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Predicting Job Performance Criteria From Interview-based Impressions Of Personality

Mitchell Grant Rothstein

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LA THÈSE A ÉTÉ
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PREDICTING JOB PERFORMANCE CRITERIA
FROM INTERVIEW-BASED IMPRESSIONS
OF PERSONALITY

by

Mitchell Rothstein

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Submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

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ABSTRACT

Two laboratory experiments investigated the utility of evaluating applicant personality characteristics in the employment interview for purposes of predicting relevant job performance criteria. In Study One, three target applicants were created from personality information drawn from the two poles of an accounting/advertising factor dimension and a second dimension. Subjects in this experiment judged the personality characteristics of the target applicants, their suitability for one of two jobs (accounting/bookkeeping or writing advertising copy), and their probable level of task performance on a number of criterion measures obtained from tasks used in Study Two. In addition, subjects were given either a worker-oriented or a task-oriented job description as a basis for making their judgments and all subjects were assessed on the Self-Monitoring Scale, a construct which has recently been hypothesized to account for individual differences in the accuracy of judging personality in others. It was predicted that job applicant targets congruent with the job characteristics will be judged more suitable for the job than targets who are incongruent with the job. Ratings of suitability were expected to be greater when the job description is worker oriented as opposed to task oriented. Individual differences in accuracy of personality judgments were correlated with self-monitoring scores. Results indicated that reliable and accurate personality judgments of the three job applicants were made. Self-monitoring was found to have no utility as an index of accuracy in person perception, although another individual difference measure, sensitivity, was highly useful for measuring accuracy and delineating individual differences in

accuracy. Congruence between applicant personality traits and specific jobs was the critical factor in determining general suitability judgments (including job satisfaction), and to a lesser extent ratings of overall work adjustment. However, this congruence had no apparent effect on predictions of future job performance. Type of job description had no consistent or interpretable effect on subjects' judgments.

In Study Two, criterion measures were obtained on two job related tasks (an accounting/bookkeeping task and an advertising copy writing task). Subjects in this experiment were chosen on the basis of their scores on two factor dimensions of personality and vocational interest variables. One of these dimensions is bipolar and has been demonstrated to be conceptually and empirically related to jobs involving accounting and bookkeeping tasks on the one hand and jobs involving advertising copy writing tasks on the other. The other dimension is unrelated to these jobs and tasks and was used for comparison purposes. Performance measures on both tasks were obtained from all subjects. Controlling for differences due to experience and intelligence, it was predicted that subjects with personality characteristics congruent with the specified jobs will perform better on certain criterion measures associated with the job related tasks than subjects with personality characteristics incongruent with these jobs. Subjects who are high scorers on the other factor dimension were expected to perform more poorly than the former subjects on both tasks. Results indicated that congruence between personality traits and the specified jobs was related to job satisfaction, but not job performance criteria.

Finally, judgments of probable job related criteria for the target applicants in Study One, were compared against actual average job related criteria for subjects in Study Two to determine what criteria may best be predicted from judgments of personality in the employment interview. The prediction of job satisfaction from interview based impressions of personality in Study One was found to have a basis for validity, as demonstrated by the significant relationship between job satisfaction and congruent personality obtained in Study Two. Personality traits were not generally used by subjects in Study One to discriminate among applicants on job performance criteria, and in Study Two, no relationship was found between these criteria and congruent personality traits. Results are discussed in terms of the potential of the employment interview for predicting job satisfaction from applicant personality and the implications of this prediction for personnel selection.

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CHAPTER 1

OVERVIEW

"...it must be concluded that, taken as a whole, there is no generalizable evidence that personality measures can be recommended as good or practical tools for employee selection." (Guion & Gottier, 1965)

"The in-depth assessment interview is an instrument of the analytic strategy because its purpose is to describe certain personality variables that lie beneath surface behavior, with the assumption that whether they have been manifested overtly before or not, they will most certainly become manifest in performing the job in question....effective performance is viewed as the dynamic outcome of the transactions that occur among three major causal variables: personality, role, and organizational milieu.... Consequently, an effective program of selecting and motivating employees must be based upon a dynamic model that includes careful consideration of each of these variables." (Lopez, 1975)

The relationship between personality variables as measured by paper and pencil tests and relevant behavioral criteria has long been a contentious topic in psychology (Mischel, 1968, 1973). Debate has focused on whether this relationship has or has not been demonstrated empirically, as well as on theoretical, conceptual, and methodological issues that may affect the demonstration of this relationship. The debate has profound implications for applied psychology. Industrial psychology in particular has had a long history of using personality measures in employee selection to predict behavioral criteria related to job performance (Ghiselli & Barthol, 1953; Ghiselli, 1966; Hedlund, 1965; Spriegel & Dale, 1953). However, this practice has been severely criticized (Guion & Gottier, 1965) for the apparent lack of criterion validity that personality measures have shown for predicting job

performance. At the same time, in the United States the use of all types of tests in industry has been sharply curtailed due to stringent Equal Employment Opportunity Commission (EEOC) guidelines requiring rigorous validation and documentation of results (Sparks, 1980).

In spite of the considerable criticisms of personality measures, coming from experimental and applied research settings as well as legal channels, they still appear to be a critical factor in personnel selection practices (Campbell, Dunnette, Lawler, & Weick, 1970; Wiggins, 1973). In addition to the continued use of standard personality measures in employee selection, it appears that one of the primary functions of the employment interview is to assess applicant personality characteristics in terms of the requirements of the job. This function is stated quite explicitly by many of the practitioners' guides to the use of the employment interview (e.g., Black, 1970; Fear, 1978; Lopez, 1975; Peskin, 1971). Since the interview has been consistently found to be the most widely used and popular selection device in business and industry (Bellows & Estep, 1954; Landy & Trumbo, 1980; Latham, Saari, Pursell, & Campion, 1980; Spriegel & James, 1958; Ulrich & Trumbo, 1965), it appears that personality assessment is still highly regarded, at least by personnel administrators, as playing a vital role in personnel selection.

It is tempting to conclude from this state of affairs that personnel administrators know something that has somehow evaded research psychologists. Unfortunately, such a simplistic explanation provides neither a conceptual nor an empirical justification for the continued use of either standard personality measures or the interview in personnel selection. The issue of using standard personality measures

in personnel selection will be discussed in a subsequent chapter. With regard to the interview, the personnel administrator faces an interesting dilemma. On the one hand there are considerable data to suggest that personality measures are not related to behavioral criteria in general and job performance criteria in particular. In addition, the interview in general has often been found to lack acceptable levels of reliability and validity as a selection device (Dunnette & Borman, 1979; Mayfield, 1964; Schmitt, 1976; Wright, 1969). On the other hand, however, there is an apparent need to assess appropriate personality characteristics for many jobs and the interview has long been designated as a legitimate method for doing so.

The purpose of the present research is to investigate in an experimental analogue the function of personality assessment in the employment interview. Despite the declarations from interview practitioners that personality can and should be evaluated in the interview, they have not offered empirical support for such practices. Yet, if these practices are engaged in by employment interviewers, and there are strong indications that they are (Jackson, Peacock, & Smith, 1980; Landy, 1976; Lopez, 1975), and if there is in fact no validity to these judgments, then the evaluation of applicant personality characteristics will be another major source of error affecting the reliability and validity of the interview (c.f., Ulrich & Trumbo, 1965).

The present research investigated the theoretical, conceptual, and empirical basis for believing that personality assessment in the interview may contribute to the valid prediction of certain types of job performance. The discussion will begin by critically evaluating the arguments that in general personality measures have not demonstrated

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significant relationships with relevant behavioral criteria. The discussion will then turn to the personnel selection literature where a similar debate has been taking place, apparently independently from the experimental literature. Here too, however, the arguments against using personality measures to predict job performance will be critically assessed, new data brought forth, and methodological and conceptual issues presented. In addition, the role of personality constructs in other significant aspects of work life will be discussed to point out that as personality has been an important consideration in relation to such issues as job satisfaction and job analysis, it must therefore also be considered in the selection process. The rationale for the continued use of the interview will then be presented from the practitioner's perspective. The issues to be raised here involve the unique assessment function of the interview that no other method provides, the legal considerations that are rapidly confining other methods of personnel selection, and new developments in interview technology that promise to improve the often reported low levels of reliability and validity.

Chapter Two

The Relationship of Personality Measures to Behavioral Criteria

Recently the predictive validity of personality constructs with respect to behavioral criteria as well as the techniques of personality measurement have been severely criticized. The most vociferous spokesman for the lack of utility of personality measures has been Mischel (1968, 1973), although his position has historical roots in the studies of honesty by Hartshorne and May (1928). More recently Kenrick and Stringfield (1980) have also criticized traditional views of personality traits, although less severely, in that they argue that consistency itself is a moderator variable which affects the assessment of consistency in personality traits. The main thrusts of Mischel's criticisms have been summarized by Wiggins (1973) as (1) traits are constructs of the observer rather than attributes of the observed, (2) traits are not consistent or stable across instruments, situations, or occasions, and (3) traits are not causal constructs. The implications of Mischel's criticisms for the present research are obvious. If personality traits of individuals are not relatively stable and not related to their observable behavior, and if these traits cannot be judged accurately by others, then any attempt to assess personality from interview procedures and to predict behavior on the basis of this assessment is bound to be futile.

A detailed discussion of the grounds for Mischel's criticisms and the rebuttals and counter-rebuttals that have appeared would digress substantially from the primary concern of this paper. Similarly, an

attempt to review the literature to find examples of empirical studies demonstrating stability in personality or relationships between personality and behavioral criteria would not by itself be compelling evidence. Mischel has been soundly criticized for his restricted review of the literature (e.g., Epstein, 1979) and others (e.g., Wiggins, 1973) have also presented their favorite list of research studies to support the opposite viewpoint. This type of scoreboard approach is not an efficient method of scientific analysis and may be considerably distorted by errors in the sampling of research studies and the inability to account for unpublished research.

An alternative strategy for testing the validity of Mischel's contentions, and one that is more congruent with the scientific method (cf., Hall & Lindzey, 1970), is to examine the data which Mischel presents (e.g., the .30 "personality coefficient"), hypothesize an alternative explanation to Mischel's, and obtain empirical support for this explanation from the published literature and by explicitly testing the hypothesis in a new empirical investigation. Such a strategy has recently been taken by Paunonen and Jackson (1979) and Epstein (1979, 1980). These investigators have responded directly to Mischel's three basic criticisms by designing empirical tests of hypotheses posed as alternative explanations to those offered by Mischel. The remainder of the discussion in this chapter will review the theoretical and empirical background to the Paunonen and Jackson, and Epstein studies, and summarize their findings. The results from these studies will thus be used to contest Mischel's position on the validity of personality assessment and to provide a conceptual and methodological framework for the present research.



Traits are constructs of the observer

Investigations of clinical judgment and the peer assessment technique have led many researchers to conclude that people are poor judges of personality (e.g., Bourne, 1977; Fiske, 1978; Mischel, 1968; Schneider, 1973) and/or that personality judgments are simply determined by the semantic associations between words used to make these judgments (Bandura, 1969; D'Andrade, 1974; Mischel, 1968; Schneider, 1973; Shweder, 1975, 1977a, b). The clinical judgment research has been reviewed on repeated occasions (Meehl, 1954, 1957, 1965) and each time the conclusions are similar. When the same data are used by clinical judges and actuarial methods to predict diagnostic classifications, the actuarial methods are clearly superior to the clinical judges in a majority of cases and are at least comparable to the clinical judges in the remainder of cases.

Meehl's conclusions on the utility of clinical judgments have been criticized on many grounds. Jackson and Paunonen (1980) have recently reviewed and summarized these criticisms pointing out that few of the studies reviewed by Meehl were conducted under conditions favorable to maximizing accuracy in person perception. More specifically, Jackson and Paunonen suggest that many clinical judgment tasks have been based on cues derived from MMPI profiles, projective test protocols, or biographical data, and that such cues have not demonstrated adequate validities in predicting psychodiagnostic criteria. Additional criticisms of clinical judgment and person perception research offered by Jackson and Paunonen include the failure to consider the difficulty in predicting a criterion which is a composite of low base rate behaviors, the problems inherent in using gross categorizations such as

neurotic/psychotic when judges are expected to make fine discriminations, among individuals, the fact that such gross categorizations lack consistent psychological meaning, the problem of using empirically keyed tests such as the MMPI for recording judgments when such tests have little substantive relationship with the constructs they are intended to measure, and finally, the tendency to neglect social desirability and normative endorsement frequencies as possible sources of criterion variance.

These criticisms of clinical judgment and person perception research in themselves are not sufficient to let the clinician or interviewer off the hook. It is incumbent upon the critics of this research to demonstrate that when the above problems are eliminated, accuracy in person perception is fostered. To this end, Jackson (1982) has explicated six preconditions for valid person perception and argues that the failure to demonstrate accuracy in much previous research is due to the neglect of these necessary prior conditions. The prior conditions may be stated as follows: the constructs, traits or behavioral dimensions of interest must be stated explicitly; the information to be judged and the behavior to be predicted should bear a theoretical, as well as an empirical relationship; behavior being rated and that being predicted must reflect a representative sample of the underlying constructs; adequate levels of reliability in the behavior to be predicted must be established; knowledge of the implicit trait inferential network must be explicitly used within the context of a dimensional framework for personality, since the inferential network has been demonstrated to be valid; base rates of the behavior to be predicted as well as its desirability must be considered explicitly both in the

target information and the criterion. Jackson demonstrates that disregarding any of these prior conditions will be sufficient to account for the attenuated accuracy in much of the current person perception research. More importantly, he offers compelling evidence for his propositions by demonstrating that when these prior conditions are taken into consideration, accurate judgments of personality are obtained across a number of different realms of behavior such as normal modal personality types (e.g., Lay & Jackson, 1969; Reed & Jackson, 1977), psychopathology (e.g., Chan & Jackson, 1979; Jackson, Chan, & Stricker, 1979; Reed & Jackson, 1975), and occupationally related behavior (Jackson, Peacock, & Smith, 1980; Rothstein & Jackson, 1980).

The semantic similarity hypothesis has never been formally stated in that the term "similarity" has not been properly defined and the dynamic properties of the hypothesis have never been elaborated (Jackson, 1982; Paunonen & Jackson, 1979). Nevertheless, the hypothesis has been employed by many (e.g., Bandura, 1969; D'Andrade, 1974; Mischel, 1968; Schneider, 1973; Shweder, 1975, 1977a, b) to account for the findings that the judged similarity of the semantic meanings of trait terms used to obtain ratings of personality can themselves be used to reproduce the trait ratings of actual target persons. Thus, it is argued that much of the research in person perception and trait inference may be accounted for simply by the semantic similarity of the words used to describe the targets of the perception or inference, and that these words do not accurately describe the true network of trait covariation in these targets.

Criticisms of the semantic similarity hypothesis have focused on conceptual as well as empirical issues. Wiggins (1973), for example,

after a lengthy review of the empirical literature, discusses the implicit paradox in the semantic similarity position:

"It should be noted, however, that studies of the consistency of implicative meaning of trait terms can shed no direct light on this ancient epistemological issue (i.e., whether personality traits are characteristics of the perceived or merely exist in the constructs of the perceiver). If traits do, in fact, have existence in the "real world", it is necessary (but not sufficient) for the terms describing such traits to have consistent implicative meanings across observers. Otherwise, of course, there would be no guarantee that observers are describing the "same" traits. On the other hand, if there were no agreement among observers with respect to the implicative meanings of trait terms, it would be difficult to argue that traits exist either in the real world or in the minds of observers" (p. 344).

Jackson (1982) discusses two other conceptual problems with the semantic similarity hypothesis. First, the hypothesis implies that when subjects are given information about a target, they rate that target with terms that are synonymous with the given information. This interpretation cannot account for the type of inferential judgment that, for example, considers a person who is talkative to be also seen as dishonest (e.g., Walters & Jackson, 1966). In other words, inferences based on semantic similarity cannot readily account for the richness of the trait inferential network as it has been empirically demonstrated. Second, the hypothesis cannot account for inferences involving judgments of the probability of discrete behaviors given the presence of other discrete behaviors. For example, Jackson and his colleagues employ this methodology and then judged probabilities of behaviors are summed into scale (i.e., trait) scores which have previously been shown by psychometric procedures to have favorable levels of convergent and discriminant validity. Given the rather large number of behavioral exemplars that are judged in the typical Jackson experiment, and the fact

that half the items are reflected to guard against acquiescence response style which would require a subject to infer a negative probability of a joint occurrence between two items, it is extremely unlikely that purely semantic associations could account for inferences of this type.

Empirical tests of the semantic similarity hypothesis have generally focused on demonstrating that trait ratings of target persons could be reproduced by judgments of the semantic meaning of the trait terms. A more direct test of the hypothesis was recently reported by Paunonen and Jackson (1979). These authors suggested that if trait inferences were entirely due to the semantic cues of the trait terms used, then the elimination of these cues should effectively attenuate the accuracy of the inferential judgments. To test this possibility, target descriptions and rating scales using both verbal and nonverbal stimuli were prepared for two targets. The nonverbal stimuli comprised pictorial representations of exemplary construct-related behaviors and were exactly parallel to the verbal stimuli. Results indicated that high levels of judgmental reliability and criterion validity were obtained for both targets in both verbal and nonverbal conditions. Thus, Paunonen and Jackson conclude that explicit semantic cues were not necessary for accurate inferential judgments.

Wiggins (1973) has taken another tact in assessing the semantic similarity hypothesis. On the basis of his logical analysis and conclusions that tests of the hypothesis cannot solve the basic epistemological issue of whether traits exist in the perceived or the perceiver, Wiggins argues that the true test of whether trait ratings reflect attributes of ratees versus semantic meaning structures must be made through the generalizability of such ratings to external criteria of

social importance. To this end, Wiggins then reviews a considerable number of research studies which strongly suggest that peer ratings of personality traits have been found to be valid and useful predictors of a wide variety of criteria including officer effectiveness (e.g., Haggerty, 1953; Hoffman & Rohrer, 1954; Tupes, 1957; 1959; Tupes & Kaplan, 1961; Williams & Leavitt, 1947), performance in flight training (Doll, 1963; Flyer, 1963; Flyer & Bigbee, 1954; Hollander, 1954b; Willingham, 1958), leadership (Bartlett, 1959; Kamfer, 1959; Robius, Roy, & de Jung, 1958), teacher effectiveness (Isaacson, McKeachie, & Milholland, 1963), military selection* (Hollander, 1954a), disciplinary problems (Klieger, de Jung, & Dubinsson, 1962), selection of supervisors in industry (Weitz, 1958), performance of Peace Corps volunteers (Boulger & Colmen, 1964; Hare, 1962; Stein, 1963), and academic performance (Astington, 1960; Smith, 1967; Wiggins, Blackburn, & Hackman, 1969).

Traits are not stable and are not causal constructs

The remaining criticisms of personality measurement voiced by Mischel (1968) may be discussed jointly since they are based on essentially the same argument, namely that the measurement of personality, whether by self-report, ratings by others, or objective behavior, does not yield trait attributes that are consistent or stable. The evidence offered by Mischel for this proposition is the "fact" that whenever any of these measures of personality are intercorrelated or are correlated across situations or occasions, the magnitude of the correlation coefficient rarely exceeds .30.

Once again, and for the same reasons discussed above, the strategy for contesting Mischel's interpretation of the .30 "personality

coefficient" will not be to search the recent literature for examples of studies which demonstrate correlations that exceed this level. Such examples indeed can be found (e.g., Alker & Owen, 1977; Jaccard, 1974; Kahle, Kulka, & Klingel, 1980). However, as was the case with the studies in accuracy of clinical judgment and peer assessment, what is needed is a theoretically based interpretation of the personality coefficient which is capable of generating hypotheses to predict the conditions under which more substantial correlations will be obtained. Such an interpretation and the accompanying hypotheses, as well as considerable empirical support, has recently been presented by Epstein (1979, 1980).

Epstein begins his analysis by interpreting the .30 personality coefficient as merely a result of unreliability in either or both predictor and criterion measures. He then hypothesizes that stability in behavior will be demonstrated if the behavior is sampled over a sufficient number of occurrences, and that reliable relationships across methods (e.g., self-ratings, ratings by others, and objective behavior) will also occur if there is sufficient behavioral sampling. In a series of elegant and compelling empirical tests of these hypotheses, Epstein clearly demonstrates that by simply aggregating construct-relevant observations (be they self-reports, ratings by others, or objective behaviors), personality measures become quite stable across instruments, situations, and occasions and are highly predictive of behavioral criteria. In discussing these results, Epstein (1979, p. 1116) points out that "increasing the sample of one set of observations (e.g., criterion behaviors) increases their reliability and broadens their representativeness to include more variance in common with another set of

observations (e.g., test scores) and thus the correlation between these two sets of observations increases." In addition to increasing the reliability and generalizability of the measures in question, "aggregating observations is fundamentally linked to the law of sampling distributions (i.e., level of prediction is a function of sufficient aggregation of appropriate data) which has always been applied to subjects in psychological research but rarely to stimuli and occasions" (Epstein, 1980, p. 795).

The validity of Epstein's analysis and conclusions does not rest solely on his own empirical investigations. There is a wealth of theory and research available to support Epstein's formulations. In fact, Jackson (1982) has noted that aggregating items on a test to increase reliability is one of the cornerstones of classical test theory (Brown, 1910; Spearman, 1910). Classical test theory has, in addition, been quite clear regarding the relationship between reliability and validity. Since summing over items ensures stability and representativeness, assuming items are sampled from the same universe, predictive validity will increment since true score variance accumulates whereas error variance tends to average out over items (Cronbach, Gleser, Nanda, & Rayaratnam, 1972; Gulliksen, 1950; Jackson, 1982; Lord & Novick, 1968; Rushton, Jackson, & Paunonen, 1981). In addition, Jaccard (1974) has pointed out that psychometric arguments aside, conceptually personality traits should be more highly related to a multiple act criterion than any specific single act criterion, since traits are by definition intended to represent overall indices of behavior. Classical test theory has also been applied to other measurement problems in psychology which indirectly supports Epstein's conclusions. For example, Fishbein and Ajzen (1974)

have presented a theoretical framework for understanding the often reported low correlations between measures of attitudes and overt behaviors. The Fishbein and Ajzen formulations parallel the personality/behavior debate very closely (c.f., Ajzen, 1982) in that it is argued and empirically demonstrated that attitudes do predict behaviors when multiple-act criteria are used to assess the behavior in question. Thus, multiple-act behavioral criteria are to attitudes what aggregated observations of behavior are to personality traits in that adequate demonstration of the attitude/behavior relationship requires reliable criteria that are representative of the total set of behaviors related to the attitude object.

The preceding discussion on the relationship of personality measures to behavioral criteria has presented theoretical, conceptual, and empirical justification for contesting Mischel's (1968) criticisms of the utility of personality measures. It was demonstrated that methodological and conceptual problems in the clinical judgment and peer assessment literature could account for the low levels of accuracy in personality judgments. When these problems are eliminated and certain preconditions are present, valid personality judgments may be obtained. The semantic similarity hypothesis was demonstrated to be conceptually inadequate in accounting for judgmental accuracy in person perception research. Moreover, the hypothesis was not supported in a direct empirical test of one of its fundamental postulates (i.e., Paunonen & Jackson, 1979). Finally, recent theoretical analysis and empirical verifications have demonstrated that personality measures are quite stable across instruments, situations, and occasions and are highly predictive of behavioral criteria when observations are adequately and reliably

sampled, a condition which has been widely acknowledged and implemented by test and measurement theorists since at least 1910.

The implications of these findings for research in personality and person perception should be clear. In order to determine if judgments of personality are accurate, certain preconditions in the experimental paradigm must be established. The validity of these judgments must then be assessed with regard to some socially relevant criterion.

Furthermore, adequate assessment of the stability of personality or the relationship between measures of personality and overt behavior requires reliable and representative samples of both predictor and criterion measures. In the present research an assessment of the personality/behavior relationship as well as judgments of personality are obtained and the conditions necessary for measuring these variables appropriately have been primary considerations in the development of the experimental paradigms.

Chapter Three

Personality Measures as Predictors of Job Performance Criteria

Mischel's (1968) views on the utility of personality measures has its counterpart in industrial psychology in Guion and Gottier's (1965) influential paper examining the validity of personality measures in personnel selection. Guion and Gottier summarized the research literature in this area published from 1952-1963 in two journals: The Journal of Applied Psychology and Personnel Psychology. On the basis of this review the authors concluded that personality measures had not demonstrated general usefulness in personnel selection practices. This paper has been widely cited as evidence that personality is not predictive of job performance criteria (e.g., Campbell et al., 1970; Gough, 1976; Guion, 1976; Korman, 1977; Landy & Trumbo, 1980).

Close examination of the Guion and Gottier review reveals considerable limitations to their conclusions. Because their paper appears to have been so influential in the personnel selection literature, and because their conclusions, if true, would have implications for the present research, it is important to discuss thoroughly the problems and limitations with this paper. This chapter will begin with such a discussion and then the role of personality in other job-related issues will be briefly explicated to suggest additional reasons for considering personality in personnel selection procedures.

Personality and job performance

To begin, Guion and Gottier (1965) put rather severe restrictions on the studies they would consider in their review. These restrictions involved the criteria used for choosing studies to be included and the limited number of studies that were actually considered. Although the authors are quite explicit about the scope of their review, this does not seem to have hindered them from making a rather strong concluding statement regarding the relationship between personality and job performance. The most restrictive of the criteria used for choosing studies was that for a personality test or measure to be included in the review, it must have been used in at least three research studies, all reported in the two specified journals. A few exceptions to this rule were allowed for "homé-made" tests developed by specific organizations for specific needs and for some projective measures. The intention of these restrictions was clearly to ensure a certain level of quality in the studies to be assessed. However, such a procedure also puts strict limitations on the generalizability of Guion and Gottier's conclusions. For example, if a particular personality test or measure was found to be a valid predictor of job performance criteria, but it was only reported in one published study, it was not included in the review. Guion and Gottier give no indication of the number of studies rejected for this reason, but a review of the more recent literature reveals examples of such studies that are methodologically sound and highly conclusive (e.g., Azen, Snibbe, & Montgomery, 1973; Edwards, 1977; Ghiselli, 1969; Landy, 1976). Furthermore, if a test has been found to be a valid predictor in one situation, journal editors in their concern for unique contributions to the field and space limitations are not likely to respond favorably to

cross-validation studies. Guion and Gottier's strategy for choosing studies to review would thus appear to be far too conservative and likely resulting in a substantial under-estimation of the effects of personality on job behavior.

Not only did Guion and Gottier err in their choice of studies to exclude from their review, they apparently also erred in their choice of studies to include. Of the 134 research articles discussed, only 59 or 44% can truly be considered studies that examine the relationship between personality and job performance. The other 75 studies (56%) involve tests which either cannot be considered to be tests of personality or are inappropriate for use in personnel selection. For example, 17 of the studies employed "tests" that were actually personal history data forms. Another 42 studies made use of vocational interest tests to predict job performance, a purpose for which they were never designed or constructed. Vocational interest tests are intended to be used to predict interests that are in common with various occupational criterion groups. At best they have been shown to predict job satisfaction, but there is no rational or theoretical justification for their use as a predictor of job performance. The final 16 studies used such measures as projective tests (e.g., Rorschach, Sentence Completion) and tests of psychopathology (e.g., MMPI) which again were never intended for use in predicting job-related criteria and in addition have not demonstrated acceptable levels of reliability and validity.

The restriction that studies would only be chosen from two journals must also be questioned. These journals are in general pre-eminent in their field but they are by no means the only journals to publish studies in personnel selection. By selectively reviewing only studies that

appeared in these two journals, Guion and Gottier undoubtedly missed considerable research which may have significantly altered their conclusions. In addition, personnel selection research is often carried out by organizations "in house" and such research is seldom published (Campbell et al., 1970). A few of these research projects which have successfully used personality tests as predictors of job performance have recently come to this author's attention. They include the use of personality measures to predict performance in a wide variety of state civil service commission jobs (Cheloha, Colangelo, Landy, Massenber, & Vance, 1977) and to predict performance as a correctional officer or counselor (Kane & Chalmer, 1974). Other research projects of this type that are unpublished are discussed by Campbell et al. (1970). Guion and Gottier cannot of course be faulted for overlooking research that would be inaccessible to them. However, the fact that such research exists once again limits the generalizability of their conclusions.

Finally, Guion and Gottier did not take into account the potential contribution made by personality measures to other predictors of job performance. Studies were chosen which considered personality as the sole predictor of performance criteria. Studies which used personality measures with a battery of other tests were not included in the review. Such studies would have been extremely important to the discussion since they would have demonstrated the increment in predictive validity provided by personality measures in a selection situation. Ignoring these studies substantially undervalues the true role of personality in predicting job performance. In general, then, Guion and Gottier set inappropriate criteria for choosing studies to be reviewed. On the one hand they ignored studies that (a) involved tests that were not used in

at least two other experiments, (b) used tests in a multiple predictor paradigm, or (c) did not appear in the two chosen journals or were unpublished. On the other hand, more than half the studies included in their review were clearly inappropriate for the purpose of examining the relationship between personality and job performance. All of these problems must be taken into consideration when evaluating their conclusions.

Another major difficulty with the Guion and Gottier review concerns the criterion used to determine the validity of the personality measures. In 88 (65%) of the studies reviewed the criterion was some form of performance rating. This method of employee performance appraisal is by far the most popular form of performance measurement used in industry (Blum & Naylor, 1968; Guion, 1965; Landy & Farr, 1980; Landy & Trumbo, 1980). Unfortunately, it is also the most unreliable due to its vulnerability to a number of rating errors or biases, most notably leniency errors, halo errors, and central tendency errors (Borman, 1977; Borman, Hough, & Dunnette, 1976; Landy & Farr, 1980; Landy & Trumbo, 1980). Although recently some effective methods have been developed to minimize these errors (e.g., Borman, 1975; Latham, Wexley, & Pursell, 1975), it is extremely unlikely that such methods were practiced in the period from which Guion and Gottier selected studies (1952-1963). One possible effect these errors would have on criterion measurement would be to restrict the range of possible scores and thereby attenuate any correlations with other (e.g., predictor) measures. However, any source of systematic error such as these rating errors must make their statistical relationship with other variables questionable. Thus, personality measures validated against error-prone performance ratings

would not be an accurate assessment of the true nature of the relationship. The importance of proper criterion assessment for the purposes of personnel selection will be discussed further, below, with reference to appropriate job analysis procedures.

A final problem with Guion and Gottier's conclusions concerns the validation strategies employed in the studies they review. A majority of these studies (77, or 57%) used concurrent validation procedures which Guion and Gottier rightly criticize as being unacceptable in personnel selection. Concurrent validation strategies likely underestimate the relationship between predictor and criterion measures because the sample of employees will not usually include people who are either less effective (and thus were not hired or have been fired) or more effective (and thus have been promoted). The result of such range restriction will attenuate the correlation with any predictor measures. Even if a significant validity coefficient is obtained, the interpretation is equivocal since test responses may just as likely be the result of current job behavior as they are the cause of them. However, the inappropriateness of concurrent validation as a research methodology cannot be used as evidence to reject the hypothesis that personality is related to job performance. Clearly the only conclusion that can be drawn from this situation is that the hypothesis has not been properly tested.

The preceding discussion has argued that a substantial number of problems severely limit the Guion and Gottier analysis of the validity of personality measures in personnel selection. The strategy for choosing studies to review likely overlooked a considerable number of relevant articles but included a large number that were irrelevant to the issue

under investigation. The criterion upon which personality measures were validated was in many cases faulty and the validation procedure itself inappropriate. Thus, Guion and Gottier's conclusions cannot be accepted as evidence that personality measures have no utility for personnel selection. Moreover, citing their review paper as grounds for dismissing the relationship between personality and job performance would appear to be unwarranted.

Criterion assessment and job analysis

Two of the most important and fundamental concerns in implementing a useful and valid employee selection program are developing an accurate job description through appropriate job analysis techniques, and concurrently, determining relevant performance criteria with which to validate the selection procedures (Dunnette, 1977; Fleishman, 1975; Freyd, 1923; Landy & Trumbo, 1980; McCormick, 1976; McCormick, DeNisi, & Shaw, 1979; Pearlman, 1980; Prien, 1977). The history of developing valid measures for personnel selection has been quite similar to that of test construction strategies in general (cf., Jackson, 1971) in that reliance on empirical procedures has been strongly criticized in favor of more rational and theoretically-based strategies (Freyd, 1923; McCormick et al., 1979). Critics of the empirical approach have argued that the choice of selection measures must be made on the basis of their conceptual and theoretical links to the job description and performance criteria (Fleishman, 1975). The effectiveness of such strategies will obviously depend upon the comprehensiveness of the job description and performance criteria and the accuracy of the job analysis procedures. Clearly, attempting to validate personnel selection practices strictly by

empirical procedures will be costly, inefficient, and in many cases will lead to conceptually ambiguous results. In addition, what is most problematic from the standpoint of researchers is that such procedures will lead to many blind alleys and inappropriate conclusions and generalizations regarding the utility of the class of prediction measures under consideration.

The problems with empirical personnel selection practices apply directly to a substantial number of studies in which personality measures were used in an attempt to predict job performance. Guion and Gottier (1965) note in their review that "custom built" measures fared considerably better than standard inventories in terms of their validity for personnel selection. Guion and Gottier suggest that this may be due to the "broadside" research approach used by those employing standard inventories whereas those using custom built measures showed greater deliberation in determining what would predict relevant performance criteria. Implicit in this suggestion is the similarity between broadside research and blind empiricism. Apparently, the reason a standard inventory was chosen as a selection device was the hope that one of the scales may turn out to be predictive. In contrast, those researchers who developed custom built measures apparently did so with a specific job description or set of performance criteria in mind. However, since custom built personality measures were used in a small minority of the studies reviewed by Guion and Gottier, their overall conclusions were based primarily on the results from empirical or broadside research. Thus, the failure of empirical selection procedures to find valid relationships between personality and job performance cannot be accepted as conclusive or generalizable beyond the measures in

question. What is called for is a test of these relationships based on a priori hypotheses generated by careful job analyses and consideration of relevant performance criteria.

Job analysis research is based on the assumption that jobs can be described objectively and the results used to infer important personal attributes for the job (Dunnette & Borman, 1979). Although a potential problem exists in inferring personal attributes for jobs, no methodology, statistical technique, or objective measurement has been found to replace rational judgment for this purpose (Dunnette, 1977). Moreover, these judgments have been shown to be highly reliable (Dunnette & Borman, 1979; McCormick, 1976; Theologus, Romashko, & Fleishman, 1970). Quite a few job analysis methods exist ranging from administering questionnaires and checklists, through various kinds of interviews and observational techniques, to actually participating in the work (Blum & Naylor, 1968). However, all of these methods appear to have about equal utility for personnel selection (Levine, Ash, & Bennett, 1980; Prien, 1977). Whichever job analysis procedure is used, two basic orientations or approaches may be followed and are often used simultaneously. The first is the job or task-oriented approach which yields a list of the actual behaviors and task requirements necessary for carrying out a job. This method is most useful for developing a work sample such as a performance test, job knowledge test, or job simulation. The second approach is worker-oriented and is based on an inferential judgment of the knowledge, skills, abilities, and personal attributes required by people in the job. This approach yields a job description that is most useful for suggesting which tests and measures should be used for predicting future job performance. Responses to these tests and measures are regarded as

"signs" (cf., Wernimont & Campbell, 1968) or indicators that an individual probably will show the behaviors and task proficiencies required in a job. The worker-oriented approach emphasizing human attribute requirements has been regarded as the most useful form of job description (McCormick, 1976; Pearlman, 1980), perhaps because a comprehensive list of specific behaviors and tasks is difficult to generate for so many jobs. It should be obvious from this discussion that whatever method of job analysis is undertaken, within the context of the worker-oriented approach to developing a job description, personality characteristics could logically be inferred as necessary for a given job. Measurement of these characteristics would be regarded as "signs" of probable job performance just as measurement of any other human attributes are regarded. Thus, a formal and broadly accepted methodology exists for hypothesizing which personality characteristics would be important for a given job. The fact that such hypothesizing has not often occurred, or has not been incorporated into the choice of appropriate selection measures, cannot be construed as evidence that personality has no utility for personnel selection or is not relevant to job performance.

Related to the need for a thorough job description with which to choose appropriate selection measures is the necessity of validating these measures against relevant performance criteria. The issue of relevance here cannot be understated. Even if performance criteria are psychometrically sound and reliable, and this requirement is essential for all forms of criterion measures (cf., Epstein, 1979, 1980; Fishbein & Ajzen, 1974; Landy & Trumbo, 1980), they must also reflect the key elements of a job and bear some logical relationship to the selection

measures. Criterion measures that are determined without due consideration of these factors will result in validation procedures that are futile and validity coefficients that are meaningless.

The issue of criterion relevance is extremely important to the discussion of the validity of personality measures for personnel selection. One must seriously question the appropriateness of measures of psychopathology for predicting critical aspects of job performance (cf., Hedlund, 1965). Many of the studies reviewed by Guion and Gottier similarly attempted to validate inappropriate tests with traditional criteria such as performance ratings. Guion and Gottier were cognizant of this problem and emphasized the need for a priori hypotheses regarding the relationship between predictor and criterion measures. They further argued that since personality measures are motivational, relevant performance criteria should be measures of approach or avoidance behavior such as turnover and absenteeism. However, in addition to the issue of relevance here is the need to recognize that almost all jobs involve multidimensional performance criteria (Fleishman, 1975; Ghiselli, 1956; Wernimont & Campbell, 1968). To choose one particular criterion that is perhaps not even the most relevant to a job and/or bears no theoretical relationship to the predictor measures will result in a very poor validation study. Such was the fate of many of the studies reviewed by Guion and Gottier.

Performance criteria have been defined broadly and include such variables as job attitudes, turnover, absenteeism, accidents, as well as actual behavior on the job (Brayfield & Crockett, 1955; Herzberg, Mausner, Peterson, & Chapwell, 1957). Furthermore, job attitudes and job performance may be dimensionalized into many components, some more

critical than others in terms of overall effectiveness of an employee. It may be that for some jobs some personality measures are best for predicting criteria such as absenteeism and turnover (Guion & Gottier, 1965). However, there is no a priori reason why these particular criteria would be the only ones relevant to personality. Clearly, the concern must be for choosing selection measures that are theoretically or rationally appropriate for predicting all relevant performance criteria. Such a concern was fundamental to the design of the present research.

Job satisfaction and job performance

A final word must be said on the role of job satisfaction as a performance criterion. Job satisfaction has long been a variable of interest to industrial psychologists (Herzberg et al., 1957; Locke, 1976; Vroom, 1964). For many years it was assumed that workers who were satisfied in their jobs would be motivated to perform at maximal levels (Herzberg et al., 1957). More recently, this view has been rejected (Locke, 1976), and the opposite relationship (i.e., successful performance causes satisfaction) has been suggested (Locke, 1970; Porter & Lawler, 1968). Although the nature of the relationship between job performance and job satisfaction is still somewhat in doubt, a more reliable relationship has been found between job satisfaction and criteria of absenteeism and turnover (Mobley, Horner, & Hollingsworth, 1978; Porter & Steers, 1973; Steers & Rhodes, 1978). Thus, whether job satisfaction is considered as a performance criterion by itself or as a moderator of other criteria (e.g., absenteeism and turnover), it must be an important concern for personnel administrators and researchers. If job satisfaction could be predicted in the selection process, this would

at least have favorable consequences in terms of absenteeism and turnover, if not for actual job performance. Hackman and Lawler (1971) have come to a similar conclusion in their discussion of employee reactions to job redesign projects. These authors note that job redesign has not generally proven effective in improving satisfaction and performance. Hackman and Lawler argue that to the extent that job redesign is not possible, the problem shifts to that of selection. In their own research they found that employees with higher order needs responded better to job redesign and were more likely to improve in job satisfaction and performance. Alternatively, they point out that if higher order needs, or any other individual difference measure, is related to some relevant performance criteria, this information should be incorporated into the selection process.

Recently significant relationships have been found between job satisfaction and measures of personality. Rohan (1970) reported that certain personality characteristics in a sample of managers were highly related to their job satisfaction. James and Jones (1980) found that needs for mental challenge, self-determination, and recognition were significantly correlated with satisfaction. Abdel-Halim (1980) and Cawsey, Reed, and Reddon (1982) have also reported significant relationships between measures of personality and job satisfaction.

Job satisfaction appears therefore to be an important consideration in the overall effectiveness of employees. The prediction of job satisfaction in the selection process would thus be advantageous (cf., Hackman & Lawler, 1971). Recent research suggests that personality measures may have some utility in the prediction of job satisfaction (e.g., Abdel-Halim, 1980; Cawsey et al., 1982; James & Jones, 1980;

Ronan, 1970). Consequently, in the present research job satisfaction was considered a relevant performance criterion and its relationship with measures of personality was assessed.

In sum, it must be concluded that Guion and Gottier's (1965) review of the literature on the validity of personality measures in personnel selection is severely limited and their conclusions have very little generalizability. The discussion has indicated a considerable number of problems with the design and methodology of studies investigating this issue. The implications for future research should be clear. In order to test the hypothesis that personality is related to some aspect of job performance, a job analysis must be used to determine essential performance criteria and to infer appropriate selection measures, some theoretical or rational procedure must be used to choose selection measures that are appropriate for the performance criteria, and the performance criteria must be multidimensional and relevant with respect to the key elements of the job.

Chapter Four

Personality Assessment in the Employment Interview

The discussion thus far has indicated that measures of personality are potentially capable of predicting behavioral criteria and that judgments of personality can be reliable and accurate given certain preconditions. It has also been argued that there is no generalizable evidence to suggest that personality measures are not predictive of job performance criteria and, on the contrary, on the basis of job analysis and criterion assessment procedures, there may be theoretical, rational, or practical reasons for assessing personality in the personnel selection process. The focus of the present research is on the assessment of applicant personality characteristics in the employment interview. There are several reasons for taking this particular perspective. First, the use of standard inventories may present considerable difficulties to the researcher investigating the relationship between personality and job performance. There are a limited number of inventories available that have acceptable levels of reliability and validity and are not confounded with response biases (Wiggins, 1973). This in turn limits the number of personality constructs that may be utilized for selection purposes and thus the probability must be low that these constructs will meet the varied requirements specified by job analysis and criterion assessment for an infinite number of jobs. On the other hand, any number of personality constructs may be stipulated by a job description for assessment in an interview, assuming of course that they are well defined, they have some psychological meaning, and they have some

behavioral representations (i.e., they should not be "constructs" such as nice guy, good worker, etc.). This is not to say that standard inventories should be abandoned altogether in personnel selection. If a job analysis clearly suggests the importance of a specific construct that is available from an existing well constructed instrument, then by all accounts this instrument should be employed. However, if the construct is not available from a good existing inventory the interview should be considered as an alternative method of assessment.

Other reasons for focusing on personality assessment in the employment interview are related to (1) the need to understand the reliability and validity of interview-based judgments of personality since the use of these judgments is explicitly advocated by interview practitioners, even though they offer no empirical support for such a practice, (2) the need for many organizations to develop alternative personnel selection procedures in the light of continuing criticisms of and legal restrictions on tests used for this purpose, and (3) the fact that despite broad criticism of the interview as a selection device, some recent research has suggested that it may show considerable utility for the assessment of applicant personality characteristics, but this potential requires further investigation. These three issues are essential to the rationale for the present research and thus are discussed in more detail below.

The purpose of the employment interview: The practitioners' perspective

As previously mentioned, the interview is the most widely used method of personnel selection (Bellows & Estep, 1954; Landy & Trumbo, 1980; Latham et al., 1980; Spriegel & James, 1958; Ulrich & Trumbo,

1965). However, it has also been the target of consistent and continuous criticism for failing to demonstrate adequate levels of reliability and validity and for being susceptible to a variety of judgmental errors and biases (Dunnette & Borman, 1979; Mayfield, 1964; Schmitt, 1976; Ulrich & Trumbo, 1965; Webster, 1964, 1982; Wright, 1969). It is not unreasonable then, to wonder what it is about the interview that is so appealing to personnel administrators. A review of the literature relevant to interview practitioners and personnel administrators reveals that from the perspective of these individuals the important function of the employment interview is that it provides information about an applicant that cannot be obtained from other selection procedures. Arvey and Campion (1982) reached this same conclusion based on a review of the recent interview research.

It should be noted at the outset of this discussion that no mystical properties are attributed to the interview by professional employment interviewers. The interview is not regarded as some magical process by which the best applicant for the job is somehow revealed. Nor is the interview considered to be so mysterious that it cannot be understood or evaluated. On the contrary, the interview is seen quite clearly as merely a measuring tool, and as such, its utility is evaluated by its ability to meet a simple test - it must predict future job behavior (Lopez, 1975). To do this there are numerous manuals and practitioners' guides suggesting quite explicitly the types of questions to ask an applicant in order to elicit responses relevant to the prediction of their future job performance (e.g., Black, 1970; Fear, 1978; Peskin, 1971). Problems with the reliability and validity of interview judgments are regarded by these manuals as due to inexperienced or unqualified

interviewers (Lopez, 1975), although this interpretation has not been empirically verified (Bernstein, Hakel, & Harlan, 1975). However, there may be a more parsimonious explanation for the problems with interviews that have been demonstrated by experimental research. Careful review of this research indicates that except for some recent exploratory studies (i.e., Jackson, Peacock, & Smith, 1980; Rothstein & Jackson, 1980), the primary function of the interview as stated by interview practitioners and personnel administrators has never been examined. Thus, although the variety of judgmental errors and biases uncovered by experimental research are undoubtedly prevalent in employment interviews, the applicant information being evaluated in almost all of this research is not what is recommended by those who are actively engaged in interviewing. In addition, Peskin (1971) has argued that efforts to validate interview judgments are misleading because employment interviewers are often required to make suboptimal decisions due to a variety of pressures to fill job vacancies such as manpower shortages, noncompetitive salary scales, poor company image, accelerated expansion and growth, and high turnover rates. While these issues may be troublesome to field research on the interview, the same problems would not affect laboratory research. What is clearly required, therefore, is a well controlled laboratory simulation that directly assesses the primary function of the interview as proposed by practitioners and those working in the personnel field.

What then is the main purpose of the employment interview?

Practitioners argue that tests and other methods of assessment determine what a person can do, but not what the person will do (Fear, 1978; Peskin, 1971). Most methods of employee selection attempt to predict the

probability of effective job performance with some measure of relevant ability, aptitude, and experience. However, these variables are not the only things that predict successful job performance (Lopez, 1975). There is general agreement among interview practitioners that there are certain job demands which, to be dealt with effectively, require specific traits of personality, motivation, and character (Black, 1970; Fear, 1978; Lopez, 1975; Peskin, 1971). These traits are regarded as being inaccessible to measurement by any means other than the employment interview. While this latter point is not necessarily true (i.e., a job description may specify traits that may be accessible to measurement by an existing standard inventory), there is no question that interviewers believe that it is true and moreover, they behave as if it were true.

It is important to note here as well, that interviewers are not using the term "traits" to refer to global socially desirable characteristics that might be judged as preferable for any job. While such judgments might be made in an interview, the primary concern is the differential evaluation of traits that are deemed important and even necessary for different job requirements. Lopez (1975), for example, is quite clear in this regard when he states that "no matter how socially desirable or undesirable a personal trait may be, it is of no significance unless it affects job performance" (p. 131). Peskin (1971) also refers to specific job-relevant personality traits that are predictive of performance criteria. He gives as an example "the applicant who strongly resents carelessness, who insists on perfection in himself and others, and who is methodical and meticulous in attention to detail (who) may be excellent at record keeping, report work, meeting deadlines, and maintaining documentation" (p. 236). Many other examples

of this type are given in the interview practitioner literature. It seems clear from this literature that interviewers regard personality traits in much the same way as psychologists. Whereas psychologists generally regard traits as some type of predisposition which contributes to determining the probability of occurrence of a certain class of behaviors, interviewers are concerned with traits that predict the probability of a very specific class of behaviors, those that are relevant to job performance. In addition, interviewers are aware of the concept of trait covariation. Although they may use such terms as trait constellations (Fear, 1978) or the incidence of certain traits in certain types of applicants (Peskin, 1971), interviewers are nonetheless implying the concept of trait covariation. This becomes apparent in their discussions of the interrelationships among traits within people and how the presence of a number of related traits may be inferred from the observation of a single act of behavior or a statement made during the course of the interview (see Fear, pp. 142-157). This inference process is very functional for interviewers who, in a short period of time, must assess the characteristics of an applicant and judge their relevance for the job. Thus, it is not surprising that interviewers have developed their own implicit theories of personality to aid in the prediction of effective job performance. What is surprising is that these theories of trait inference, the assumed relationships between traits and job performance criteria, and the reliability and validity of interview-based judgments of personality have never been subjected to empirical test!

The need for the employment interview: Legal issues

Within the last ten years a "war" has been declared against the

testing industry by civil rights groups, labor unions, consumer rights advocates, and other concerned individuals. The so called "truth-in-testing" movement has resulted in state and national legislatures in the United States passing laws which require testing agencies of all kinds, including employers, to provide examinees, upon request, with a copy of the test items, the correct answers or scoring key, and the examinees' original answers (Sparks, 1980; Wicklund, 1980). These laws also stipulate stringent validity requirements for all tests in a selection situation, in addition to the requirement that they should have no adverse impact on disadvantaged minority groups (Lerner, 1980). In Canada, the laws have been far less specific but the effect of the legislation on the use of tests has been similar since many organizations cannot afford the bad publicity of a legal challenge even if they use tests with demonstrated validity.

Personnel selection practices, which since the First World War had become increasingly dependent on tests of various kinds to assist in choosing qualified job applicants, were especially hard hit by these new legal requisites. Organizations were suddenly faced with the prospect of developing new tests or validating their current ones for each individual job position. At the same time, however, the utility of their efforts to develop valid selection measures was severely jeopardized by the necessity of allowing job applicants to have access to the selection measures and scoring keys. Although some organizations have been able to skirt the latter requirement by arguing successfully to the courts that only qualified psychologists should have access to scoring keys and validation procedures, this has created additional problems. The courts accepted the argument that professional psychologists could be entrusted, in accordance

with their own ethical standards, to act as unbiased mediators between individuals and organizations. In this way psychologists could assure individuals that the selection tests were fair and valid without jeopardizing the further use of the tests by revealing the scoring procedure. However, it appears that psychologists, in their zeal for maintaining professional ethics, are rigidly enforcing the confidentiality of test results to the point where even managers in an organization are being refused access to them. (Roskind, 1980)!

What is most paradoxical about the truth-in-testing movement is that decisions that were once made on the basis of test scores are now being made on the basis of other assessment procedures which in many cases have even lesser degrees of reliability and validity and are probably less fair as well. This has resulted because although the Supreme Court has required stringent criterion validity for decision making based on test scores, it has approved face validity alone for decisions about the very same matters made on the basis of nontest assessment procedures (Lerner, 1980). Obviously, only the very largest organizations have the physical and financial resources to continually develop and validate tests for selection purposes. Most other organizations have responded to this situation in the only way open to them. By 1975 the Wall Street Journal reported that a major proportion of companies had phased out testing procedures and were now relying solely on the interview for making hiring decisions (Lancaster, 1975). Researchers have also reported increased emphasis on the interview because, quite simply, organizations are not willing to risk the possibility of being investigated by a government agency with the resultant publicity (Dunnette & Borman, 1979; Latham et al., 1980). Thus, with the growing use of the interview as a selection

device, there is an increasing need to develop reliable and valid decision making procedures for hiring personnel by this method. Since the evaluation of applicant personality traits has been explicitly advocated by interview practitioners, this must be an important focus of study for interview research.

The utility of the employment interview: The potential for personality assessment

Although the interview in general has not demonstrated adequate levels of reliability and validity as a selection device, there are a number of factors to which these research results may be attributed and some additional considerations that suggest some degree of optimism for the potential of the interview in employee selection. Two of the factors contributing to the poor results of interview research have previously been mentioned. These factors are, the focusing of much interview research on evaluating applicant characteristics which are not recommended for assessment by this method by interview practitioners, and the pressures put on employment interviewers to fill job vacancies which may require suboptimal decisions. Other problems with interview research may be attributed to the confounding of the predictive validity of the interview with the predictive validity of the overall selection decision which is based on a variety of information such as test scores, biographical data, letters of reference, and application blanks, as well as an interview. In addition, difficulties that have plagued field research on the interview have been interviewers' possible unfamiliarity with job-related activities, use of idiosyncratic judgmental standards, fallible criterion measures, and the undependability of estimates of

validity when criterion measures cannot be obtained on all applicants (Rothstein & Jackson, 1980).

All of these problems with investigating the interview have led many researchers to recommend that further work in this area emphasize the experimental analyses of the interview decision making process. It has been suggested, for example, that constructs be derived conceptually from job performance criteria and studied systematically in relation to constructs which can be either observed directly or reliably inferred from the interview (Dunnette, 1963; Guion, 1965, 1976). More recently, Dunnette and Borman (1979) recommended that experimental analyses of the interview would profit from attention to person perception literature in understanding how interviewers develop accurate perceptions of applicants. The experimental analysis of the interview has had considerable success in identifying critical issues in the decision making process (Rothstein & Jackson, 1980). Moreover, since experimental subjects appear to make judgments similar to those obtained from professional interviewers in terms of variability in judgments, interrater reliabilities, and main effects due to independent variables (Bernstein et al., 1975; Dunnette & Borman, 1979), the substantial amount of data generated from experimental studies of the interview has enabled researchers to make concrete practical suggestions for personnel interviewers (e.g., Schmitt, 1976). In addition, some recent examples of new developments in interview technology have resulted in selection decisions with very good levels of reliability and validity (Landy, 1976; Latham et al., 1980).

Since interviewers have expressed a need to evaluate applicant personality traits in the employment interview and since this function of the interview is apparently becoming more important to personnel selection

as EEOC guidelines restrict the use of tests, it would appear that this type of assessment is a prime subject for experimental study. Laboratory studies of personality assessment in a simulated employment interview may help to determine the parameters which affect the reliability and validity of judgments of this type. Moreover, such research benefits from the wealth of data accumulated from studies in person perception (cf., Dunnette & Borman, 1979). Recently, Rothstein and Jackson (1980) undertook a study of this type and the results suggested considerable potential utility of the employment interview for the accurate assessment of applicant personality characteristics.

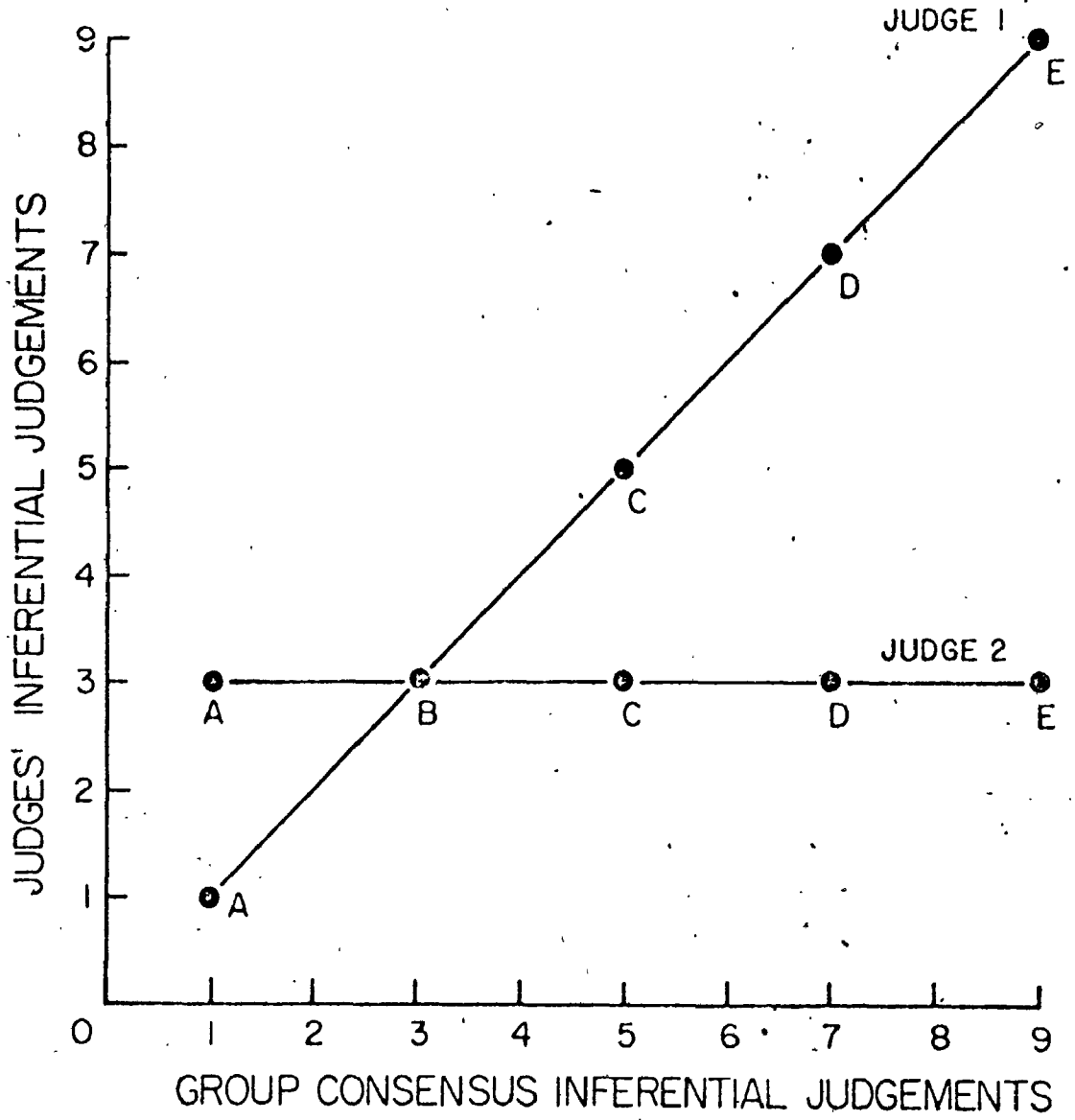
Rothstein and Jackson used the inferential accuracy model of social perception (Jackson, 1972) in a simulated employment interview to investigate how interviewers may perceive and evaluate the personality characteristics of job applicants for two specific jobs. Inferential accuracy is defined in terms of a person's (e.g., interviewer's) ability, given limited information about a target person (e.g., job applicant), to judge other pertinent characteristics about that person correctly and to identify behavioral exemplars as part of a pattern of behavioral consistencies. The model postulates that two distinct processes underlie conceptions of behavioral covariation, and that individuals vary with respect to these processes. The first process, sensitivity, refers to individual differences in terms of awareness of the shared implicit network of behavioral consistencies. The second process, threshold, refers to individual differences in terms of readiness to attribute behaviors to others based on the implicative relations among behaviors.

Sensitivity is estimated by the correlation between an individual's judgments of the inferential relations between behaviors with regard to a

target and some criterion that also assesses the target's characteristics. The criterion most often employed, if the target's self-reported characteristics are unavailable, is the group consensus regarding the order of behaviors within the target person, since the consensus of a large number of judges has been shown to relate to actual behavior covariation (Jackson, Chan, & Stricker, 1979; Lay, Burron, & Jackson, 1973; Lay & Jackson, 1969; Reed & Jackson, 1975). Thus, in Figure 1 the judged average scale scores for a given target are: Scale A - 1.0, Scale B - 3.0, Scale C - 5.0, Scale D - 7.0, and Scale E - 9.0. Judge 1 has rated the target in this example with scale scores of 1.0, 3.0, 5.0, 7.0, and 9.0 and Judge 2 has given ratings of 3.0 for each scale. Since Judge 1 mirrors the group consensus exactly, this judge would be highly sensitive to the consensus regarding the behavior covariation in the target. Judge 2, however, appears to pattern the ratings independently of the group consensus, thus providing evidence of lack of sensitivity.

Threshold is estimated by the average rating given targets by each judge. Because a low mean rating indicates a reluctance to attribute behaviors, however, the mean value must be reflected around the midpoint of the 9-point scale used to make the ratings so that the magnitude of the resulting threshold estimate will be consistent with the definition of threshold. Thus in the example given above, Judge 1 is more willing to attribute behaviors to the target on Scales C, D, and E than Judge 2, and therefore Judge 1 has a lower threshold for attributing behaviors related to these scales. Similarly both judges have an equal threshold for behaviors related to Scale B, and Judge 1 has a higher threshold for behaviors related to Scale A.

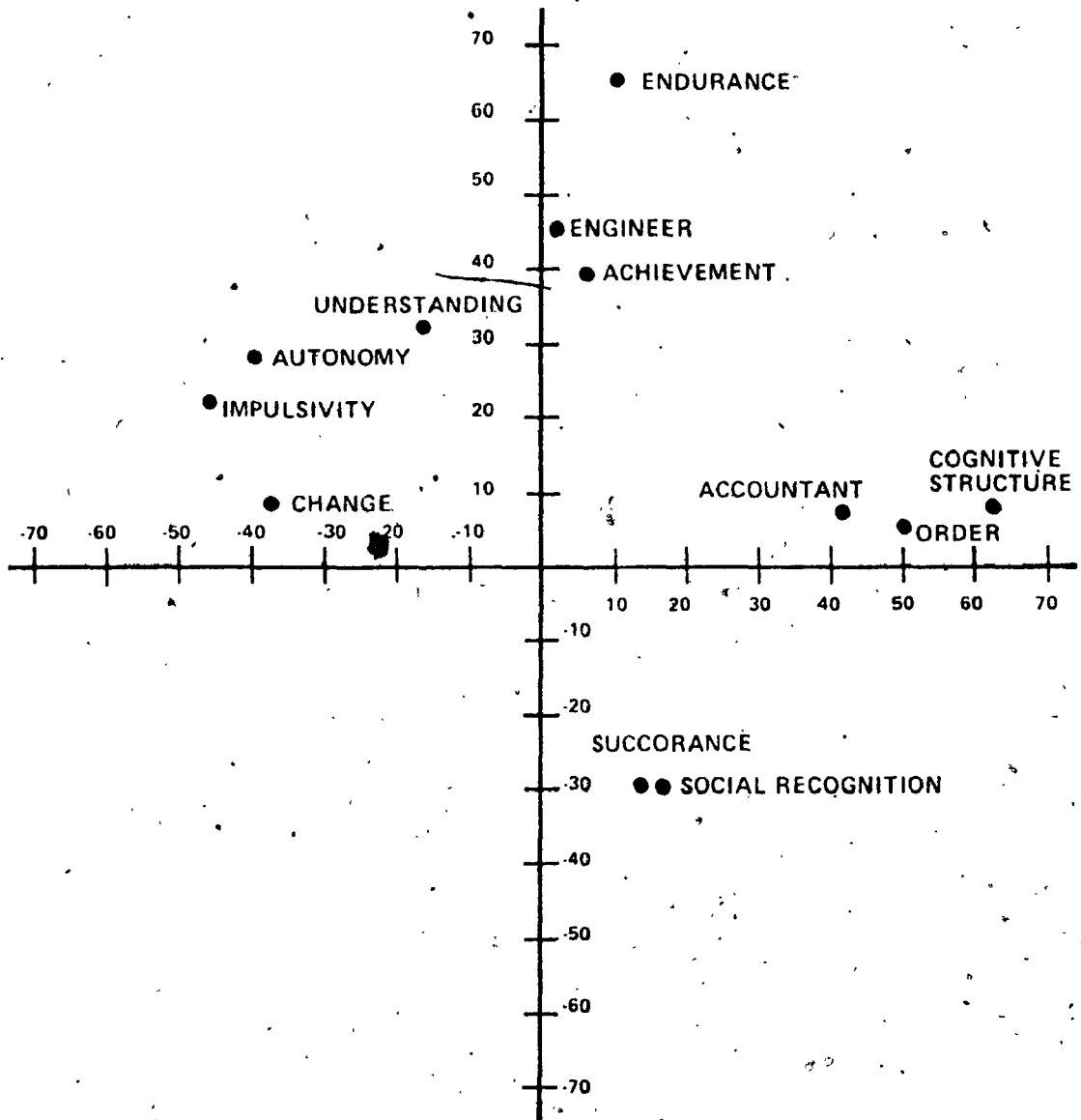
Figure 1. Inferential judgments of two hypothetical judges differing in sensitivity on five traits, A-E.



In the Rothstein and Jackson experiment subjects were asked to role play an employment interviewer seeking to hire either an engineer or an accountant. The job description given to subjects was either the job label (engineer or accountant) or the job label plus a short description of the type of person stated to be well suited for that job. These descriptions were based on the definitions of the personality traits used to create the target applicants (described below). Subjects were asked to listen to excerpts from a (simulated) employment interview and then to make several decisions about the suitability of the applicant for the job for which he was ostensibly being interviewed. In addition, subjects were instructed to estimate, on the basis of what they had learned about the applicant they had heard being interviewed on the audiotape, the likelihood that the applicant would respond "true" to a number of self-referent personality statements taken from a modified form of the Personality Research Form (Jackson, 1974). These judgments were used to obtain sensitivity and threshold levels for each subject and to determine the reliability and accuracy of the subjects' perceptions of the applicants' personality characteristics.

The applicant characteristics used as the object of the subjects' social perceptions were a number of self-referent statements made during the course of the interview. These statements were created from the definitions of specified scales of the Personality Research Form (PRF) and were chosen on the basis of an earlier empirical study (Siess & Jackson, 1970). Siess and Jackson factor analyzed the PRF and the Strong Vocational Interest Blank (SVIB) and identified seven bipolar dimensions representing common variance underlying vocational interests and personality. Two of these dimensions (illustrated in Figure 2) were

Figure 2. Factor plot of dimensions derived from a multi-method factor analysis of the PRF and SVIB (Siess and Jackson, 1970). Factor I - Technically Oriented Achievement and Factor III - Impulse Control versus Expression.



characterized by the occupational interest scales for engineer and accountant. The PRF scales which also loaded highly on these dimensions were used to create the two target applicants that were evaluated in the interview. While it was recognized that this personality information may lack criterion validity for the occupations of engineer and accountant, this was not problematic for the main purposes of the Rothstein and Jackson experiment. The stated purpose of that study was to investigate the process by which interviewers form an impression of a job applicant and thus the empirical validity of the particular personality traits for predicting job performance was not an issue at this time. In sum, Rothstein and Jackson systematically varied the job applicant target (i.e., the personality traits congruent with the occupational interest scales for engineer and accountant), the job for which the applicant was presumed applying (engineer vs. accountant), and the amount of job information given to subjects. The purpose of the experiment was to investigate the potential of the interview for evaluating accurately the personality characteristics of job applicants.

The results of this experiment strongly suggested considerable potential utility for reliable and accurate assessment of applicant personality characteristics in the employment interview. To determine the reliability of the personality judgments, subjects generated a profile of judged scale scores for the particular applicant target that they were evaluating. Subjects were randomly split into two groups for each applicant target and judgmental profiles for each group were intercorrelated. Table 1 indicates that the split-half interrater reliability coefficients were .99 for both targets. In order to determine whether these extremely high reliabilities for judgments of

Table 1

Correlations among Judgmental Profiles and Desirability Scale Scores

	Engineer Target Group 1	Engineer Target Group 2	Accountant Target Group 1	Accountant Target Group 2	Desira- bility Scale Scores
Engineer Target Group 1		<u>.99</u>	.44	.45	.24
Engineer Target Group 2			.48	.49	.27
Accountant Target Group 1				<u>.99</u>	.25
Accountant Target Group 2					.28

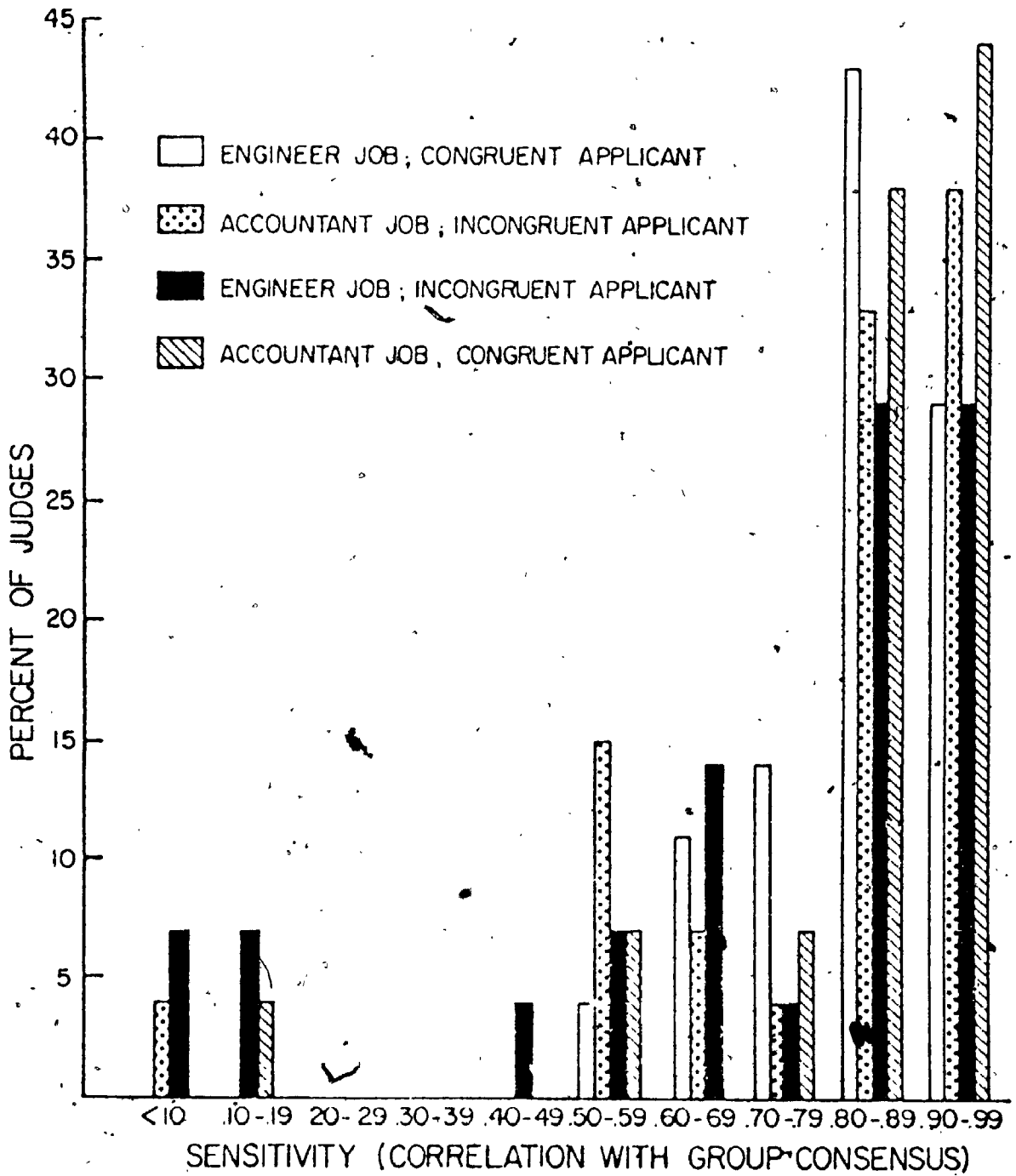
personality were perhaps confounded with some type of global desirability judgment, the judgmental profiles for each group were also correlated with a vector of desirability scale scores for each scale of the PRF (Jackson, 1974, p. 12) and the results are also shown in Table 1. The desirability stereotype interpretation was clearly not substantiated. The two profiles generated for each target were relatively uncorrelated compared to the intratarget correlations, indicating that the two profiles were perceived as substantively unique and not based on global desirability judgments. In addition, neither profile correlated to any great degree with the desirability scale scores. In fact, when desirability was partialled out of the reliability coefficients, they both remained at .99.

Another index of the reliability of the personality judgments in this experiment may be illustrated with the analysis of sensitivity scores. Figure 3 illustrates the frequency distributions of sensitivity scores for the four conditions in which subjects were exposed to a common target and common instructions. The large number of subjects with high sensitivity scores indicates that a majority were highly aware of and able to use in their judgments the consensus regarding the covariation of behaviors relevant to these target applicants, although the presence of some low scores indicates that there were a few individuals who made quite different judgments from those of the group consensus.

In addition to the reliability of the personality judgments in the Rothstein and Jackson experiment, the accuracy of the judgments was an important question. Accuracy was determined by the analysis of threshold scores which were calculated for each subject by averaging their rating on items for each scale of the PRF. Averaged over subjects the mean



Figure 3. Frequency distributions of sensitivity for each condition, as estimated by the correlation between group consensus judgments and an individual's judgments of the likelihood that targets would manifest certain behaviors.



threshold levels for each target are shown in Table 2. These average thresholds reflect the degree to which behaviors underlying each scale were attributed to targets. The analysis clearly indicated that subjects differentially attributed behaviors to the two target applicants. For each of the marker scales from which information was extracted to create a target, subjects attributed significantly different behaviors to the appropriate target. Moreover, the pattern of these attributions accurately reflected the information given in the audiotape of the simulated interview. Another very important aspect of these attributions, which reveals the extensiveness of the subjects' knowledge of the implicative relations among behaviors in the targets, is also illustrated in Table 2. The direction of the differences between the original PRF factor loadings obtained by Siess and Jackson (1970) for the two dimensions highlighted by the Engineer and Accountant scales of the SVIB is identical to the direction of the differences between the mean threshold levels obtained by subjects for the two targets. This is the case for all of the PRF scales in which the mean threshold levels were significantly different, even though five of these scales were not marker scales for either target. Thus, subjects not only accurately judged the salient personality characteristics of the applicants, but in addition were able to make use of their implicit conceptions of behavioral covariation to attribute a further pattern of characteristics present in the applicants which accurately matched the empirical covariation of these characteristics found by Siess and Jackson.

A further indication of the potential utility of the employment interview for assessing applicant personality characteristics was found in the analysis of the subjects' judgments of the suitability of the

Table 2
 Comparison of Mean Threshold Levels Obtained in
 Social Perception Task with Factor Loadings
 Obtained Empirically by Siess and Jackson

	Mean Threshold Levels		Significance of t-tests between mean threshold levels	Siess and Jackson Factor Loadings	
	Engineer Target	Accountant Target		Technically-oriented achievement	Impulse controls:
Abasement	3.89	4.23	n.s.	.05	-.16
Achievement ¹	7.35	6.47	.0001	.39	.06
Affiliation	3.98	4.47	.03	-.13	.14
Aggression	5.13	4.79	n.s.	.00	.03
Autonomy ²	6.45	4.38	.0001	.28	-.40
Change ²	6.15	3.15	.0001	.08	.38
Cognitive Structure ²	5.89	7.44	.0001	.08	.62
Defence	5.15	5.38	n.s.	-.16	-.09
Dominance	5.93	4.80	.0001	.03	-.04
Endurance ¹	6.98	6.33	.004	.65	.10
Exhibition	4.96	3.87	.0001	-.19	-.32
Harmavoidance	4.68	6.95	.0001	-.18	.12
Impulsivity ²	3.30	2.51	.001	.22	-.46
Nurturance	3.75	4.39	.001	.04	.07
Order ²	6.69	7.63	.0001	.05	.50
Play	3.68	3.26	n.s.	.01	.04
Sentience	4.38	4.63	n.s.	-.04	-.02
Social Recognition ¹	3.01	5.62	.0001	-.30	.16
Succorance ¹	3.05	4.90	.0001	-.30	.14
Understanding ¹	6.73	5.27	.0001	.32	-.17
Engineer	--	--	--	.45	.02
Accountant	--	--	--	.07	.41

¹ Marker scales for Engineer Target

² Marker scales for Accountant Target

applicant for the job for which he was being interviewed. A multivariate analysis of variance of these suitability judgments resulted in a significant multivariate F only for the Applicant Target x Job Category, $F(4, 99) = 11.38, p < .00001$, and the Applicant Target x Job Category x Amount of Job Information, $F(4, 99) = 3.69, p < .01$, interactions. Subsequent univariate F tests on these interactions for each dependent measure are summarized in Table 3.

Figure 4 illustrates the mean differences between conditions in the Applicant Target x Job Category interaction on the three significant dependent measures. This figure indicates that when subjects were instructed to evaluate the applicant they had heard on the interview tape for a job as an engineer (or accountant) and the target applicant displayed personality characteristics that, on the basis of earlier factor analytic findings, were expected to be congruent with the occupation, they rated the target as more suitable, more likely to be satisfied with his work, and more likely to be hired than when the target displayed personality characteristics expected to be incongruent with the occupation. These mean differences were all significant at the .05 level or better.

The pattern of mean differences for the Applicant Target x Job Category x Amount of Job Information interaction is illustrated in Figure 5. This figure demonstrates that subjects rated the target whose personality characteristics were expected to be congruent with the occupation higher on all three dependent measures when they were given more detailed criterion information regarding a suitable applicant. These results are consistent with other interview research which has reported significant increases in the reliability of

Table 3
Analyses of Variance of Suitability Decisions

Dependent Measure	Applicant Target x Job Category			Applicant Target x Job Category x Amount, of Job Information			Total ω^2
	F	p	ω^2	F	p	ω^2	
Suitability	25.70	.001	.37	7.65	.01	.20	.57
Hiring decision	17.77	.001	.31	6.40	.01	.20	.51
Certainty of Decision		n.s.			n.s.		
Satisfaction of applicant	41.85	.001	.48	7.10	.01	.14	.62

Note: In all cases the degrees of freedom equal 1 and .80. All other main effects and interactions were nonsignificant.

Figure 4. Mean selection decisions in the Applicant Target x Job
Category x Amount of Job Information interaction.

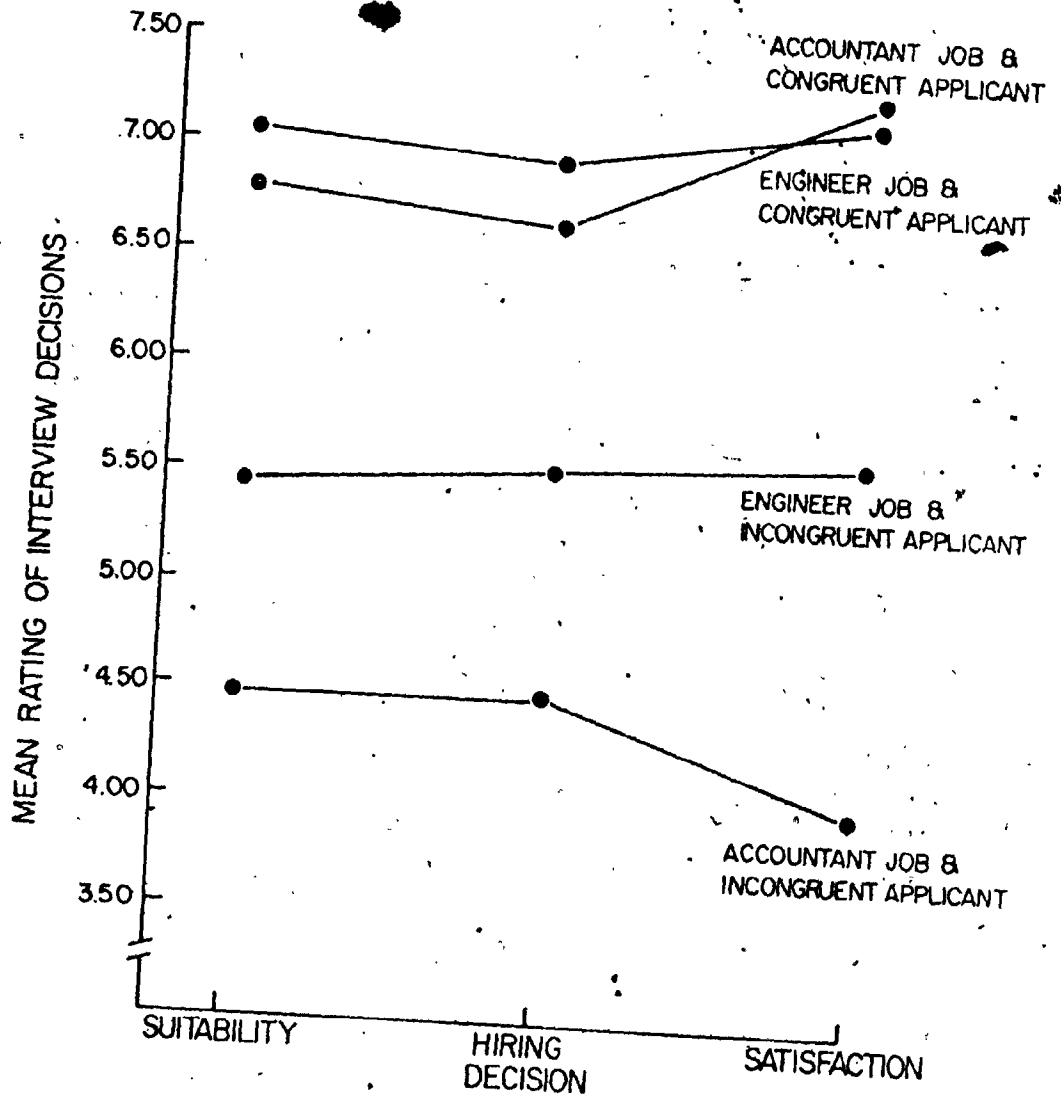
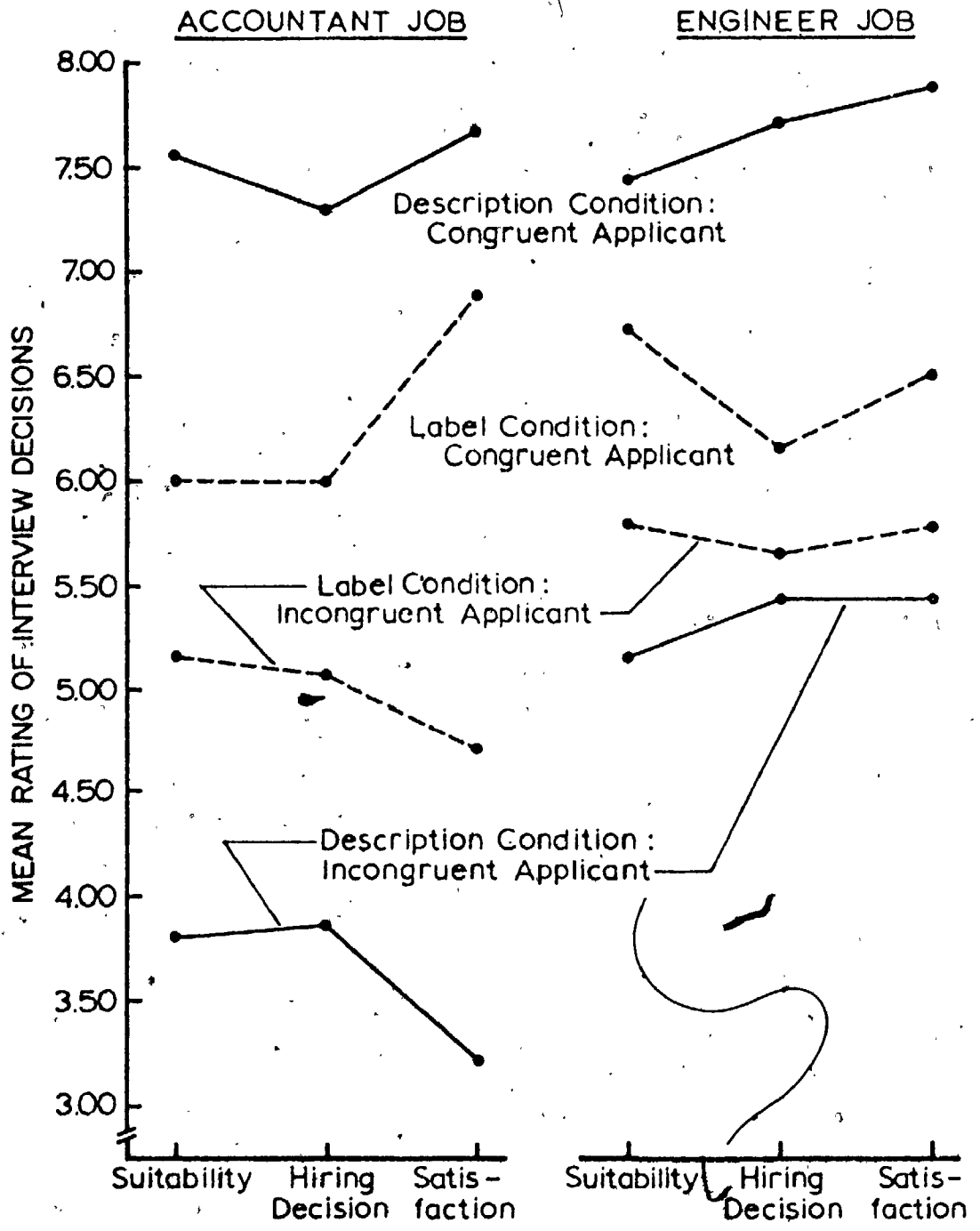


Figure 5. Mean selection decisions in the Applicant Target x Job
Category x Amount of Job Information interaction.



interviewers' judgments about an applicant as more relevant job information is made available (e.g., Langdale & Weitz, 1973; Peters & Terborg, 1975; Weiner & Schneiderman, 1974).

In sum, Rothstein and Jackson (1980) demonstrated in a simulated interview that judgments with regard to the personality characteristics of two target job applicants were highly reliable, were not based on a global desirability stereotype, and were substantively unique to each target. A majority of subjects were highly aware of and able to use in their judgments the consensus regarding the covariation of behaviors relevant to the two applicants, although some subjects were clearly identified as being less aware of this consensus. Subjects attributed a pattern of perceived and inferred personality characteristics to the applicants which accurately reflected the brief information subjects could distill from the audio recording of the interview and closely matched the empirical covariation of these traits found by Siess and Jackson (1970). Finally, subjects were clearly able to accurately judge the suitability of a job applicant for the job in question, especially when the job description was "worker oriented" (cf., Landy & Trumbo, 1980) and included personality traits regarded as important for the job.

These results have important implications for both theoretical and applied issues in psychology. Theoretically, they provide additional empirical confirmation for Jackson's (1982) contention that when certain necessary preconditions are present, accuracy in person perception will be demonstrated. The data also suggest that the employment interview may indeed have potential for the assessment of applicant personality characteristics, as has been persistently stated by professional interviewers and personnel managers. However, there are several

limitations to the Rothstein and Jackson (1980) study which require further investigation before this potential may be fully realized. The most important issue requiring further research is the criterion validity of the interviewers' judgments of applicant personality. It is not enough to demonstrate that interviewers may, under certain conditions, accurately perceive the characteristics of job applicants. The important assumption made by interviewers, that they can predict relevant aspects of job performance from these judgments of personality, has yet to be demonstrated. A second important issue to be resolved is the role of the job description in the selection process. Rothstein and Jackson used a worker-oriented job description to assist subjects in determining which characteristics to look for in applicants. As Figure 5 clearly indicated, this description was a major determinant of subjects' suitability judgments. However, desirable personality characteristics are rarely included in standard job descriptions (Latham et al., 1980), and in fact this is undoubtedly a major factor behind interviewers' idiosyncratic notions about what is desirable in an applicant for a particular job. If relevant personality characteristics were considered in standard job analysis procedures and included in the resulting job description, interviewers' judgments of these characteristics could be standardized. However, at present, decisions about the relevancy of personality traits are generally made on the basis of evaluating the available job description which may be either task- or worker-oriented, or both, but the latter would only involve characteristics such as age, I.Q., experience, etc. Thus, interviewers must infer relevant personality traits for the job on the basis of a job description that was certainly not intended for such a purpose. This process must be the

source of many errors. For example, in a recent review Arvey and Campion (1982) indicated that linking job analysis and interview content can improve interviewer reliability and validity. An important question for further research therefore, is the role of a task-oriented versus a worker-oriented (including personality) job description in the subsequent appraisal of job candidates. A third issue worthy of further investigation is to attempt to identify an individual difference variable which may correlate with the measures of sensitivity and threshold and thus be useful in helping to understand why individuals differ in their ability to judge the covariation of behaviors in others and their willingness to attribute behaviors to others. Such knowledge would have great utility for selecting and training employment interviewers. The further investigation of all of these issues would provide additional vital information regarding the potential of the interview for assessing applicant personality characteristics and would contribute considerably to the understanding of the relationships between personality traits and behavioral criteria as well as the perception of these relationships. These concerns are at the present time the focus of interest of both experimental and applied researchers. Furthermore, the fact that interview practitioners may benefit from the results of this research underscores the potential utility of resolving these issues.

Chapter Five

Research Problem, Design, and Hypotheses

Three major questions are addressed in the present research. First, what is the basis for validity of predicting job-related task performance from interview based judgments of applicant personality characteristics? Second, what effect does job description information have on interviewers' judgments of applicant characteristics and in particular, on judgments of the suitability of these characteristics for the demands of the job tasks? Third, given that measures of sensitivity and threshold have been found to be useful in identifying individuals who are relatively more accurate in perceiving and inferring the personality traits of others (Rothstein & Jackson, 1980), how do these individual difference measures compare with other potential measures of accuracy in person perception?

The first question was investigated by examining intermediate criterion data from job related performance tasks given to subjects chosen on the basis of their position on a specific dimension of modal personality characteristics. This criterion data was then compared to judgments made on the same criteria obtained from an interview simulation. The second and third questions were addressed in an employment interview simulation. In this study, judgments of applicant personality traits and predictions of their future job-related task performance were obtained from subjects who had been assessed with respect to an individual difference measure (self-monitoring) which has recently been theoretically linked to accuracy in person perception (Snyder & Cantor, 1980). The applicant personality traits were specified

by the dimension of modal personality characteristics obtained empirically in study two and used to select individuals for purposes of obtaining measures of criterion performance. Thus, the judgments of future task performance made on the basis of evaluating the applicant's personality traits may be compared with the actual criterion performance of individuals with these same personality traits in order to estimate the potential validity of this practice.

Study one: The prediction of job-related task performance from interview based judgments of personality

The primary purpose of this study was to determine how accurately subjects, acting in the role of an employment interviewer, could predict the job-related task performance of applicants in a simulated interview on the basis of their perceived personality characteristics. Of secondary interest was the role of the job description in assisting interviewers to judge the suitability of an applicant for a particular job. A third purpose was to examine individual differences in accuracy in judging the personality characteristics of specified targets.

The rationale for studying the prediction of job-related task performance from impressions of personality is straightforward and has been discussed thoroughly in Chapter Four. Essentially, personnel managers and professional interviewers have long argued that such prediction is a vital component of the employment interview, even though they have offered no empirical support for the validity of this practice. With increasing practical and legal limitations on the use of tests, the purposes of the interview require close examination. Finally, a recent

experiment by Rothstein and Jackson (1980) has suggested that personality characteristics may be judged accurately in an employment interview but the validity of these judgments for predicting relevant job performance criteria is the critical issue and is the focus of the present research. The current study examined the validity question in the context of a controlled laboratory experiment. The reasons for this are directly related to the considerable number of methodological problems with field research on the employment interview which were discussed in Chapter Four. Thus, while the particular selection and performance criteria used in the present study may not necessarily have criterion validity for specific jobs, the investigation of these issues in a controlled laboratory setting allow for more confidence in the results and a much more thorough testing of the major hypotheses.

The need to understand better how a job description aids interviewers in judging the suitability of an applicant's characteristics for the demands of a particular job is suggested by the results of the earlier investigation by Rothstein and Jackson (1980). In that experiment a worker-oriented job description focusing on personality characteristics stated to be well suited for the job was a major determinant of subjects' suitability judgments. However, it has been noted (e.g., Latham et al., 1980) that personality characteristics are rarely included in standard job descriptions. If this is generally the case, then clearly interviewers must rely on their idiosyncratic beliefs regarding which personality characteristics would be suited for the job. The source of these beliefs, which are explicitly stated as being of major importance in making interview decisions (e.g., Black, 1970; Fear,

1978; Lopez, 1975; Peskin, 1971), must derive to a great extent out of inferences made from the available job description. Such an inference process is undoubtedly the source of many judgmental errors and unreliability in the employment interview. In the present experiment subjects are given either a worker-oriented job description (involving personality characteristics stated to be suited for the job) or a task-oriented job description which is a standard description of job activities taken from the Dictionary of Occupational Titles (U.S. Department of Labor, 1977). Thus, the accuracy of subjects' judgments of applicant suitability may be compared when these judgments are made on the basis of a worker-oriented versus a task-oriented job description. Since task-oriented job descriptions are the norm in personnel selection, it will be of interest to determine their utility in an interview context when the evaluation of applicant personality characteristics is of major importance. Presumably, however, a worker-oriented job description would be more useful to an interviewer since a direct comparison between traits in the job description and traits observed in an applicant should be easier and more accurate than having to infer the requisite traits from a task-oriented job description.

A third issue to be investigated in the present research is whether a recently formulated individual difference variable, self-monitoring (Snyder, 1974), may be helpful for understanding why some individuals are more accurate in judging the personality traits of others. Individual differences in accuracy of judging personality has long been a focus of study in psychology and reviews of this research (e.g., Schneider, Hastorf, & Ellsworth, 1979; Taft, 1955) and recent investigations (e.g., Borman, 1979) have consistently failed to find support for the existence

of a general ability to perceive others accurately. However, recently Snyder and Cantor (1980) suggested that high self-monitors are more knowledgeable of other people, have richer and more accessible images of prototypic individuals, and are better able to report traits perceived in others. It is worthwhile therefore, in the context of research examining individual differences in accuracy of person perception, to further investigate the utility of self-monitoring for identifying individuals who may be more accurate in their judgments of trait covariation in others. As described in Chapter Four, measures of sensitivity and threshold are derived from subjects' judgments of a target's personality item endorsement. These measures are useful for identifying individual differences in awareness of the covariation of behaviors in a target. However, both measures are derived empirically and do not provide a substantively based theoretical interpretation of why some subjects are more accurate than others. Such an interpretation would be very beneficial, not only for the advancement of scientific knowledge, but also for practical purposes of identifying and training better employment interviewers. Thus, since self-monitoring is a theoretically derived personality variable as well as a purported index of accuracy in person perception, and since the search for other variables that would correlate with accuracy has so far been unsuccessful, the examination of self-monitoring in the present study was thought to be a useful endeavor.

Self-monitoring is defined as a concern with the processes by which individuals actively plan, enact, and guide their behavioral choices in social situations (Snyder, 1979). Accordingly, individuals differ in the extent to which they rely on situational information (high self-monitors) or information about inner states, dispositions, and attitudes (low

self-monitors) to guide their actions in social contexts (Snyder, 1974). The empirical literature on self-monitoring suggests that there may be a relationship between self-monitoring and knowledge of other people (Snyder & Cantor, 1980). For example, high self-monitors have been shown to be more attentive to cues in social situations (Snyder, 1974), more likely to notice and accurately remember information about a person (Berscheid, Graziano, Monson, & Dermer, 1976), and more skilled at interpreting the nonverbal expressive behavior of other individuals and inferring correctly their affective experience and emotional states (Geizer, Rarick, & Soldow, 1977; Krauss, Geller, & Olson, 1976). Most recently, high self-monitors were shown to have richer and more accessible images of the types of individuals who are prototypic examples of a wide variety of trait domains (Snyder & Cantor, 1980). Thus, if high self-monitors are generally more knowledgeable of other people because of their disposition to rely more on situational and social information, it may be that they would be more aware of the patterns of trait covariation in other people as well. If so, they would be more accurate judges of the personality characteristics of targets and for an employment interviewer, this would be a valuable asset. In the present research, subjects were given the Self-Monitoring Scale (Snyder, 1973) and their scores were correlated with the measures of sensitivity and threshold to determine if self-monitoring may be an explanatory construct for accuracy in inferring patterns of trait covariation in other people.

The basic design of study one therefore, was a completely randomized 3 x 2 x 2 factorial. The major independent variables were (a) job applicant target (the target of the subjects' social perceptions and inferential judgments), (b) job description, and (c) job category (the

job for which the applicant was applying). The job category was either an accounting/bookkeeping job or an advertising copy writer job. The job description was either worker oriented or task oriented. The job applicant target was either an accounting type, an advertising type, or a third "scientist" type drawn from another dimension of personality traits. The derivation and rationale for using those particular independent variables are described in Chapter 6. The completely randomized design with different subjects in each cell ensured that there was no confound due to contrast effects.

The specific hypotheses examined in the present study were as follows:

- (1) Job applicant types should be rated more suitable for the congruent job category than the incongruent job category, and the unrelated type should be rated somewhere in between.
- (2) Ratings of suitability should be more accurate in terms of the congruence between the applicant and the job category when the job description is worker oriented as opposed to task oriented, since the worker oriented job description is more easily and directly comparable with the observed applicant traits whereas the task oriented job description first requires an intermediate inference.
- (3) Ratings of the quality of future job performance should be greater when the applicant type and job category is congruent, especially when the job description is worker oriented. The potential for validity of these ratings will be assessed by their congruence with the performance criteria obtained in study two.

- (4) High self-monitors should be more accurate in their personality judgments of the applicants than low self-monitors.

Study two: The relationship between personality and work sample task performance

The most reliable and thorough method of investigating the relationship between personality and job performance is by means of a well controlled laboratory experiment. Although such a method may somewhat limit the generalizability of the results, they will probably be no more limited than they would be if they were obtained from a case study of a particular organization or occupation. In addition, severe methodological problems preclude a random selection of organizations and jobs for purposes of studying this relationship. In order to obtain a sample large enough for reliable statistical analysis, subjects would have to be chosen from a number of organizations and it would be very difficult to control for differences in their actual job tasks. Subjects may also be at various stages of their career development, even though they are in the same job category. This would result in some subjects being assessed who had just entered the job and may not have had time to reach their maximum level of performance or they may not be suited for the job and would soon leave. Subjects may also be in the job for reasons other than the selection criteria (e.g., being transferred from another department due to a manpower shortage, being promoted there on the basis of past performance which may not necessarily be predictive of performance in the current position, etc.). Nonstandard job analysis procedures may suggest different suitable personality traits for the same job in different organizations. Different organizations may also use

different performance criteria and the measurement of these criteria has historically been plagued with difficulties (e.g., Landy & Farr, 1980). All of these problems clearly indicate that the investigation of the relationship between personality and job performance may be carried out most efficiently by obtaining performance measures on job related tasks in a controlled laboratory experiment.

The choice of which personality characteristics to examine in relation to performance on some job related tasks was problematic but was determined by conceptual as well as empirical considerations. Recall that one of the dimensions derived from Siess and Jackson's (1970) factor analysis of the SVIB and the PRF was labeled Impulse Control versus Expression and was characterized by the personality traits of cognitive structure and order versus autonomy, change, and impulsivity. This cluster of interrelated personality characteristics has been reliably obtained in two other empirical studies (e.g., Bradfield, Jackson, & Rothstein, 1980; Rothstein & Rush, 1980). In addition, results from the Rothstein and Jackson (1980) experiment clearly indicated that subjects reliably inferred the covariation of these particular personality traits. Thus, it appears that this cluster of traits is a relatively stable dimension of human behavior and may be reliably used in further experimental investigations.

In the Siess and Jackson (1970) study, the SVIB scales loading most highly on the positive pole of the Impulse Control versus Expression factor (with order and cognitive structure) were "accountant" and "office worker" and the SVIB scales loading most highly on the negative pole (with autonomy, change, and impulsivity) were "advertising man" and "author-journalist." Similarly, Bradfield, Jackson, and Rothstein (1980)

and Rothstein and Rush (1980) factored the Jackson Vocational Interest Survey (JVIS) and the PRF and identified two other JVIS scales characterizing the otherwise familiar dimension, "planfulness" on the positive pole and "performing arts" on the negative pole (there is no "advertising" scale on the JVIS). The empirical covariation of these occupational interests and personality traits is further substantiated by conceptual analysis. Individuals with strong needs for being neat and organized, who are precise and exacting in their work methods, who prefer to deal with information that is not ambiguous or uncertain, and who favor work environments in which activities are expected, are quite likely to be attracted to and satisfied with jobs involving office work, bookkeeping, and accounting tasks. It may also be expected that these individuals will be motivated to do better on selected performance criteria than individuals with other patterns of needs and interests. This assumption has been made quite explicitly by employment interviewers (e.g., Peskin, 1971). Similarly, individuals with strong needs for working autonomously, who prefer new and different experiences and dislike and avoid routine, who give vent readily to feelings and thoughts, and who have an interest in creative and original writing, especially for the appreciation of an audience, are quite likely to be attracted to and satisfied with the work of an advertising copy writer. This type of individual may be expected to perform better at this job as well. Weilbacher (1979) has described the successful advertising copy writer as a person who is adept at verbal expression and creative writing, both for effect and for entertainment value. Such a person is also "uninhibited and works impulsively, seeing new relationships between

persons, events, and things that have not been previously anticipated" (pp. 208-212).

On the basis of the empirical findings and conceptual analysis described above, Bradfield, Jackson, and Rothstein (1980) undertook a pilot study to examine the relationship between the personality characteristics defining the Impulse Control versus Expression dimension and performance on two job related activities, an accounting task and writing advertising copy. The rationale underlying the methodological paradigm for this study (and the present study as well) is based on the role of typologies in psychological research and the role of work samples in personnel selection. Although the Impulse Control versus Expression factor is not a true typology (i.e., it is a bipolar dimension in which individuals may be represented as points anywhere along it), individuals who fall at the extremes of this dimension may be regarded as types for several practical reasons. Experimental personality research frequently requires a representation of an idealized individual (an ideal type) who may be indicative of a broader class of people sharing common attributes (Jackson, 1978). A common set of predictions may then be made for this class of individuals or type, and differential predictions regarding behavioral criteria or the operation of psychological laws may be made across different types (Jackson, 1978; Lorr, 1966). Although an individual may not be a perfect representation of a single type and may be related to some degree to several, nevertheless one type is likely to be most similar to the individual's observed profile and will be most descriptive of him or her. The goal of developing these typologies is "to reduce the apparently chaotic diversity of individual profiles to a manageable system involving relatively few modal profiles" (Jackson,

1978, p. 87). Thus, in the present research, individuals varying along the Impulse Control versus Expression dimension may be regarded as representative of two types (for descriptive purposes they may be labeled an "accounting type" and an "advertising type"), and the question to be investigated is whether membership in these types is differentially predictive of behavioral criteria related to job performance.

Work samples have played an important role in personnel selection for many years (Asher & Sciarrino, 1974) with the most famous use of this procedure occurring during the Second World War when the Office of Strategic Services (OSS) relied heavily on this method for selecting individuals for purposes of espionage, sabotage, and other subversive activities (OSS Assessment Staff, 1948). However, it was not until Wernimont and Campbell (1968) distinguished between signs and samples as predictors of job performance criteria that the work sampling procedure became conceptually clarified. The concept of a work sample is very simple. In order to predict future job performance, a careful job analysis is done to identify critical components of the job tasks which are then simulated and used as part of the selection procedure. Work samples have shown excellent validities for selection purposes (Asher & Sciarrino, 1974; Campion, 1972; Meyer, 1970; Mount, Muchinsky, & Hanser, 1977) and have become a vital component of the assessment center method of personnel selection which has also had an excellent track record for predicting future job performance, especially for managerial positions (Bray & Campbell, 1968; Frederiksen, Jensen, & Beaton, 1972; Hinrichs, 1969; Moses & Byham, 1977; Schmitt, 1977; Wollowick & McNamara, 1969). Thus, work samples may be regarded as intermediate performance criteria and in the present research these criteria are used to determine their

predictability from measures and perceptions of personality characteristics.

Briefly, Bradfield et al. administered the JVIS and PRF to a sample of first year psychology students and obtained the previously described dimension by factoring subjects' scale scores. Subjects with factor scores greater than +1.00 and less than -1.00 on this dimension were then called back into the laboratory and given an accounting task and an advertising copy writing task. They were also given a short vocabulary test as an estimate of intelligence and were asked about their previous experience with these kinds of tasks. These latter measures were used as covariates in order to determine the amount of variance in the job related performance tasks that could be attributed solely to the effects of the personality variables. Multiple criteria were evaluated for both performance tasks as has been recommended by Ghiselli (1956).

Results of this pilot study were very suggestive, although by no means conclusive. Five dependent variables plus an overall score were evaluated for the accounting task. On three of these variables as well as the overall score, after removing the effects of the covariates, the accounting types did significantly better than the advertising types. Of the remaining variables, the means were in the right direction but failed to reach significance. Six dependent variables plus an overall score were evaluated for the advertising task. On two of these variables, after removing the effects of the covariates, the advertising types did significantly better than the accounting types. Once again, the means of the remaining variables were in the right direction but failed to reach significance.

A considerable number of methodological problems with this pilot study may have rendered the data quite unreliable. A small sample (N=54) was used since only those subjects with extreme scores on the factor of interest were eligible. The two job related tasks employed in the study and their scoring keys were developed by the senior author, primarily on the basis of her intuitive understanding of the type of tasks required. The estimate of intelligence used as one of the covariates was a vocabulary test and thus was primarily measuring verbal intelligence. The other covariate was determined by two items with a yes/no response format in which subjects were asked to indicate whether they ever had experience with either type of task. The data from such one item binary responses may not have been highly reliable and thus its utility as a covariate is questionable. Despite all of these methodological difficulties, the results of this pilot study were certainly suggestive enough to warrant further investigation. With improved methodology, the nature of the relationship between the accounting and advertising personality types and the relevant job related tasks may be discernible.

In the present research a larger sample was pretested with the JVIS and PRF so that enough subjects of the relevant types were available for reliable statistical analysis. A new accounting job task was obtained which is an instrument currently used for training accounting skills and has a standardized scoring procedure. The advertising task was developed from a job analysis of copy writers in a major Canadian advertising company. The scoring key for relevant performance criteria was developed by expert job incumbents and has been substantiated by Weilbacher (1979). Thus, both tasks were now more likely to approximate job related activities in accounting and advertising copy writing. The estimate of

intelligence used in the current research was the Wonderlic Personnel Test, a commonly used test of general intelligence with standardized norms. Finally, a more substantial questionnaire was given to subjects which would more reliably determine their previous experience with these tasks, as well as obtain other relevant measures such as their interest in and satisfaction with the tasks and estimates of their own performance. The purpose of this study of course remains the same, i.e., to determine the relationship between the personality characteristics defining the accounting and advertising types and performance, interest in, and satisfaction with two job related tasks, controlling for differences due to general intelligence and experience. Subjects drawn from a number of other factor dimensions of personality traits will also be tested with these measures to serve for comparison purposes.

Chapter 6

Method: Study One

Subjects

Subjects were 144 (72 male and 72 female) undergraduates recruited from introductory psychology classes. Subjects received a credit toward their course for participation in the experiment. Three males and three females were randomly assigned to each experimental condition. The data were collected in a single session lasting approximately one hour.

Experimental Design

The design was a completely randomized 3 x 2 x 2 x 2 factorial. The independent variables were (a) job applicant target (i.e., the target of subjects' perceptions and judgments), (b) type of job description (worker oriented or task oriented), (c) job category (the job for which the applicant was ostensibly applying), and (d) order of responding (to two sets of dependent variables). Sex was included as a fifth factor in the analysis. Three job applicant targets were used, an "accounting type," an "advertising type," and a "scientist type". Applicants were applying for either an accounting job or an advertising job. Subjects were asked either to make inferential personality judgments about the applicant first, or to make a variety of job suitability, satisfaction, and expected performance judgments about the applicant first.

Three measures were also obtained on all subjects (experience with either job, self-monitoring, and intelligence) to be used as covariates in analyses of covariance, and as independent variables in regression analyses. The measure of experience was derived from the sum of two items

responses: To what degree have you personally had previous experience working at the job that the applicant in the interview was applying for? To what degree have you personally had any formal instruction or training at the job that the applicant in the interview was applying for? Both items were followed by 9-point scales labelled from "none at all" to "very much". The measure of self-monitoring was obtained from the Self-Monitoring Scale (Snyder, 1974). The measure of intelligence was obtained from the Wonderlic Personnel Test (Form A), a paper and pencil test of general intelligence which has been used extensively in industry for personnel selection (Landy & Trumbo, 1980).

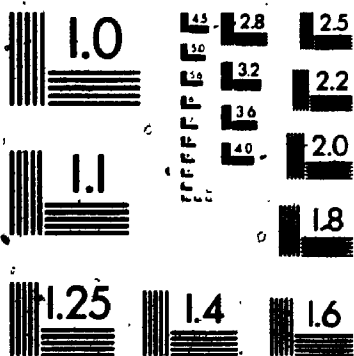
Interview Materials

The job applicant target types were derived empirically from results reported by Siess and Jackson (1970), who factor-analyzed the Personality Research Form (PRF) and the Strong Vocational Interest Blank (SVIB). Two of the orthogonal dimensions identified by Siess and Jackson, which represented common variance underlying vocational interests and personality, were designated Impulse Control vs. Expression and Technically-Oriented Achievement. The first dimension was characterized at one pole by the occupation of accounting and the PRF scales of Cognitive Structure and Order, and at the opposite pole by the occupation of advertising and the PRF scales of Autonomy, Change, and Impulsivity. The Technically-Oriented Achievement dimension was characterized by the occupations of engineer, chemist, and physicist, and the PRF scales of Achievement, Endurance, and Understanding versus Social Recognition and Succorance.

On the basis of these dimensions of vocational interests and personality, three job applicants were created (an accounting type, an advertising type, and a scientist type). Each job applicant was based on a cluster of personality traits that had been shown by Siess and Jackson to covary with interests similar to those of incumbents in a particular occupation. The applicants were created by extracting information from the definitions for each of the PRF scales that covaried with an occupation. This information was embedded in self-referent statements made by the applicants during the interview. Thus, the accounting type applicant target would describe himself in terms of behaviors related to PRF scales of Cognitive Structure and Order, and negative Autonomy, Change, and Impulsivity, whereas the advertising applicant would describe himself in terms of behaviors related to PRF scales that were the converse of the accounting type. The scientist applicant would describe himself in terms of PRF scales of Achievement, Endurance, and Understanding, and negative Social Recognition and Succorance. The scientist target was identical to the engineer target used by Rothstein and Jackson (1980), but was renamed to capture more thoroughly all aspects of the Technically-Oriented Achievement dimension. The scientist applicant was essentially a "control" applicant in that the personality traits of the target were not expected to be perceived by subjects as relevant to either job.

Three scripts were written, one for each job applicant target. In each script an interviewer asked several standard questions, such as why the applicant wanted to leave his present job, what aspects of a job are important to him and give him satisfaction, and so forth. The applicant responded to these questions with self-referent statements that were

2



related to the relevant PRF scales for that personality type. These scripts were recorded on audio tape with the same two males playing the roles of applicant and interviewer in all three interviews. The person filling the latter role was an experienced interviewer. The three scripts are reproduced in Appendix I.

The type of job description given subjects to read, before they heard the audio tape of an applicant who was ostensibly applying for that job, was either worker oriented or task oriented. Two job descriptions were therefore created for each job category. The task-oriented job descriptions were taken directly from the Dictionary of Occupational Titles (U.S. Department of Labor, 1977) for the relevant jobs. The worker-oriented job descriptions were also developed from the scale descriptions of the PRF scales associated with the relevant occupational/personality dimensions obtained by Siess and Jackson (1970). These descriptions did not duplicate specific information that subjects would later hear in the self-referent statements made by the applicants on the audio tape, since the PRF scale descriptions contain extensive trait adjectives and synonyms to work with. The worker- and task-oriented job descriptions for the accounting and advertising jobs are reproduced in Appendix II.

Procedure

The experiment took place in a large laboratory room with audio equipment located at the front. Subjects were randomly assigned to hear one of the interviews with a target applicant when they signed up for the experiment. As subjects arrived at the experiment, they were handed a prepared booklet of instructions and answer sheets in which they were further randomly assigned to the other experimental conditions.

Subjects were told that the experiment was intended to study how personnel managers perceive job applicants and make selection decisions during an employment interview. Brief instructions on how to role play were given subjects, and they were asked to imagine themselves as employment interviewers faced with evaluating the applicant on the audio tape for a specific job. Before proceeding, they were given the intelligence test (called a general aptitude test) and the Self-Monitoring Scale (called a social opinion survey) on the pretext that the experiment was also studying the relationship of aptitudes and opinions on interview judgments. Subjects then read one of the four job descriptions for one of the two jobs.

After reading these materials, subjects were instructed to listen carefully to an audio tape on which was recorded short excerpts from an employment interview. After hearing one of the three interviews, subjects either made their suitability judgments first or their personality judgments first.

Dependent Variables

Personality judgments were made according to the inferential accuracy procedure described earlier with reference to the Rothstein and Jackson (1980) study. Subjects were instructed to estimate, on the basis of what they heard the applicant saying in the interview, the likelihood that the applicant would respond "true" to 176 personality test items taken from a modified form of the PRF. This form is a shorter version of the published Form E and is often used for research purposes. The shorter version uses 8-item scales (four true-keyed and four false-keyed) which have psychometric properties comparable to the complete Form E.

Subjects' responses were made on 9-point scales, ranging from 1 (extremely unlikely) to 9 (extremely likely).

Suitability judgments were made in two parts. In the first part subjects judged the general suitability of the applicant they heard being interviewed for one of the jobs. These judgments included predictions of job satisfaction, motivation, getting along with coworkers, and so forth. The general suitability judgments are reproduced in Appendix III. The second part of the interview judgments consisted of predictions of expected job performance. Items in this section referred to actual job performance criteria, which were identical to the criteria used to score the accounting and advertising work samples in Study Two. (The development of these performance criteria will be discussed in Chapter Eight.) Subjects made judgments on the job performance criterion items that were relevant to the job category condition they were assigned to. These items are reproduced in Appendix IV for the accounting job and Appendix V for the advertising job. Responses to all items in Appendices III, IV, and V were on 9-point scales.

Chapter Seven

Study One Results and Discussion: The Interview Simulation

The experimental paradigm employed in Study One was essentially similar to that used by Rothstein and Jackson (1980), and the presentation of the results will parallel the format used in that study. The basis upon which interview decisions were made were the personality judgments; and the reliability of these judgments will be examined first. This will be followed by the results from the sensitivity and threshold analyses, the analyses of the various judgments of suitability for the given jobs, and finally, an examination of individual differences in personality and suitability judgments.

Reliability of Personality Judgments

A profile of judged scale scores for the applicant target being evaluated was generated from each judge. Judges were divided randomly into two groups ($n = 24$ each) for each applicant target. Judgmental profiles generated from the two randomly divided groups for each target were correlated, resulting in split-half interrater reliability coefficients for each target (Table 4). The reliability coefficients (corrected by the Spearman-Brown formula to estimate the reliability based on the total set of judges) were .987 for the scientist target, .988 for the advertising target, and .995 for the accountant target. Table 4 also indicates the reliability of one rater for each target as estimated by the Spearman-Brown formula. These extremely high interrater reliabilities replicate those obtained by Rothstein and Jackson (1980)

Table 4
Interrater Reliability of Personality Judgments

Target	No. of Raters	No. of Scales	Corrected Split-Half	Alpha (KR-20)	Reliability of 1 Rater
Scientist	48	20	.987	.987	.604
Advertising	48	20	.988	.990	.671
Accountant	48	20	.995	.992	.716
		MEAN -	.990	.989	.664

2

and again indicate the high level of agreement among judges appraising the personality profiles of target job applicants in this type of experimental paradigm.

The possibility that these high interrater reliabilities resulted from judgments made on the basis of a social desirability stereotype rather than on item content was investigated by correlating the judgmental profiles of the three targets with a vector of desirability scale scores for each scale of the PRF (Jackson, 1974, p. 12). Table 5 shows the resulting correlations as well as the effect on the corrected split-half reliability coefficients when desirability was partialled out. None of the profiles correlate to any great degree with social desirability and when desirability is partialled out of the reliability coefficients they remain virtually unchanged. Thus, the desirability stereotype interpretation cannot be substantiated (as in Rothstein & Jackson, 1980).

Sensitivity Analysis

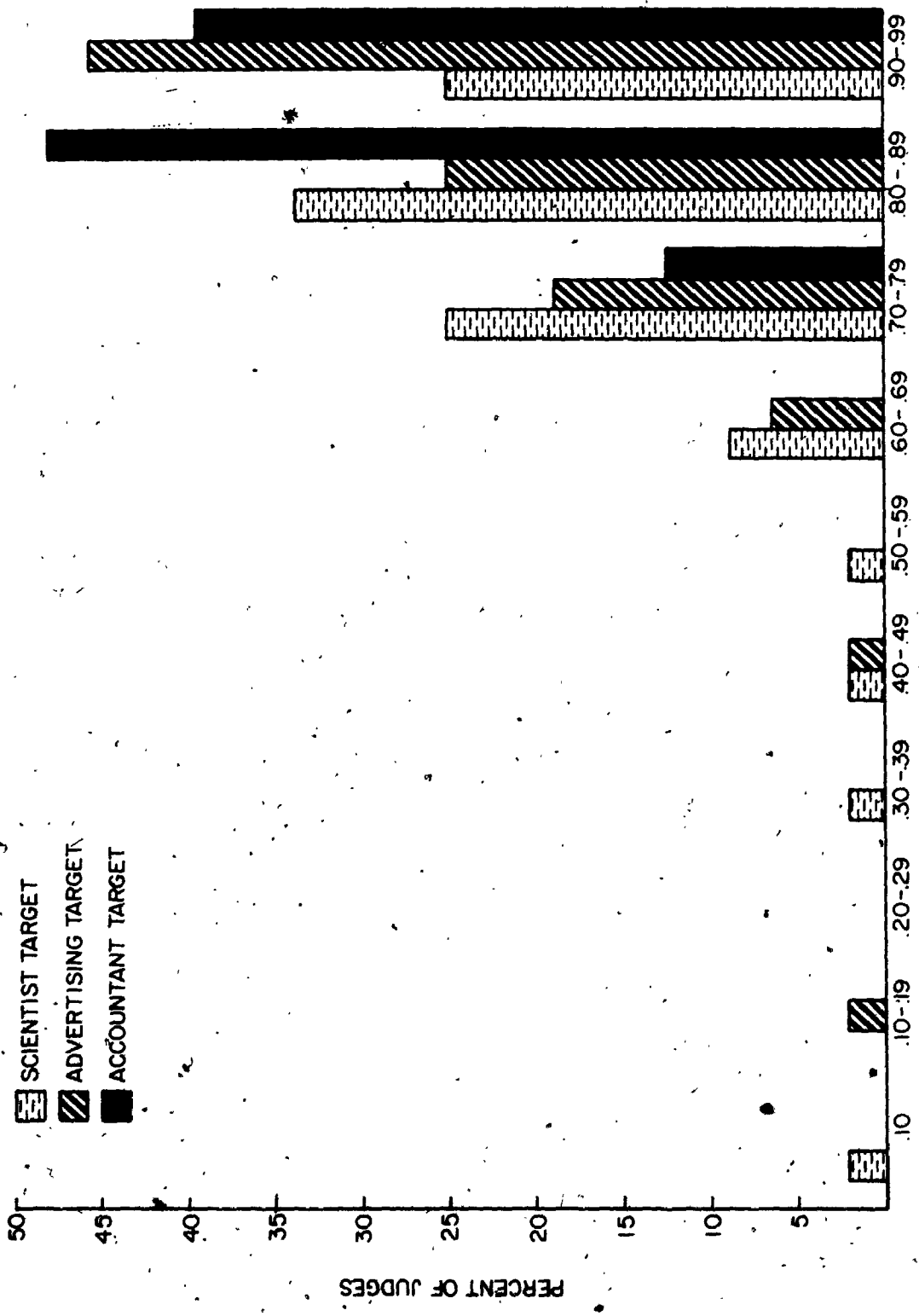
Sensitivity scores were calculated by correlating each individual's judgments of the 20 PRF personality scales and the group consensus (mean judgments of the 20 scales). Group consensus was determined by those judges exposed to a common applicant target (three groups with $n = 48$ each). Figure 6 illustrates the frequency distributions of sensitivity for each group of judges. A majority of judges had high sensitivities indicating that there was a general consensus regarding the covariation of behaviors relevant to the three targets. There were also a few judges with low and moderate sensitivity scores which suggests that these individuals were not aware of the group consensus regarding the judged

Table 5

Split-Half Reliability Correlations of Judgmental
Profiles with Desirability Scale Scores

Target	Corrected Split-Half	Correlation with Desirability	Corrected Split-Half with Dy Partialled Out
Scientist	.987	.281	.986
Advertising	.988	-.155	.988
Accountant	.995	.248	.994

Figure 6. Frequency Distribution of Judgmental Sensitivities



SENSITIVITY (CORRELATION WITH GROUP CONSENSUS)

covariation of the targets' behavior and were making their judgments on some other basis.

Rothstein and Jackson (1980) found that sensitivity scores were affected by the congruence between perceived applicant characteristics and the job under consideration. Mean sensitivity scores were higher when applicant characteristics were congruent with the job. This finding was not replicated in the current study. An analysis of variance of sensitivity scores revealed a main effect for Target $F(2,96) = 4.27$, $p < .05$, but no other main effects or interactions were significant. The mean sensitivity scores for the Target main effect indicate that judges evaluating the accounting-type target obtained the highest mean sensitivities (.875) followed by judges evaluating the advertising-type target (.833) and the scientist-type target (.793). The fact that a main effect for Target was not found by Rothstein and Jackson (1980) but that an Applicant by Job interaction was obtained by them, whereas the opposite occurred in the present study, suggests that the effect of these experimental manipulations on sensitivity scores is somewhat unreliable. Further investigations of the factors which might impact on sensitivity are therefore necessary.

One reliable finding with regard to sensitivity scores, which emerged from both Rothstein and Jackson (1980) and the present study, was that when a more complete description of a suitable job applicant was given to judges (i.e., the "description" level of the job/category factor in Rothstein and Jackson, and the "worker-oriented" level of the job description factor in the present study), there was not a significant increase in mean sensitivity levels, compared with conditions in which there was only a job label or a task-oriented job description given to

judges. This supports the suggestion that varying either quantity or type of job description information does not help or bias judges in making behavioral inferences about the targets. Judges in both these experiments seemed quite capable of making these inferences with a high degree of reliability and without the assistance of cues about what to look for.

Threshold Analysis

Threshold scores for each judge were obtained by taking the average of their ratings for items that comprised each scale of the PRF. Table 6 illustrates the mean threshold levels for judges making ratings on each target. Recall that mean threshold levels reflect the degree to which particular personality characteristics were attributed to targets. Table 6 also illustrates the results of a series of one-way Anova's across the mean threshold levels for each PRF scale. Judges clearly attributed personality characteristics differentially to the three targets for 17 of the 20 PRF scales. The pattern of these attributions is shown more distinctly in Table 7. This table illustrates the results of a priori t tests between pairs of mean thresholds for each combination of two targets. Of 25 a priori t tests, 24 were statistically significant with the mean differences in thresholds in the predicted direction. This indicates that for each of the marker scales from which information was extracted to create a target, judges attributed a significantly different degree of the appropriate personality characteristic to the proper target. For example, the scientist target was seen as being higher in Achievement, Endurance, and Understanding, and lower in Social Recognition and Succorance, compared with the other two targets. The

Table 6
Mean Threshold Levels of the PRF for each Target

PRF Scale	Scientist Target	Advertising Target	Accountant Target	p Values ⁷
Abasement	3.77	4.09	3.98	NS
Achievement ¹	7.58	5.04	6.96	.00001
Affiliation	4.12	6.09	4.25	.00001
Aggression	5.13	5.59	5.01	.005
Autonomy ^{3,6}	6.37	6.46	4.87	.00001
Change ^{3,6}	5.27	7.21	3.30	.00001
Cognitive Structure ^{4,5}	6.36	2.90	7.76	.00001
Defence	5.38	5.17	5.63	NS
Dominance	5.74	5.46	5.60	NS
Endurance ¹	7.34	4.07	6.71	.00001
Exhibition	4.92	6.76	4.15	.00001
Harmavoidance	4.75	3.32	6.77	.00001
Impulsivity ^{3,6}	3.31	6.95	2.18	.00001
Nurturance	3.89	4.44	4.18	.02
Order ^{4,5}	6.96	2.56	8.14	.00001
Play	3.62	6.66	3.14	.00001
Sentience	4.46	4.96	4.57	.02
Social Recognition ²	3.27	4.32	5.29	.00001
Succorance ²	2.86	3.84	4.85	.00001
Understanding ¹	5.92	4.30	5.21	.00001

(Continued on next page)

Table 6 (Continued)

- ¹Marker scale (positive pole of technically-oriented achievement) for scientist target.
- ²Marker scale (negative pole of technically-oriented achievement) for scientist target.
- ³Marker scale (negative pole of impulse control vs. expression) for advertising target.
- ⁴Marker scale (positive pole of impulse control vs. expression) for advertising target.
- ⁵Marker scale (positive pole of impulse control vs. expression) for accountant target.
- ⁶Marker scale (negative pole of impulse control vs. expression) for accountant target.
- ⁷Of one-way anovas across mean threshold levels for each PRF scale.

Table 7
Comparison of Mean Threshold Levels by T Tests Between
Pairs of Targets

PRF Scale	p ¹	p ²	p ³
Achievement	.0001*	.001*	.0001
Affiliation	.0001	NS	.0001
Aggression	.02	NS	.001
Autonomy	NS**	.0001*	.0001*
Change	.0001*	.0001*	.0001*
Cognitive Structure	.0001*	.0001*	.0001*
Endurance	.0001*	.001*	.0001
Exhibition	.0001	.004	.0001
Harmavoidance	.0001	.0001	.0001
Impulsivity	.0001*	.0001*	.0001*
Nurturance	.004	NS	NS
Order	.0001*	.0001*	.0001*
Play	.0001	.03	.0001
Sentience	.01	NS	.02
Social Recognition	.0001*	.0001*	.0001
Succorance	.0001*	.0001*	.0001
Understanding	.0001*	.001*	.0001

¹ Of t tests between mean threshold levels for the scientist and advertising targets.

² Of t tests between mean threshold levels for the scientist and accountant targets.

³ Of t tests between mean threshold levels for the advertising and accountant targets.

* Hypothesized a priori and confirmed by t test.

** Hypothesized a priori but not confirmed by t test.

accountant target was seen as being higher in Cognitive Structure and Order, and lower in Autonomy, Change, and Impulsivity, compared with the other two targets. The advertising target showed the exact opposite pattern to the accountant target except that the advertising target was not seen as being higher in Autonomy than the scientist target. Thus, judges in this experiment replicated the results obtained by Rothstein and Jackson (1980) and extended their findings by demonstrating that judges could discern distinct personality characteristics among three target job applicants which accurately reflected the information given about these applicants in an audiotape of a simulated interview. In order to do this, judges had to recognize the types of behaviors revealed in the interview, be aware of the implicative relations among these behaviors, and identify and infer the appropriate pattern of other behaviors which could be attributed to the target applicants.

The degree to which judges engaged in these tasks related to the perception of a target applicant is further illustrated in Table 8. Recall that Rothstein and Jackson (1980) demonstrated that the direction of the differences between the factor loadings on the two relevant dimensions obtained by Siess and Jackson (1970) (i.e., the two dimensions used to create the target job applicants in the Rothstein and Jackson study), and the direction of the differences between the mean threshold levels obtained from subjects' judgments of the two targets, were identical. This was true for all of the marker scales for the two targets as well as for five other PRF scales which were not marker scales but were shown empirically to covary with the marker scales to some extent by Siess and Jackson (1970). Table 8 indicates the factor loadings (from the 17 PRF scales for which threshold levels were

Table 8
 Factor Loadings Obtained Empirically by Siess and Jackson (1970)
 and with Subjects in Study Two of this Investigation

PRF Scale	Siess and Jackson		Study Two Subjects	
	Impulse Control vs. Expression	Technically-Oriented Achievement	Impulse Control vs. Expression	Technically-Oriented Achievement
Achievement ¹	.06	.39	.19	.54
Affiliation	.14	-.13	-.12	-.33
Aggression	.03	.00	-.16	-.12
Autonomy ^{3,6}	-.40	.28	-.43	.40
Change ^{3,6}	-.38	.08	-.45	.14
Cognitive Structure ^{4,5}	.62	.08	.55	.10
Endurance ¹	.10	.65	.19	.59
Exhibition	-.32	-.19	-.29	-.21
Harmavoidance	.12	-.18	.54	-.25
Impulsivity ^{3,6}	-.46	.22	-.56	-.31
Nurturance	.07	.04	.08	-.07
Order ^{4,5}	.50	.05	.58	.10
Play	.04	.01	-.52	-.33
Sentience	-.02	.04	-.39	.00
Social Recognition ²	.16	-.30	.27	-.40
Succorance ²	.14	-.30	.24	-.53
Understanding ¹	-.17	.32	-.13	.55

1 Marker scale (positive pole of technically-oriented achievement) for scientist target.

2 Marker scale (negative pole of technically-oriented achievement) for scientist target.

3 Marker scale (negative pole of impulse control vs. expression) for advertising target.

4 Marker scale (positive pole of impulse control vs. expression) for advertising target.

5 Marker scale (positive pole of impulse control vs. expression) for accountant target.

6 Marker scale (negative pole of impulse control vs. expression) for accountant target.

significantly different) obtained empirically by Siess and Jackson (1970) and from a similar factor analysis of PRF and JVIS scores from subjects in Study Two of this report. With respect to the 10 marker scales used to create the three target applicants in the present study, the direction of the differences between the factor loadings from both Siess and Jackson (1970) and Study Two subjects mirrors the differences between the mean threshold levels obtained from judgments of the three targets (Table 6). Thus, when a mean threshold level for a PRF scale is highest for the scientist target (e.g., Achievement), the corresponding factor loading from the Technically-Oriented Achievement dimension is high and positive (relative to the loading for the same scale on the Impulse Control vs. Expression dimension). Similarly, a high mean threshold level for the advertising target (e.g., Autonomy) corresponds to a high negative factor loading on Impulse Control vs. Expression (compared with Technically-Oriented Achievement), and a high mean threshold level for the accountant target (e.g., Cognitive Structure) corresponds to a high positive factor loading on Impulse Control vs. Expression (compared with Technically-Oriented Achievement). In addition, of the remaining seven PRF scales with significantly different threshold levels, six of these scales showed identical patterns of differences in the independently and empirically derived factor loadings from the two dimensions used to create the target job applicants. These findings further replicate the results obtained by Rothstein and Jackson (1980) and suggest very strongly that judges can not only accurately identify applicant personality characteristics in this type of experimental paradigm, but that they are capable of inferring a broader pattern of characteristics

that belong to these applicants which accurately matches the covariation of these characteristics as shown by independent empirical analyses.

The pattern of inferential judgments made for the three targets is illustrated in Figures 7, 8, and 9. Threshold levels were converted to T-scores (Table 9) so that the three mean judged profiles of the targets could be illustrated in the manner of a common psychological test profile. These three figures graphically illustrate the similarities and differences in judgments that were made for each PRF scale.

A common measure of profile similarity is the product-moment correlation between pairs of judgments on each PRF scale. Table 10 illustrates the correlations among the judged profiles. This measure of profile similarity reflects the comparability in shape among the three profiles, but is insensitive to the other two components of test profiles, elevation and scatter (Nunnally, 1978; Wiggins, 1973).

However, the analysis of mean differences in threshold levels demonstrated that significantly different judgments were made for 17 out of 20 personality traits in the three targets. Thus, the correlational analysis indicates further that the accountant and advertising targets were perceived as opposite personality types. This is not surprising since the experimental manipulation intended to convey this information and since there is evidence that these personality types are indeed opposite (Siess & Jackson, 1970). In addition, it is worth noting that the scientist and accountant targets were perceived as having somewhat similar high and low points in their profiles, although differences in elevation on individual scales (i.e., differences in threshold levels) were sometimes considerable. This relative similarity in the judged personality traits of the scientist and accountant targets will be an

Figure 7. Judged Profile of the Accountant Target on 20 PRF Scales

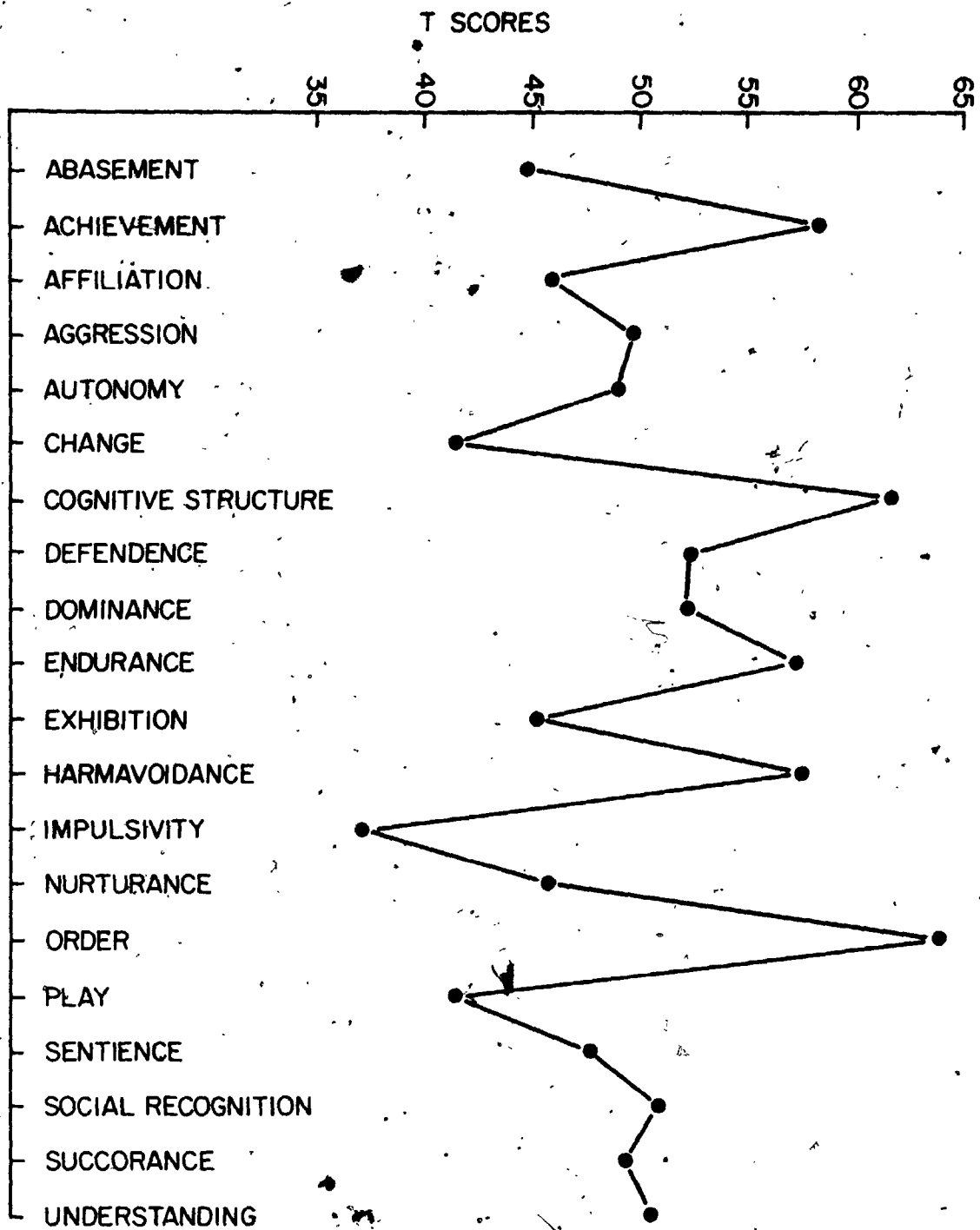


Figure 8. Judged Profile of the Advertising Target on 20 PRF Scales

T SCORES

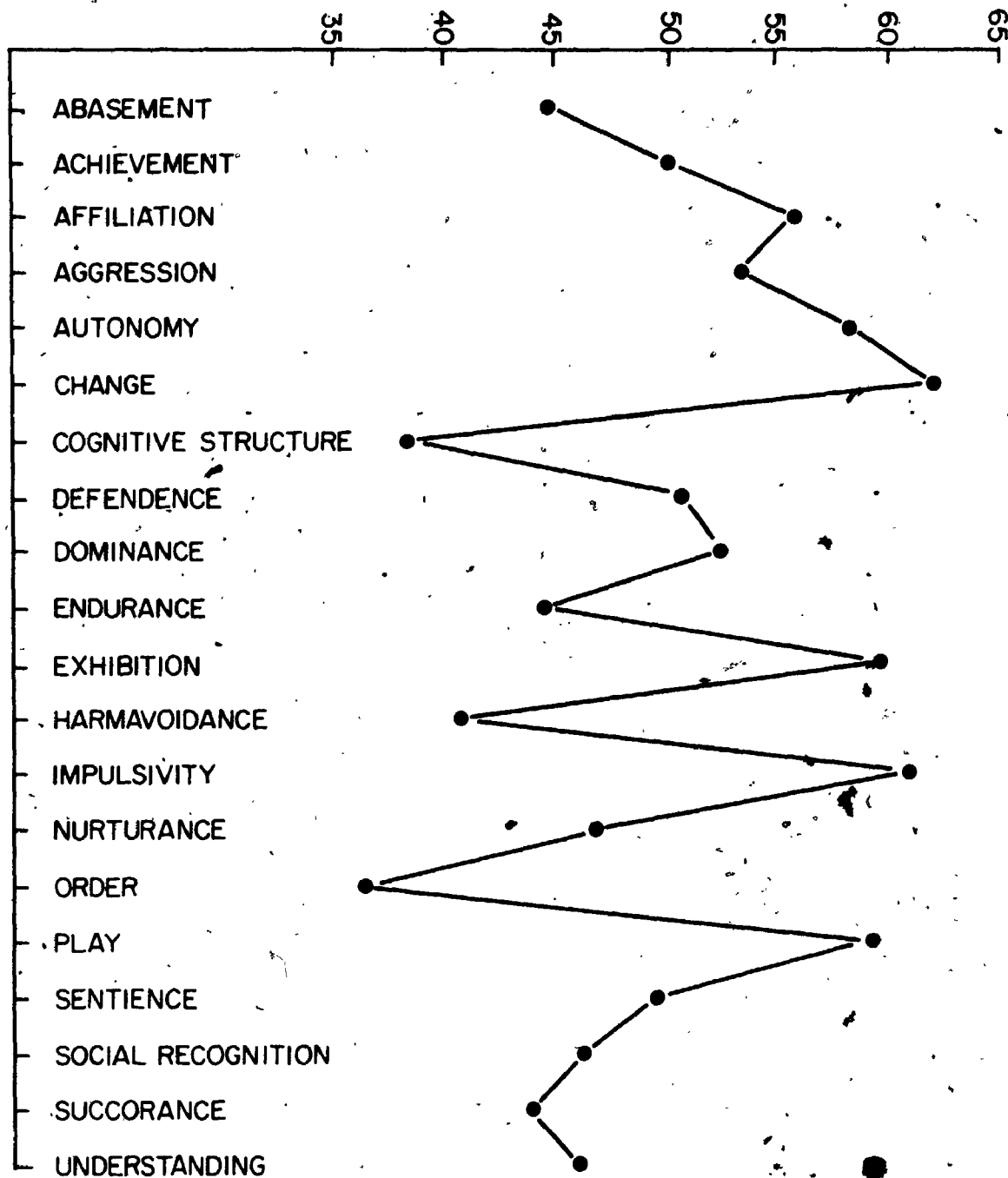


Figure 9. Judged Profile of the Scientist Target on 20 PRF Scales

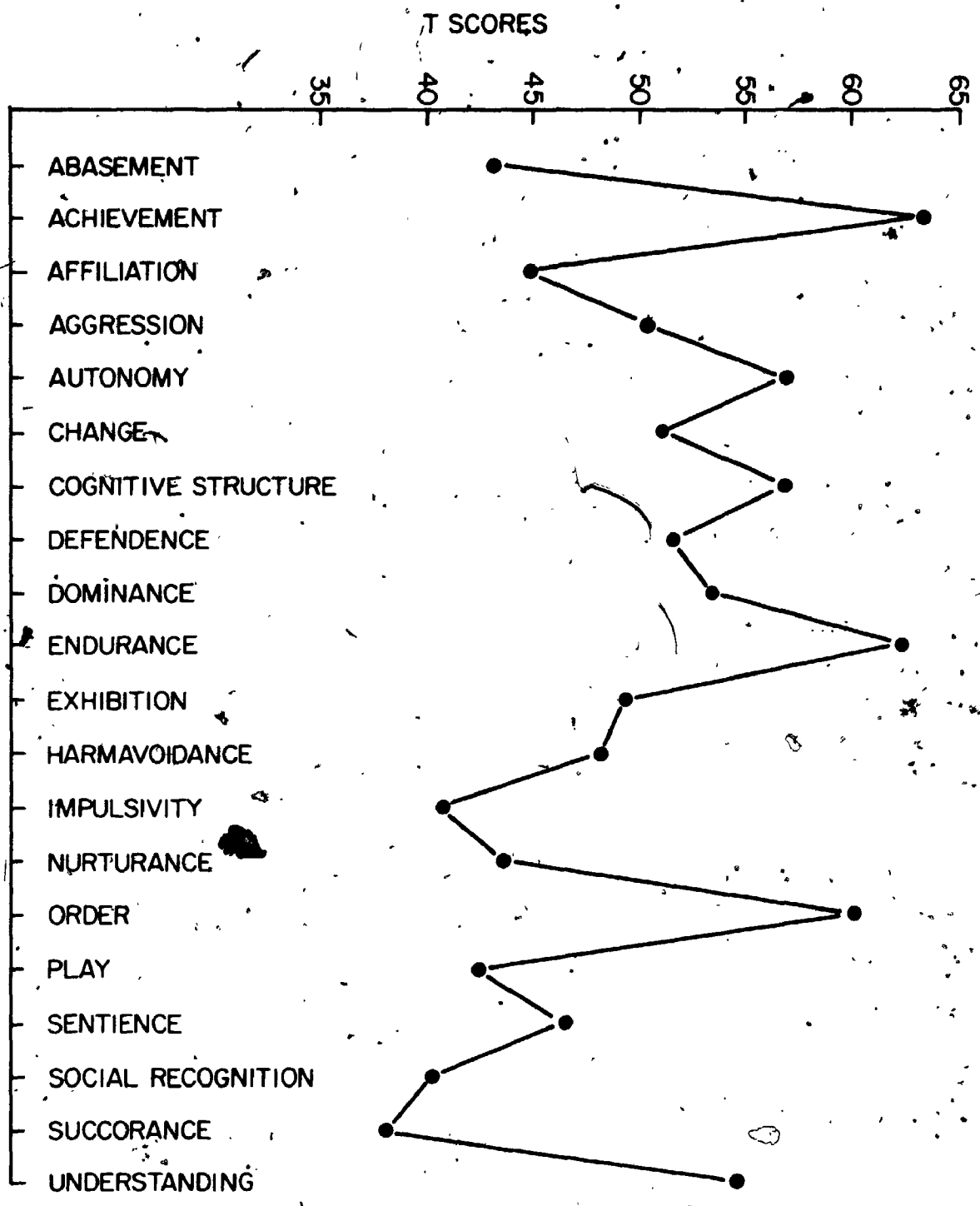


Table 9

T-scores on 20 PRF Scales for the Three Judged Profiles

	Scientist Target	Advertising Target	Accountant Target
Abasement	43.17	44.90	44.94
Achievement	63.50	50.18	58.08
Affiliation	45.04	56.01	46.13
Aggression	50.43	53.24	49.48
Autonomy	57.04	58.07	48.87
Change	51.17	62.24	41.94
Cognitive Structure	56.99	38.28	61.61
Defendence	51.76	50.90	52.22
Dominance	53.63	52.51	52.09
Endurance	62.22	44.79	56.98
Exhibition	49.31	59.74	45.69
Harmavoidance	48.40	40.62	57.24
Impulsivity	40.72	60.79	37.01
Nurturance	43.81	46.84	45.82
Order	60.19	36.39	63.28
Play	42.37	59.18	41.24
Sentience	46.85	49.73	47.54
Social Recognition	40.50	46.18	50.72
Succorance	38.31	43.51	48.78
Understanding	54.64	46.06	50.37

Table 10*
Correlations among Judgmental Profiles

	Scientist Target	Advertising Target	Accountant Target
Scientist Target	1.00	-.187	.678
Advertising Target		1.00	-.766
Accountant Target			1.00

* With desirability partialled out.

important consideration in the following discussion of the judgments of suitability and predicted performance levels for the targets.

Analyses of Suitability and Predicted Performance Judgments

In addition to judgments of applicant personality characteristics, subjects predicted how suitable an applicant would be for one of the specified jobs and how well the applicant would likely perform on a range of job performance criteria. Also included in these predictions were a number of items pertaining to whether or not the applicant would be satisfied working at the job, motivated to learn the job and perform well, and a number of other measures tapping general adjustment to the job. The relatively large number of dependent variables were used in this study for three reasons. First, Rothstein and Jackson (1980) used only judgments of general applicant suitability as dependent measures and these probably did not capture all the possible dimensions of behavior that purportedly are predicted from the employment interview (Black, 1970; Fear, 1978; Peskin, 1971). Secondly, it has long been argued that job performance criteria are multidimensional (e.g., Ghiselli, 1956) and therefore any attempt to investigate which of these criteria may be predicted from an interview should include as many possible potential variables that can be conceptually or empirically linked to performance of the job. Thirdly, by including a large number of dependent variables and thereby attempting to sample the multidimensional nature of the job performance criteria, it was possible to factor these measures to determine the underlying dimensions of the predicted criteria. These underlying factors were then used to generate factor scores for all subjects on the composite dimensions. The factor scores were used as

dependent variables in subsequent analyses to maximize the reliability of the predicted performance ratings (c.f. Epstein, 1979, 1980).

Three separate factor analyses of the dependent variables in this study were necessary. This was due to the nature of the variables used and the design of the study. Recall that five independent variables were manipulated or included in the analysis (job applicant target, type of job description, type of job, order of responding to the two types of dependent variables, and sex). The factor "Job Type" referred to the job that the applicant was applying for in the interview simulation (either an accounting job or an advertising job). A subset of the total number of dependent variables used focussed on specific performance criteria for each of these jobs and were included in order to determine if subjects could make differential predictions for these specific criteria for the three different applicants. Thus, although most dependent variables were common for all subjects in the study, a few performance-specific items were included for each of the two job types. Since these performance related items were specific to each job type, they could not be included in the overall factor analysis of dependent variables or subsequent analyses of variance or covariance. However, by dropping the "Job Type" factor from the design the performance-specific items could then be analyzed separately in two four-factor designs, one for the accounting job performance items and one for the advertising job performance items. Three sets of analyses will therefore be reported in this section. The first set will deal with the majority of the dependent measures in the original five-factor design. The factor structure of these variables will be reported followed by the results of multivariate and univariate analyses of variance and analysis of covariance. The second and third

sets of analyses parallel the first set except that they will deal with the performance-specific dependent variables for the accounting job and for the advertising job in two four-factor designs.

It should be noted that in order to illustrate the relationships between the performance-specific items and judgments on the other dependent variables, all variables were initially entered into the factor analyses in the two separate four-factor designs. However, the results of these factor analyses clearly indicated that judgments on the performance-specific items were orthogonal to the other types of judgments made by subjects. Since these other judgments will be analyzed by ANOVA procedures in the full five-factor design, only the results from the analysis of variance of performance-specific items (or rather the factor scores for these items) will be reported in the separate analyses for the accounting job and the advertising job.

The first series of analyses concentrated on the largest set of dependent variables in the original five-factor design. The dependent measures were factored by the method of principal components. Four interpretable factors were identified by the scree-test (Cattell, 1965) and rotated to a varimax criterion. The rotated factors and the amount of variance each accounted for, are illustrated in Table 11. The four extracted factors accounted for 80.98% of the total variance. The factor structure suggests that there were four underlying dimensions to the subjects' judgments of the applicants, although the primary dimension appeared to be judgments based on general predicted adjustment to the target job. It is interesting that judgments on these items, which were relatively more focused and specific, were orthogonal to judgments on the three general suitability items, which were the items used by Rothstein

Table 11.

Factor Structure of Job-Related Judgments: Full Design

	Work Adjustment	Confidence of Hiring Decision	General Suitability	Working with Others
Suitability for the Job			.88	
Hiring Decision			.85	
Confidence of Decision		.98		
Job Satisfaction			.89	
Interest in Learning Job Tasks	.74			
Task Satisfaction	.71			
Predicted Performance	.77			
Ability for Job Tasks	.73			
Performance Satisfaction	.74			
Long Term Interest in Job	.68			
Getting Along with Coworkers				.93
Likelihood of Wanting a Different Job	-.65			
Variance Accounted For	58.33%	8.70%	7.52%	6.43%

and Jackson (1980). On the basis of this factor structure, factor scores were derived for all subjects for use in the subsequent analyses.

A multivariate analysis of variance (MANOVA) on the four composite factor score variables resulted in six significant multivariate F tests. The significant multivariate effects are illustrated in Table 12. Univariate analyses of variance were subsequently performed on the dependent variables for each of these effects and the results are summarized in Table 13. The blank spaces in the table indicate that the F tests were not significant for these effects and dependent variables.

The results of univariate ANOVA tests on the first composite dependent variable, a general work adjustment factor, revealed two unpredicted main effects for Applicant Target and Job Category, and a predicted Applicant Target x Job Category interaction. The means for these effects are illustrated in Table 14 and the interaction is further illustrated in Figure 10. Post hoc analyses of the main effects by Tukey's HSD and Newman-Keuls tests indicated that both the scientist and accounting targets obtained higher mean ratings on this variable than the advertising target (HSD = .493, $p < .01$ and HSD = .437, $p < .01$, respectively), and that targets were generally rated higher on the advertising job than the accounting job (HSD = .271, $p < .05$). Planned comparisons on the Applicant Target x Job Category interaction revealed that some, but not all, of the a priori predictions were upheld. For example, for the accounting job, the accounting target received higher mean ratings than either the advertising ($t_{2,138} = 6.33$, $p < .001$) or the scientist ($t_{2,138} = 2.372$, $p < .01$) targets, and the scientist target received a higher mean rating than the advertising target ($t_{2,138} = 3.958$, $p < .001$). However, these results did not hold up for the

Table 12
Significant Multivariate Analysis of Variance Effects

Effect	F	df	p
Applicant Target	8.431	8,186	.00001
Job Category	4.047	4,93	.01
Applicant Target x Job Description	2.747	8,186	.01
Applicant Target x Job Category	23.668	8,186	.00001
Applicant Target x Job Description x Job Category	4.495	8,186	.00005
Applicant Target x Job Description x Order	2.137	8,186	.03

Table 13

Summary of Univariate F Tests on Four Composite Variables

Effect	Composite Dependent Variable			
	Work Adjustment	Confidence of Hiring Decision	General Suitability	Working with Others
Applicant Target	F(2,96)=17.898, p<.0001	F(2,96)=3.634, p<.03		F(2,96)=8.335, p<.001
Job Category	F(1,96)=5.385, p<.02			F(1,96)=4.029, p<.05
Applicant Target x Job Description		F(2,96)=5.868, p<.004	F(2,96)=3.311, p<.04	
Applicant Target x Job Category	F(2,96)=6.558, p<.002		F(2,96)=88.125, p<.0001	
Applicant Target x Job Description x Job Category			F(2,96)=8.219, p<.001	
Applicant Target x Job Description x Order				F(2,96)=4.052, p<.02

Table 14

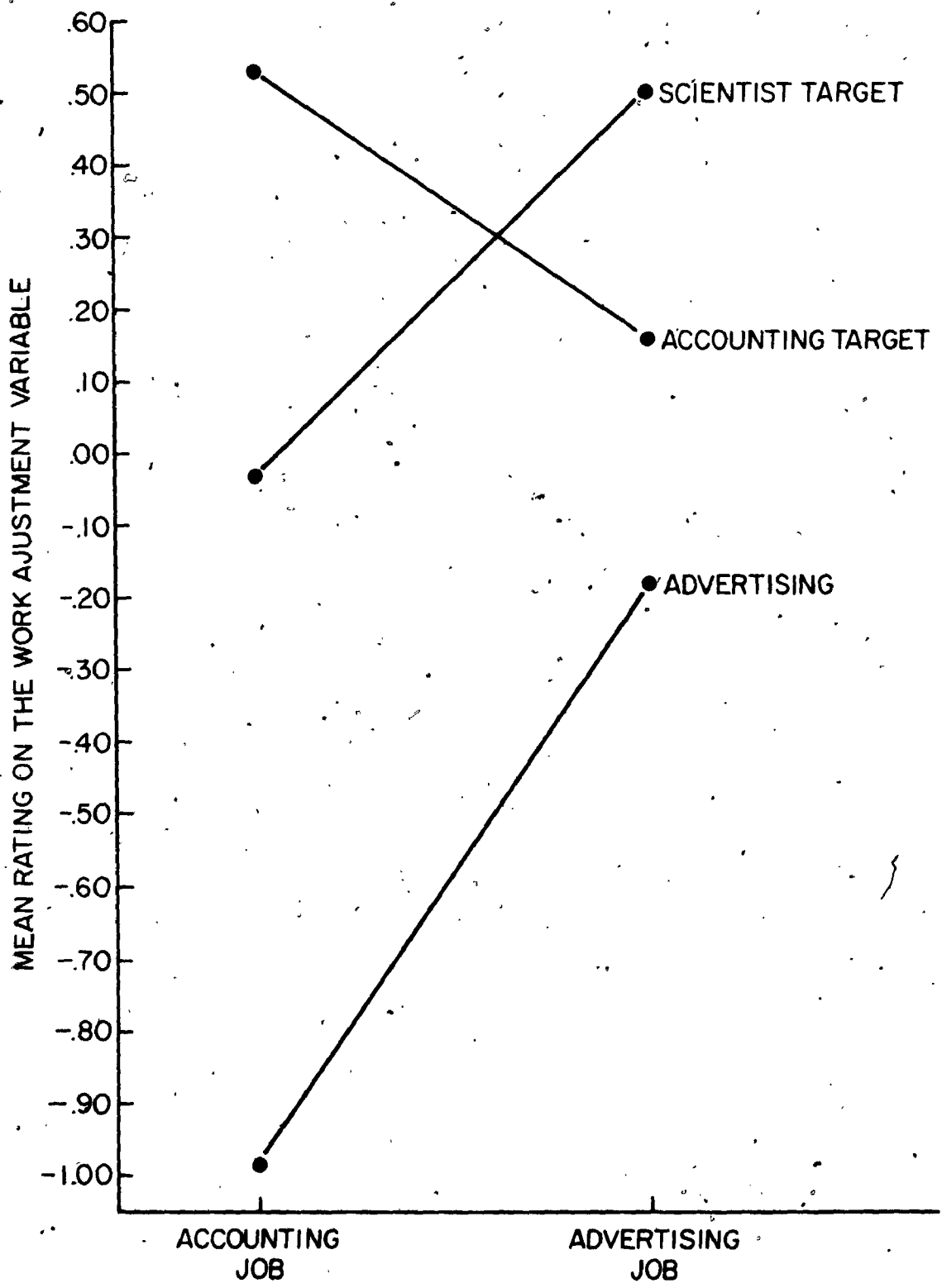
Mean Scores on the Work Adjustment Variable for the Applicant

Target and Job Category Main Effects and the Applicant

Target x Job Category Interaction

	Accounting Job	Advertising Job	Mean Across Job Types
Scientist Target	-.034	.502	.234
Advertising Target	-.980	-.183	-.581
Accounting Target	.533	.162	.347
Mean Across Targets	-.160	.160	

Figure 10. Mean Ratings on the Work Adjustment Variable in the Applicant Target x Job Category Interaction



advertising job. For this job, the difference between mean ratings on the work adjustment variable for the accounting and advertising targets failed to reach significance ($t_{2,138} = 1.444$, $p < .10$). Similarly, there was no difference between the accounting and scientist targets ($t_{2,138} = 1.423$, $p < .10$). The scientist target, however, received a significantly higher mean rating than the advertising target ($t_{2,138} = 2.866$, $p < .005$). Looking at the ratings given to a specific target for two different jobs, once again not all results were in accordance with predictions. The advertising target was given a higher mean rating for the advertising job than the accounting job ($t_{2,138} = 3.335$, $p < .001$), but although the accounting target received a higher mean rating for the accounting job than the advertising job, the difference failed to reach significance ($t_{2,138} = 1.552$, $p < .10$). The scientist target was also given a higher mean rating for the advertising job than the accounting job ($t_{2,138} = 2.243$, $p < .01$).

Three significant interactions resulted from the univariate ANOVA tests on the composite dependent variable labeled General Suitability. One of these interactions, Applicant Target x Job Description, was not predicted and therefore a posteriori multiple comparison procedures were used to examine differences among the means (Table 15). Comparisons among all possible pairs of means did not result in one significant test, even though the overall F ratio was significant. This situation indicates that the comparison that is significant involves some linear combination of the means in the interaction (Kirk, 1968, p. 87). Since there was no theoretical or conceptual reason for expecting that some linear combination of means would be significantly different than some other linear combination, and since such an effect could not be

Table 15

Mean Scores on the General Suitability Variable in the
Applicant Target x Job Description Interaction

	Worker-Oriented Job Description	Task-Oriented Job Description
Scientist Target	-.189	.093
Advertising Target	.147	-.094
Accounting Target	-.196	.239

meaningfully interpreted, no further post hoc analyses of this interaction were done. However, the means are illustrated in Figure 11, and it can be seen that the scientist and accounting targets received higher suitability ratings when the job description was task-oriented, whereas the advertising target received higher suitability ratings when the job description was worker-oriented. Since the targets were being judged for two different jobs within a given job description condition, however, the mean across jobs is not particularly meaningful. A clearer understanding of the relationships among these variables will be brought forward in the discussion of the Applicant Target x Job Description x Job Category interaction.

The second significant effect from the analysis of General Suitability scores was a predicted Applicant Target x Job Category interaction (Table 16). Figure 12 illustrates the cell means in this interaction, which replicated a similar pattern of suitability judgments obtained by Rothstein and Jackson (1980). A priori multiple comparisons of the cell means confirmed the statistical significance of the differences illustrated in Figure 12. The accounting target was seen as being significantly more suitable for the accounting job than either the scientist target ($t_{2,138} = 5.390, p < .001$) or the advertising target ($t_{2,138} = 9.349, p < .001$), and the advertising target was rated significantly lower than the scientist target ($t_{2,138} = 3.959, p < .001$). Similarly, the advertising target obtained significantly higher suitability ratings for the advertising job than either the scientist target ($t_{2,138} = 4.733, p < .001$) or the accounting target ($t_{2,138} = 9.400, p < .001$), and the accounting target was rated significantly lower than the scientist target ($t_{2,138} = 4.667, p < .001$). Within target



Figure 11. Mean Ratings on the General Suitability Variable in the Applicant Target x Job Description Interaction

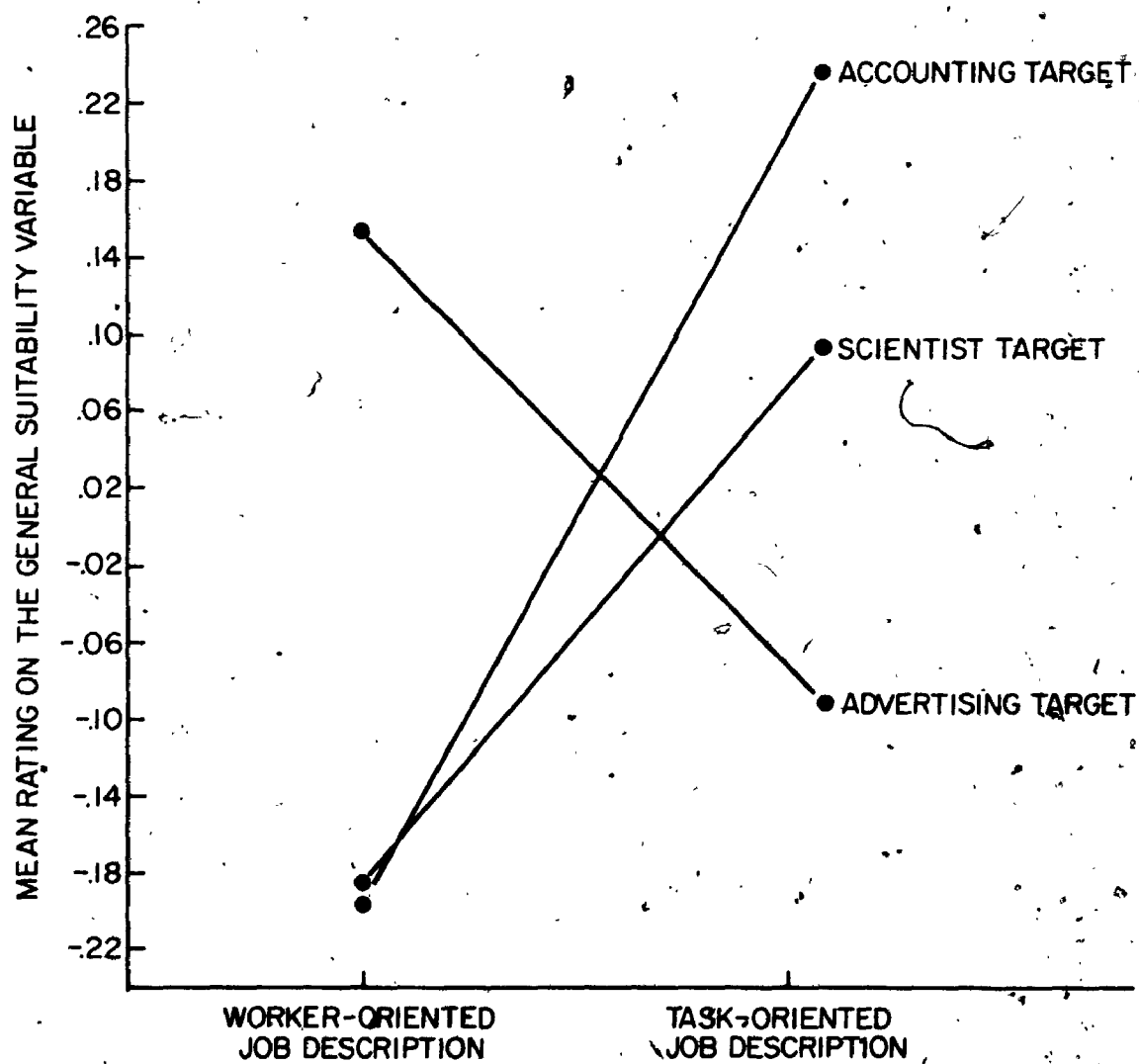
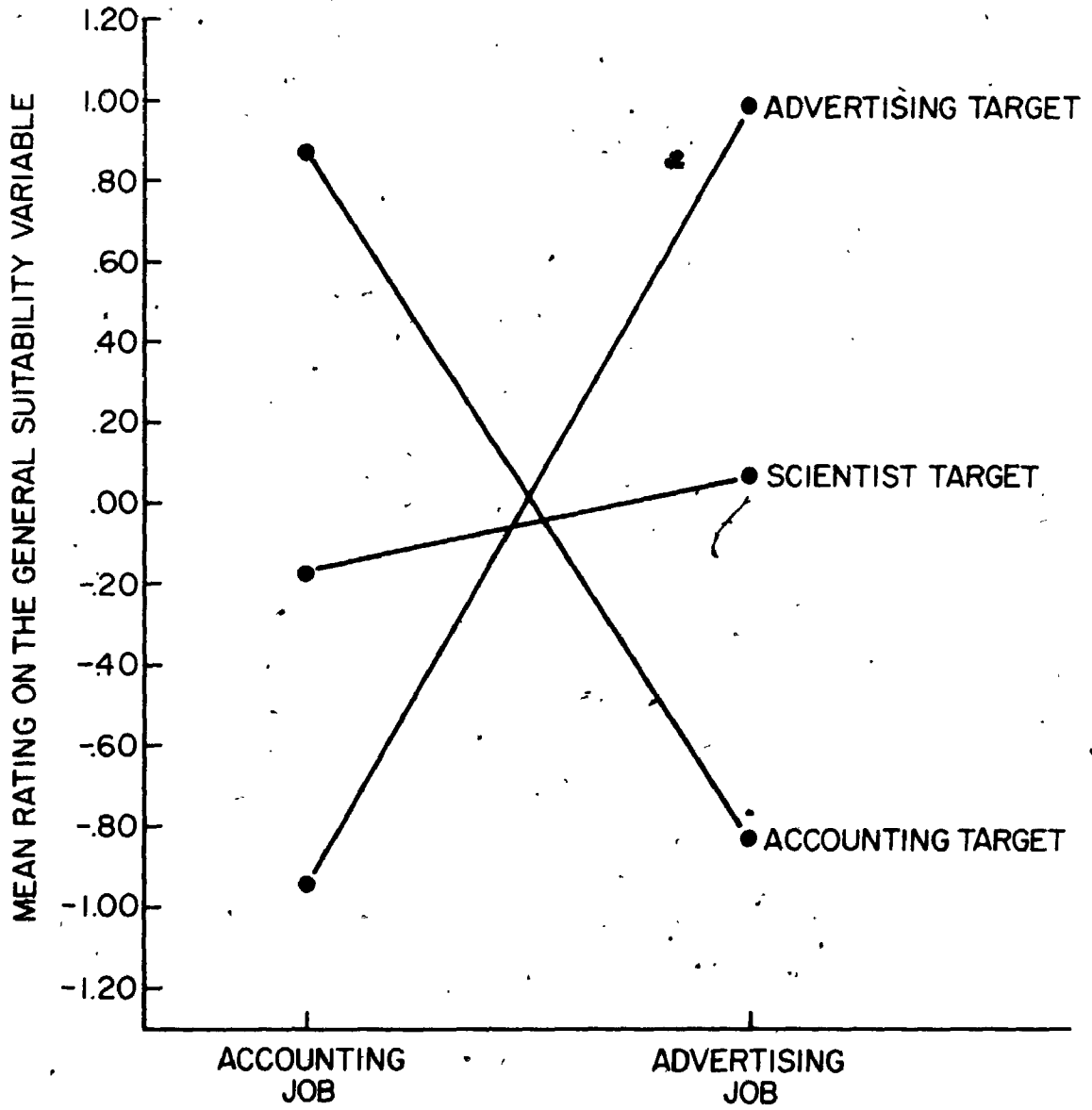


Table 16

Mean Scores on the General Suitability Variable in the
Applicant Target x Job Category Interaction

	Accounting Job	Advertising Job
Scientist Target	-.172	.075
Advertising Target	-.944	.998
Accounting Target	.879	-.835

Figure 12. Mean Ratings on the General Suitability Variable in the Applicant Target x Job Category Interaction



comparisons also revealed the expected results. The accounting target was rated as significantly more suitable for the accounting job than the advertising job ($t_{2,138} = 8.790, p < .001$) whereas the opposite was true for the advertising target ($t_{2,138} = 9.959, p < .001$). There was no difference between the ratings received by the scientist target for the two jobs.

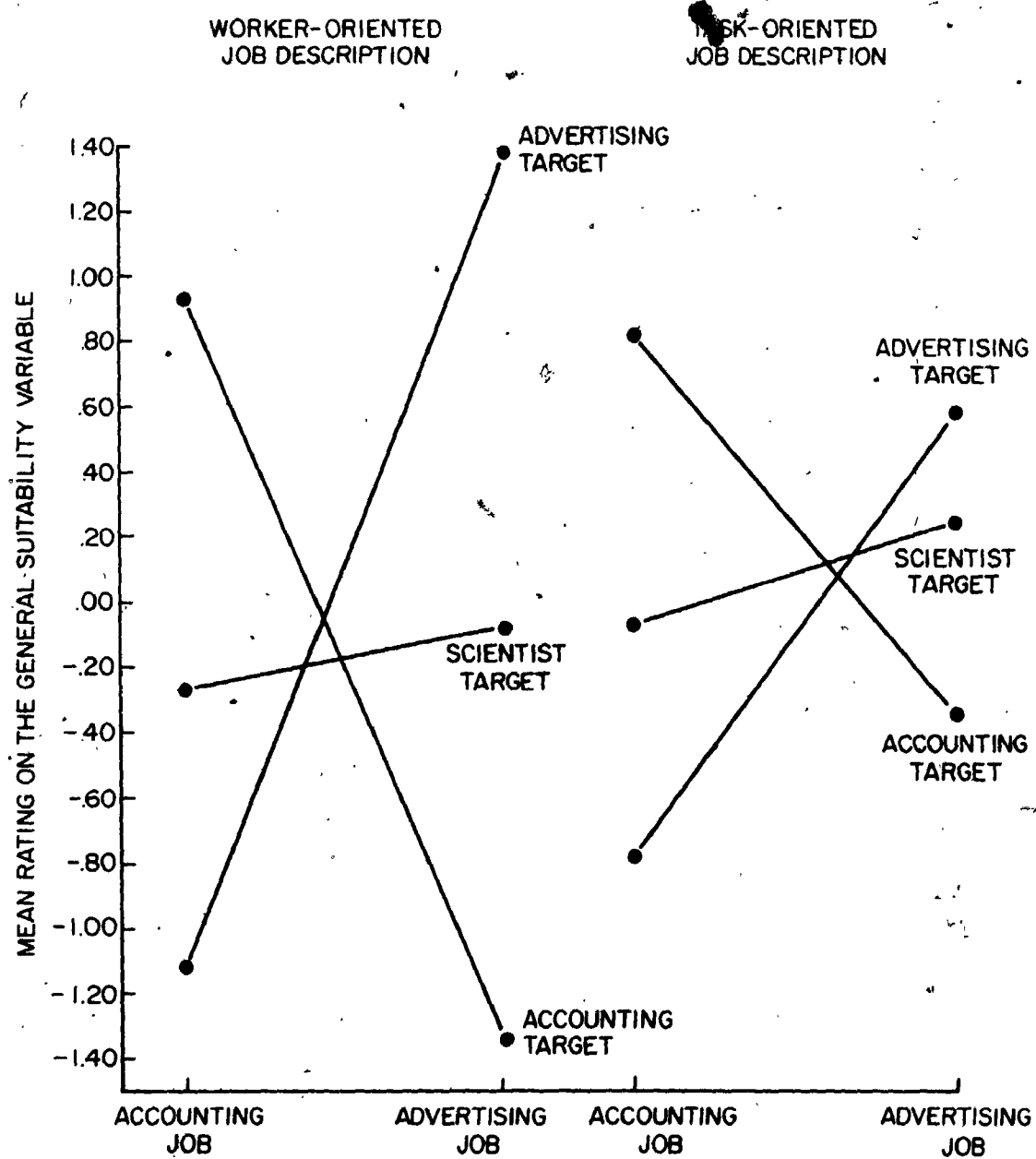
Further clarification of the two way interactions discussed above will come about from a consideration of the significant Applicant Target x Job Description x Job Category interaction. As indicated by Table 17 and Figure 13, the ratings of suitability for the three targets follow the pattern found in the Applicant Target x Job Category interaction, except that the mean differences are slightly smaller when the job description was task-oriented versus worker-oriented. A priori multiple comparisons between the cell means in this three way interaction replicated the results of the Applicant Target x Job Category interaction just discussed, for the worker-oriented job description conditions but not entirely for the task-oriented job description conditions. In the latter conditions, applicants were rated on suitability as predicted for the accounting job, but for the advertising job there was not a significant difference between the advertising and scientist targets. Other suitability ratings under the task-oriented job description/advertising job conditions were as predicted. Figure 13 illustrates the total pattern of cell means in this interaction and it can be seen that despite the failure of one comparison to reach statistical significance, the means are all in the predicted direction. In general, then, applicants were rated higher on general suitability for congruent jobs than incongruent jobs, and this finding appeared to hold

Table 17

Mean Scores on the General Suitability Variable in the Applicant
 Target x Job Description x Job Category Interaction

	Worker-Oriented Job Description		Task-Oriented Job Description	
	Accounting Job	Advertising Job	Accounting Job	Advertising Job
Scientist Target	-.283	-.096	-.061	.246
Advertising Target	-1.103	1.398	-.785	.597
Accounting Target	.939	-1.331	.818	-.340

Figure 13. Mean Ratings on the General Suitability Variable in the Applicant*Target x Job Description x Job Category Interaction



across types of job description. However, the effect of job description in this interaction must be examined by comparing suitability ratings for similar applicants and jobs, but different job descriptions. These comparisons indicated partial support for the predictions. For example, as predicted, the accounting target was rated less suitable for the advertising job when the job description was worker-oriented versus task-oriented ($t_{2,132} = 3.591, p < .001$). There were no differences in ratings, however, for the accounting job across the two types of job descriptions for this target. Similarly, the advertising target was rated more suitable for the advertising job when the job description was worker-oriented, ($t_{2,132} = 2.902, p < .005$), as predicted, but there were no differences in ratings for the accounting job between types of job descriptions. There were no significant differences among suitability ratings for the scientist target either across job category or type of job description.

The dependent-variable "Confidence of Hiring Decision" referred specifically to an item that loaded on the General Suitability factor which required subjects to judge whether or not the applicant should be hired for the job in question. Rothstein and Jackson (1980) found no differences in confidence in their study, which was predicted since the two jobs and two applicants were quite clearly either congruent or incongruent. In the present study, the presence of a third "control" applicant and different types of criteria information (i.e., job descriptions) led to the expectation that subjects would be more confident of their hiring decisions when judging the accounting or advertising targets and when they were using a worker-oriented job description. These predictions were partially supported. A main effect

for Applicant Target did occur which indicated that both the accounting ($\bar{x} = .115$) and advertising ($\bar{x} = .186$) targets obtained higher confidence ratings than the scientist ($\bar{x} = -.301$) target ($t_{2,141} = 2.133, p < .03$ and $t_{2,141} = 2.497, p < .01$, respectively). A main effect for Job Description, however, did not occur. Rather, an Applicant Target x Job Description interaction occurred, the means of which are illustrated in Table 18 and Figure 14. Figure 14 indicates that judges were more confident of their hiring decision for the accounting and advertising targets versus the scientist target when the job description was worker-oriented. These differences were confirmed with a posteriori tests, both significant at the .01 level (HSD = .930 and HSD = .899, respectively). Comparisons across type of job description indicated that only for the accounting target were subjects more confident of their rating when given a worker-oriented job description (HSD = .755, $p < .05$).

ANOVA tests on the last dependent variable, Working with Others, resulted in three unpredicted effects. A main effect for Applicant Target indicated that both the accountant ($\bar{x} = .099$) and advertising ($\bar{x} = .341$) applicants were judged as being more likely than the scientist ($\bar{x} = -.440$) applicant to get along well with their coworkers (HSD = .504, $p < .01$ and HSD = .570, $p < .01$, respectively). The main effect for Job Category indicated that applicants applying for the accounting job ($\bar{x} = .16$) were generally rated more likely to get along well with their coworkers than applicants applying for the advertising job ($\bar{x} = -.16$), HSD = .313, $p < .05$. The Applicant Target x Job Description x Order interaction is illustrated in Table 19 and Figure 15. A posteriori multiple comparisons between the means indicated that the interaction was

Table 18

Mean Scores on Confidence of Hiring Decision Variable in
the Applicant Target x Job Description Interaction

	Worker-Oriented Job Description	Task-Oriented Job Description
Scientist Target	-.545	-.058
Advertising Target	.377	-.005
Accounting Target	.530	+.299

Figure 14. Mean Ratings on Confidence of Hiring Decision Variable
the Applicant Target, x Job Description Interaction

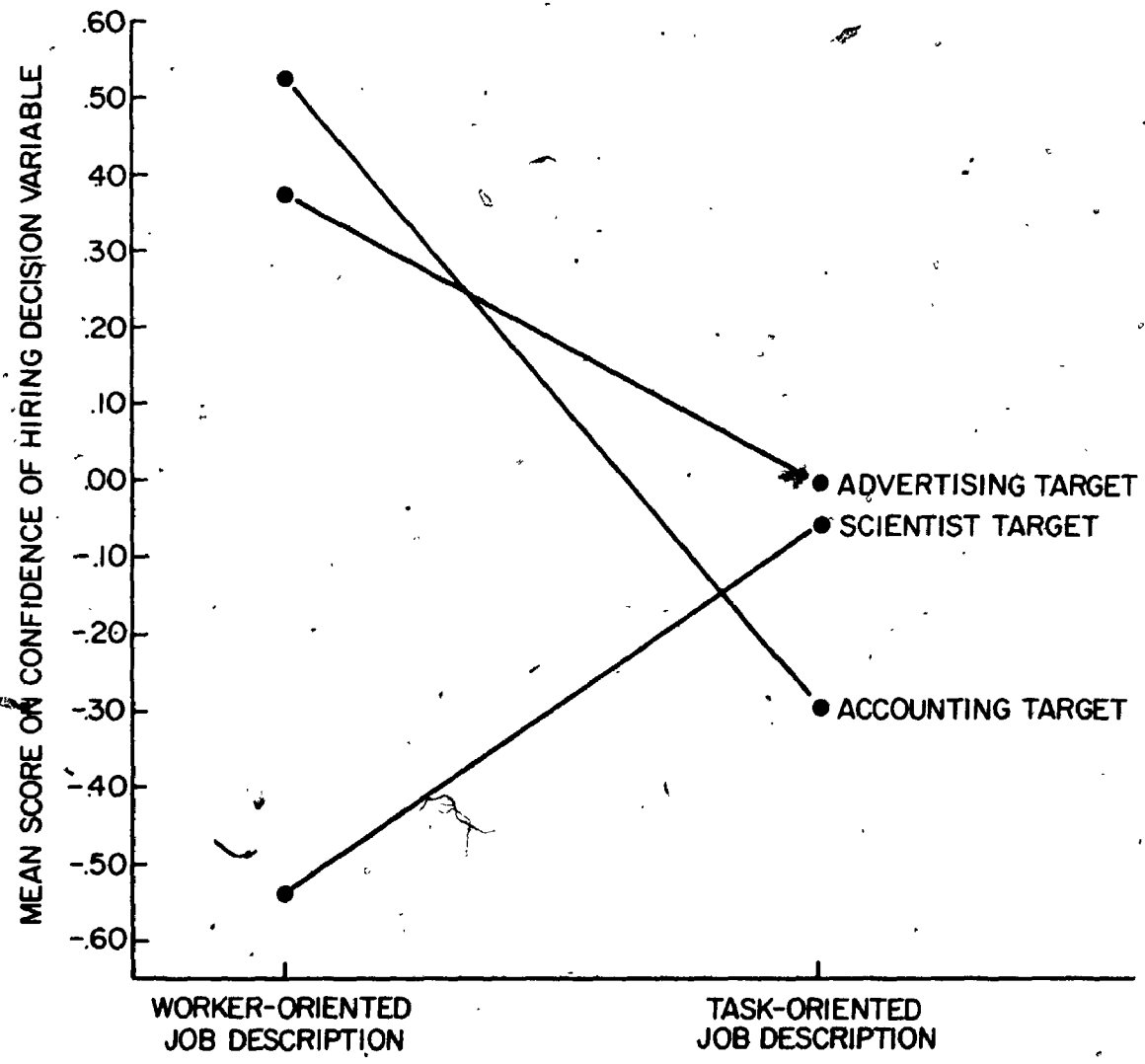


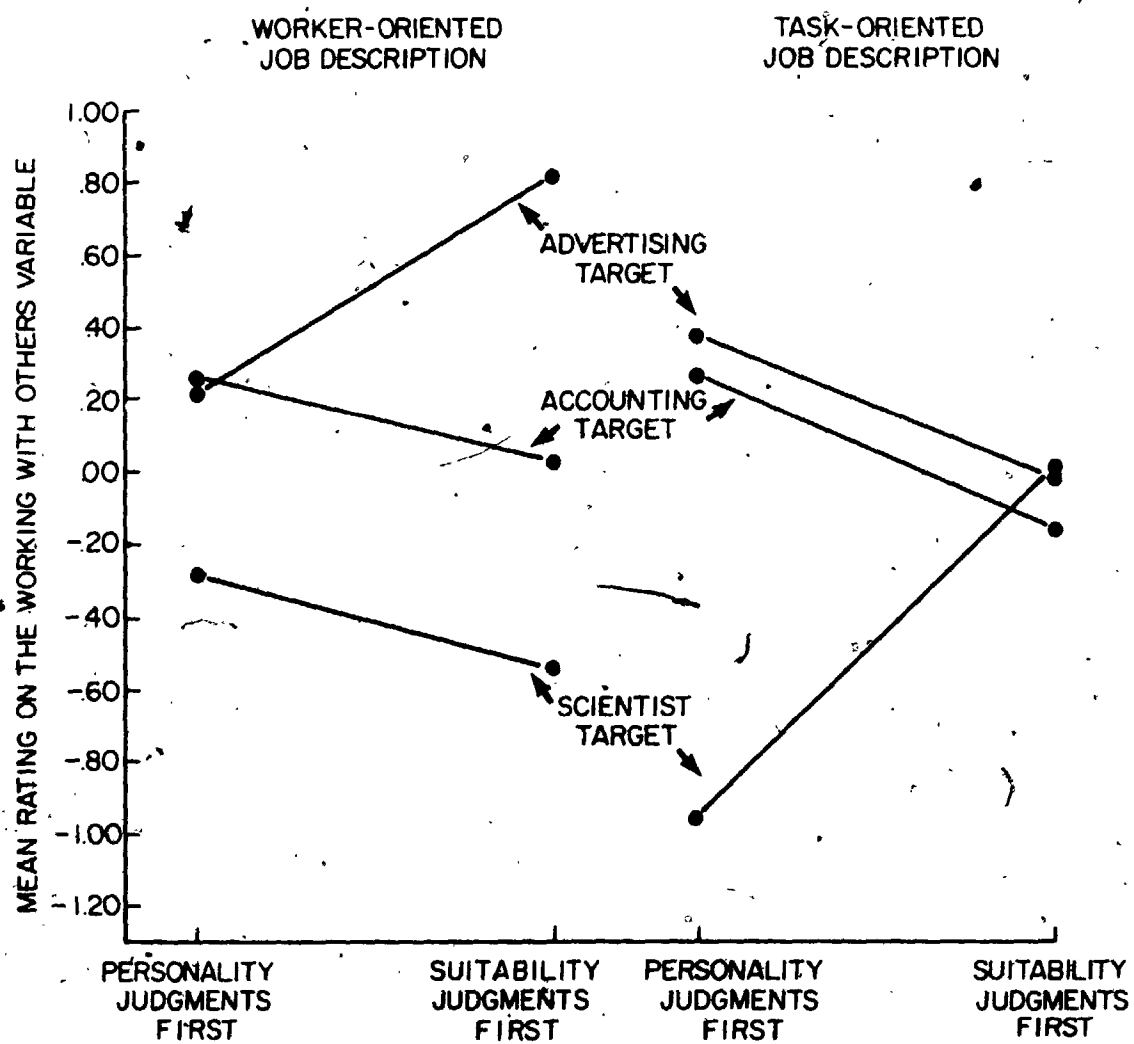
Table 19

Mean Scores on Working with Others Variable in the Applicant

Target x Job Description x Order Interaction

	Worker-Oriented Job Description		Task-Oriented Job Description	
	Personality Judgments First	Suitability Judgments First	Personality Judgments First	Suitability Judgments First
Scientist Target	-.286	-.535	-.947	.010
Advertising Target	.208	.802	.374	-.021
Accounting Target	.240	.029	.281	-.156

Figure 15. Mean Ratings on Working with Others Variable in the Applicant Target x Job Description x Order Interaction



accounted for by only three significant comparisons. These comparisons were as follows: (1) with a worker-oriented job description and when suitability judgments were made before personality judgments, the advertising target was judged higher on Working with Others than the scientist target (HSD = 1.259, $p < .05$), (2) with a worker-oriented job description and when suitability judgments were made before personality judgments, the advertising target was judged higher on Working with Others than the scientist target when the latter target was being judged with a task-oriented job description and when personality judgments were made before suitability judgments, (HSD = 1.464, $p < .01$), and (3) with a task-oriented job description and when personality judgments were made before suitability judgments, the advertising target was judged higher on Working with Others than the scientist target (HSD = 1.259, $p < .05$).

The next step in the analyses was to determine if differences in subjects' intelligence or experience with either of the two jobs affected their judgments of applicant suitability for the jobs. To examine this possibility, the measures of intelligence and experience were used as covariates in a series of analyses of covariance of the four composite dependent variables. The effects of the covariates were examined individually and together. Although ANACOVA procedures assume equality of within and between group regression lines, which may be a tenuous assumption in multifactorial experimental designs, Overall and Woodward (1977a, 1977b) have demonstrated that even if this assumption is violated there is no effect on the ANACOVA results. Table 20 summarizes the significant F ratios after the effects of intelligence and experience were removed. A comparison of this table with Table 13 indicates that all of the significant F tests resulting from the analyses of variance

Table 20
 Summary of Analyses of Covariance on Four Composite Variables:
 Covariates = Intelligence and Experience

Effect	Composite Dependent Variable			
	Work Adjustment	Confidence of Hiring Decision	General Suitability	Working with Others
Applicant Target	F (2, 94) = 19.66, p < .001	F (2, 94) = 3.66, p < .03		F (2, 94) = 8.07, p < .001
Job Category	F (1, 94) = 4.78, p < .02			
Applicant Target x Job Description		F (2, 94) = 5.58, p < .01	F (2, 94) = 3.71, p < .03	
Applicant Target x Job Category	F (2, 94) = 7.37, p < .002		F (2, 94) = 87.49, p < .0001	
Applicant Target x Job Description x Job Category			F (2, 94) = 7.76, p < .001	
Applicant Target x Job Description x Order				F (2, 94) = 3.76, p < .03

were repeated after the analyses of covariance, with the exception of a main effect for Job Category with the dependent variable "Working with Others," which failed to reach significance after the covariates were removed. Furthermore, no other F tests became significant after the analyses of covariance. The fact that the two covariates had so little effect on subjects' judgments is further indicated by the F tests on these variables. F ratios were obtained for each covariate and for their combined effects on each of the four dependent variables. Only one of these F tests was significant, and that was for the effect of intelligence on ratings of Work Adjustment ($F_{1,94} = 4.72, p < .05$). The adjusted means on this dependent variable for the Applicant Target and Job Category main effects and the Applicant Target x Job Category interaction are illustrated in Table 21. A comparison of this table with Table 14 (i.e., the means before they were adjusted for the effect of intelligence) indicates an identical pattern of mean differences. In fact, multiple comparison tests supported all of the findings reported for this variable previously except for one. The exception was a significantly higher mean rating on Work Adjustment for the accounting target applying for the accounting job versus the advertising job ($t_{2,138} = 1.675, p < .05$), which previously failed to reach significance. Since no other significant effects were obtained for the covariates, there were no other changes in the results reported from the analyses of variance. It seems, therefore, that intelligence and experience had very little effect on subjects' judgments.

The final stage of the analyses of subjects' judgments of the target applicants was the separate analysis of the performance-specific items for subjects evaluating applicants for the accounting job and then for

Table 21

Adjusted Means on the Work Adjustment Variable for the Applicant

Target and Job Category Main Effects and the Applicant

Target x Job Category Interaction

	Accounting Job	Advertising Job	Mean Across Job Types
Scientist Target	.011	.462	.237
Advertising Target	-1.036	-.172	-.604
Accounting Target	.565	.170	.368
Mean Across Targets	-.153	.230	

subjects evaluating applicants for the advertising job. Turning to the accounting job conditions first, five performance-specific items were factor analyzed with the other dependent variables for the subjects in these conditions. The method of principal components was used and three interpretable factors, identified by the scree-test, were rotated to a varimax criterion. Table 22 illustrates the rotated factors and the amount of variance each accounted for. A total of 75.71% of the variance was accounted for by the three extracted factors. The factor structure of these items differs from that shown in Table 11 in that when performance-specific items were included in the analysis, they tended to constitute an independent dimension and most of the other items fell into a general suitability, satisfaction, and adjustment factor. Two items were exceptions to this pattern. A rating of how neat an applicant's work would likely be was split between the first general factor and the second performance factor. A rating of general ability for job tasks, which previously was included in the Work Adjustment factor, now was more closely related to the performance factor. In general, however, the performance related judgments seemed to make up an independent dimension of subjects' ratings.

As in the previous set of analyses, factor scores were derived for use as dependent variables in subsequent analyses. A multivariate analysis of variance (MANOVA) of the three composite factor score variables resulted in two significant multivariate F tests, a main effect for Applicant Target ($F_{6,92} = 34.862, p < .0001$) and an Applicant Target x Job Description interaction ($F_{6,92} = 2.395, p < .05$). Since the General Suitability, Work Adjustment, and Confidence of Hiring Decision variables were analyzed in detail in the original five factor design, and

Table 22

Factor Structure of Job-Related Judgments: "Accounting Job" Conditions

	Suitability, Satisfaction & Adjustment	Ability and Performance	Confidence of Hiring Decision
Suitability for the Job	.83		
Hiring Decision	.86		
Confidence of Decision			-.84
Job Satisfaction	.87		
Record Transactions Correctly (Understanding)		.83	
Labeling Transactions (Communications)		.73	
Showing Calculations		.73	
Do Calculations Correctly		.77	
Neatness	.69	.59	
Interest in Learning Job Tasks	.60		
Task Satisfaction	.89		
Predicted Performance	.63		
Ability for Job Tasks		.56	
Performance Satisfaction	.89		
Long Term Interest in Job	.90		
Getting Along with Coworkers			-.58
Likelihood of Wanting a Different Job	-.86		
Variance Accounted for	59.74%	9.13%	6.84%

since the Manova results indicated the same pattern of results obtained in the five factor design, univariate analyses of variance on the variables derived from factors one and three of the present analysis would be redundant with the previous analyses. Focusing on the Ability and Performance composite variable then, ANOVA results indicated that only a main effect for Applicant Target was significant ($F_{2,98} = 10.552, p < .001$) for this variable. A posteriori comparisons between the means indicated that both the scientist ($\bar{x} = .394$) and accounting ($\bar{x} = .270$) targets were rated higher on the expected performance variables than the advertising ($\bar{x} = -.663$) target (HSD = .761, $p < .01$ and HSD = .669, $p < .01$, respectively). When the effects of intelligence and experience are removed from subjects' judgments, the main effect for Applicant Target remained significant ($F_{2,46} = 11.68, p < .001$), and no other significant effects were obtained, including F tests of the covariates.

Nine performance-specific items were rated by subjects in the advertising job conditions. Once again, these items were factored with the other items by the method of principal components. Five interpretable factors were identified by the scree test and rotated to a varimax criterion. The factor structure is illustrated in Table 23 along with the variance accounted for by each factor. All factors together accounted for 74.30% of the total variance. Table 23 indicates that there were two ability or performance dimensions relevant to the advertising job. As with the accounting job, the performance dimensions were independent from the other general suitability and adjustment factors.

A Manova of the five composite factor score variables derived from ratings in the advertising job conditions resulted in the same

Table 23

Factor Structure of Job-Related Judgments: "Advertising Job" Conditions

	General Suita- bility	Market- ing Ability	Creative Ability	Confidence of Hiring Decision	Work Adjust- ment
Suitability for the Job	.89				
Hiring Decision	.89				
Confidence of Decision				-.91	
Job Satisfaction	.90				
Intrusiveness			-.76		
Creative Production			-.80		
Cleverness (Use of Gimics)			-.80		
Entertainment Value			-.79		
Consumer Relevance		.73			
Truthfulness		.77			
Distinctiveness (Of Product)		.82			
Persuading			-.57		
Focus on Target Group		.74			
Interest in Learning Job Tasks					-.62
Task Satisfaction					-.67
Predicted Performance					-.70
Ability for Job Tasks		.67			
Performance Satisfaction					-.80
Long Term Interest in Job					-.65
Getting Along with Coworkers	.40				
Likelihood of Wanting a Different Job					.56
Variance Accounted For	46.21%	11.35%	6.29%	5.33%	5.12%

significant effects obtained in the accounting job conditions, a main effect for Applicant Target ($F_{10,88} = 9.291, p < .001$) and an Applicant Target \times Job Description interaction ($F_{10,88} = 4.834, p < .001$). Once again, to avoid redundancy in analyses and results, univariate analyses of variance will focus on the performance related items. With respect to the Marketing Ability dependent variable, ANOVA results indicated that only a main effect for Applicant Target was significant ($F_{2,48} = 3.439, p < .05$). A posteriori comparisons between the means indicated that both the scientist ($\bar{x} = .143$) target and the accounting ($\bar{x} = .247$) target received higher ratings on expected performance than the advertising ($\bar{x} = -.390$) target (HSD = .521, $p < .05$ and HSD = .626, $p < .05$, respectively). Removing the effects of intelligence and experience from these judgments had no effect on the ANOVA results, as was the case with the accounting job performance ratings. With respect to the Creative Ability dependent measure, ANOVA results indicated once again that only a main effect for Applicant Target was significant ($F_{2,48} = 4.882, p < .01$). This time, however, only the accounting ($\bar{x} = .404$) target was rated significantly higher than the advertising ($\bar{x} = -.451$) target (HSD = .832, $p < .01$), and the scientist target was rated in between ($\bar{x} = .047$). Again, the analysis of covariance had no effect on these results.

Individual Differences in Accuracy of Judgments

Thus far the effects of the experimental independent variables on the general suitability and expected performance judgments have been examined. The question of whether or not the experimental manipulations affected the personality judgments may be answered quickly. Results from MANOVA using the personality judgments as dependent variables indicated a

main effect for Applicant Target ($F_{20,222} = 42.681, p < .0001$) and an Applicant Target x Job Category interaction ($F_{20,222} = 1.809, p < .03$). The univariate ANOVA results for the Applicant Target main effect replicated the results of the threshold analysis discussed earlier. That is, both sets of analyses demonstrated that differential judgments of applicant personality characteristics were made and that the judgments accurately reflected the characteristics of the applicants. The Applicant Target x Job Category interaction occurred with only two of the personality variables, Change and Social Recognition. Results from univariate analyses with these two variables indicated that in both cases there were slight differences in mean judgments for the targets from one job to the other, but the overall main effects for Applicant Target remained unchanged.

The other issue of considerable importance in this experiment was the examination of individual differences in the various judgments that were made. There were four individual difference measures obtained in this study, a general measure of intelligence, a measure of subject experience with either of the two jobs, a measure of self-monitoring (Snyder, 1974), and sensitivity. Ideally, it would be desirable to examine the differential effects of all the individual difference measures on the various judgments. Since these measures are continuous, it would be most appropriate to use them as independent variables in a regression analysis with the various judgments as dependent variables. This was not possible, however, for the suitability or expected performance judgments, because it would have required separate regression analyses within cells of the factorial design in order to avoid the confounding effects of the experimental manipulations. This would have

required 48 separate regression equations for each dependent variable, each using a sample of three subjects. Even if sex was disregarded as a factor, there would still have been 24 separate regression equations for each dependent variable with only six subjects in each. Both of these situations would have greatly increased the likelihood of Type I errors and produced unreliable ordering of the predictors. An attempt was made to dichotomize all the individual difference measures and use them as independent variables in an ANOVA design. However, this resulted in multiple empty cells such that the analyses could not be done. Thus, the most reasonable method of determining the effects of the individual difference variables on the judgments of applicant suitability and expected performance was with analysis of covariance. Intelligence and experience had already been shown to have little effect on these judgments and therefore sensitivity and self-monitoring were also used as covariates in a similar analysis. Again, no effects on the previously discussed ANOVA results were obtained. Thus, none of the individual difference measures employed in this study appeared to significantly affect subjects' judgments of an applicant's general suitability or expected performance.

The final issue of interest is the effect of the individual difference measures on judgments of applicant personality characteristics. These judgments were not significantly affected by the experimental manipulations and were highly accurate, as shown by the analysis of threshold scores. It was therefore possible in this situation to use regression procedures to examine the variance accounted for in the personality judgments by each of the four individual difference variables. In this way it was also possible to test Snyder

and Cantor's (1980) contention that self-monitoring was related to accuracy in person perception, and to compare the predictability of this variable relative to the other three individual difference measures for each personality judgment.

Regression analyses were done separately for each of the three applicant targets. Only the personality judgments on the five marker scales for each target were used as dependent variables. This was done to avoid greatly increasing the likelihood of Type I errors and also because the primary interest in these analyses was to test the assertion that self-monitoring predicted accuracy in person perception. That is, it was not predicted that self-monitoring would be related to accuracy in inferential personality judgments. At the same time the three other individual difference variables could be examined for their contribution to an accurate personality judgment. Thus, for each target applicant, the four individual difference measures were used as independent variables to predict each of five dependent variables which were judgments of personality on the five marker scales for each target. Since the individual difference measures were uncorrelated (see Table 24), their interpretation as independent variables in a regression equation was simplified. Stepwise regression analyses were used in all cases and the independent variables were allowed to enter the equation according to the amount of variance each accounted for in the dependent variable.

Results from the regression analyses are summarized in Tables 25, 26, and 27. Inspection of these tables indicates that self-monitoring was not at all related to accuracy in person perception. In only one regression analysis was self-monitoring significantly related to the

Table 24

Correlations among the Four Individual Variables

	Self-Monitoring	Experience	Sensitivity
Intelligence	.026	-.049	.010
Self-Monitoring		.105	-.024
Experience			-.037

Table 25

Summary of Regression Analyses of Personality Judgments on Four Individual
Difference Variables: Scientist Applicant Target

Personality Variable	Order that Individual Difference Variable was Entered	F to Enter	Significance	Multiple R	R Square	Simple r
Achievement (+)	Sensitivity	14.899	.001	.495	.245	.495
	Experience	6.257	.01	.580	.337	-.346
	Self-Monitoring	.407	.53	.586	.343	-.086
	Intelligence	.154	.70	.588	.345	.007
Endurance (+)	Sensitivity	5.602	.02	.329	.109	.329
	Experience	3.956	.05	.425	.181	-.297
	Self-Monitoring	1.536	.22	.456	.208	-.161
	Intelligence	.204	.65	.460	.212	.107
Social Recognition (+)	Sensitivity	8.953	.01	.404	.163	-.404
	Experience	6.189	.02	.514	.264	.353
	Intelligence	.352	.56	.520	.270	-.129
	Self-Monitoring	.133	.72	.522	.272	.045
Successance (-)	Experience	6.159	.02	.344	.118	.344
	Sensitivity	4.737	.04	.450	.202	-.319
	Intelligence	.751	.39	.464	.215	-.165
Understanding (+)	Sensitivity	1.415	.24	.173	.030	.173
	Self-Monitoring	.981	.33	.225	.051	-.162
	Experience	.848	.36	.262	.068	-.127
Intelligence	.404	.53	.278	.077	-.071	

Table 26
 Summary of Regression Analyses of Personality Judgments on Four Individual
 Difference Variables: Advertising Applicant Target

Personality Variable	Order that Individual Difference Variable was Entered	F to Enter	Significance	Multiple R	R Square	Simple r
Autonomy (+)	Sensitivity	11.016	.01	.440	.193	.440
	Intelligence	.759	.39	.455	.207	-.094
	Self-Monitoring	.135	.72	.457	.209	-.118
	Experience	.088	.77	.459	.211	.038
Change (-)	Sensitivity	8.663	.01	.398	.158	.398
	Self-Monitoring	5.593	.03	.502	.252	-.359
	Intelligence	.082	.78	.503	.253	.039
	Experience	.055	.82	.504	.254	-.042
Cognitive Structure (-)	Sensitivity	70.297	.001	.777	.604	-.777
	Self-Monitoring	1.038	.31	.783	.613	.017
	Intelligence	.149	.70	.784	.615	-.080
	Experience	.099	.76	.785	.616	-.061
Impulsivity (+)	Sensitivity	77.785	.001	.793	.628	.793
	Experience	.957	.33	.798	.636	.100
	Intelligence	.491	.49	.800	.640	-.028
	Self-Monitoring	.046	.83	.800	.641	-.077

(Continued on next page)

Table 26 (Continued)

Order (-)	Sensitivity	55.587	.901	.740	.547	-.740
	Self-Monitoring	1.749	.19	.751	.564	-.024
	Experience	.637	.43	.755	.570	.033
	Intelligence	.340	.56	.757	.574	-.107

Table 27

Summary of Regression Analyses of Personality Judgments on Four Individual
Difference Variables: Accounting Applicant Target

Personality Variable	Order that Individual Difference Variable was Entered	F to Enter	Significance	Multiple R	R Square	Simple r
Autonomy (-)	Intelligence	1.867	.18	.197	.039	-.197
	Experience	1.094	.30	.249	.062	-.160
	Sensitivity	.082	.78	.252	.064	.052
	Self-Monitoring	.069	.80	.255	.065	-.075
Change (-)	Sensitivity	6.765	.01	.358	.128	-.358
	Intelligence	1.195	.28	.388	.151	.178
	Experience	.570	.45	.402	.162	-.108
	Self-Monitoring	.264	.61	.408	.168	-.119
Cognitive Structure (+)	Intelligence	4.861	.04	.309	.096	-.309
	Experience	3.564	.07	.402	.162	.243
	Self-Monitoring	3.009	.09	.464	.216	-.177
	Sensitivity	1.976	.17	.500	.250	.197
Impulsivity (-)	Sensitivity	1.336	.25	.168	.028	-.168
	Self-Monitoring	1.486	.23	.243	.059	.160
	Experience	.271	.61	.255	.065	-.039
	Intelligence	.126	.72	.260	.068	.069
Order (+)	Experience	4.050	.05	.284	.081	.284
	Sensitivity	3.293	.08	.379	.144	.259
	Self-Monitoring	.957	.33	.402	.162	-.044
	Intelligence	.571	.45	.416	.173	-.115

dependent variable (i.e., the judgment of Change in the advertising applicant, Table 26). However, the simple correlation between these two variables was negative which was opposite to what would be predicted by Snyder and Cantor (1980).

Overall, the best predictor of accuracy in person perception was sensitivity. In 11 out of 15 regression analyses, sensitivity accounted for the largest proportion of variance in the personality judgment. Moreover, evidence that these results support the measure of sensitivity as a predictor of accuracy comes from the simple correlations between sensitivity and the personality variables. For example, the personality variables are either positive or negative marker scales for each of the applicant targets (as noted in Tables 25-27). An accurate judgment of these personality traits would therefore be a high score on a positive marker scale and a low score on a negative marker scale. The simple correlations between the personality judgments and sensitivity indicated, with only one exception, that when the personality variable was a positive marker scale the correlation with sensitivity was positive and when the personality variable was a negative marker scale the correlation with sensitivity was negative. The exception was a correlation between the judgment of Autonomy and sensitivity in the accounting applicant (Table 27) which was nonsignificant and slightly positive (.05) rather than the expected negative. Thus, for the most part, subjects high in sensitivity accurately identified both the positive and negative marker traits of applicant targets.

None of the other individual difference measures obtained on subjects in this study was as consistent an index of accuracy in person perception as was sensitivity. Nor did any of the other measures account

for as much of the variance in the personality judgments as did sensitivity. As previously mentioned, self-monitoring was a significant contributor to the prediction of one personality scale, but the direction of the relationship was opposite to what would be predicted from self-monitoring theory. General intelligence was also a significant predictor of only one personality scale (Cognitive Structure in the accounting applicant, Table 27). The correlation between these two variables indicated that it was subjects of lower intelligence who made the accurate judgments. The final individual difference variable, a measure of subjects' experience with either of the target jobs, was a significant predictor of five of the personality judgments. One of these judgments was of the personality variable Order in the accounting applicant (Table 27). The simple correlation between Order and experience was positive, and taking into account that Order was a positive marker scale, this indicates that subjects with more experience made more accurate judgments. The other four personality judgments significantly predicted by experience were marker scales for the scientist applicant. Inspection of the simple correlations between these four judgments and experience indicate that for this applicant it was subjects with less experience (with accounting and advertising jobs) who made more accurate personality judgments. Thus, although experience played a role in predicting accuracy of subjects' personality judgments, clearly sensitivity accounted for more of the variance in judgments and was more consistently related to accuracy across target applicants and personality variables.

Discussion of Study One Results

Results from the study lend considerable support to the findings

reported by Rothstein and Jackson (1980) and Jackson, Peacock, and Smith (1980), and provide additional insight into the factors affecting decision making in the employment interview. The inferential accuracy model of social perception was again found to be a useful tool for studying the judgment of personality characteristics, and one of the parameters of the model was found to be a useful index of accuracy in these judgments.

The personality judgments for the three target job applicants were highly reliable (the mean reliability for the three targets being .99). Clearly, when subjects were given a small amount of relevant, consistent personality information, their judgments and inferences across a broad pattern of personality characteristics were in considerable agreement. It was also shown that this agreement was not based on global desirability stereotypes, but rather was a function of substantive personality information. In addition, the large majority of judges with high sensitivity scores indicated the degree of consensus regarding the personality judgments. Consistent with Rothstein and Jackson (1980), the sensitivity analysis demonstrated that the majority of judges were highly aware of the consensus regarding the covariation of behaviors relevant to the three target applicants. Although some judges were lower in sensitivity, the frequency of low and moderate sensitivity scores appeared to be even lower than found by Rothstein and Jackson.

There was some evidence that the consensus was not equal across all targets. That is, an ANOVA of sensitivity scores indicated that mean sensitivities were greater for the accounting and advertising targets compared to the scientist target. This may suggest that the awareness of

the covariation of trait behaviors may vary not only across individuals, but also across personality types. The latter variability may be due to differential exposure to the different personality types or perhaps because the personality types have different frequencies of occurrence in the general population. Both of these possibilities would be of interest if confirmed by further research. However, since Rothstein and Jackson (1980) found no differences in sensitivity across targets, the reliability of the finding must also be questioned.

Another interesting result from the ANOVA of sensitivity scores was the lack of differences between the worker-oriented and task-oriented job description conditions. Consistent with Rothstein and Jackson's (1980) finding that an increase in the quantity of job description information did not affect the level of awareness of trait covariation, apparently type of job description information does not affect sensitivity levels either. Results from both experiments strongly suggest that subjects do not need cues about what to look for in making personality judgments about the targets. Rather, their perceptions of the target's characteristics and the related inferential network of trait covariation seem to determine these personality judgments. There is one other interpretation, however, for the consistency and reliability of these judgments, which is also related to the issue of cues which subjects may use to assist them in making judgments.

The interpretation to be considered concerns the type of cues that subjects may bring into the experiment with them, as opposed to the type that may be given them through an experimental manipulation. One such set of cues may be the semantic associations to the words used to describe the targets, which according to the "semantic similarity

hypothesis" (e.g., D'Andrade, 1974; Shweder, 1975, 1977a, b) would account for the judgments of trait covariation. As discussed previously, however, the semantic similarity hypothesis is confounded by conceptual problems and has not been supported by empirical tests (Block, Weiss, & Thorne, 1979; Gara & Rosenberg, 1981; Jackson, 1982; Paunonen & Jackson, 1979; Wiggins, 1973).

Another set of cues which subjects might carry into the experiment could be social or occupational stereotypes. Assuming that such stereotypes were related to the targets used in this experiment, that subjects were aware of these stereotypes, and that they used them as a basis of their personality judgments (perhaps by matching each judgment against their cognitive stereotype), then this could be an alternative interpretation for the consistency, reliability, and accuracy of the personality judgments which would not be congruent with the interpretation given by the inferential accuracy model of social perception. For example, the inferential accuracy model postulates that subjects observe a specific behavior and from this observation infer a pattern of other related behaviors according to their likelihood of cooccurrence with the observed behavior. The stereotype interpretation, however, would imply that subjects match each observed behavior and each subsequent judgment of other cooccurring behaviors against a list of behaviors in their cognitive stereotype. To determine the validity of one or the other of these interpretations would require additional experimentation that would go beyond the scope of the current investigation. For example, it would require determining the exact nature of the cognitive stereotypes before subjects were exposed to any perceptual targets. Knowledge of the relationships between behaviors

that are perceived and judged, and behaviors that make up the stereotypes would also be necessary to determine whether a judgment of the likelihood of a behavior occurring in a target was based on a matching or an inferential process. Presumably the strength or sharpness of a stereotype would affect the accuracy of the matching process but not the inferential process. Stereotypic versus nonstereotypic targets could therefore be manipulated which would have no effect on the accuracy of the judgments if the inferential process was being used, but would lead to differential accuracy if the matching process was used. Such experiments would lead to more definitive answers to questions regarding the "process" of stereotyping in the present investigation. However, the question of whether or not the judged applicant profiles represent stereotypes is more easily answered.

The first issue that requires clarification is the definition of "stereotype". The "classic" definition of a stereotype developed from the writing of Lippmann (1922) and the early empirical studies of Katz and Braly (1933), and remained pretty much intact throughout the classic stereotype research studies (e.g., Gilbert, 1951; Karlins, Coffman, & Walters, 1969) and reviews (e.g., Brigham, 1971; Insko & Schopler, 1972). According to this definition, stereotypes have at least one of the following characteristics; they are overly simplistic, inaccurate, and are negatively valenced. A more recent definition of stereotypes has been offered by McCauley and Stitt (1978, 1980). These authors proposed that stereotypes were really probabilistic predictions that distinguished one group from another. A stereotype prediction, according to McCauley and Stitt, was probabilistic rather than all-or-none and consisted of beliefs that a person from a specific group was more likely than people

in general to have a certain characteristic. These researchers demonstrated that subjects used Bayesian rules in their stereotype judgments and that in terms of generalizations about classes of people, their stereotypes were relatively accurate and seldom exaggerated. McCauley and Stitt (1980) also point out that Kahneman and Tversky's (1973) observation, that humans do not use Bayesian rules in their judgments of representativeness, refers only to the integration of the conditional probability terms prescribed by the Bayesian rules. The actual ability to judge the conditional probabilities is not denied by Kahneman and Tversky, and it is this ability which is used in stereotype judgments according to McCauley and Stitt.

McCauley and Stitt (1980) acknowledge that stereotype judgments may be misused such as by depending on the stereotype when more information is available or by allowing memory or perception to be biased by the stereotype. However, their research clearly indicates that such judgments are not necessarily misused and may in fact be highly accurate. Thus, a distinction is made between the content of a stereotype and how a stereotype is used. In the present experiment the personality judgments of the target applicants were highly accurate. This was demonstrated by the analysis of threshold scores which indicated that subjects correctly attributed to the targets the appropriate personality characteristics, both in terms of their accurate perceptions of the stimulus information and their inferences which mirrored the covariation of these traits derived empirically (Siess & Jackson, 1970). The personality judgments were also multidimensional and highly differentiated, and were not negatively valenced. These judgments therefore clearly are not consistent with the classic definition of a stereotype. Rather, they are

much more consistent with the McCauley and Stitt (1978, 1980) definition, both in terms of content and method of derivation. That is, the judgments were derived from probabilistic predictions of the likelihood of cooccurrence of behaviors. The judged profiles may also be considered as probabilistic predictions that the target applicants are likely to have certain characteristics. Thus, the personality judgments in the present experiment may be considered stereotypic in the McCauley and Stitt sense, but should not be confused with the overly simplistic, inaccurate, and negatively valenced stereotypes which have been the focus of much research in psychology for the past 50 years. The process of stereotyping, however, is still not clearly understood and the degree to which stereotypic judgments depend on an inferential versus a matching strategy should still be the focus of future research such as that proposed earlier. A recent study (Sackett, 1982) has indicated that real employment interviewers do not use confirmatory hypothesis testing strategies while questioning an applicant, and such strategies may be quite similar to the matching strategy described above. Regardless of the results of research in this area, however, the outcome of the judgments in the present study (i.e., the personality profiles of the three target job applicants) was highly reliable and accurate, and cannot be associated with the traditional conception of a stereotype.

The above discussion does not imply that personality judgments are not at all affected by characteristics of the judges. Considerable research has demonstrated that subject characteristics (e.g., learned associations, implicit schemata, biases, semantic similarity, prior expectations, etc.) may to some extent determine the judgments of the target person being observed (e.g., Chapman & Chapman, 1967; D'Andrade,

1965; Hakel, 1974; Norman & Goldberg, 1966; Passini & Norman, 1966; Vernon, 1964). However, as Wiggins (1973) has pointed out, and others have demonstrated (e.g., Lay & Jackson, 1969), a relationship established between personality ratings and relevant criteria strongly suggests accuracy in perception and judgments, rather than some type of bias in the raters which is totally independent of the characteristics of the target being judged. In other words, subject characteristics brought into a social perception experiment may include inferential networks learned from experience, as well as perceptual or judgmental biases, but the demonstration of accuracy with respect to some external criterion is sufficient to reject the hypothesis that the judgments were merely determined by rater biases. In the present experiment there was strong evidence that subjects' judgments were accurate (as demonstrated by the relationship of threshold scores to the stimulus materials) and not merely the result of their own attributes or biases as has been shown in other research.

It should be made clear that the term accuracy used here refers specifically to the average rated profiles which accurately reflected the trait information given in the interviews as well as the empirically determined profiles of these traits. These average trait ratings (i.e., the mean judged profile for a given target) constitute the mean threshold levels of the traits for that target. Recall that sensitivity is calculated by correlating an individual subject's trait ratings and the group mean judged profile (i.e., the mean threshold levels). Thus, subjects with low sensitivity levels (i.e., a low correlation between their trait ratings and the group mean or mean threshold) were less accurate in their personality judgments than the group profile or

thresholds, and subjects with high sensitivity levels were more accurate. Accuracy here, however, should not be confused with validity. Validity is determined by demonstrating a relationship between the personality ratings and relevant independent criteria, and by the generalizability of the personality ratings to other (e.g., real life) interview situations. The relationship to relevant criteria is the subject of Study Two, but the generalizability question must be deferred until further research is carried out. Some factors clearly could threaten the generalizability of the results. For example, assuming for a moment that the traits in question have criterion validity, in a real interview applicants' traits can be expected to vary greatly from the desired personality traits for a job. Applicants will also be attempting to display only desirable characteristics which may lead to the impression of inconsistencies. Other problems that could occur may involve the differential degree that traits are elicited by different interviewers or different questions, and whether or not applicants choose the correct examples of behavior to self-disclose to the interviewer. All of these factors could potentially decrease the accuracy of personality judgments in the interview and the extent of their effects should be the focus of further research. It is important to note, however, that these same factors that threaten the generalizability of the results are the very reasons for conducting a well controlled laboratory experiment so that the primary questions of interest in this study could be examined without confounding effects.

The judged profiles of the three applicant targets were found to be distinctly and significantly different. Although the shape of these profiles (i.e., the relative high and low points) generally verified these distinct differences, the accounting and scientist judged profiles were

moderately correlated. This suggests that these two targets were perceived as somewhat similar along some dimensions of personality, even though mean judgments on the dimensions resulted in significant differences in levels. The judged similarity between the accounting and scientist targets may account for some of the similarities in judged suitability and expected performance ratings obtained for the two targets. For example, both targets were judged significantly higher than the advertising target on work adjustment, accounting ability, and marketing ability, across all experimental conditions. These main effects were unpredicted and had not been obtained in previous research (e.g., Jackson, Peacock, & Smith, 1980; Rothstein & Jackson, 1980), so it is tenuous to attribute the results solely to perceived similarities in personality. A second interpretation would suggest that subjects may have made an intermediate attribution in which the accounting and scientist targets were judged as being generally more competent and capable people. The fact that the three orthogonal dependent measures which the targets were judged highly on represented diverse job criteria (i.e., a general work adjustment factor and two extremely different performance criteria) support such an interpretation. Also, it has been shown that the more determined an applicant is perceived as being, the more likely he/she may obtain a positive evaluation (Oliphant & Alexander, 1982). Possibly the personality traits of the scientist and accounting applicants were perceived as an index of determinateness by subjects in this study. It may be necessary in further research to determine if subjects do make intermediate attributions about the targets of their perceptions or if they make a direct inference from the personality trait to a suitability judgment. If the former is true, this could potentially confound any

other subsequent judgments. However, in the present study, the highly differentiated judgments that were made with respect to the general suitability dependent measure indicate that even if such a confound was present, it did not decrease the accuracy of the judgments on this variable.

Although the results of the analyses of suitability and performance judgments did not support all of the predictions, the results obtained by Rothstein and Jackson (1980) were replicated and some useful additional knowledge is now available concerning the types of judgments that are made in an employment interview based on perceptions of personality characteristics. The use of factor scores as dependent variables in these analyses prevented inflating the Type I error rate through repeated analyses of multiple single item variables. Factor scores are also preferred because they capture the underlying dimensions of subjects' judgments and because they act as composite scores which are more reliable than single item judgments. The factor structure obtained indicated that subjects' judgments comprised four general factors and three specific performance related factors, one for the accounting job and two for the advertising job. The general factors included an overall work adjustment factor which accounted for the largest proportion of variance and was comprised of items tapping motivation, commitment to the job, specific satisfaction with job tasks, and general ability and performance. The general suitability factor included items tapping general job satisfaction and whether or not the applicant should be hired. The item assessing the confidence of the hiring decision comprised a separate factor as did the item assessing how the applicant would get along with other similar coworkers. The performance factors consisted of items tapping specific

performance related criteria in the two jobs. Thus, these independent factors were the underlying dimensions upon which subjects' judgments were based, and as such they represent the types or categories of behavior that were predicted from perceptions of personality in the interview.

The general suitability judgments, which replicated the results obtained by Rothstein and Jackson (1980), came the closest of all the types of judgments to supporting the original predictions. Applicant targets were clearly rated more suitable for congruent jobs than incongruent jobs and the neutral scientist target was rated, as predicted, in between the other two targets who were matched with congruent jobs. The hypothesis regarding the effect of a worker-oriented versus task-oriented job description, however, was only partially supported. For example, when a worker-oriented job description was given, the advertising target was judged more suitable for the congruent job, and the accounting target was judged more unsuitable for the incongruent job. However, the worker-oriented job description had no effect on suitability ratings when the accounting target applied for the congruent job, when the advertising target applied for the incongruent job, or when the scientist target applied for either job.

It is difficult to interpret the effects of type of job description with the current data. There was no consistent pattern of results with the general suitability ratings. The hypothesized effects did not depend on type of target applicant, type of job, or the congruency between levels of these factors. In addition, there were no other main or interaction effects involving type of job description with any of the other dependent variables except for confidence of the hiring decision. This latter effect was restricted to the accounting applicant and indicated that

subjects were more confident of the hiring decision that should be made with this applicant when a worker-oriented job description was given. It seems, therefore, that the presence of a worker-oriented job description did not generally increase the accuracy of the interview judgments. Previous research had indicated that relevant job information significantly increased the reliability of interviewers' judgments (e.g., Langdale & Weitz, 1973; Peters & Terborg, 1975; Weiner & Schneiderman, 1974). The present results suggest however, that the accuracy of the judgments do not necessarily increase, at least not when they are based on the evaluation of personality characteristics. The results further suggest that subjects were able to infer the requisite personality traits from the task-oriented job description, at least with respect to general suitability judgments. Thus, the practice of not including relevant personality traits in standard job descriptions (e.g., Latham et al., 1980) may not necessarily be problematic to interviewers when judgments of this type are made.

Other than general suitability and work adjustment, analyses of the rest of the interview judgments do not show any consistent interpretable pattern. Clearly, subjects were unable or unwilling to make differential ability or performance predictions about the applicants on the basis of their personality traits. Main effects with these variables, however, did indicate that subjects perceived the accounting and scientist applicants as being generally more competent or capable than the advertising target on the performance dimensions. The accounting and scientist targets were also perceived as being generally more capable than the advertising target to adjust to the various work conditions. Subjects were more confident overall of their hiring decisions with respect to the accounting and

advertising targets versus the scientist target, although this effect was only significant with the worker-oriented job description. Thus, even though the scientist target was judged as being more capable in some respects, subjects were less sure about the hiring decisions made about him. The accounting and advertising applicants were also seen as more likely to get along well with similar coworkers compared to the scientist target, and it is interesting to speculate whether or not this perception of the scientist target was related to the high competence judgment that he also received. Ratings on the work adjustment factor were only partially supportive of the hypotheses. For example, the accounting target was judged higher on work adjustment for the accounting job relative to the other two targets, and he was judged higher for the accounting job than the advertising job. The advertising target, however, received the lowest rating of all applicants on this variable for the congruent job, although he was rated higher for the congruent job than the incongruent job.

In general, the analyses of the various suitability and performance judgments strongly suggest that the original findings of Rothstein and Jackson (1980) and Jackson, Peacock, and Smith (1980) are highly reliable. Subjects seem quite capable of making global suitability judgments (including general job satisfaction) on the basis of perceived applicant personality traits. These judgments do not seem to depend on a worker-oriented job description which explicitly outlines the requisite traits, and they are quite accurate with respect to the hypothesized congruency between certain personality traits and specific jobs. However, results from the present study also indicate that more specific judgments concerning work adjustment factors and ability and performance dimensions

are not highly differentiated and do not follow the pattern of the general suitability judgments. Obviously, subjects are less able or less willing or less sure of making such specific judgments on the basis of applicant personality traits alone. Although the pattern of these judgments does not easily lend itself to interpretation, it will be equally important to compare them to the criterion measures in Study Two as it will be to compare the more accurate suitability judgments with actual job criteria. That is, even though the more specific work adjustment and expected performance judgments did not clearly differentiate among the three applicants for the two jobs, as did the more global suitability judgments, it remains to be seen in Study Two which type of judgments have a basis for validity.

Due to the nature of the experimental design, the individual differences analyses were divided into those concerned with personality judgments and those concerned with judgments of job suitability. Since the experimental manipulations had no effect on the personality judgments, it was possible (and desirable) to collapse over cells in the experimental design and use regression procedures to determine the amount of variance that each individual difference measure can account for in the personality judgments. Obviously this procedure was impossible for the suitability judgments since the experimental manipulations were designed specifically to have differential effects on these judgments. In addition, the individual cell n's were too small to do a series of within cell regression analyses, and when the individual difference measures were dichotomized for use with ANOVA procedures, multiple empty cells resulted. Thus, analysis of covariance was used to partial out the effects of each of the individual difference variables from the dependent variables. None

of the covariates were significant and the results of the ANOVA of suitability judgments were not altered. It seems therefore, that variations in the suitability judgments were determined solely by the experimental manipulations. Even sensitivity, an index of the accuracy of judging personality, apparently had no effect on the judgments of suitability. However, it may not be accurate to conclude that there is no relationship between these two types of judgments. In the performance appraisal literature, for example, it has been shown that accuracy in behavioral observation is related to accuracy in performance rating (Murphy, Garcia, Kerka, Martin, & Balzar, 1982). Indeed it would be very difficult to imagine the utility of the employment interview for assessing applicant personality traits if the accurate perception of these traits had no bearing on subsequent suitability decisions. In the present study the experimental manipulations were powerful and the design was not optimal for examining individual differences in suitability judgments. Future research should take a more direct individual difference approach and focus more specifically on investigating the relationship between the accuracy of judging personality and the accuracy of judging job suitability. The current experiment demonstrated that both types of accuracy are potentially possible in an employment interview, but due to the methodology chosen for the study it was not possible to thoroughly investigate the relationship between them. Obviously, this relationship must be clearly shown in future research in order to support personnel interviewers' claims that the suitability of personality traits for a given job can be assessed in an employment interview.

Finally, on the basis of an earlier study by Snyder and Cantor (1980), it had been predicted that high self-monitors would be more

accurate in their personality judgments than low self-monitors. This hypothesis was quite clearly rejected in the present study.

Self-monitoring was not related to accuracy in any of the judgments of personality. Nor was it related to any of the other individual difference measures, of which sensitivity was found to be a very good predictor of accuracy. In fact, of all the individual difference variables, sensitivity was consistently the best predictor of ratings of applicant personality and accounted for significant portions of the variance in these ratings. Experience with either of the two jobs accounted for an additional but limited portion of the variance with several of the personality ratings, but neither intelligence nor self-monitoring contributed to the variance in the ratings. These individual difference measures may have been more highly related to accuracy than was demonstrated with the regression analyses. That is, the high levels of reliability in the personality ratings suggest that these variables had restricted ranges which may have attenuated the correlations. Despite this potential problem, however, sensitivity was clearly shown to be the most useful index of accuracy in person perception in this experiment. The potential implications of using this index in the employment interview could be very important. Accurate interviewers could be identified by their sensitivity scores on a selection test much like the task used in this study. If more accurate interviewers also make more valid selection decisions, organizations could benefit greatly from using a measure of sensitivity to select their personnel interviewers. Of course, the potential use of sensitivity scores described here depends on the generalizability of the findings in the present experiment relating sensitivity to accuracy of personality judgments. As discussed earlier.

there are some factors that could limit the generalizability of the results. These factors must therefore be thoroughly investigated in order to more clearly determine the implications of using sensitivity scores to select accurate employment interviewers.

The failure of Snyder's (1974) self-monitoring scale to predict accuracy in personality judgments may be related to both theoretical and methodological issues. The hypothesis that high self-monitors should have been more accurate judges in this experiment was derived from Snyder's theoretical formulations and previous research by him and his colleagues. High self-monitors apparently closely monitor situational and interpersonal clues to determine the social appropriateness of their behavior (Snyder & Cantor, 1980). The behavior of high self-monitors, relative to low self-monitors, is situationally guided. This was demonstrated by the across situation discriminativeness in the social behavior of high self-monitors (Snyder & Monson, 1975), and by the fact that high self-monitors are more attentive to cues in social situations (Snyder, 1974). It has also been shown that when given the opportunity to observe a person with whom high self-monitors anticipate social interaction, they notice and more accurately remember information about that person compared with low self-monitors (Berscheid et al., 1976). On the basis of these research results, Snyder and Cantor (1980) hypothesized that high self-monitors' situational orientation and attention to other people may lead to an increased store of knowledge of the behavior of others. Furthermore, this store of knowledge may be used to organize behavior into constructs with which to identify ideal types in subsequent social interactions. However, attentiveness to social clues and even memory of information about others does not necessarily lead to the

conclusion that high self-monitors are more able to identify personality types in social interactions. An equally tenable hypothesis would be that the increased attentiveness to social clues and memory of others in high self-monitors may be related to their high need for affiliation, skill at social adroitness, and/or higher levels of intelligence. Thus, Snyder and Cantor's hypothesis that high self-monitors are better able to organize their perceptions of others into constructs and thereby are better able to use these constructs to identify personality types, does not necessarily follow from previous theory and research in self-monitoring. The results from the present experiment indicating that self-monitoring is not at all related to accuracy in perceiving personality traits in others, suggests further that Snyder and Cantor's hypothesis cannot be substantiated.

The results reported by Snyder and Cantor (1980) to support their hypothesis are also problematic in that they do not in fact demonstrate that high self-monitors organize their perceptions of others into constructs or that high self-monitors accurately identify personality traits in others. Essentially, Snyder and Cantor's subjects were given 20 personality traits taken from Anderson (1968) and were asked to list trait-related behaviors and trait-relevant situations with respect to these 20 traits. Results indicated that high self-monitors listed more behaviors and situations related to each of the original 20 traits than did low self-monitors. The lists generated by the high self-monitors were also rated as being more vivid descriptions. However, clearly sheer quantity of words generated, or even vividness, do not support the original hypothesis. There is no evidence given that the words generated on these lists are organized into substantive personality constructs or that these constructs are in any way related to actual personality types.

Thus, both theoretical and methodological problems with Snyder and Cantor's (1980) study, as well as the results from the present experiment, suggest that self-monitoring is not related to accuracy in person perception.

In sum, the present experiment re-affirmed the utility of the inferential accuracy model of social perception for studying the process of judging applicant personality characteristics in an employment interview. Reliable and accurate personality judgments were obtained in a simulated interview, and the model parameters of sensitivity and threshold were highly useful for measuring accuracy and delineating individual differences in accuracy. Self-monitoring was found to have no utility as an index of accuracy in person perception. Predictions concerning job-related criteria indicated that the congruence between applicant personality traits and specific jobs was the critical factor in determining general suitability judgments and to a lesser extent also affected overall work adjustment ratings but not predictions of future performance. The type of job description given to subjects did not have a consistent or interpretable effect on their judgments. In the following experiment, performance measures obtained on personality types similar to the job applicants in the first study will be examined to determine which type of judgments made in the simulation study may in fact have a basis for validity.

Chapter 8

Method: Study Two

Subjects

Subjects were 152 introductory psychology students chosen specifically for this study on the basis of their personality and vocational interest profiles. Initially, a group of 370 students volunteered to take personality and vocational interest tests as part of their course credit. Scores from these tests, the PRF and the Jackson Vocational Interest Survey (JVIS), were factor analyzed by the method of principal components. Principal axes factor loadings were rotated to an orthogonal Procrustes criterion in order to maximize subject loadings along the factor dimensions of interest (Impulse Control vs. Expression and Technically-Oriented Achievement). The final group of 152 subjects were chosen on the basis of their factor scores on these two dimensions. Three personality types and an undifferentiated control group were selected. Subjects were designated a personality type if their factor scores were greater than one standard deviation from the mean on the relevant pole of one of the dimensions. Thus, an accounting type (N=32) and an advertising type (N=33) were chosen from the Impulse Control vs. Expression dimension, and a scientist type (N=26) was chosen from the Technically-Oriented Achievement dimension. The control group (N=61) was randomly selected from the remaining pool of subjects.

Subjects chosen for the experiment were contacted by telephone and offered six dollars to participate in the study. They had no knowledge of their PRF or JVIS test scores until the end of the experiment.

Procedure

Subjects were tested in groups of approximately 10 to 20 in number. A package of printed materials was handed to subjects as they entered the laboratory. These materials contained a general introduction to the purposes of the study, the two work samples and related dependent variables, two items to assess subjects' prior experience and/or training with jobs similar to either of the work samples, and the Wonderlic Personnel Test to assess general intelligence. Subjects were randomly assigned to do either the accounting or advertising work sample first, in order to counter-balance any potential order effects. All data were collected in a single session lasting approximately two hours.

On entering the laboratory, subjects were told that they were participating in the evaluation of newly developed aptitude tests to be used in personnel selection. They would first be given a standard aptitude test (the Wonderlic Personnel Test) followed by the two newly developed tests. They were further instructed that the usefulness of the two new tests would be evaluated by comparing their scores with scores on the standard. Subjects were given 30 minutes to complete each work sample task. The timing of the tasks did not begin until all subjects indicated they fully understood the instructions. After each work sample was completed, subjects responded to a number of items assessing interest in the task, job satisfaction, preference for such a job in the future, and so forth, as well as the items assessing previous experience with a job similar to the work sample.

Work Sample Materials and Dependent Variables

The accounting work sample was an aptitude test developed by

instructors of an introductory accounting course in the School of Business Administration at The University of Western Ontario. The test is usually given at the beginning of the accounting course to assess student knowledge of accounting principles prior to receiving formal instruction. Successful performance on the test does not depend on previous training or experience in accounting. Essentially, the task consists of documenting a number of financial transactions of a small retail business in a logical and coherent financial statement. Debits, credits, expenditures, profits, and other details must be illustrated for the time period in question. The work sample as given to the subjects is fully reproduced in Appendix VI.

The scoring procedure for the accounting work sample consisted of two parts. In one part standard scoring procedures were used to evaluate subjects' work on qualitative performance criteria. These criteria were concerned with how well subjects understood accounting concepts, how well they communicated the financial information on the final balance sheet, the correctness of their calculations, and how clearly they showed how their calculations were done. The second part of the scoring procedure was concerned with the stylistic component of subjects' performance, namely the neatness of their work. An overall neatness score was obtained from two raters' mean judgments of five dimensions of neatness.

The five dimensions and their interrater reliability coefficients (corrected by Spearman-Brown) were: keeping rows and columns neat (.78), printing (.80), neatness of making corrections to mistakes (.84), keeping entries within appropriate borders (.83), and general appearance (.79).

After subjects completed the task, they responded to a number of items tapping job satisfaction, interest, and so forth. The performance

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- 1978-79 Lecturer (Introductory Psychology), Psychology Department, The University of Western Ontario
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- 1980-81 Lecturer (Industrial/Organizational Psychology; Occupational Psychology), Psychology Department; The University of Western Ontario

Administrative Experience

Student member; Salary, Promotion, and Tenure Committee, Psychology Department, The University of Western Ontario, 1977-78; 1978-79

Present, Psychology Graduate Association, The University of Western Ontario, 1979-80, 1980-81

Coordinator, Symposium on Non-Traditional Careers in Psychology, The University of Western Ontario, Feb. 3, 1979

Academic Awards and Distinctions

R. H. Walters Assistantship, University of Waterloo, 1974

R. H. Walters Award, University of Waterloo, 1974

Ontario Graduate Scholarship - 1975, 1976

Canada Council Doctoral Fellowship - 1977, 1978, 1979, 1980

Membership in Professional Societies

Section on Industrial/Organizational Psychology, Ontario Psychological Association

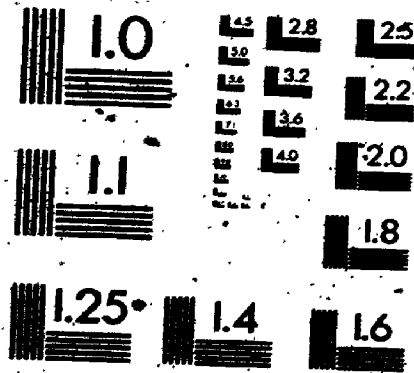
Student affiliate, Canadian Psychological Association

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criteria and post-test questionnaire items were identical to those which subjects judged with respect to a particular personality type in Study One. The scoring procedure and post-test questionnaire items are illustrated in Appendix VII.

The advertising work sample was developed on the basis of a job analysis of an advertising copy writer. Four employees of a major Canadian advertising company (the President, the Creative Director, the Media Director, and an Account Executive) were interviewed as the method of job analysis. This method has been shown to be particularly useful for the purpose of developing simulations (Pederson, 1982). Nine dimensions of an advertising copy writer's job were identified. These dimensions closely matched those discussed by Weilbacher (1979). The work sample was designed to obtain a measure of each of these nine dimensions. Essentially, the task consists of a short description of a product, identification of the consumer group for which the advertisement is intended, and the vehicle for the advertisement (a magazine). Subjects are instructed to write an advertisement which will have a number of qualities (i.e., the nine criteria of a "good" advertisement). The work sample, as given to subjects, is fully reproduced in Appendix VIII.

The scoring procedure for the advertising work sample consisted of two raters' mean judgments of subjects' written advertisements along the nine criterion dimensions of a good advertisement. Although this procedure was subjective, this is exactly the criteria for evaluating actual advertisements (Weilbacher, 1979). Moreover, the professional copy writers who assisted in developing this task indicated that there is almost always a consensus on these ratings. This opinion was

substantiated by the interrater reliabilities obtained for the nine performance criteria. These reliabilities (corrected by Spearman-Brown) were: intrusiveness (.98), production (.98), creativity (.92), entertainment (.89), consumer relevance (.99), truthfulness (.92), distinctiveness (.98), persuasiveness (.97), and target group (.98).

As with the accounting work sample, after subjects completed the advertising work sample, they again responded to items tapping job satisfaction, interest, and so forth. These items and the advertising task performance criteria were also identical to those which subjects judged with respect to a particular personality type in Study One. The scoring criteria and post-test questionnaire items for the advertising work sample are illustrated in Appendix IX.

Chapter 9

Study Two Results and Discussion: The Criterion Study

The results of the second study will be presented in the following format. First, the factor structure of the dependent variables used in Study Two will be illustrated. Subjects in this study gave self-report ratings and obtained performance scores on the identical dependent variables used in the first study as predictions for a given job applicant. As in Study One, these variables were used to capture the multidimensionality of the job performance criteria, and were factor analyzed to identify the underlying dimensions of the criteria and to generate factor scores which would be more reliable when used in subsequent analyses. Factor scores derived from the dependent measures were thus used in multivariate and univariate analyses of variance to investigate the effects of personality on job performance and satisfaction. These results will be described followed by the results of analysis of covariance procedures which examined the relationship between personality and job performance/satisfaction after removing the effects of intelligence and experience. Finally, the results will be described from a series of regression analyses designed to illustrate more clearly the contribution of each of the individual difference variables used in this study (personality, intelligence, and experience) to the prediction of the various job criteria.

Factor Structure of the Dependent Variables

Two separate factor analyses of the dependent variables were necessary to be consistent and comparable with the results from the first

study. Recall that subjects in Study One evaluated applicants on job criteria for either an accounting or an advertising job. Since judgments on these criteria were made independently for the two jobs and were therefore factored independently, the dependent measures for the two jobs in Study Two were also factored independently. Thus, the dimensions obtained from the judgmental data in the first study will be directly comparable with the dimensions obtained from the actual criterion data in the second study. For subsequent analyses, of course, the two sets of criterion factor scores will not be treated as independent, and correlations between the two sets of scores will be illustrated.

The method of principal components was used in both factor analyses. In the analysis of accounting task dependent variables, five interpretable factors were identified by the scree-test (Cattell, 1965) and rotated to a varimax criterion. The rotated factors with the percentage of variance each accounted for are illustrated in Table 28. The five factors accounted for 72.19% of the total variance. The factor structure suggests that there were five underlying dimensions to the job-related criteria assessed for the accounting task. Two of the dimensions, a general job satisfaction factor and a self-assessment of performance factor, were derived from subjects' self-reports on post task rating scales. The three other dimensions reflect actual task performance derived from the scoring and rating procedures described in Chapter Eight.

In the analysis of advertising task dependent variables, six interpretable factors were identified and rotated to a varimax criterion. Table 29 illustrates the rotated factors and the percentage of variance each accounts for. The total variance accounted for by the six factors

Table 28

Factor Structure of Accounting Task Dependent Variables

	Job Satisfac- tion	Neat- ness	Self- Assess- ment	Perfor- mance	Orderli- ness
Interest in Learning Job Tasks	.77				
Task Satisfaction	.73				
Predicted Performance			-.68		
Ability for Job Tasks			-.74		
Performance Satisfaction			-.76		
Long Term Interest in Job	.90				
Getting Along with Coworkers	.80				
Likelihood of Wanting a Different Job	-.78				
Number of Dates Recorded					.88
Number of Titles Recorded				.64	
Number of Correct Entries				.85	
Number of Correct Calculations				.60	
Number of Running Balances				.72	
Row & Column Neatness		-.81			
Neatness of Printing		-.86			
Neatness of Corrections		-.86			
Work Within Borders		-.51			
General Appearance		-.91			
Variance Accounted for	29.38%	19.09%	10.92%	7.26%	5.54%

Table 29

Factor Structure of Advertising Task Dependent Variables

	Job Satis- fac- tion	Pro- duc- tion	Dis- tinc- tive- ness	Self- Assess- ment	Truth- ful- ness	Crea- tivity
Interest in Learning Job Tasks	.84					
Task Satisfaction	.88					
Predicted Performance	.69					
Ability for Job Tasks				.87		
Performance Satisfaction				.61		
Long Term Interest in Job	.88					
Getting Along with Coworkers	.81					
Likelihood of Wanting a Different Job	-.78					
Intrusiveness		.74				
Production		.80				
Consumer Relevance			-.85			
Persuasiveness					.62	
Focus on Target Group		.83				
Truthfulness					-.86	
Distinctiveness			-.75			
Creativity						-.87
Entertainment						-.87
Variance Accounted For	28.68%	18.22%	9.65%	7.22%	6.62%	5.23%

was 75.62 percent. The underlying dimensions to the job related criteria assessed for the advertising task also include a general job satisfaction factor and a self-assessment of performance factor derived from subjects' self-reports. There are four other dimensions reflecting actual advertising task performance as scored by the rating procedures described previously.

Correlations between the two sets of factor scores are illustrated in Table 30. There are two modest, but significant correlations. One of these, the correlation between the advertising performance dimension of Distinctiveness and the accounting task performance dimension, is negative as might be expected since the two tasks seemingly require such divergent skills. The other correlation, between advertising Job Satisfaction and the accounting performance dimension of Orderliness, is not conceptually meaningful. In general, the correlations between the two sets of factor scores are nonsignificant, which is perhaps not at all surprising given that in computing these correlations, the entire sample of subjects was used. The sample consisted of two control groups in addition to the two opposing personality types, and thus the negative correlations that would have been expected between the two divergent tasks may have been obscured by scores from control group subjects. Analysis of variance and regression procedures would therefore be more appropriate for investigating the relationships among these variables.

Analysis of Variance Procedures

Analysis of variance procedures were used to determine the effects of personality type on the eleven job related criteria (converted to factor scores). Four levels of personality type as described fully in

Table 30

Correlations among Accounting and Advertising Task Dependent Variables

Advertising Task	Accounting Task				
	Job Satisfaction	Neatness	Self-Assessment	Performance	Orderliness
Job-Satisfaction	-.07	-.06	.02	-.12	.15*
Production	.10	.02	-.13	.10	.04
Distinctiveness	.02	.07	.07	-.17*	-.10
Self-Assessment	-.05	-.01	-.03	-.01	.01
Truthfulness	.07	-.11	-.01	.07	.03
Creativity	.06	-.09	-.01	-.09	-.02

* $p < .05$

Chapter Eight were included in all analyses; an accounting type, an advertising type, a technically-oriented achievement type similar to the scientist type used as a target job applicant in Study One, and a group of control subjects whose personality traits varied widely.

A multivariate analysis of variance (MANOVA) on the eleven factor score dependent variables resulted in a significant multivariate F test for personality type ($F_{42,401} = 1.46, p < .04$). Univariate analyses of variance tests were therefore performed on each of the eleven dependent measures. Surprisingly, only one variable, job satisfaction on the advertising task, demonstrated significant differences across the four personality types ($F_{3,148} = 5.45, p < .001$). The means for this variable as well as the other 10 variables are illustrated in Table 31. The means for advertising job satisfaction clearly indicate that the advertising personality type scored significantly higher on this variable than the accounting personality type or either of the two control groups. The means on the other variables, however, besides being statistically nonsignificant, show a mixed pattern of differences in direction. For example, the accounting personality types had the highest mean score on three of the accounting job criteria (job satisfaction, self-assessment of performance, and orderliness) but were clearly below two other subject groups on the two accounting performance criteria. With respect to the advertising job criteria, other than job satisfaction on which the advertising personality types scored significantly higher, there are also mixed results. The advertising personality types received the highest mean score of all subject groups on the production variable and obtained a higher score than the accounting personality types on the self-assessment of performance and creativity variables. However, the

Table 31

Mean Differences on the Job Related Criteria for the Four Personality Types

	Accounting Job Criteria			
	Job Satisfaction	Neatness	Self-Assessment	Performance
Accounting Type	.367	-.242	.216	-.041
Advertising Type	-.121	.025	-.052	.088
Scientist Type	-.134	-.171	.199	.110
Control	-.070	.186	-.170	-.074
				.173
				-.044
				-.113
				-.018

	Advertising Job Criteria			
	Job Satisfaction	Production	Distinctiveness	Self-Assessment
Accounting Type	-.183	-.113	.109	-.192
Advertising Type	.467	.147	-.007	.062
Scientist Type	-.505	.027	-.093	.168
Control	.058	-.032	-.014	-.005
				.108
				.042
				-.104
				-.035
				.099

accounting personality types actually received the highest mean score on the two remaining advertising job criteria, distinctiveness and truthfulness.

Although no consistent pattern emerges from the above analyses examining the relationships between personality and job criteria, the relationships may have been obscured by the effects of other individual difference variables. Analysis of covariance procedures were therefore used to remove the effects of two of these potential variables, intelligence and experience. Results from the analyses of covariance replicated the univariate analyses of variance results in every case except one. Whereas previously there had been no effect of personality on accounting job satisfaction, when the effects of intelligence and experience were removed the F test reached significance ($F_{3,146} = 2.53$, $p < .05$). The adjusted means from the analyses of covariance are illustrated in Table 32. The adjusted means for accounting job satisfaction indicate that the accounting personality types were significantly higher on this variable when intelligence and experience were held constant.

A comparison of Tables 31 and 32 reveals that, other than accounting job satisfaction, the pattern of means was not substantially altered after removing the effects of the covariates. It appears therefore, that the only significant effect of personality on the job related criteria assessed in this study was with respect to general job satisfaction. More specifically, the accounting personality types were more satisfied with the congruent job than the advertising job, and the advertising personality types demonstrated the converse effect.

Table 32
Adjusted Means on the Job Related Criteria After Removing the Effects of IQ and Experience

	Accounting Job Criteria				
	Job Satisfaction	Neatness	Self-Assessment	Performance	Orderliness
Accounting Type	.375	-.236	.187	.001	.184
Advertising Type	-.229	-.013	.022	-.031	-.071
Scientist Type	-.064	-.157	.263	.033	-.142
Control	-.046	.198	-.222	.002	.002

	Advertising Job Criteria					
	Job Satisfaction	Production	Distinctiveness	Self-Assessment	Truthfulness	Creativity
Accounting Type	-.152	-.086	.102	-.142	.088	-.155
Advertising Type	.474	.130	.020	.008	.043	-.011
Scientist Type	-.424	-.008	.017	.007	-.133	.044
Control	.004	-.022	-.072	.067	-.013	.069

Regression Analyses

It is often useful in personnel selection research to determine the proportion of variance that each predictor variable accounts for in a criterion. Intelligence and experience are two variables that are often used in personnel selection. In addition, the present experiment was designed to examine the utility of personality traits as personnel predictor variables for two specific jobs. Regression procedures will therefore be used next to illustrate the role of each of the potential predictor variables used in this study in accounting for the job related criteria of the two work samples. Regression analyses were done separately for each job related criterion for both work samples. The independent variables were the self-report measures of previous experience or training with jobs similar to the work samples, a general measure of intelligence, factor scores on the personality dimension Impulse Control vs. Expression (i.e., accounting personality type vs. advertising personality type), and factor scores on the personality dimension Technically-Oriented Achievement (i.e., scientist personality type). Hierarchical regression procedures were used with the independent variables entered into the equation in the order they are described above. The hierarchical method was used in order to more clearly illustrate the increment in predictability of the job related criteria attributable to personality traits (if any) over and above the contribution of the more traditional predictors of experience and intelligence. This may be assessed by examining the increment in the multiple R and R square for the personality variables, and by whether or not this increment is statistically significant.

Results from the regression analyses are summarized in Table 33 for the accounting work sample and in Table 34 for the advertising work sample. Examination of these results indicate that the overall level of prediction of the dependent variables is not high. However, of the independent variables that contribute significantly to prediction, previous experience and the personality traits from the Impulse Control vs. Expression dimension are relatively more important predictors. In the accounting task, experience correlated significantly with job satisfaction (.38), self-assessment of performance (-.18), and actual performance (.29). The accounting personality traits (i.e., the negative pole of the Impulse Control vs. Expression dimension) increased slightly, but significantly the multiple correlation with job satisfaction and self-assessment of performance. These traits also added to the prediction of neatness, although the increment in the multiple correlation did not quite reach the conventional level of significance. Intelligence and the personality traits from the Technically-Oriented Achievement dimension correlated significantly with only one variable, accounting performance. In the advertising task, only job satisfaction and self-assessment of performance had significant correlations with any of the independent variables. Experience correlated significantly with job satisfaction, and the advertising personality traits (i.e., the positive pole of the Impulse Control vs. Expression dimension) added significantly to the multiple correlation with this criterion. Self-assessment of advertising performance was significantly correlated with intelligence.

In general, the results from the regression analyses support the findings from the analysis of variance procedures with regard to

Table 33

Summary of Regression Analyses of Accounting Job Related
Criteria on Four Predictor Variables

Dependent Variable (Job Related Criterion)	Independent Variables	F to Enter	Significance	Multiple R	R Square	Simple r
Job Satisfaction	Experience	25.905	.001	.384	.147	.384
	IQ	.728	.40	.389	.151	.072
	Impulse Control	5.229	.03	.425	.180	-.133
	Technical Achievement	.206	.65	.426	.181	.054
Neatness	Experience	2.871	.09	.137	.019	.137
	IQ	.034	.86	.138	.019	.017
	Impulse Control	3.280	.07	.201	.040	.157
	Technical Achievement	1.093	.30	.218	.047	.121
Self-Assessment	Experience	4.921	.03	.178	.032	-.178
	IQ	3.369	.07	.231	.053	-.150
	Impulse Control	3.794	.05	.277	.077	-.178
	Technical Achievement	.058	.81	.278	.077	-.001
Performance	Experience	13.414	.001	.287	.082	.287
	IQ	14.241	.001	.403	.162	.288
	Impulse Control	.320	.57	.405	.164	.002
	Technical Achievement	3.938	.05	.431	.186	.115

(Continued on next page)

Table 33 (Continued)

Orderliness								
Experience	.527	.47	.059	.004	.059			
IQ	.411	.52	.079	.006	.053			
Impulse Control	.033	.86	.080	.006	-.006			
Technical Achievement	.390	.53	.095	.009	.044			

Table 34

Summary of Regression Analyses of Advertising Job Related
Criteria on Four Predictor Variables

Dependent Variable (Job Related Criterion)	Independent Variables	F to Enter	Significance	Multiple R	R Square	Simple r
Job Satisfaction	Experience	13.162	.001	.284	.081	.284
	IQ	.811	.37	.293	.086	-.104
	Impulse Control	7.585	.01	.361	.130	.232
	Technical Achievement	.942	.33	.368	.136	.120
Production	Experience	.859	.36	.075	.006	.075
	IQ	1.340	.25	.121	.014	.085
	Impulse Control	.053	.82	.122	.015	.034
	Technical Achievement	.006	.94	.122	.015	-.013
Distinctiveness	Experience	2.217	.14	.121	.015	.121
	IQ	3.169	.08	.187	.035	-.157
	Impulse Control	.092	.76	.189	.036	.024
	Technical Achievement	3.501	.06	.241	.058	-.108
Self-Assessment	Experience	.0003	.99	.001	.000	.001
	IQ	12.392	.001	.277	.077	.275
	Impulse Control	.011	.92	.277	.077	.032
	Technical Achievement	.509	.48	.283	.080	-.116

(Continued on next page)

Table 34 (Continued)

Truthfulness	Experience	2.772	.10	.135	.018	-.135
	IQ	.011	.92	.135	.018	.008
	Impulse Control	.936	.34	.156	.024	-.092
	Technical Achievement	1.762	.19	.190	.036	.093
Creativity	Experience	.035	.85	.015	.000	.015
	IQ	1.927	.17	.114	.013	-.114
	Impulse Control	.049	.83	.115	.013	-.026
	Technical Achievement	.595	.44	.132	.017	-.038

demonstrating the relationship between personality and job satisfaction. However, the regression procedures also point out that previous experience has a somewhat stronger relationship with job satisfaction, and in addition, correlates significantly with the performance measure in the accounting work sample. Thus, although experience would appear to be the most valuable predictor with these job related criteria, personality characteristics also account for a small but unique portion of the variance in job satisfaction.

Discussion of Study Two Results

The results from this study provide a relatively consistent picture of the relationship between personality and job-related criteria as estimated from performance on two work samples. The factor structure of these criteria for both tasks indicate that job performance criteria are generally independent from job satisfaction criteria, an observation that has often been made in real job settings (Brayfield & Crockett, 1955; Herzberg et al., 1957; Ronan, 1970; Schwab & Cummings, 1970). Separate and independent dimensions of job performance were obtained from both work samples. The dimension of job satisfaction, however, was more general and included subjects' specific interest in and satisfaction with the task, longer term job satisfaction, anticipated relationship with coworkers, and long term interest in staying with that type of job. This general dimension of job satisfaction was obtained with both work samples.

Analysis of the job-related criteria indicated that personality was related to the dimension of general job satisfaction in both work samples, but was not related to the predicted job performance dimensions

in either work sample. More specifically, the analysis of covariance procedures revealed that, holding prior experience and intelligence constant, the accounting personality types (i.e., those subjects whose personality traits were hypothesized to be congruent with an accounting job) were more highly satisfied with the accounting work sample than the advertising work sample, whereas the converse was true for the advertising personality types (i.e., those subjects whose personality traits were hypothesized to be congruent with an advertising job).

Regression analyses further clarified the nature of these relationships by illustrating the variance in the job-related criteria attributable to personality, experience, and intelligence. Results from these analyses demonstrated that prior experience was actually the best predictor of job satisfaction with both work samples, as well as the self-assessment of performance and an actual performance dimension of the accounting work sample. Intelligence also contributed significantly to the prediction of accounting job performance, as well as correlating with the self-assessment of performance dimension from the advertising work sample. The only personality traits to predict a performance dimension were the traits associated with Technically-Oriented Achievement, which correlated significantly with accounting job performance, contrary to predictions. However, the predicted personality traits associated with the accounting and advertising personality types did account for a significant portion of the variance in job satisfaction in addition to the contribution made by experience. Thus, the congruency between personality types and job was a significant factor in determining general job satisfaction in both the accounting and advertising work samples.

The failure to demonstrate a substantial relationship between personality and job performance criteria (other than job satisfaction) in this study suggests a number of implications for further research of this nature. As this article is written, research reports continue to be published demonstrating that specific personality traits are related to certain performance criteria in real life jobs (e.g., Bartram & Dale, 1982; Brenner, 1982; Johnson & Hogan, 1981; Spector, 1982; Tubiana & Ben-Shakhar, 1982). It seems therefore, that the methodology of the present study must be examined for clues as to why the results turned out as they did.

The primary considerations in designing this study were that (1) performance criteria should be based on job analysis information, (2) selection measures should be chosen on the basis of rational or theoretical considerations and should be appropriate for the performance criteria, (3) performance criteria should be multidimensional with respect to the key elements of the job, and (4) selection measures and performance criteria should be reliable. These considerations were employed in response to criticisms of previous research of this type (e.g., Guion & Gohier, 1965; Mischel, 1968) and to ensure that the appropriate research methodology developed by previous researchers was utilized (e.g., Epstein, 1979, 1980; Fishbein & Ajzen, 1974; Fleishman, 1975; Ghiselli, 1956; Wernimont & Campbell, 1968). Job analysis procedures were used to develop multidimensional performance criteria, and both predictors and criteria were highly reliable. The personality traits used as predictors were selected rationally, on the basis of their logical link with the performance dimensions of the accounting and advertising jobs, and also theoretically, on the basis of a previous

empirical investigation linking these personality traits to indices of vocational choice (Siess & Jackson, 1970). Perhaps some other predictor measure such as an aptitude test would have been more appropriate to the specific performance criteria used for the two work samples. However, the relationship between aptitude test scores and job performance is well accepted and is not the focus of this investigation. Aptitude test scores may indeed have accounted for a good portion of the missing variance in the work sample performance criteria. The purpose of the present study, however, was to examine the utility of personality for predicting job performance. Thus, given that the design of the study was appropriate methodologically, and given that there is considerable evidence for a relationship between personality and job performance in real jobs, other considerations must account for the failure to demonstrate such a relationship in the simulation.

One such consideration may have been that although multidimensional performance criteria were utilized, these are not the same as multiple act or multiple method criteria. The latter type of criteria involve ratings or measurements from different sources or on different occasions (c.f. Epstein, 1979, 1980; Fishbein & Ajzen, 1974), and it is this type of criteria that are recommended for maximizing the correlation with personality measures. However, to obtain multiple act criteria in the present study would have required different but equated forms of the work samples, different sets of raters or different scoring procedures, and/or multiple testing occasions. These procedures would have been extremely difficult to achieve in this study and it was hoped that the use of multiple and multidimensional criteria would have been a close approximation. It is possible, however, that the failure to demonstrate

a relationship between personality and work sample performance may have been due to the use of multidimensional criteria rather than multiple act criteria.

The primary factors which distinguished the present simulation study from a real job setting, and which may have confounded the potential relationship between personality and job performance, were the procedural differences between work samples and real jobs. Although work samples have demonstrated considerable utility for personnel selection (e.g., Asher & Sciarrino, 1974; Campion, 1972; Hinrichs, 1969; Mount et al., 1977; Siegel, 1983), there are some fundamental differences between them and actual jobs, which in the present study may have obscured the correlations between the variables of interest. For example, the work samples from this study were completed by subjects in a short time period, they were discrete situations which once experienced were over, they were experienced alone and did not involve interaction with others, and they did not provide performance feedback or the opportunity to alter behavior as a result of such feedback. All of these factors would be fundamentally different in a real accounting or advertising job and would therefore be expected to impact on job performance and satisfaction. Quite possibly, work sample performance could be primarily determined by aptitude and experience, whereas more longer term performance in an actual job, which would involve the factors described above, would be more likely to interact with a person's stable personality needs. For example, McClelland and Boyatzis (1982) have recently demonstrated that personality traits are significantly correlated with long term performance as a manager. Thus, the failure to demonstrate a relationship between personality and job performance in the present study

may be attributable to some basic problems with the type of performance criteria and work samples used. Future research therefore, may need to employ multiple act performance criteria and design more realistic procedures and scenarios to go with the actual tasks used in work samples in order to investigate the personality-job performance relationship more thoroughly.

In addition, future research would profit from more explicit formulations of the hypothesized link between personality and job performance criteria. In the present study a conceptual link was proposed between the personality traits in question and specific performance criteria, but the use of work samples rather than real jobs and the type of performance criteria used may have obscured any possible relationships. Work samples may not be appropriate for all types of criterion assessment, although they are advantageous for experimental investigations. Theories of personality have traditionally been investigated by hypothesizing differential outcomes, measured by behavioral criteria, for different personality types. Such hypothesis testing procedures should be applied to job performance behavioral criteria when the personality construct under consideration can be directly linked by theoretical considerations to a specific criterion.

The factors described above, which may have obscured the correlations between personality and job performance criteria, may also have reduced the potential correlation between personality and job satisfaction. Nevertheless, significant correlations between personality types and satisfaction with congruent jobs were obtained in this study, and the relationship between these variables has also received wide support in the research literature (e.g., Cawsey et al., 1982; King,

Murray, & Atkinson, 1982; Landy & Trumbo, 1980; Ronan, 1970; Schaffer, 1953). The implications of this relationship are potentially very important. For example, it is often found that low job satisfaction is highly related to absenteeism and turnover rates in industry (Ford, 1969; Hulin, 1968; Landy & Trumbo, 1980; Ronan, 1970; Vroom, 1964). Increases in job satisfaction have also been linked theoretically and empirically to increases in productivity (Hackman & Lawler, 1971; Hackman & Suttle, 1977).

Given these demonstrated relationships, it is clearly in an organization's best interests to try and maximize employee job satisfaction. Most of this activity has centered on job redesign and job enrichment programs to increase job satisfaction (e.g., Hackman & Lawler, 1971). Since personality and job satisfaction are related, however, an alternative proposal might be to assess potential employees for relevant personality traits in order to maximize subsequent job satisfaction and minimize the potential for absenteeism and turnover. Pulakos and Schmitt (1983) recently demonstrated that job satisfaction could be predicted prior to employment from expectations of work outcomes such as growth needs. These authors also recommend that an assessment of such needs and other variables should be included in the selection of employees in order to predict future job satisfaction and thereby decrease later absenteeism and turnover rates. In addition, although the relationship between job satisfaction and job performance has historically been very difficult to establish (Ronan, 1970), this pattern has recently begun to change with the discovery that certain individual difference variables and organizational conditions moderated the relationship between job

satisfaction and performance (Abdel-Halim, 1980; Bhagat, 1982; Lopez, 1982).

There is some evidence, therefore, that specific personality traits are predictive of some types of job performance criteria as well as indices of job satisfaction. In addition, personality may indirectly affect job performance and productivity through the job satisfaction-job performance relationship. Thus, if future research can focus more clearly on the interrelationships between personality, job satisfaction, and job performance, and seek to validate specific personality traits as selection measures for specific jobs, there are many indications that the addition of these measures to the selection process would significantly increase subsequent productivity and performance. The utility of such research would unquestionably be worthwhile as Schmidt and Hunter (1981) have recently demonstrated that relatively modest increments to validity coefficients for selection purposes may result in millions of dollars in increased productivity.

In sum, this experiment demonstrated that personality traits were related to job satisfaction, but not job performance, in two work samples. The failure to obtain a relationship between personality and job performance criteria may have been related to procedural differences between work samples and actual jobs, rather than methodological problems or conceptual discontinuity. Further research should clarify this issue. The relationship between personality and job satisfaction found in this study is supported by considerable other research. It was proposed therefore, that given proper validation research in specific organizations, the inclusion of personality assessment in personnel

selection procedures may potentially add to the overall validity of selection as well as increase job satisfaction and productivity.

simulated interview must be demonstrated by research with employment interviews. The potential threats to generalizability of the results are many (e.g., real applicant traits can be expected to vary from the modal type used in Study One, interviewer questions and applicant responses are uncontrolled in a real interview). But these problems would also exist as confounds to research with real interviews. In addition, as discussed in Chapter Five, there are considerable methodological problems associated with studying the criterion validity of personality assessed in an interview in real organizational settings. One possible compromise to this impasse would be to simulate the variability of real applicant personality traits by creating target applicants in a laboratory study which correlate to different degrees with the modal type, and then examining the effect of this manipulation on judgmental accuracy. For example, it would be important in future research to determine how well interviewers can identify relative differences among members of a similar modal type, rather than differences between modal types. Similarly, if criterion validation was not immediately an issue, field studies could be attempted by structuring the interview to control for the types of questions asked and the scoring of responses. The evidence from the present research and Rothstein and Jackson (1980), as well as the beliefs of interview practitioners (e.g., Fear, 1978; Peskin, 1971), strongly suggest that personality characteristics may be accurately assessed in an employment interview. Continued research in this area, such as that proposed above, would contribute to an understanding of the conditions which affect the accuracy of these judgments.

Before discussing the basis for validity of the suitability judgments made by subjects in Study One on the basis of their perceptions of

applicant personality traits, it is worthwhile to compare the factor structures of these variables across the judgmental data and the actual criterion data. The factor structure of the judgmental dependent variables for the accounting job conditions indicated that subjects made their judgments primarily on two basic dimensions, a general suitability, satisfaction, and adjustment factor, and a general ability and performance factor (Table 22). The factor structure of the actual criterion data from the accounting work sample indicated that the general dimensions obtained with judgmental data were split into more specific job satisfaction, self-appraisal, and three performance dimensions (Table 28). This same pattern of moving from general dimensions in the judgmental data to more specific dimensions in the criterion data occurred with the advertising job conditions in Study One and the advertising work sample in Study Two (Table 23 vs. Table 29). It seems therefore, that subjects making judgments in an interview context commit an "error of generalization," which may perhaps be analogous to the halo effect in performance appraisal ratings (Landy & Farr, 1980). What is of greater interest, however, is that in both studies there was a separation between job satisfaction issues and job performance issues. Thus, subjects in the judgmental study recognized the different dimensions in job related criteria. These judgmental dimensions were not as highly differentiated as the actual criterion dimensions, but nevertheless the data indicates that subjects role playing an interviewer in Study One structured their judgments and predictions in a way that matched quite well the actual covariation of criterion behaviors. Thus, regardless of the validity of these judgments, they were appropriate to the task at hand and were logically consistent, both across applicant targets and with the actual criterion data.

The interview judgments from Study One cannot, strictly speaking, be validated from the data in Study Two since individual predictions for the subjects in the second study were not made. However, the present research was not designed to obtain a specific validity coefficient for specific personality traits or specific jobs. Highly controlled laboratory studies were used to avoid the methodological problems and confounds inherent with field research in this area, and to focus more on the general theoretical issues concerning the prediction of job related criteria from interview based impressions of applicant personality traits. Therefore, the results from these two experiments do not provide validity data per se, but rather, provide a basis for estimating the potential validity of personality traits for predicting job related criteria.

Comparing results from the two studies then, the data suggests that there is a basis for validity in some of the judgments made in the interview simulation, but not all, and that a subset of the judgments which had a basis for validity were not predicted. The strongest evidence for validity comes from the prediction and criterion assessment of job satisfaction. In Study One, subjects made highly differentiated judgments of general suitability (which included job satisfaction), and slightly less differentiated judgments of general work adjustment, for the different job applicant personality types. In Study Two, the accounting and advertising personality types were each more satisfied with their congruent work sample tasks, results that were consistent with judgments made by subjects in Study One. Although the individual items that comprised the job satisfaction factors in both studies varied to some extent, it seems clear that the element of job satisfaction is central to the corresponding factor dimensions derived from judgmental and criterion

data. These results support the conclusion that predictions of job satisfaction from an assessment of applicant personality traits in an employment interview do have a basis for validity. Of course, the results from these two experiments pertain to the measurement of task satisfaction in a work sample, and the relationship of this measure to actual job satisfaction must be ascertained in future research. However, the general utility of work samples in employee selection suggests that if a work sample is realistic, the assessment of task satisfaction would be a close approximation to actual job satisfaction.

Judgments of performance related criteria in Study One were not highly differentiated with respect to matching the accounting and advertising personality types with the congruent jobs. Results from the criterion study indicated that in fact there was no relationship between the personality traits of the accounting and advertising types and the congruent job performance criteria. Thus, the fact that subjects did not differentially predict greater performance when target applicants were congruent with jobs again indicated that subjects' judgments had a basis for validity. However, this was not true under all conditions. The accounting and scientist targets were judged, as likely to do better on the accounting and marketing ability performance dimensions. This did not turn out to be true for the accounting personality types in Study Two, or for the scientist personality types with respect to the marketing ability dimension. In terms of the accounting performance dimension, however, there was some evidence from the regression analyses that the personality traits defining the scientist type contributed significantly to the prediction of this performance criterion.

In general, the evidence from the two studies together provide guarded support for the view put forth by interview and personnel practitioners that personality may be assessed in an employment interview and used to predict applicant suitability for a job. Subjects in the interview study judged personality to be relevant to future job satisfaction but not generally to future job performance (i.e., although two targets were judged higher on three performance criteria, these judgments were main effects, the criteria were not conceptually related, and the results may have been due to intermediate attributions as discussed in Chapter Seven). Subjects in the criterion study demonstrated that in fact their personality traits were related to job satisfaction but not generally to job performance. The magnitude of the correlations in the criterion study was not large, but this is not a critical issue in the present context. The correlations may have been obscured by procedural differences between work samples and real jobs. In addition, Nunnally (1978) has cautioned against expecting more than modest correlations between predictors and performance criteria, given the immense complexity of people and dimensions of performance.

Clearly, job performance may be predicted from many potential sources (e.g., aptitude tests, biodata, assessment centers, work samples, etc.), and there is not much benefit to be derived from trying to determine the one best predictor. Applied and experimental researchers alike are more interested in maximizing the prediction of job performance criteria and understanding the relationships between all types of predictors and criteria. Results from Study Two and from considerable other research suggest that personality variables may potentially increment the prediction of job performance criteria, either directly or through

increases in job satisfaction. It is not difficult to see, therefore, how personnel interviewers would believe that personality assessment should be considered in selecting job applicants. Even naive subjects in the interview study accurately predicted job satisfaction criteria from impressions of applicant personality traits.

Results from the present research suggest that personality variables may increment the prediction of certain job-related criteria, and that the assessment of personality in the employment interview is accurate and may potentially be a valid method for making some types of suitability judgments. This data certainly does not support the strongest statements made by personnel interviewers regarding the utility of the employment interview for assessing applicant personality traits and predicting job performance criteria. The results do suggest, however, that the claims made by personnel interviewers have a basis of support. Further research into the relationships between personality, job performance, and job satisfaction, and the role of the employment interview for assessing and predicting these relationships, may potentially improve the selection process, maximize the fit between people and their jobs, and increase productivity and job satisfaction.

Conclusions

- (1) Highly reliable and accurate judgments of applicant personality traits were made in a simulated employment interview. The judgments also showed a high degree of congruence with independent empirical data.

- (2) Self-monitoring had no utility as an index of accuracy in judging personality. Sensitivity, on the other hand, was highly predictive of accurate perceptions of applicant personality traits.
- (3) The prediction of job related criteria in an interview simulation and the measurement of similar criteria from work samples were factor analyzed independently, and the factor structures of both sets of data indicated a separation of job satisfaction and job performance criteria. Although the judgmental factors were less differentiated than the work sample factors, subjects in the interview study demonstrated that their judgments were generally consistent with the actual covariation of work sample performance criteria.
- (4) The presence of a worker-oriented job description had no consistent or general effect on the prediction of job related criteria. A task-oriented job description was apparently sufficient for subjects to infer the personality traits that would be congruent with an accounting or advertising job.
- (5) The prediction of job satisfaction from interview based impressions of personality was found to have a basis for validity. Personality traits were not generally used by subjects in the interview study to discriminate among applicants on performance related criteria, and with two exceptions, these judgments were also found to have a basis for validity. The employment interview does therefore seem to have potential utility for evaluating the suitability of applicant personality traits for a job, as professional interviewers have claimed for some time.

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APPENDIX I

Script for accounting applicant job interview

Interviewer: ...okay, now I know why you want to work for our company.
But tell me, why do you want to leave the job you have now?

Applicant: Well, I think there are several main reasons. The company I'm working for now is very poorly organized...the office is always in a state of total confusion and clutter. Nobody works very systematically and...uh...I guess I find this type of an atmosphere very hard to work in...it's kind of disorienting.

Interviewer: I see...and what kind of atmosphere do you prefer to work in then?

Applicant: I guess I like a more structured, clearly defined situation ...I find that the more organized a company is, the easier it is to get my job done. Personally, if I have to make a decision about something, I like to have all the possible information. I can...I don't like to have to guess because some important information is unavailable or nobody knows where it is.

...PAUSE...

Interviewer: okay, now tell me a bit more about your personal work habits...likes, dislikes, idiosyncracies, and so on.

Applicant: Well, as I've told you already, I like my work to be fairly well organized and neat...I just seem to work a lot more efficiently when I have a system. Besides this,...well,

I'm not the kind of person who, when confronted with a question or problem at work, blurts out the first thing that comes into my mind. I tend to be more cautious than most people in this regard...I prefer to think over a problem pretty carefully before coming up with a solution. I think hasty decisions often lead to problems later on for a company...so, I like to deliberate a bit...consider all the possible factors and consequences, before I make a decision.

...PAUSE...

Interviewer: What are some other things that are important for you about a job? What is it about a job that gives you satisfaction?

Applicant: Well, my philosophy is that if I'm happy with my job, I'm satisfied to work consistently and regularly at it...I'm not particularly interested in changing my work just for the sake of change. Actually,...I rather enjoy the obligations of a job...I don't really see them as restraints as some people might. I think the feeling of being attached to a job that is fairly constant and predictable is something that is important to me.

Script for advertising applicant job interview

Interviewer: ...okay, now I know why you want to work for our company.
But tell me, why do you want to leave the job you have
now?

Applicant: Well, I think there are several main reasons.. The company
I'm working for now is so formally organized...every
activity is systematically planned and scheduled months in
advance. Sometimes I think that people spend more time
keeping the office neat and tidy than they do working.
I...uh...guess I find this type of an atmosphere very
hard to work in...it's just not very stimulating.

Interviewer: I see...and what kind of atmosphere do you prefer to work
in then?

Applicant: I guess I like a more loosely structured, more spontaneous
environment...I find that the more innovative and flexible
a company is, the easier it is to get my job done. And I
don't really mind a little clutter and confusion...this
doesn't affect my work at all...in fact, I think I work
better under these conditions.

...PAUSE...

Interviewer: ...okay, now tell me a bit more about your personal work
habits...likes, dislikes, idiosyncracies, and so on.

Applicant: Well, I actually like a little ambiguity or indefiniteness
on the job...I guess I find it challenging to have to make
a decision about something when all the information I need
isn't just laid out in front of me. I suppose...I tend to

work impulsively when I'm problem solving or I'm confronted with a question...I don't like to deliberate too much...I guess initially I prefer to let my feelings and thoughts flow. I find that the more unrestrained I am during this process, the better my work turns out.

...PAUSE...

Interviewer: What are some other things that are important for you about a job? What is it about a job that gives you satisfaction?

Applicant: Well, I really don't like to do the same job over and over again...I prefer a little variety in my work - even if the job is unpredictable...I tend to adapt quite well to changes and I think this aspect of a job is important to me. Also, I value my independence a lot...I mean, when it comes to my work, I'm pretty self-reliant. In fact, if I feel too constrained or restricted by a job, I'll be pretty unsatisfied...I guess that's one of the main reasons I want to leave the job I have now.

Script for scientist applicant job interview

Interviewer: ...okay, now I know why you want to work for our company. But tell me, why do you want to leave the job you have now?

Applicant: Well, I think there are several main reasons. The company I'm working for now doesn't have very high standards and it's not very productive. No one will work a minute past their regular hours...I'm surprized that anything gets accomplished there. And I think that many of the people working there are more interested in making a good impression on each other than they are in putting a little extra effort into their work and improving the company... everybody is so concerned with what other people think of them. I... uh... guess I find this type of atmosphere very hard to work in...it's very frustrating.

Interviewer: I see...and what kind of atmosphere do you prefer to work in then?

Applicant: I would prefer to work in a more industrious, energetic environment...a more competitive environment...I think this type of atmosphere is more productive...at least, I know I do my best work under these conditions. In fact, I can enjoy being faced with a tough problem in an environment like this...I tend to dig in and persevere until I solve it. And I don't worry about working longer than my regular hours...especially if I'm really accomplishing something.

...PAUSE...

Interviewer: ...okay, now tell me a bit more about your personal work habits ...likes, dislikes, idiosyncracies, and so on.

Applicant: Well, as I mentioned earlier, I don't like to waste valuable time worrying about what people at work think about me...I mean, I don't think that the quality of my work should be judged by how much people like me. I guess I'm just not the type of person who is overly dependent on other people. I don't know,...maybe I am more secure or resourceful than others. For example,...uh...I would usually prefer to keep working on a problem until I solved it rather than seek the advice and help of someone else.

...PAUSE...

Interivewer: What are some other things that are important for you about a job? What is it about a job that gives you satisfaction?

Applicant: Well, I have a lot of curiosity...I guess I'm the kind of person that likes to understand as many things as I can. So in my job, I'd like to have the opportunity to explore and investigate new problems and concerns for the company. Being logical and rational is pretty important to me... and I know I would really do well and be happy at a job which allowed me to analyze problems, propose solutions, and then try to verify that my solutions really worked.

APPENDIX II

Worker Oriented Job Description-Accounting Job

The successful applicant should be the type of person who is a perfectionist. That is, the applicant should be precise, exacting, and tidy in his/her work habits and should be capable of planning his/her work activities carefully and performing his/her duties in a methodical, but prompt fashion. The ideal applicant should prefer working with certainties rather than probabilities. The applicant should also prefer a certain degree of constancy and routine in his/her work, rather than continually seeking out new and different activities. In addition, the applicant should not be the type of person who is impulsive or tends to act on the spur of the moment. A more patient and careful approach to one's work is required for this job, especially with regard to day to day decisions. Finally, since the job may be somewhat confining or restricting to some individuals, the preferred applicant should not be too self-determined or individualistic.

Task Oriented Job Description - Accounting Job

The successful applicant must be capable of keeping a complete set of records of financial transactions for a business establishment. The applicant must verify and enter details of transactions as they occur or in chronological order in account and cash journals from items, such as sales slips, invoices, cheque stubs, inventory records, and requisitions. Details must be summarized on separate ledgers, using an adding or

calculating machine, and then transferred to a general ledger. Books must be balanced and reports compiled to show statistics such as cash receipts and expenditures, accounts payable and receivable, profit and loss, and other items pertinent to the operation of a business. Employee wages must be calculated from the company's records or timecards and cheques must be prepared for payment of wages. There may also be some computing, typing, and mailing of monthly statements to customers.

Worker Oriented Job Description - Advertising Job

The successful applicant should be the type of person who is quick thinking, free speaking, and uninhibited. That is, the applicant should be capable of solving problems and making decisions on the spur of the moment and without hesitation. The ideal applicant should thrive on the prospect of encountering on a regular basis new and different experiences on the job. The lack of routine in this position requires that an applicant be capable of working with uncertainties and coping with a certain amount of unpredictableness in the job. In addition, the applicant should not be too much of a perfectionist. The demands of the job do not facilitate the careful planning of work activities, so that careful, methodical performance and tidy work habits would not be necessary for this position. Finally, since the lack of formalities in this company may not suit all individuals, the preferred applicant should be somewhat self-determined and individualistic.

Task Oriented Job Description - Advertising Job

The successful applicant must have an interest and aptitude for interpreting ideas and facts in written form. The applicant must be primarily responsible for researching and originating written material, using a variety of literary techniques, in order to persuade the general public to favor certain goods or services. This written material is used by publication or broadcast media to promote the sale of the goods and services. The copy writer must consult with sales, media, and marketing representatives to obtain information on products or services, and to discuss style and length of the required advertising copy. The applicant must also obtain additional background and current development information through research and interviews, and review advertising trends and consumer surveys regarding the marketing of specific and related goods and services in order to formulate an approach to the presentation of the product. A preliminary draft of copy must then be written, corrected, and revised as necessary. A copy writer may also write articles, bulletins, sales letters, speeches, and other related informative and promotional material.

APPENDIX III

INTERVIEW JUDGMENT QUESTIONNAIRE

1. How suitable do you think the applicant would be for the job?
2. As a personnel manager, what would be your decision about hiring this applicant?
3. How confident are you of your decision made in question 2?
4. How satisfied would the applicant be with his work if he were to be hired?
5. The likelihood that the applicant would be interested in learning how to perform these specific job duties.
6. The likelihood that the applicant would enjoy working on these specific job duties.
7. The likelihood that the applicant would perform well on these specific job duties, compared with people in general.
8. The likelihood that the applicant's performance on these specific job duties would reflect his general ability for tasks of this type.
9. The likelihood that the applicant would be satisfied with performing these specific job duties.
10. The likelihood that the applicant would like to work at a job in the future that involved duties similar to the specific job duties described above.
11. The likelihood that the applicant would get along well and enjoy working with coworkers who were working on tasks similar to the specific job duties described above.

12. The likelihood that the applicant, if hired for the job, would be motivated to try and find another job in a completely different line of work.

APPENDIX IV

Items Evaluating Expected Job Performance in the Accounting Job

The specific job that the applicant is applying for is an accounting/bookkeeping clerk for a pharmacy. His specific job duties would include the following:

- (a) Keeping a running record of all assets, liabilities, expenses, and revenues for the pharmacy.
- (b) At the end of every month, completing a balance sheet and income statement for all the financial transactions of the pharmacy.
- (c) Completing the balance sheets and income statements as clearly as possible so that other people (e.g., tax officials, accountants, etc.) may understand them fully.

On the basis of what you have learned about the applicant from the job interview and considering the specific job duties described above, what would be your best prediction regarding the likelihood that the applicant would perform well on the following dimensions of job performance?

- (a) The likelihood that the applicant would understand the concepts involved with the specific job and record the financial transactions correctly.
- (b) The likelihood that the applicant would be able to clearly communicate the financial picture of the pharmacy to others by dating and labeling all transactions.

- (c) The likelihood that the applicant would be able to clearly communicate the financial picture of the pharmacy to others by showing how all his figures were calculated and where they came from.
- (d) The likelihood that the applicant would be able to do all the necessary calculations correctly.
- (e) The likelihood that the applicant would keep his records neat and tidy.

APPENDIX V

Items Evaluating Expected Job Performance in the Advertising Job

The specific job that the applicant is applying for is an advertising copy writer for a medium sized advertising company. His specific job duties would include the following:

- (a) designing and writing advertisements suitable for magazines which would convince specific consumer groups to buy certain products
- (b) writing advertisements which
 - (1) grab the attention of a reader and are memorable, perhaps because they have some distinctive feature such as a clever gimmick;
 - (2) have some entertainment value and are enjoyable and interesting to read;
 - (3) portray a product in such a way that its usefulness or value to a potential consumer is clearly communicated;
 - (4) are truthful and believable and are not overexaggerated;
 - (5) point out what is different and/or better about this product compared to others;
 - (6) are effective in persuading people to buy the product.

On the basis of what you have learned about the applicant from the job interview and considering the specific job duties described above, what would be your best prediction regarding the likelihood that the applicant would perform well on the following dimensions of job performance:

The likelihood that the applicant would be able to write advertisements which,

- (a) grab a reader's attention and are memorable
- (b) include creative use of photography or art work
- (c) use clever gimmicks
- (d) are enjoyable, entertaining, or interesting to read
- (e) portray products in a way that consumers will clearly perceive their meaningfulness or relevance to them
- (f) are credible and believable in what they offer and do not overexaggerate
- (g) point out what is different or better about a product compared to others
- (h) are effective in persuading people to buy a product
- (i) clearly focus on a specific consumer group that a product was intended for

APPENDIX VI

The Accounting Work Sample

Test of Basic Accounting/Bookkeeping Aptitude

Instructions

This is a test of your basic aptitude for jobs involving general accounting and bookkeeping tasks. No experience or previous knowledge is necessary to complete this test. All you need to know is contained in the following instructions.

Your goal in this test is to complete a balance sheet and income statement for a month's financial transactions of Jones' Pharmacy. The record of these transactions is listed on the page titled Jones' Pharmacy. In order to complete the balance sheet and income statement properly, you must first learn a few simple definitions and rules in basic accounting. The definitions of the important concepts in accounting which you must know are on the following page. You do not need to memorize these definitions since you may flip back and read them at any time during the test. However, please read these definitions carefully, until you are quite familiar with them, then go on to the next page.

Definitions

APPLICATIONS

-places where a business has
committed its economic resources

SOURCES

-places from which a business
has obtained its economic
resources

BALANCE SHEET

ASSETS

-anything which can be regarded as an
economic resource owned by a business,
and which can be expected to benefit
future operations of the business

-includes cash or value of goods or
services which are paid for in
advance and therefore benefit the
business in the future

-thus, assets are future applications
of economic resources or future uses
of these resources because they have
future potential for these purposes

LIABILITIES

-anything which can be considered
a debt to a business, which is
usually repaid in cash in
accordance with an agreement

-liabilities are a future source
of economic resources because
they are used to run a business
currently and in the future, and
because they are debts which
must be repaid in the future

INCOME STATEMENT

EXPENSES

-anything which can be regarded as a
cost to a business (e.g., goods,
services, or cash layouts) and which
is used up in the process of obtain-
ing revenues

-may also be used up assets or part of
the original cost of an asset which
has been used up in earning revenues

-since expenses are used up in the
process of earning revenues, they are
past applications of economic
resources or past uses of these
resources

REVENUES

-money received by a business for
goods sold or services rendered

-since money for goods or services
is earned through sales, which
have occurred in a given time
period, revenues are a past
source of economic resources for
a business

Below you will find a list of rules and principles which you must follow to do this task properly. Please read these over very carefully.

1. There are four categories in which the transactions of the pharmacy may be recorded (Assets, Liabilities, Expenses, and Revenues). Assets and Expenses are considered Applications, while Liabilities and Revenues are considered Sources.
2. The total sum in the column of Applications (i.e., Assets plus Expenses) must always equal the total sum in the column of Sources (i.e., Liabilities plus Revenues). Thus, as each transaction is recorded in the appropriate category, there must be an accompanying record of the transaction either in the other category in the same column, or in one of the categories in the opposite column. After recording each transaction, and before you go on to the next, you should make sure that total Applications equal total Sources.
3. When you are deciding where a particular transaction or event should be recorded, you must consider whether the event is past or future oriented. The categories that make up the balance sheet (Assets and Liabilities) are used for recording events that are future oriented, that is, events that have some future potential or obligations for the business. The categories that make up the income statement (Expenses and Revenues) are used for recording events that are past oriented, that is, events that have had some meaning for the business in a given time period. Thus, for example, when a business purchases goods or services, you must determine whether these goods or services will remain as assets to the business or they are used up in the process of running the business.

4. Remember that the goal of keeping track of the financial transactions of a business is to communicate a record of these transactions to other people who need to know this information (e.g., tax officials, accountants, etc.). You therefore must complete the balance sheet and income statement as clearly as possible so that others may understand it fully. Show all of your entries and the changes that are made to these entries as each transaction is recorded.

You now have all the instructions you need to complete this task. On the following page you will find the record of the first month's financial transactions for Jones' Pharmacy. On the next page you will find a work sheet on which you will record these transactions. As you can see, the first one is done for you. Jones obtained a \$10,000.00 bank loan which must be recorded in two categories. Jones now has \$10,000.00 cash in his assets, but he also has a \$10,000.00 liability, a debt which he must repay. Note that both entries are future oriented, the cash will be used to get the business going and the debt will be paid in the future. Also note that total applications equals total sources (\$10,000.00) after this transaction. When you are told to begin, finish recording the rest of the transactions and complete the balance sheet and income statement for Jones' Pharmacy for the month of June. Turn back to the list of rules and definitions as often as you need to help you decide which categories should be used to record each transaction. When you are finished, calculate the total assets, liabilities, expenses, and revenues remaining as of June 30. Also calculate the total applications and total sources. Finally, calculate the net profit of Jones' Pharmacy for the

Jones' PharmacyRecord of Transactions for the First Month of Operation

Philip Jones is a newly graduated pharmacist who has opened his own pharmacy. At the end of the first month of operations he called on Charles Debit, a local accountant, to help him assess his financial position by drawing up a balance sheet and income statement. Below is a list of events and financial transactions from the first month of operations.

- (1) June 1 - Jones obtains a \$10,000.00 bank loan to start a pharmacy business.
- (2) June 2 - Jones uses \$500.00 from his bank loan to pay one month's rent in advance for a store.
- (3) June 3 - Jones purchases \$6,000.00 worth of store fixtures on credit with no down payment and no interest, the entire sum becoming an account payable.
- (4) June 4 - Jones purchases \$30,000.00 worth of inventory (pharmacy goods) which he will eventually sell in his store. He pays \$6,000.00 immediately and promises to pay another \$20,000.00 at the end of the month and the remaining \$4,000.00 after two months. Thus, \$24,000.00 becomes another account payable.
- (5) June 4 - Jones pays \$150.00 to advertise the opening of his pharmacy.
- (6) June 30 - \$300.00 is paid to a clerk for the first month's wages.

- (7) - \$150.00 is paid to a part time delivery boy for the first month's wages.
- (8) - \$5,900.00 cash is received from the sale of goods during the first month of business.
- (9) - Jones takes \$1,000.00 out of the business for his own first month's wages.
- (10) - \$100.00 is paid from the cash on hand toward the account payable for the fixtures.
- (11) - \$80.00 is paid from the cash on hand for the cost of utilities (e.g., electricity, water, telephone) for the first month of operation.
- (12) - Jones counted his inventory on hand and determined that \$3,000.00 worth (of the original cost) had been used up. This figure represents the cost of goods sold.
- (13) - Jones estimates that the fixtures in his pharmacy have a 10 year useful life. He therefore estimates that after one month of use he should be able to write off \$50.00 of their original cost as depreciation.
- (14) - In order to pay the account payable for the inventory which partially falls due at the end of the month, Jones obtains a \$15,000.00 bank loan.
- (15) - \$20,000.00 of the inventory account payable was paid.

Work Sheet - Please Show all Entires and Changes after Transactions

APPLICATIONS

SOURCES

BALANCE SHEET

ASSETS

LIABILITIES

June 1 Cash \$10,000.00

June 1 Bank Loan \$10,000.00

INCOME STATEMENT

EXPENSES

REVENUES

Total Applications =

Total Sources =

APPENDIX VII

Scoring Procedure for the Accounting/Bookkeeping Task

1. Dependent variables related to performance:
 - (a) Understanding - 14 transactions must be recorded in two categories each. Subjects received a score between 0 and 28 on this variable which indicated the degree they were able to understand the concepts involved.
 - (b) Communication - each transaction must be dated and labeled appropriately to communicate the financial picture of the pharmacy. Subjects received a score between 0 and 28 on this variable which indicated the degree they were able to clearly communicate the vital information.
 - (c) Calculations - the totals in each category, the sum in the applications and sources columns, and the pharmacy's net profit must be calculated. Subjects received 4 points for each correct solution. Part marks were given.
 - (d) Clarity - the above calculations were also scored as to how clearly subjects showed their work. Subjects received 4 points for showing how each calculation was done.

(e) Neatness - the final balance sheet and income statement were rated on five dimensions of neatness (keeping rows and columns neat, printing, neatness of making corrections to mistakes, keeping entries within appropriate borders, and general appearance), which were summed for an overall neatness score.

2. Dependent variables related to task satisfaction:

- these measures were obtained from the Post-Test Questionnaire.

Post-Test Questionnaire

Please answer each question on the appropriate 9 point scale by circling the number on the scale which best represents your answer.

1. To what degree have you had previous experience working at a job in which general accounting or bookkeeping skills were required?
2. To what degree have you had any formal instruction or training in general accounting or bookkeeping skills?
3. To what extent were you interested in learning how to do this task?
4. To what extent did you enjoy working on this task?
5. Compared with people in general, how well do you believe you performed on this task?
6. To what extent did your performance on this task reflect your general ability for tasks of this type?
7. How satisfied are you with your performance on this task?
8. How much would you like to work at a job sometime in the future which to some extent involved tasks which were similar to the one you just completed?
9. To what extent do you believe that you would get along well and enjoy working with your coworkers at a job that involved tasks similar to the one you just completed?
10. If you somehow got a job in the future which involved work similar to the task you just completed, to what extent would you be motivated to try and find another job in a completely different line of work?

APPENDIX VIII

Test of Aptitude for Writing Advertising Copy

Instructions

This is a test of your aptitude for creating and writing an advertisement. No experience or previous knowledge is necessary to complete this test. All you need to know is contained in the following instructions.

The National Appliance Company will soon be introducing a new product that is both an alarm clock and a coffee maker. Such a product will allow a person to set the alarm to wake up at a chosen time and when the person shuts the alarm off a cup of coffee is poured automatically. The controls can be set to make a maximum of two cups of coffee to the taste of the owner (i.e., cream and/or sugar or black). The company has determined through market research that single males between the ages of 20 and 40 would be the group most likely to purchase such a product. The company has therefore decided to take out a full page advertisement in several popular magazines which are known to be read by males of this age group.

Your goal in this test is to design and write an advertisement which is suitable for a magazine and will convince the specified target group (single males aged 20 to 40) to purchase this new product. You may want to suggest a photograph or other art work which will appear in the advertisement. However, do not spend very much time on this aspect of the advertisement and do not bother to draw your suggestions. In a

separate sentence, very briefly mention what you may want to include in the advertisement in the way of a photograph or art work. The appliance is about the size of a small automatic coffee maker and is meant to sit on top of a bedside table. Then spend the majority of your time writing the actual advertising copy which people will read in the magazine.

Before you begin to write, read over the suggestions below which should help you understand the objectives of a good advertisement. Use these suggestions as guidelines in writing your advertisement.

1. An advertisement should grab the attention of a reader and have some distinctive feature such as a clever gimmick that is memorable.
2. An advertisement should have some entertainment value so that it is enjoyable or interesting to read.
3. An advertisement should portray a product in such a way that its usefulness or value to a potential consumer is clearly communicated.
4. An advertisement should be truthful and believable, and not overexaggerated.
5. An advertisement should point out the distinctive features of a product, i.e., what is different and/or better about this product compared to others.
6. An advertisement should be effective in persuading the target group to buy the product.

When you are told to begin, turn the page and write your advertisement. Keep the guidelines in mind as you work. You may use the back of the instruction sheets for rough work. You have 30 minutes to complete this task. When the 30 minutes is up, please complete the Post-Test Questionnaire.

APPENDIX IX

Scoring Procedure and Dependent Variables for
the Advertising Copy Writing Task

1. Dependent variables related to satisfaction, interest, etc. with the task were obtained from the Post-Test Questionnaire.
2. Dependent variables related to performance on the task were obtained from ratings of the written advertisements on the following dimensions:
 - (a) Intrusiveness -the degree to which the advertisement is attention grabbing and memorable.
 - (b) Production -inclusion of creative photography or art work.
 - (c) Creativity -use of clever gimmicks, mnemonics, etc.
 - (d) Entertainment -the degree to which the advertisement is enjoyable, entertaining, or interesting to read.
 - (e) Consumer relevance -the degree to which the product is portrayed in a way that consumers will clearly perceive its meaningfulness or relevance to them.
 - (f) Truthfulness -the degree to which the advertisement is credible, believable in what it offers, and does not overexaggerate.
 - (g) Distinctiveness-the degree to which the advertisement points out what is different or better about this product compared to others.
 - (h) Persuasiveness -the degree to which the advertisement attempts to persuade the consumer to buy the product.

- (i) Target group -the degree to which the advertisement focuses on the target group that the product is intended for

Post-Test Questionnaire

Please answer each question on the appropriate 9 point scale by circling the number on the scale which best represents your answer.

1. To what degree have you had previous experience working at a job in which writing advertising copy was required?
2. To what degree have you had formal instruction or training in writing advertisements?
3. To what extent were you interested in learning how to do this task?
4. To what extent did you enjoy working on this task?
5. Compared with people in general, how well do you believe you performed on this task?
6. To what extent did your performance on this task reflect your general ability for tasks of this type?
7. How satisfied are you with your performance on this task?
8. How much would you like to work at a job sometime in the future which to some extent involved tasks which were similar to the one you just completed?
9. To what extent do you believe that you would get along well and enjoy working with your coworkers at a job that involved tasks similar to the one you just completed?

10. If you somehow got a job in the future which involved work similar to the task you just completed, to what extent would you be motivated to try and find another job in a completely different line of work?

END

2 | 2 | 0 | 3 | 8 | 4

FIN