous applicant influence your decision? Yes____ No____

5. Did the order of information in the video influence your decision? Yes____ No____

6. In your own words, describe the applicant.

7. What are the applicant's major strengths (if any)?
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

e.g. active  __: __: X: __: passive
friendly  __: __: __: __: unfriendly
insensitive __: __: __: __: sensitive
weak __: __: __: __: strong
unselfish __: __: __: __: selfish
soft __: __: __: __: hard
excitable __: __: __: __: calm
optimistic __: __: __: __: pessimistic
shy __: __: __: __: forward
prohibitive __: __: __: __: permissive
aimless __: __: __: __: motivated
cautious __: __: __: __: rash
sociable __: __: __: __: unsociable
aggressive __: __: __: __: passive
deliberate __: __: __: __: impulsive
immature __: __: __: __: mature
deep __: __: __: __: shallow
tolerant __: __: __: __: intolerant

13 - Would you describe the exercise you are watching as:
   __________ Effective  Put an X mark.
   __________ Ineffective

14 - Describe an ideal applicant for the job as you see it.
Exercise  Interview-Stress  Applicant  Fred

Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

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<th>Decision (A or R)</th>
<th>Time of Decision</th>
<th>Reason(s)</th>
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</table>

Part II - Answer the following Questions:

1. What triggers your decision?______________________________

2. What information in the videotape influenced your decision most?______________________________

3. Did you change your decision about a certain applicant? If yes, why?______________________________

4. Did the previous applicant influence your decision? Yes   No

5. Did the order of information in the video influence your decision? Yes   No

6. In your own words, describe the applicant.______________________________

7. What are the applicant's major strengths (if any)?______________________________
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

   e.g. active: _______ X: _______ passive
   friendly: _______ _______ unfriendly
   insensitive: _______ _______ sensitive
   weak: _______ _______ strong
   unselfish: _______ _______ selfish
   soft: _______ _______ hard
   excitable: _______ _______ calm
   optimistic: _______ _______ pessimistic
   shy: _______ _______ forward
   prohibitive: _______ _______ permissive
   aimless: _______ _______ motivated
   cautious: _______ _______ rash
   sociable: _______ _______ unsociable
   aggressive: _______ _______ passive
   deliberate: _______ _______ impulsive
   immature: _______ _______ mature
   deep: _______ _______ shallow
   tolerant: _______ _______ intolerant

13 - Would you describe the exercise you are watching as:
   _______ Effective
   _______ Ineffective
   Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

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Part II - Answer the following Questions:

1. What triggers your decision?

2. What information in the videotape influenced your decision most?

3. Did you change your decision about a certain applicant? If yes, why?

4. Did the previous applicant influence your decision? Yes____ No____

5. Did the order of information in the video influence your decision? Yes____ No____

6. In your own words, describe the applicant.

7. What are the applicant's major strengths (if any)?
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle, space.

e.g. active: passive
friendly: unfriendly
insensitive: sensitive
weak: strong
unselfish: selfish
soft: hard
excitable: calm
optimistic: pessimistic
shy: forward
prohibitive: permissive
aimless: motivated
cautious: rash
sociable: unsociable
aggressive: passive
deliberate: impulsive
immature: mature
deep: shallow
tolerant: intolerant

13 - Would you describe the exercise you are watching as:

Effective  Ineffective
Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Exercise: Interview-Stress  Applicant: Louis

Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

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</table>

Part II - Answer the following Questions:

1. What triggers your decision?__________________________

2. What information in the videotape influenced your decision most?__________________________________________

3. Did you change your decision about a certain applicant? If yes, why?_____________________________________

4. Did the previous applicant influence your decision? Yes____ No____

5. Did the order of information in the video influence your decision? Yes____ No____

6. In your own words, describe the applicant.____________________________________________________________

7. What are the applicant's major strengths (if any)?_______
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

e.g. active ___ ___ X ___ ___ passive
     friendly ___ ___ ___ ___ ___ unfriendly
     insensitive ___ ___ ___ ___ ___ sensitive
     weak ___ ___ ___ ___ ___ strong
     unsympathetic ___ ___ ___ ___ ___ selfish
     soft ___ ___ ___ ___ ___ hard
     excitable ___ ___ ___ ___ ___ calm
     optimistic ___ ___ ___ ___ ___ pessimistic
     shy ___ ___ ___ ___ ___ forward
     prohibitive ___ ___ ___ ___ ___ permissive
     aimless ___ ___ ___ ___ ___ motivated
     cautious ___ ___ ___ ___ ___ rash
     sociable ___ ___ ___ ___ ___ unsociable
     aggressive ___ ___ ___ ___ ___ passive
     deliberate ___ ___ ___ ___ ___ impulsive
     immature ___ ___ ___ ___ ___ mature
     deep ___ ___ ___ ___ ___ shallow
     tolerant ___ ___ ___ ___ ___ intolerant

13 - Would you describe the exercise you are watching as: Effective ___ Ineffective ___ Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Rating Summary Sheet

Exercise____________________

(1) Make a decision to accept (A) or reject (R) each applicant. Put A or R in the column labelled (Decision) below.

(2) Rank applicants from 1 to 6 (1-high, 6-low), in the column labelled (Rank) below.

(3) Indicate the reason(s) for your decision in the column labelled (Basis of Decision). Write down any information that triggered your action. If you changed your decision indicate the reason.

<table>
<thead>
<tr>
<th>Applicants</th>
<th>Decision (A or R)</th>
<th>Rank 1-6</th>
<th>Basis of Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diane</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elnar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Louis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fred</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colin</td>
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</tbody>
</table>
IRATE CUSTOMER' EXERCISE

In the exercise, the candidates are asked to assume the role of a retail store manager who is being confronted by an irate customer concerning a watch she bought.

The only guidelines that the candidates are given is the store's policy concerning the warranty on refunds and repairs.

As follows:

WATCHES

Full Refunds: Within two weeks after sale only if accompanied by the customer's sales receipt.

Watch Repairs: Performed free of charge by the store's watch repair shop within one year from date of purchase, only if accompanied by sales receipt. After one year, the store is not responsible for any repairs.
Exercise  The Irate Customer  Applicant Ethel

Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

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Part II - Answer the following Questions:

1. What triggers your decision? __________________________________________________________

2. What information in the videotape influenced your decision most? __________________________

3. Did you change your decision about a certain applicant? If yes, why? ____________________________

4. Did the previous applicant influence your decision?  
   Yes____  No____

5. Did the order of information in the video influence your decision?  
   Yes____  No____

6. In your own words, describe the applicant. ____________________________________________

7. What are the applicant's major strengths (if any)? ______________________________________
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

e.g. active ___ ___ X ___ ___: passive
friendly ___ ___ ___ ___: unfriendly
insensitive ___ ___ ___ ___: sensitive
weak ___ ___ ___: strong
unselfish ___ ___ ___ ___: selfish
soft ___ ___ ___ ___: hard
excitable ___ ___ ___ ___: calm
optimistic ___ ___ ___ ___: pessimistic
shy ___ ___ ___ ___: forward
prohibitive ___ ___ ___ ___: permissive
aimless ___ ___ ___ ___: motivated.
cautious ___ ___ ___ ___: rash
sociable ___ ___ ___ ___: unsociable
aggressive ___ ___ ___ ___: passive
deliberate ___ ___ ___ ___: impulsive
immature ___ ___ ___ ___: mature
deep ___ ___ ___ ___: shallow
tolerant ___ ___ ___ ___: intolerant

13 - Would you describe the exercise you are watching as:

Effective

Ineffective  Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Exercise  The Irate Customer           Applicant  Colin

Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

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Part II - Answer the following Questions:

1. What triggers your decision?______________________________________________________________

2. What information in the videotape influenced your decision most?___________________________

3. Did you change your decision about a certain applicant? If yes, why?_____________________

4. Did the previous applicant influence your decision? Yes____ No____

5. Did the order of information in the video influence your decision? Yes____ No____

6. In your own words, describe the applicant.____________________________________________

7. What are the applicant's major strengths (if any)?_____________________________________
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

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       unselfish ___ ___ ___ ___ ___ selfish
       soft ___ ___ ___ ___ ___ hard
       excitable ___ ___ ___ ___ ___ calm
       optimistic ___ ___ ___ ___ pessimistic
       shy ___ ___ ___ ___ ___ forward
       prohibitive ___ ___ ___ ___ ___ permissive
       aimless ___ ___ ___ ___ motivated
       cautious ___ ___ ___ ___ ___ rash
       sociable ___ ___ ___ ___ ___ unsociable
       aggressive ___ ___ ___ ___ ___ passive
       deliberate ___ ___ ___ ___ ___ impulsive
       immature ___ ___ ___ ___ ___ mature
       deep ___ ___ ___ ___ ___ shallow
       tolerant ___ ___ ___ ___ ___ intolerant

13 - Would you describe the exercise you are watching as:

   Effective  Ineffective  Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Exercise  The Irate Customer  Applicant Louis

Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

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Part II - Answer the following Questions:

1. What triggers your decision?______________________________________________

2. What information in the videotape influenced your decision most?______________________________________________

3. Did you change your decision about a certain applicant? If yes, why?______________________________________________

4. Did the previous applicant influence your decision? Yes____ No____

5. Did the order of information in the video influence your decision? Yes____ No____

6. In your own words, describe the applicant.______________________________________________

7. What are the applicant's major strengths (if any)?______________________________________________
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

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friendly ___ : ___ : ___ : ___ : ___ : unfriendly
insensitive ___ : ___ : ___ : ___ : ___ : sensitive
weak ___ : ___ : ___ : ___ : ___ : strong
unselfish ___ : ___ : ___ : ___ : ___ : selfish
soft ___ : ___ : ___ : ___ : ___ : hard
excitable ___ : ___ : ___ : ___ : ___ : calm
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shy ___ : ___ : ___ : ___ : ___ : forward
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aimless ___ : ___ : ___ : ___ : ___ : motivated
cautious ___ : ___ : ___ : ___ : ___ : rash
sociable ___ : ___ : ___ : ___ : ___ : unsociable
aggressive ___ : ___ : ___ : ___ : ___ : passive
deliberate ___ : ___ : ___ : ___ : ___ : impulsive
immature ___ : ___ : ___ : ___ : ___ : mature
deep ___ : ___ : ___ : ___ : ___ : shallow
tolerant ___ : ___ : ___ : ___ : ___ : intolerant

13 - Would you describe the exercise you are watching as:

_________________________ Effective
_________________________ Ineffective  Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Exercise: The Irate Customer

Applicant: Fred

Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

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Part II - Answer the following Questions:

1. What triggers your decision?

2. What information in the videotape influenced your decision most?

3. Did you change your decision about a certain applicant? If yes, why?

4. Did the previous applicant influence your decision? 
   Yes_____ No_____

5. Did the order of information in the video influence your decision? 
   Yes_____ No_____

6. In your own words, describe the applicant.

7. What are the applicant's major strengths (if any)?
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

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   insensitive ___:___:___:___:___: sensitive
   weak ___:___:___:___:___: strong
   selfish ___:___:X:___:___: selfish
   soft ___:___:___:___:___: hard
   calm ___:___:___:___:___: optimistic
   pessimistic ___:___:___:___:___: forward
   prohibitive ___:___:___:___:___: permissive
   airless ___:___:___:___:___: motivated
   cautious ___:___:___:___:___: rash
   sociable ___:___:___:___:___: unsociable
   aggressive ___:___:___:___:___: passive
   deliberate ___:___:___:___:___: impulsive
   immature ___:___:___:___:___: mature
   shallow ___:___:___:___:___: tolerant

13 - Would you describe the exercise you are watching as:

   Effective ___:___:___:___:___: Put an 'X' mark
   Ineffective ___:___:___:___:___:

14 - Describe an ideal applicant for the job as you see it.
Exercise  The Irake Customer  Applicant  Einar

Part I - Based on the videotape:

1 - Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2 - Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

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Part II - Answer the following Questions:

1 - What triggers your decision? ______________________

2 - What information in the videotape influenced your decision most? ______________________

3 - Did you change your decision about a certain applicant? If yes, why? ______________________

4 - Did the previous applicant influence your decision? Yes____  No____

5 - Did the order of information in the video influence your decision? Yes____  No____

6 - In your own words, describe the applicant. ______________________

7 - What are the applicant's major strengths (if any)? ______________________
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

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         weak ___ ___ ___ ___ strong
         unsel'fish ___ ___ ___ ___ selfish
         soft ___ ___ ___ ___ hard
         excitable ___ ___ ___ ___ calm
         optimistic ___ ___ ___ ___ pessimistic
         shy ___ ___ ___ ___ forward
         prohibitive ___ ___ ___ ___ permissive
         aimless ___ ___ ___ ___ motivated
         cautious ___ ___ ___ ___ rash
         sociable ___ ___ ___ ___ unsociable
         aggressive ___ ___ ___ ___ passive
         deliberate ___ ___ ___ ___ impulsive
         immature ___ ___ ___ ___ mature
         deep ___ ___ ___ ___ shallow
         tolerant ___ ___ ___ ___ intolerant

13 - Would you describe the exercise you are watching as:

       Effective      Ineffective

       Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Exercise  The Irate Customer

Applicant  Diane

Part I - Based on the videotape:

1 - Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2 - Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3 - Indicate the reason(s) for your decision in the column labelled (Reason).

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</table>

Part II - Answer the following Questions:

1 - What triggers your decision?

________________________________________________________________________

2 - What information in the videotape influenced your decision most?

________________________________________________________________________

3 - Did you change your decision about a certain applicant? If yes, why?

________________________________________________________________________

4 - Did the previous applicant influence your decision?

Yes____ No____

5 - Did the order of information in the video influence your decision? Yes____ No____

6 - In your own words, describe the applicant.

________________________________________________________________________

7 - What are the applicant’s major strengths (if any)?

________________________________________________________________________
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

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cautious: ___ ___ ___ rash
sociable: ___ ___ ___ unsociable
aggressive: ___ ___ ___ passive
deliberate: ___ ___ ___ impulsive
immature: ___ ___ ___ mature
deep: ___ ___ ___ shallow
tolerant: ___ ___ ___ intolerant

13 - Would you describe the exercise you are watching as:

Effective
Ineffective

Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Rating Summary Sheet

Exercise

(1) Make a decision to accept (A) or reject (R) each applicant. Put A or R in the column labelled (Decision) below.

(2) Rank applicants from 1 to 6 (1-high, 6-low), in the column labelled (Rank) below.

(3) Indicate the reason(s) for your decision in the column labelled (Basis of Decision). Write down any information that triggered your action. If you changed your decision indicate the reason.

<table>
<thead>
<tr>
<th>Applicants</th>
<th>Decision (A or R)</th>
<th>Rank 1-6</th>
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</tr>
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<tbody>
<tr>
<td>Diane</td>
<td></td>
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<td></td>
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<tr>
<td>Elnar</td>
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<tr>
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<tr>
<td>Colin</td>
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</table>
Exercise  Interview-Background  Applicant  Diane

Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

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Part II - Answer the following Questions:

1. What triggers your decision?__________________________________________

2. What information in the videotape influenced your decision most?__________________________________________

3. Did you change your decision about a certain applicant? If yes, why?__________________________________________

4. Did the previous applicant influence your decision? Yes____  No____

5. Did the order of information in the video influence your decision? Yes____  No____

6. In your own words, describe the applicant.___________________________

7. What are the applicant's major strengths (if any)?____________________
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

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12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

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sociable : : : unsociable
aggressive : : : passive
deliberate : : : impulsive
immature : : : mature
deep : : : shallow
tolerant : : : intolerant

13 - Would you describe the exercise you are watching as:

Effective
Ineffective

Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Exercise  Interview-Background  Applicant Ethel.

Part I - Based on the videotape:

1 - Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2 - Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3 - Indicate the reason(s) for your decision in the column labelled (Reason).

<table>
<thead>
<tr>
<th>Decision (A or R)</th>
<th>Time of Decision</th>
<th>Reason(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part II - Answer the following Questions:

1 - What triggers your decision?

2 - What information in the videotape influenced your decision most?

3 - Did you change your decision about a certain applicant? If yes, why?

4 - Did the previous applicant influence your decision? Yes_____ No_____ 

5 - Did the order of information in the video influence your decision? Yes_____ No_____ 

6 - In your own words, describe the applicant.

7 - What are the applicant's major strengths (if any)?
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

   e.g. active    ___  ___  ___  ___  X: ___  ___  ___  ___  ___  ___ passive
       friendly  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ unfriendly
       insensitive  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ sensitive
       weak  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ strong
       unselfish  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ selfish
       soft  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ hard
       excitable  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ calm
       optimistic  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ pessimistic
       shy  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ forward
       prohibitive  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ permissive
       aimless  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ motivated
       cautious  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ rash
       sociable  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ unsociable
       aggressive  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ passive
       deliberate  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ impulsive
       immature  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ mature
       deep  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ shallow
       tolerant  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___  ___ intolerant

13 - Would you describe the exercise you are watching as:
    Effective ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ 
    Ineffective ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ 
    Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Exercise Interview-Background Applicant Louis

Part I - Based on the videotape:

1 - Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2 - Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3 - Indicate the reason(s) for your decision in the column labelled (Reason).

<table>
<thead>
<tr>
<th>Decision (A or R)</th>
<th>Time of Decision</th>
<th>Reason(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part II - Answer the following Questions:

1 - What triggers your decision?

2 - What information in the videotape influenced your decision most?

3 - Did you change your decision about a certain applicant? If yes, why?

4 - Did the previous applicant influence your decision? Yes  No

5 - Did the order of information in the video influence your decision? Yes  No

6 - In your own words, describe the applicant.

7 - What are the applicant's major strengths (if any)?
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

e.g. active ___ ___ X ___ ___: passive
friendly ___ ___ ___ ___: unfriendly
insensitive ___ ___ ___ ___: sensitive
weak ___ ___ ___ ___: strong
unselfish ___ ___ ___ ___: selfish
soft ___ ___ ___ ___: hard
excitable ___ ___ ___ ___: calm
optimistic ___ ___ ___ ___: pessimistic
shy ___ ___ ___ ___: forward
prohibitive ___ ___ ___ ___: permissive
aimless ___ ___ ___ ___: motivated
cautious ___ ___ ___ ___: rash
sociable ___ ___ ___ ___: unsociable
aggressive ___ ___ ___ ___: passive
deliberate ___ ___ ___ ___: impulsive
immature ___ ___ ___ ___: mature
deep ___ ___ ___ ___: shallow
tolerant ___ ___ ___ ___: intolerant

13 - Would you describe the exercise you are watching as:

- Effective
- Ineffective

Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Exercise Interview-Background Applicant Colin

Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

<table>
<thead>
<tr>
<th>Decision (A or R)</th>
<th>Time of Decision</th>
<th>Reason(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part II - Answer the following Questions:

1. What triggers your decision?

2. What information in the videotape influenced your decision most?

3. Did you change your decision about a certain applicant? If yes, why?

4. Did the previous applicant influence your decision? Yes____ No____

5. Did the order of information in the video influence your decision? Yes____ No____

6. In your own words, describe the applicant.

7. What are the applicant's major strengths (if any)?


8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

<table>
<thead>
<tr>
<th>active</th>
<th>friendly</th>
<th>insensitive</th>
<th>weak</th>
<th>unsympathetic</th>
<th>selfish</th>
<th>hard</th>
<th>excitable</th>
<th>optimistic</th>
<th>shy</th>
<th>prohibitive</th>
<th>aimless</th>
<th>cautious</th>
<th>sociable</th>
<th>aggressive</th>
<th>deliberate</th>
<th>immature</th>
<th>deep</th>
<th>tolerant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

passive  unfriendly  sensitive  strong  selfish  calm  pessimistic  forward  permissive  motivated  rash  unsympathetic  passive  impulsive  mature  shallow  intolerant

13 - Would you describe the exercise you are watching as:

- Effective
- Ineffective

Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Exercise Interview-Background Applicant Einar

Part I - Based on the videotape:

1. Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2. Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3. Indicate the reason(s) for your decision in the column labelled (Reason).

<table>
<thead>
<tr>
<th>Decision (A or R)</th>
<th>Time of Decision</th>
<th>Reason(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part II - Answer the following Questions:

1. What triggers your decision?

2. What information in the videotape influenced your decision most?

3. Did you change your decision about a certain applicant? If yes, why?

4. Did the previous applicant influence your decision? Yes____ No____

5. Did the order of information in the video influence your decision? Yes____ No____

6. In your own words, describe the applicant.

7. What are the applicant's major strengths (if any)?
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

<table>
<thead>
<tr>
<th>active</th>
<th>friendly</th>
<th>insensitive</th>
<th>weak</th>
<th>unsselfish</th>
<th>soft</th>
<th>excitable</th>
<th>optimistic</th>
<th>shy</th>
<th>prohibitive</th>
<th>aimless</th>
<th>cautious</th>
<th>sociable</th>
<th>aggressive</th>
<th>deliberate</th>
<th>immature</th>
<th>deep</th>
<th>tolerant</th>
</tr>
</thead>
<tbody>
<tr>
<td>X:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

13 - Would you describe the exercise you are watching as:

Effective
Ineffective

Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Exercise: Interview-Background  Applicant: Fred

Part I - Based on the videotape:

1 - Make a decision to accept (A) or reject (R) the applicant. Put A or R in the column labelled (Decision) below.

2 - Put precisely the time you made your decision in the column labelled (Time of Decision). Use the time code shown at the bottom of the tape.

3 - Indicate the reason(s) for your decision in the column labelled (Reason).

<table>
<thead>
<tr>
<th>Decision (A or R)</th>
<th>Time of Decision</th>
<th>Reason(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part II - Answer the following Questions:

1 - What triggers your decision?

2 - What information in the videotape influenced your decision most?

3 - Did you change your decision about a certain applicant?
   If yes, why?

4 - Did the previous applicant influence your decision?
   Yes____  No____

5 - Did the order of information in the video influence your decision? Yes____  No____

6 - In your own words, describe the applicant.

7 - What are the applicant's major strengths (if any)?
8 - What are the applicant's major weaknesses (if any)?

9 - Do you describe the applicant as introvert or extrovert?

10 - What favorable information (if any) influenced your decision?

11 - What negative information (if any) about the applicant influenced your decision?

12 - Place a check mark in the appropriate column you think describes the applicant most. The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the person you are judging. If you consider the person to be neutral on the scale, or if the scale is completely irrelevant, unrelated to the concept, then you should place your check mark in the middle space.

e.g. active ____ ____ X ____ ____ passive
friendly ____ ____ ____ ____ unfriendly
insensitive ____ ____ ____ ____ sensitive
weak ____ ____ ____ ____ strong
unselfish ____ ____ ____ ____ selfish
soft ____ ____ ____ ____ hard
excitable ____ ____ ____ ____ calm
optimistic ____ ____ ____ ____ pessimistic
shy ____ ____ ____ ____ forward
prohibitive ____ ____ ____ ____ permissive
aimless ____ ____ ____ ____ motivated
cautious ____ ____ ____ ____ rash
sociable ____ ____ ____ ____ unsociable
aggressive ____ ____ ____ ____ passive
deliberate ____ ____ ____ ____ impulsive
immature ____ ____ ____ ____ mature
deep ____ ____ ____ ____ shallow
tolerant ____ ____ ____ ____ intolerant

13 - Would you describe the exercise you are watching as:

Effective
Ineffective

Put an X mark

14 - Describe an ideal applicant for the job as you see it.
Rating Summary Sheet

Exercise:

(1) Make a decision to accept (A) or reject (R) each applicant. Put A or R in the column labelled (Decision) below.

(2) Rank applicants from 1 to 6 (1-high, 6-low), in the column labelled (Rank) below.

(3) Indicate the reason(s) for your decision in the column labelled (Basis of Decision). Write down any information that triggered your action. If you changed your decision indicate the reason.

<table>
<thead>
<tr>
<th>Applicants</th>
<th>Decision (A or R)</th>
<th>Rank 1-6</th>
<th>Basis of Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diane</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elnar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Louis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fred</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colin</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B

Examples of Critical Incidents Decision Time of the Six Applicants in Graphic Form
FIGURE 7: Critical Incidents Decision Time for Applicant Colin in Pressure Interview Test Showing Assessors Triggered at Time 41.58 (M.S.) By a Certain Critical Incident.
FIGURE 8: Critical Incident Decision Time for Applicant Ethel in Pressure Interview Test Showing Assessors Triggered at Time 34.08 (M./S.) By a Certain Critical Incident.
FIGURE 9: Critical Incident Decision Time for Applicant Fred in Leaderless Group Test Showing Assessors Triggered at Time 13:12 (M./S.) by A Certain Critical Incident.
FIGURE 11: Critical Incident Decision Time for Applicant Einar in Background Interview Test Showing Assessors Triggered at Time 42.50 (M./S.) By a Certain Critical Incident.
FIGURE 12: Critical Incident Decision Time for Applicant Diane in Background Interview Test Showing Assessors Triggered at Time 17.22 (M./S.) by a Certain Incident.
APPENDIX C

Factorial Analysis of Variance of the Semantic Differential Data
TABLE 24.

Factor Analysis

Varimax Rotated Factor Matrix of Acceptable Group "Good" Applicants Based on the Semantic Differential Items

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>FACTOR 1</th>
<th>FACTOR 2</th>
<th>FACTOR 3</th>
<th>Communnality h²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Active-Passive</td>
<td>0.04215</td>
<td>0.88865</td>
<td>-0.07737</td>
<td>0.79746</td>
</tr>
<tr>
<td>2. Friendly-Unfriendly</td>
<td>0.84017</td>
<td>-0.01282</td>
<td>-0.00025</td>
<td>0.70605</td>
</tr>
<tr>
<td>3. Insensitive-Sensitive</td>
<td>0.29162</td>
<td>-0.16763</td>
<td>0.83887</td>
<td>0.81684</td>
</tr>
<tr>
<td>4. Weak-Strong</td>
<td>-0.15173</td>
<td>-0.87700</td>
<td>0.03175</td>
<td>0.79316</td>
</tr>
<tr>
<td>5. Unselfish-Selfish</td>
<td>0.06704</td>
<td>0.95254</td>
<td>-0.13608</td>
<td>0.93035</td>
</tr>
<tr>
<td>6. Soft-Hard</td>
<td>-0.95527</td>
<td>-0.06134</td>
<td>-0.12523</td>
<td>0.93199</td>
</tr>
<tr>
<td>7. Excitable-Calm</td>
<td>-0.86585</td>
<td>0.09745</td>
<td>-0.02825</td>
<td>0.76000</td>
</tr>
<tr>
<td>8. Optimistic-Pessimistic</td>
<td>0.93564</td>
<td>0.17177</td>
<td>-0.02770</td>
<td>0.90570</td>
</tr>
<tr>
<td>9. Shy-Forward</td>
<td>-0.93057</td>
<td>-0.17776</td>
<td>-0.27965</td>
<td>0.97576</td>
</tr>
<tr>
<td>10. Prohibitive-Permissive</td>
<td>-0.98089</td>
<td>-0.05244</td>
<td>0.09327</td>
<td>0.97360</td>
</tr>
<tr>
<td>11. Aimless-Motivated</td>
<td>-0.04422</td>
<td>-0.76811</td>
<td>0.53150</td>
<td>0.87444</td>
</tr>
<tr>
<td>12. Cautious-Rash</td>
<td>-0.04062</td>
<td>0.58924</td>
<td>-0.58244</td>
<td>0.68808</td>
</tr>
<tr>
<td>13. Sociable-Unsociable</td>
<td>0.96094</td>
<td>0.11443</td>
<td>-0.19328</td>
<td>0.97386</td>
</tr>
<tr>
<td>14. Aggressive-Passive</td>
<td>0.06704</td>
<td>0.95254</td>
<td>-0.13608</td>
<td>0.93035</td>
</tr>
<tr>
<td>15. Deliberate-Impulsive</td>
<td>0.95013</td>
<td>0.12828</td>
<td>-0.05139</td>
<td>0.92184</td>
</tr>
<tr>
<td>16. Immature-Mature</td>
<td>-0.10294</td>
<td>-0.96057</td>
<td>0.00476</td>
<td>0.93332</td>
</tr>
<tr>
<td>17. Deep-Shallow</td>
<td>0.10294</td>
<td>0.96057</td>
<td>-0.00476</td>
<td>0.93332</td>
</tr>
<tr>
<td>18. Tolerant-Intolerant</td>
<td>0.96061</td>
<td>0.15288</td>
<td>0.21940</td>
<td>0.94428</td>
</tr>
</tbody>
</table>

VARIANCE 8.58797 6.15125 1.10117

VARIANCE IN PERCENTAGE 54.2 38.8 7.0

I. Interpersonal Effectiveness
II. Social Maturity
III. Sensitivity
TABLE 25

Factor Analysis
Varimax Rotated Factor Matrix of Rejected Group (Bad) Applicants Based on the Semantic Differential Scale Items

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>FACTOR 1</th>
<th>FACTOR 2</th>
<th>FACTOR 3</th>
<th>COMMUNALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Active-Passive</td>
<td>.85836</td>
<td>.12402</td>
<td>.39939</td>
<td>.91168</td>
</tr>
<tr>
<td>2. Friendly-Unfriendly</td>
<td>.12172</td>
<td>.72113</td>
<td>.41611</td>
<td>.70800</td>
</tr>
<tr>
<td>3. Insensitive-Sensitive</td>
<td>.20239</td>
<td>-.64327</td>
<td>-.17888</td>
<td>.48675</td>
</tr>
<tr>
<td>4. Weak-Strong</td>
<td>-.89747</td>
<td>.03252</td>
<td>-.40490</td>
<td>.97045</td>
</tr>
<tr>
<td>5. Unselfish-Selfish</td>
<td>.23313</td>
<td>.76845</td>
<td>.29661</td>
<td>.73284</td>
</tr>
<tr>
<td>6. Soft-Hard</td>
<td>-.90552</td>
<td>-.09484</td>
<td>-.24824</td>
<td>.89059</td>
</tr>
<tr>
<td>7. Excitable-Calm</td>
<td>-.05013</td>
<td>-.89301</td>
<td>-.11019</td>
<td>.81212</td>
</tr>
<tr>
<td>8. Optimistic-Pessimistic</td>
<td>.67263</td>
<td>.63207</td>
<td>-.08987</td>
<td>.86002</td>
</tr>
<tr>
<td>9. Shy-Forward</td>
<td>-.90488</td>
<td>-.08051</td>
<td>-.26853</td>
<td>.89740</td>
</tr>
<tr>
<td>10. Prohibitive-Permissive</td>
<td>-.05651</td>
<td>-.86196</td>
<td>-.30706</td>
<td>.84046</td>
</tr>
<tr>
<td>11. Aimless-Motivated</td>
<td>-.46837</td>
<td>-.32532</td>
<td>-.74925</td>
<td>.88658</td>
</tr>
<tr>
<td>12. Cautious-Rash</td>
<td>.39728</td>
<td>.21169</td>
<td>.79863</td>
<td>.84045</td>
</tr>
<tr>
<td>13. Sociable-Unsociable</td>
<td>.21364</td>
<td>.90897</td>
<td>.22014</td>
<td>.92034</td>
</tr>
<tr>
<td>15. Deliberate-Impulsive</td>
<td>.39413</td>
<td>.41737</td>
<td>.69253</td>
<td>.80914</td>
</tr>
<tr>
<td>16. Immature-Mature</td>
<td>-.31826</td>
<td>-.38008</td>
<td>-.77416</td>
<td>.84508</td>
</tr>
<tr>
<td>17. Deep-Shallow</td>
<td>.38105</td>
<td>.35482</td>
<td>.77939</td>
<td>.87855</td>
</tr>
<tr>
<td>18. Tolerant-Intolerant</td>
<td>.24740</td>
<td>.59411</td>
<td>.57855</td>
<td>.74889</td>
</tr>
</tbody>
</table>

VARIANCE

|          | 10.37884 | 3.40109 | 1.19010 |

VARIANCE IN PERCENTAGE

|          | 69.3     | 22.7    | 7.9     |