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The Moderating Effects of Moral Development and Dogmatism upon an Interviewer's Saliency of Applicant Gender and Information Level during Preliminary Employment Decisions

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The Moderating Effects of Moral Development and

Dogmatism upon an Interviewer's Saliency of Applicant

Gender and Information Level during Preliminary

Employment Decisions

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Abstract

Two potential moderating effects were investigated in a replication of a study investigating the saliency of applicant gender and information level upon preliminary employment decisions. The moderator of moral development was defined by Rest's Defining Issues Test, and the moderator of dogmatism was defined by Rokeach's Dogmatism Scale. These moderator variables were employed to explain the unusually inferior ratings given to female applicants in a low job-relevant information condition in the original study. Subjects were 60 undergraduate students in a pilot study and 244 undergraduate students in the main study. A 2 X 2 X 3 factorial design was used in the original study to evaluate four dependent variables: (a) the need to interview the applicant, (b) the perceived likelihood of the applicant's success on the job, (c) the perceived potential of the applicant's advancement within the company, and (d) the applicant's perceived managerial attributes derived from a composite score of five bi-polar managerial trait adjective pairs. The three factors were: (a) subject gender (male, female), (b) applicant gender (male, female), and (c) job-relevant information (no, low, high). A pilot study indicated that a factorial design incorporating both

moderator variables was not feasible. Therefore, two separate factorial designs were used in the main study, and dogmatism was chosen as the main moderator variable. A median split was made on this variable and included with the factors from the previous study to form a 2 X 2 X 3 X 2 factorial design with a reasonable balance in cell size achieved. A similar factorial design was made using the moral development measure, however cell size was much more unequal. A multivariate analysis of variance found significant effects for subject gender and information level but no interaction between applicant gender and information level as reported in the original study. The multivariate analysis was followed by univariate analysis of variance. The present study failed to replicate the original study; therefore, a valid assessment of moderator effects was not possible. However, no factor accounted for more than four percent of the total variance in the present study. The appropriateness of the statistical procedures and power of the statistical tests performed in the original and present studies were discussed.

Acknowledgements

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Introduction

Interviewers may habitually prefer certain attributional explanations to other explanations. Herriot (1989) defined these habitual preferences as attributional style. What influence does the interviewer's attribution style have on information processing, and does this influence produce different preliminary employment hiring decisions? After a personnel selection and employment interview literature review, this investigator concluded that research has not adequately addressed this issue.

Background

The pre-employment interview has a long and dubious history as a personnel selection device, but it is still in use almost universally today (Cascio, 1987). As a minimum, an interview is almost always treated as the final hurdle in the selection process, despite the fact that it is often a costly and inefficient procedure (Burack & Smith, 1982). Hiring decisions are primarily based on interviewee individual differences such as certain abilities, aptitudes, and personality dimensions (Cascio, 1987). However, there is ample opportunity for personal bias, distortion, and subjectivity in most selection interview procedures

(Burack & Smith, 1982; Cascio, 1987). This bias and distortion is due in part to the personal history and perceptions of the interviewer which ultimately increase error variance in the selection process.

An overview of employment interview literature indicates that progress toward understanding the interview process has been made since the 1940's. In a 1949 comprehensive review, Wagner recommended a standardized interview in the following situations: (a) when rough screening was necessary, (b) when development of other procedures was too expensive, and (c) when certain traits may be most accurately assessed by an interviewer. Although often couched in different terms, Wagner's recommendations are still in use today.

Cascio (1987) recommended use of the interview in the communication process between the organization and the applicant. Specifically, he recommended use of the selection interview for vital functions: filling gaps of missing, incomplete or questionable application responses; assessing interpersonal skills (e.g., speech, poise, and interpersonal competence); and assessing organizational-personal fit (e.g., is the applicant compatible with others in the organization, or a source of unhealthy conflict).

A 1982 employment interview summary and review by Arvey and Campion concluded that recent studies confirm earlier research demonstrating that interviewers produce ratings or evaluations which are influenced by contrast (Kopelman, 1975; Schuh, 1978), primacy-recency (Farr & York, 1975), first impressions (Tucker & Rowe, 1979), personal feelings (Keenan, 1977), sex differences (London & Poplawski, 1976), cognitive complexity, and similarity error (Leonard, 1976).

Many of these errors (personal feelings, first impressions, sex differences, and personal similarity) are directly influenced by the interviewer's person perception or stereotyping of the applicant. More recently, Goodale (1989) stated that personal attitude, stereotypes, first impression bias, and early decisions are common, consistent problems regardless of the amount of interviewing experience and training the practitioner has. Impression formation theory provides some insight into these perceptual processes.

Impression Formation

Roger Brown (1986) stated that impressions of persons are unified and, more importantly, integrated. In an effort to maximally attend to one's environment, one tends to classify and categorize everything

perceived, including other people. One attempts to unify facts, traits, appearance, and actions in memory. Furthermore, Asch and Zukier (1984) found that integration of impressions of persons invariably goes beyond the data.

In other words, one strives for completeness in order to make the perceptual pieces fit into a whole unit. Information is viewed in relationship to other information (Brown, 1986). Heightened attention to these perceived relationships produces primacy and centrality. Primacy refers to the phenomenon of initial information about a person exerting more influence in shaping the total person-impression than the same information received at a later time (Brown, 1986). He also stated that centrality refers to the degree of trait potency in shaping an impression. Ultimately, heightened attention produced by primacy and centrality results in the formation of an impression. These impressions are then used to make inferences or predictions, which may be in error (Webster, 1982).

Oskamp (1965) found that behavioral predictions made from a short word description were equally poor for undergraduates, graduate students, and clinical

psychologists. Moreover, additional information increased confidence, but not accuracy.

Inferences about people are frequently made by unconscious thought processes (Webster, 1982). He also indicated that attempts to question interviewers about how they reach decisions have not been productive. Additionally, Bernstein, Hankel, and Harlan (1975) concluded that professional interviewers and undergraduate students made evaluations in the same manner. Attribution theory provides further insight into these processes.

Attribution

According to Herriot (1989), an original theoretical proposition of attribution theory was that people act in a rational way, basing their judgments on the evidence available to them. He also concluded that many shortcuts are used by individuals. These shortcuts in obtaining causal evidence result in the use of less-than-optimal evidence about consensus, distinctiveness, and consistency covariance when an attribution is made.

In a paraphrased summary, Kelley's (1967) definitions of these three processes are: (a) consensus, the degree to which people behave the same

way in a situation; (b) distinctiveness, this person does not behave this way in other situations; and (c) consistency, the degree to which this person always behaves this way in this situation. He also proposed that high levels of consensus, distinctiveness, and consistency would produce a situational attribution about the person's behavior.

In other words, the person's behavior would be attributed to the situation, and not to a disposition or trait of the person. Research has found that this assumption is not a reliable attributional predictor; people often do not reach rational attributional conclusions (Herriot, 1989).

In fact, many attributions are made with very little causal evidence (Crocker, 1981; McArthur, 1972). People perceive relationships between events that do not actually exist, while they do not perceive unanticipated relationships that actually do exist (Herriot, 1989). Moreover, Herriot (1989) stated that research has verified the existence of four forms of attributional bias.

Self-serving bias is defined as attributing the desirable outcome to oneself, and attributing the undesirable outcome to one's situation. False

consensus is defined as the belief that most people share one's own expectations, beliefs and attitudes. Actor-observer divergence is defined as the tendency of people to attribute their actions to the situation when in the role of the actor, and the tendency of people to attribute the same actions of another person to that person's disposition. Finally, the fundamental attribution error is defined as the underestimation of situational factors and the overestimation of dispositional factors when attributions are made.

Brown (1986) stated that actors and observers often disagree in their explanations of the same event. Furthermore, he stated that it is typically the observer who is in error (when an objective error criterion is available). In summary, Herriot (1989) concluded that attributions made about another individual's behavior are as likely to be a consequence of the observer's personal theories and expectations as an objective evaluation of the evidence. Macan and Dipboye's (1988) findings supported this position. They found that preinterview information about applicant qualifications definitely influenced expectations about the applicant's answers and traits.

More specifically, Macan and Dipboye (1988) found a significant positive relationship between the preinterview credentials of the applicant, the type of question asked, and the expectations of the interviewer on sales-related traits not addressed in the credentials (e.g., initiative, sociability, and ambition). Although not conclusive, these expectations indicated that the subjects were evaluating applicants for consistency with some form of an internalized standard (e.g., the schema or prototype of an "ideal candidate")(Macan & Dipboye, (1988).

However, the researchers stopped short of stating that a cognitive structure (schema or prototype) was the cause of the differences found; and they suggested other possible causes, e.g., affect, social expectations, and individual differences. Additionally, Dipboye (1989) indicated that some differences have been noted between terms such as, "category, stereotype, prototype, and schema", but these terms share a basic common focus of general expectations guiding the processing of specific data. Keeping this point in mind, the present investigator used the language of the original source.

Stereotyping and Discrimination

Webster (1982) defined stereotyping as, "Simply a shorthand evaluation triggered by information concerning a category of people" (p 48). The use of stereotyping, or categorization, and the ability to discriminate between categories of information, is necessary for one to successfully interact with a dynamic and complex environment.

According to Arvey and Faley (1988), the main purpose of any selection procedure is to discriminate between individuals, selecting some and rejecting others. However, they stated that the crucial issue is whether the discriminations are fair (unbiased) or unfair (biased).

This concern is reflected in the Section 14.B.(8).(a). definition of unfairness in the United States Government's Uniform Guidelines on Employment Selection Procedures (1978):

When members of one racial, ethnic or sex group characteristically obtain lower scores on a selection procedure than members of another group, and the differences are not reflected in differences in a measure of job performance, use of the selection procedure may unfairly deny

opportunities to members of the group that obtain the lower scores. (p. 38302)

In other words, a working definition of unfair discrimination or bias is any condition in which minority group members consistently have less chance of being selected for a job when, if they had been selected, their job performance would have been equal to that of nonminority group members. Webster (1982) stated, "Stereotypes are important to employment interviewers, not only because of their influence on decisions, but because equal employment opportunity and human right legislation introduce threats to decisions based on stereotypic responses" (p 50).

Group categorization or stereotyping allows one to interact more consistently with individuals or groups. Webster (1982) concluded that this process can be based on virtually any common factor, such as sex, race, education level, or even organizational affiliation.

Furthermore he states, "There is no general agreement as to how stereotypes are formed. Certainly some reflect learning in childhood; others include a kernel of truth; still others are shown to result from illusory correlates (Webster, 1982, p. 50)".

Further evidence that some sex-role, gender stereotypes are formed in early childhood was provided by Clarke-Stewart and Koch (1983). They concluded that boys and girls are perceived and treated differently from the moment of birth. Even the colors in which infants are dressed are very early signs of this differential treatment. To aid in sex-role socialization, boys are often dressed in blue, girls in pink. Ultimately, a sex-role identity is developed, directly and indirectly, by the parents in concert with society. In summary, Clarke-Stewart and Koch (1983) concluded that even at the age of three, although children do not know that sex is immutable, children behave in sex-stereotyped ways and are likely to become upset when someone makes a mistake about their sex. In another example, Fagot, Leinbach, and Hagan (1986) studied the sex-role behaviors of 21 to 40 month old children. They found that by the age of 30 months, children tended to choose same-sex playmates, and girls became less aggressive than boys. Additionally, they found that children can recognize and label the sex of adults before they can label the sex of peers.

Clarke-Stewart and Koch (1983) observed that a three year old child has already developed a sense of

gender identity that is difficult to alter. Furthermore, they concluded that two to four year old children are capable of symbolic functioning but are not capable of manipulating and transforming information in basic and logical ways.

Thus, it appears that sex-stereotyped information has salience and has been assimilated by an individual since early childhood, even before logical cognitive principles were possible, and long before abstract thought was possible. Therefore, the present investigator proposes that sex-role and gender related stereotyping is more robust than stereotypes acquired at later stages of cognitive development.

In general, stereotyping has been the subject of several studies in the business environment. Different expectations, standards, or stereotypes for minorities may lower evaluations (Arvey, 1979). Attitudinal and racial similarities between rater and ratee produce higher evaluations (Rand & Wexley, 1975). There has been some investigation of the interviewer's use of stereotyping of the ideal successful applicant (Hankel, Hollman, & Dunnette, 1970; London & Hakel, 1974; Macan & Dipboye, 1988; Rowe, 1963).

However, most evidence of stereotyping found in the research is situation specific. Male applicants are rated higher for traditionally male jobs; female applicants are rated higher for traditionally female jobs (Cohen & Bunker, 1975). Females receive lower evaluations (Cohen & Bunker, 1975). Even masculine clothing (on either sex) produces higher ratings of job success (Davis, 1987).

Osburn, Tammrick, and Bigby (1981) found interviewers made accurate job candidate discriminations when evaluation of specific and relevant knowledge, skills, and abilities (KSA's) were utilized, whereas, significantly less accurate discriminations were made when more general knowledge, skills, and abilities required evaluation. Moreover, in this investigator's opinion, many organizational positions (e.g., management) contain KSA dimensions which are difficult to specifically define, and even more difficult to objectively evaluate (e.g., inter-personal communication skills). Therefore, it seems reasonable to conclude that the most effective interviewer's attribution style should be such as to maximize impartial, unbiased decision making in the

less than perfect conditions of the day-to-day business world.

One means of producing unbiased employment decisions is to utilize decision makers whose attribution style minimizes the use of stereotypes. Funder (1980) provided some support for this approach. He administered the California Q-Set of descriptive personality statements (e.g., Is calm, relaxed in manner") to 63 undergraduate subjects asking them to rate themselves, a friend (also participating in the study), and an acquaintance. Subjects were also given a situational attribution option (e.g., "depends on the situation"). He found substantial individual differences in the tendency of the subjects to make trait ascriptions.

Stereotyping and Decision Styles

Recently, Schuh (1989) defined decision style as: "The architecture of a person's previously developed concepts which are linked logically into what is refered to as a 'logical-mathematical' cognitive structure." (p. 91). He also concluded that an individual's decision style functions as a script or schemata, thereby influencing the gathering, storing, combining and evaluating of information. In addition,

he indicated that one's decision style determines what factors and relationships will be observed; reflecting simple cause-effect models or very complex personal theories.

Webster (1982) proposed three decision making models: (a) conflict, based on the decision maker's conflicting needs resulting in stress; (b) cognitive information processing, based on mathematical models; and, (c) affect, based on strong feelings. In a more recent publication, Schuh (1989) stressed the cognitive information processing models including, Bayesian, correlational, and analysis of variance. However, he concluded that an interviewer's decision style may change as a function of the interview context. He also stated a related concern: "How one draws upon and combines information taken from different cognitive structures without information loss or subjugation arising from opposing structures." (Schuh, 1989, p. 91). These issues are related to Webster's (1982) concerns that nonrational feelings intrude and distort evaluations when something personal is at stake.

According to Eder and Ferris' (1989) interview model (Figure 1), applicant and interviewer characteristics influence preinterview impressions and

ultimately the selection decision (Eder & Ferris, 1989). Arvey and Campion's (1982) definition of interviewer's characteristics (Figure 2) includes psychological characteristics (e.g., attitude), prior knowledge of the applicant, and perceptions of job requirements.

Therefore, simply knowing the race and sex of an applicant may differentially shape the expectations, stereotypes, and behaviors of an interviewer which, in turn, may affect the interview outcome. First information about an applicant (usually in the form of verifiable paper credentials) has a disproportionate influence on impressions (Dipboye, 1989). Even before the interviewer meets the applicant, robust impressions and judgments are already being formed (Dipboye, 1982; Eder & Ferris, 1989). After a review of pertinent research, Dipboye (1989) concluded that even when the interview refutes preinterview impressions, an applicant's final evaluation generally conforms to these impressions. This conclusion supports the position that the interviewer's preinterview impressions of the applicant's qualifications, and interviewer-applicant characteristics, may be the most important factors in biasing the outcome of the

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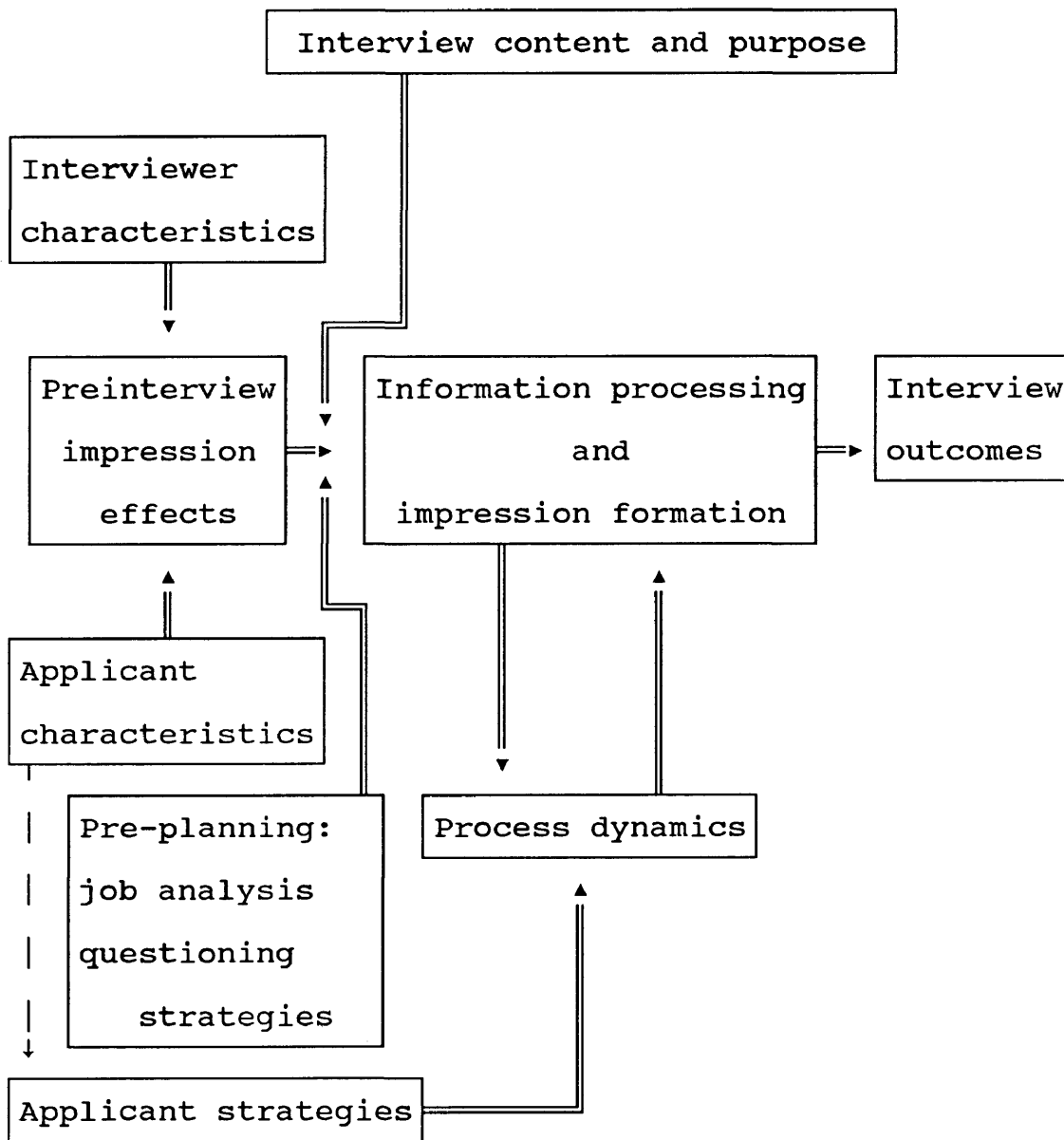
<u>Figure 1</u>.   Interview model.
          (Adapted from Eder & Ferris, 1989)

Interviewer	Applicant
1. Age, race, sex, etc.	1. Age, race, sex, etc.
2. Physical appearance	2. Physical appearance
3. Psychological characteristics: attitude, intelligence, motivation, etc.	3. Educational and work background
	4. Job interests and career plans
4. Experience and training as an interviewer	5. Psychological characteristics: attitude, intelligence, motivation, etc.
5. perceptions of job requirements	6. Experience and training as an interviewee
6. Prior knowledge of applicant	7. Perceptions of interviewer, job, company, etc.
7. Verbal and nonverbal behavior	8. Verbal and nonverbal behavior

Figure 2. Interviewer and applicant characteristics. (Adapted from Arvey & Campion, 1982)

employment selection interview (Dipboye, 1982; Eder & Ferris, 1989).

Recruitment and initial screening decisions about applicants may not be very salient to the decision maker in some situations (Figure 3). In fact, Webster (1982) concluded that some evaluations are made so early in the selection process that the decision makers are not aware of the impact of their decisions.

In the case of early, pre-employment, rough screening, the interviewer demonstrates little if any physiological or psychological stress (Webster, 1982). Therefore, a conflict or stress based decision making model does not appear appropriate. Additionally, in the evaluation of factors relevant to a secretarial position Valenzi and Andrews (1973) found that even in a structured and cognitively oriented decision making process professional interviewers differed in use of information cues and had little insight into their decision making processes. This was demonstrated by major differences between perceived and actual cue ratings, which suggested that even in a cognitive, information processing model, the professional interviewers did not realize the effect of their use of intuitive cutoff criteria.
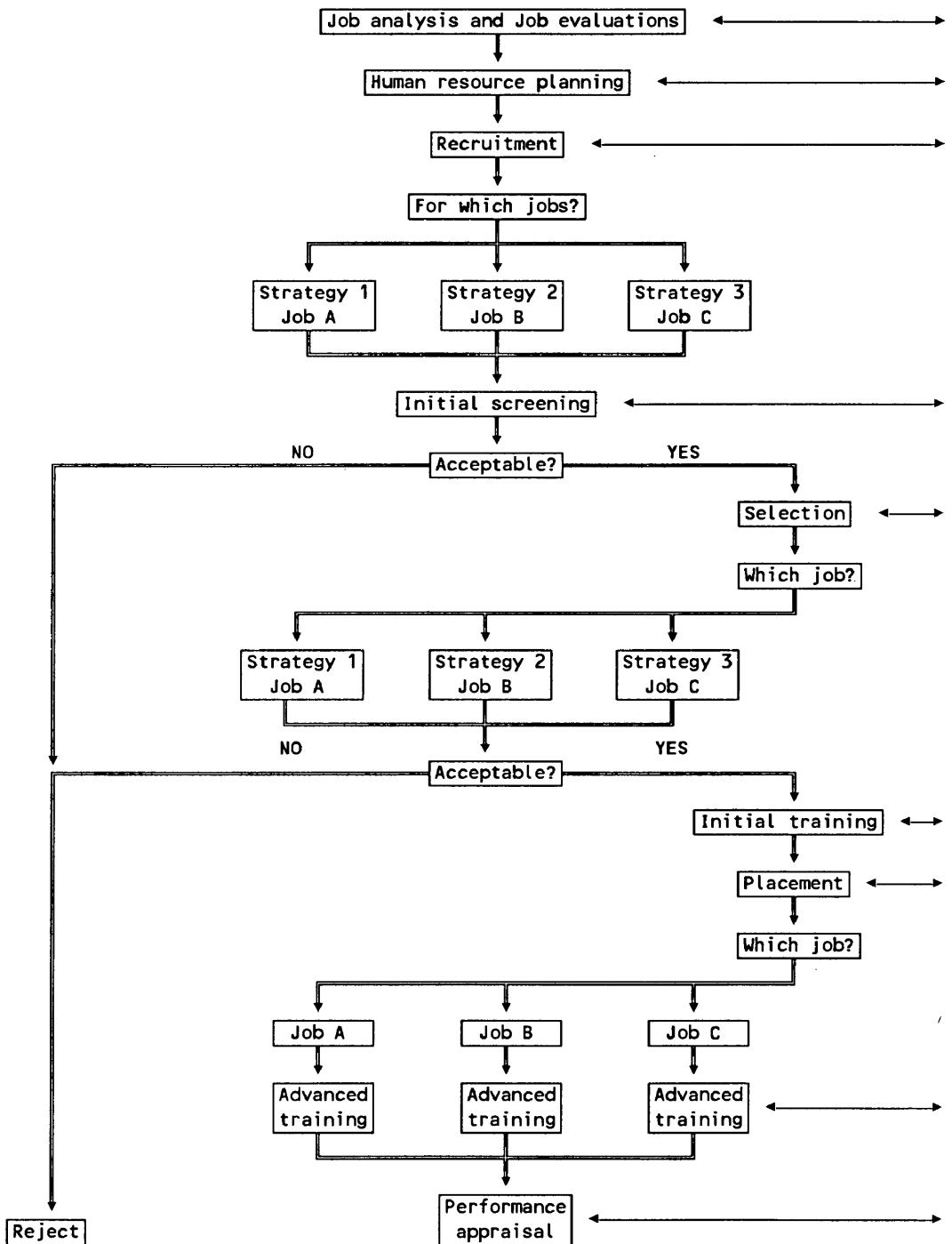
Figure 3. Selection Process.
(Adapted from Cascio, 1987)

Therefore, an affective or feeling decision making model best describes situations when judgments are actually based to a large degree on feelings and not based on cognitive processes. Schneider, Hastorf & Ellsworth (1979) classified affective based decisions as stereotype reactions. Zajonc (1980) postulated that affective reactions are more primitive than cognitive operations, and that one of the first discriminations one learns is "good versus bad". Moreover, Webster (1982) indicated that employment interviewer's feelings appear along dimensions such as "good-no good" and "trust-do not trust". He further concluded that affective reactions are primitive experiences that are difficult for the individual to control; furthermore, he argues that reason will not change these feelings, although their expression can be altered.

The 1980 findings of Heilman are also congruent with this line of reasoning. She found that situational factors (such as applicant pool composition) can preclude, or at least reduce, the likelihood of discriminatory personnel decisions, although they leave the decision maker's stereotypic belief systems intact. Therefore, these situational factors may only temporarily attenuate an interviewer's

belief system or attribution style. Furthermore, Cann, Siegfried, & Pearce (1981) found that focusing the interviewer's attention on specific parts of the task did not reduce attractiveness bias and sex discrimination in hiring decisions. These findings are also congruent with an affective decision making model indicating that some forms of information may invoke very powerful, socially-reinforced stereotypes which circumvent, or at least moderate, the individual's cognitive processes.

There is a need for more research on perceptual processes in the interview. Arvey (1979) stated that little is known about why differential evaluations are made and what goes on in the interview to influence the evaluation. Most recently, Dipboye (1989) concluded that interviewers widely differ in the schemas that influence their impressions; he called for further research to examine these differences. Some progress has been made in this area. Valenzi and Andrews (1973) found wide differences in cue utilization resulting in considerable inter-rater differences. Also, "high authoritarian" personnel officers were found to rate males higher than females (Simas & McCarrey, 1979).

Additionally, research on questioning strategy has provided some process insight. In a brief review of hypothesis testing research, Rowe (1989) stated that several studies suggest people are predisposed toward a confirmation bias, which interferes with effective decision making. She states that this bias is referred to as confirmatory hypothesis testing or positive test strategy and is defined as, "the tendency to test cases that are expected or known to have the property of interest" (Rowe, 1989) In other words, confirmatory hypothesis testing is the tendency for people to seek information consistent with their initial beliefs about another person.

Sacket (1982) and McDonald and Hakel (1985) searched for confirmatory hypothesis testing; however, they did not find consistent evidence of its use. The McDonald and Hakel study also investigated applicant race, sex, suitability, and answers to interviewer questions. They found that initial impression had only a small influence; however, a suitability-by-type of answer interaction accounted for seventy three percent of the variance.

Rowe (1989) and Binning, Goldstein, Garcia, and Scattaregia (1988) concluded that the Sacket (1982) and

the McDonald and Hakel (1985) studies contain a severe methodological weakness; both studies use a fixed question-response format. To correct this deficiency, Binning et al. (1988) used a format that allowed subjects to choose questions they personally believed relevant to the situation. Using this format, not only was hypothesis testing verified, but a hypothesis testing by sex interaction was also identified.

In other words, interviewer's were using confirmatory questioning strategies for same-sex applicants and disconfirmatory questioning strategies for opposite-sex applicants (Binning et al., 1988). Apparently, applicant sex was a sufficiently salient variable to affect the interviewer's questioning strategy.

In their review of interview research, Arvey and Campion (1982) recommended that researchers pay attention to person-perception processes. In two studies, Heilman (1980, 1984) investigated some of these person-perception processes.

Based on her 1980 study of the impact of situational factors on personnel decisions concerning women and her 1984 study of information as a deterrent against sex discrimination, Heilman concluded that sex-

based decisions easily occur very early in the applicant "rough screening" process. These studies indicated that factors such as applicant pool composition (the percentage of female applicants in the pool) and job-relevant information directly interact with as little sex related information as a circled name on an employment application form: Joan Stevens verses John Stevens.

Furthermore, these studies found that ratings of gender-related, work-attribute adjectives were highly correlated with the sex-based discriminatory decisions, thereby providing some insight into the interviewer's person-perception of the applicant.

Therefore, based on the premise that the most effective interviewer's attribution style should be such as to maximize impartial or unbiased decision making, the present investigator examined the role of two stable dimensions of one's attribution style that may relate to impartial decision making: moral development and dogmatism.

Moral Development

The level of moral development at which one functions most of the time was considered to be one's level of moral maturity by Vecchio (1982). The

question of interest in the present study was whether the level of this construct in an interviewer's attribution style would significantly affect selection decisions.

More specifically, would an interviewer with an attribution style which includes a high level of moral development reach more impartial selection decisions over a range of situational factors, e.g., different levels of job information? Would these decisions be more congruent with relevant situational information, and less congruent with prejudiced, sex-role stereotyped information than decisions made by an interviewer with a low level of moral development? The following discourse is presented to support this possibility.

Congruent with this premise, Rest (1986b) concluded that while some people think of organizing society in general principles, others think of morality in more concrete terms. He also proposed that these concrete terms involve the maintenance of certain rule and role systems. In other words, people who do not tend to think of social organization in more logically comprehensive, equitable, universal terms, tend to

think of social organization in more stereotypically rigid, biased, or even prejudiced terms.

To reduce controversy, Rest's definitions of morality and moral development (Figure 4) were used throughout this study. He defines morality as, "A particular type of social value, that having to do with how humans cooperate and coordinate their activities in the service of furthering human welfare, and how they adjudicate conflicts among individual interests" (Rest, 1986b, p. 3). Essentially, morality provides guidelines for determining the distribution of the costs and benefits of participative living.

Furthermore, Rest (1986b) concluded that a moral system is functioning well when people believe that their interests are taken into account and want to support the system because they believe the system supports them. The development process, of which moral development is a part, can be channeled in several directions, or become distorted. "Empathy can become prejudice . . . the evolving self-concept system can organize itself around nonmoral values, and sophistication in social cognition can be used for exploitation as well as for moral purposes (Rest, 1986b p. 2).

Level I. Premoral

Moral value resides in external happenings or in quasi-physical needs rather than in persons and standards.

Stage 1. Obedience and punishment orientation.

Egocentric deference to a superior, power, prestige, or a trouble-avoiding set.

Stage 2. Instrumental relativist.

Naively egoistic orientation. Right action is that which instrumentally satisfies the self's needs and occasionally other's needs. Awareness of relativism of value to each actor's needs and perspective. Naive egalitarianism.

Level II. Conventional

Moral value resides in performing good or right roles in maintaining the conventional order and the expectancies of others.

Stage 3. Interpersonal concordance: good boy or nice girl orientation.

Orientation to approval and to pleasing and helping others. Conformity to stereotypical images of majority or natural role behavior and judgment by intentions.

Stage 4. Law and order orientation.

Authority and social-order maintenance orientation. Orientation to doing duty and to showing respect for authority and maintaining the social order.

Level III. Principled

Moral value resides in conformity to sharable standards, rights, duties.

Stage 5. Social contract: Contractual legalistic orientation.

Recognition of an arbitrary element or starting point in rules or expectations for the sake of agreement. Duty defined in terms of contract, of general avoidance or violations of the rights of others, and of majority will and welfare.

Stage 6. Conscience or universal ethical principles orientation.

Orientation not only to actually ordained social rules but to principles of choice involving appeal to logical consistency. Orientation to conscience as a directing agent and to mutual respect and trust.

Figure 4. Classification of Moral Judgment into Levels and Stages of Development. (Adapted from Rest, 1979)

Observer empathy for the actor can reduce actor-observer divergence. Brown (1986) indicated that when the observer is made to share the perspective of the actor, he/she will attribute causality not to the actor, but from the perspective of the actor. Also, observer empathy starts developing during early childhood.

Clarke-Stewart and Koch (1983) concluded that by the age of two, children realize that they are distinct from other people; by the age of three they are capable of empathic behavior; and by the age of four they recognize that others have different perspectives from their own. Rest (1986b) referred to this empathic sharing of perspective as role-taking and indicated that greater role-taking opportunities lead to devising more and more elaborate ways of coordinating human interests, and thus to more developed conceptions of justice.

On the other hand, prejudice has been defined as negative or unfavorable attitudes held without regard for contradictory facts or facts that might discredit these attitudes about a person or group (Berg, 1984). For example, empathy for one's group (e.g., gender, race) can become distorted to maintain group

cohesiveness and solidarity; and views may become prejudiced against members of other groups, especially when there is a perceived intergroup competition for scarce resources. Berg (1984) also asserted that prejudice represents an excellent example of when the dynamics of intra-group relationships have destructive consequences for individuals.

Therefore, if a basic objective of the employment selection process is unbiased discriminations as stated in the Uniform Guidelines on Employment Selection Procedures (1978), then introduction of biased discriminations in any form, including prejudice or exploitation, is of grave concern and should be avoided at all stages of the selection process. His measure of moral development, keyed toward individual principles of conscience, logical comprehensiveness, and universality, was developed, in part, to include one's use of empathy or prejudice in the decision making process (Rest, 1986b).

Rest (1986b) also asserted that research shows striking individual differences among people in sensing the needs and welfare of others, and in awareness of consequences. His measure was developed to measure these individual differences. Although highly

correlated with several life experience constructs
(e.g., educational/career orientation, continued
intellectual stimulation, career fulfillment, civic
responsibility, religious and political awareness),
one's utilization of life experience information when
making decisions is also important (Rest, 1986b).

It seems clear that an interviewer must be aware
of and empathic to the needs and welfare of others and
very aware of the consequences of his/her actions.
Furthermore, these actions must be congruent with
ethical and legal guidelines, e.g., a fair or unbiased
selection process.

In addition, moral development is a reasonably
stable construct. This stability is demonstrated by a
robust resistance to intervention and training. A
meta-analysis of 68 intervention studies indicated a
small average effect size of .28 compared to an average
effect size of .08 for groups receiving an educational
intervention not oriented toward moral development, and
a control group average effect size of .11 (Rest,
1986b). He suggested effect sizes of .20, .50, and .80
be considered the cut points for small, medium, and
large effects. Additionally, Rest (1986a) indicated
that test-retest reliabilities for his measure of the

moral development construct are generally in the high .70s or .80s, and that Cronbach's Alpha index of internal consistency is generally in the high .70s.

Furthermore, he stressed that short-term training programs or interventions (three weeks or less) are not effective in changing one's level of moral development (Rest, 1986b). Therefore, moderation effects of Rest's moral development measure on an interviewer's attribution style may be important in the selection of interviewers, since it measures robust, stable constructs which are resistant to even extensive, and expensive educational and training interventions.

A literature review found no evidence of the evaluation of moral development in an employment selection setting. However, some indirect support for use of this construct can be found. Indicative of inappropriate sex-based discriminations, Simas and McCarrey (1979) found that high authoritarian personnel officers rated males higher than females.

Rest (1986b) indicated that a set of studies using law and order tests (keyed toward giving virtually limitless power to authorities and advocating the maintenance of social institutions even at a high cost to individual welfare and freedom) found negative

correlations of -.45 to -.61 with moral development stages 5 and 6. These principled morality stages are keyed toward principled moral values, conformity to sharable standards, rights, duties, and conscience or universal ethical principles of choice (Rest, 1986b). This information suggested that a more-morally mature individual's attribution style will make less use of inappropriate sex-based stereotypes in decision making.

Additional indirect support was found in a study by Vecchio (1981) who used moral maturity to interpret individual differences in performance during an overpayment condition. He found that in a condition where individuals perceived themselves overpaid for the amount of work performed, more-morally mature individuals tended toward higher quality production, while less-morally mature individuals tended toward higher quantity production.

Also, he concluded from the results that moral maturity is an important moderator of inequity resolution (Vecchio, 1981). This suggested that moral maturity measurably moderates the attributions one makes in a work environment.

It appears that moral development addresses elements of a stable attributional style critical to

producing impartial decisions. The value of a study of this construct in a pre-employment selection setting is possibly twofold: theoretical, by increasing the body of knowledge concerning the effects of an interviewer's attributional style constraints; and practical, by improving the employer's likelihood of selecting impartial interviewers, thereby increasing the likelihood of obtaining an unbiased selection procedure consistent with ethical and legal guidelines.

Dogmatism

Rokeach's (1956) dogmatism construct was used as a measure of the individual's openness or closedness of belief systems. Rokeach (1960) asserted that this construct was keyed to, "The extent to which a person can receive, evaluate, and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situation arising from within the person or from the outside" (p. 57).

The degree to which an interviewer makes impartial decisions based on relevant information (e.g., job related information) while disregarding irrelevant factors (e.g., gender related information) was of vital interest in the present study. It was felt that

Rokeach's measure would significantly improve insight into an interviewer's attribution style.

More specifically, an interviewer with an attribution style which includes a low level of dogmatism (open belief system) should reach more impartial selection decisions over a range of situational factors, e.g., different levels of job information. These decisions should be more congruent with relevant situational information, and less congruent with prejudiced, sex-role stereotyped information than decisions made by an interviewer with a high level of dogmatism (closed belief system). The following discourse is presented to support this conclusion.

Rokeach (1960) defined the belief system as representing, "All the beliefs, sets, expectancies, or hypotheses, conscious and unconscious, that a person at a given time accepts as true of the world he lives in" (p. 33). He asserted that one must also consider disbelief systems, arranged according to the degree to which these disbeliefs are incongruent with beliefs. He defined these disbelief systems as, "Composed of a series of subsystems rather than merely a single one, and contains all the disbeliefs, sets, expectancies,

conscious and unconscious, that, to one degree or another, a person at a given time rejects as false" (Rokeach, 1960, p. 33).

Concerning the nature of belief systems, he suggested that we organize the world of ideas, people, and authority along lines of belief congruence, highly congruent to highly incongruent (Rokeach, 1960). He concluded that the individual has a small core of primitive beliefs about the world in which he lives. These beliefs are assumed to be formed early in life, and believed, in the normal course of events, as unquestionably valid. Rokeach (1960) stated that a person's belief system also contains many nonprimitive beliefs concerned with the nature of the authority depended upon to fill out a map of his/her world.

He stated that, "Authorities are the intermediaries to whom we turn for information to supplement what we can obtain for ourselves. For no person can hope to form such a picture all by himself" (Rokeach, 1960, p. 42). Furthermore, he concluded that beliefs (especially nonprimitive) are weighted differently by individuals. Some beliefs are more central to one's belief system and are given more weight. In addition, other sets of beliefs are less

central, given less weight, and therefore, are more peripheral.

Rokeach (1960) concluded that in open systems these peripheral beliefs are intrinsically related to each other as well as to beliefs about authority. However, in closed systems, peripheral beliefs are isolated or segregated from each other, and only interconnect through the source of authority. They are arbitrarily seen to be interrelated because they are all seen to originate in the same authority.

Closed system or party line thinking is based solely on a common authority (e.g., "I believe it because I believe the information source."); while the open system is based on authority and intrinsic logic (e.g., "I believe it because I believe the information source, and the information is congruent with my other perceptions.").

In summary, the content-oriented theory used in construction of the Dogmatism construct includes elements to investigate one's ability to tear down old belief systems and form new belief systems. Also, these elements distinguish between one's use of rigid thought and dogmatic thought processes and one's ability to analyze and synthesize information (Rokeach,

1960). This concept is independent of ideological content, and has several dimensions; authoritarianism, personality, adjustment, group behavior, parent-child relationships, time perception, cognitive inconsistency, problem solving, and learning (Vacchiano, Strauss, & Hochman, 1969).

In general, this orientation toward the degree of openness to novel information is used to investigate one's belief concepts in field-independence terms. Furthermore, high-dogmatism has been demonstrated to act as a significant inhibitor of attitude change (Ehrlich & Lee, 1969; Miller, 1965). One's ability to discriminate between the actor and the field or situation, and one's ability to adjust one's attribution style when presented with novel information, is highly important in the employment selection process. In order for a selection process to be fair or unbiased, the decision makers must be able to discriminate between relevant job-related and irrelevant stereotypical characteristics of the applicant (actor) against a field of specific job and organizational requirements.

A literature search failed to locate studies using the dogmatism construct in an employment

selection setting. However, some related support for use of this concept can be found. In a single gender study, Fry (1975) found that highly dogmatic women devalued female endorsed problem-solving beliefs, held negative attitudes toward females in problem solving roles, and preferred a traditional male authority orientation.

Additional studies can be found using authoritarian concepts to measure stereotypical attitudes in the workplace. Some authoritarianism studies have found indications that high authoritarians view women as not having the necessary qualities required for effective decision making in management, especially upper-level management positions (Bass, Krusell, & Alexander, 1971; Kaley, 1971).

Using the California F (Fascism) scale as a measure of authoritarianism, Slotnick and Bleiberg (1974) found a positive relationship between high F scores, extrinsic work motivation, and rigid occupational sex-role stereotyping. They also found a positive relationship between low F scores, intrinsic work motivation, and flexible sex-role definition. In a review of the California F Scale, Rokeach (1960) concluded that the instrument was structure-oriented,

as reflected by the use of specific ideological content.

On the other hand, Rokeach (1960) asserted that the theory guiding construction of the Dogmatism concept involved many defining characteristics of open and closed systems; beliefs about the nature of authority is only one of these. In a review of dogmatism, Vacchiano, Strauss, and Hochman (1969) confirmed that Rokeach's (1960) position is correct: authoritarianism is only one of several dimensions of dogmatism.

And as previously noted, Simas and McCarrey (1979) found that high authoritarian personnel officers rated males higher than females, indicating the use of inappropriate sex-based attributions. Additionally, this group of personnel officers made more job offers to male than to female job applicants. This study used the Revised California F Scale as a measure of authoritarianism.

In summary, this information suggested that an interviewer with a less dogmatic attribution style (open belief system) should reach more impartial selection decisions due to the ability to receive, evaluate, and act on relevant information based on its

own intrinsic merits. However, an interviewer with a more dogmatic attribution style (closed belief system) should reach more inappropriate (biased) selection decisions because this person will tend to be more encumbered by irrelevant factors, e.g., sex-based stereotypes.

Statement of the Problem

Therefore, the present research investigated the moderating effects of two measures of the interviewer's attribution style (moral development keyed toward non-arbitrary social coordination, and dogmatism keyed toward openness or closedness of a belief system) upon saliency of applicant sex and level of job-relevant information during preliminary employment decision making.

General problem. What are the relationships between subject sex, applicant sex, job relevant information, interviewer's level of moral development, interviewer's level of dogmatism, manager-attribution adjective ratings, and preliminary employment decisions?

More-specific questions.

A.   To what degree are the interviewer's judgments regarding a future interview,

probable job success of the applicant, and applicant's advancement potential affected by:

1. The sex of the interviewer?

2. The sex of the applicant?

3. The level of job relevant information?

B. To what degree are the interviewer's ratings of perceived managerial attributes (as measured by a composite score of five bi-polar adjective pairs) affected by:

1. The sex of the interviewer?

2. The sex of the applicant?

3. The level of job relevant information?

C. How does the interviewer's level of moral development moderate relationships in questions A and B?

D. How does the interviewer's level of dogmatism moderate relationships in questions A and B?

Heilman's (1984) findings are highly pertinent to the present study and are utilized as a framework from which to address these questions. In summary, she found no significant differences between the ratings made by male and female subjects; therefore, the ratings were pooled. Additionally, she found no

significant difference for applicant sex in the high level of job-relevant information condition, and no job-relevant information main effect for males (Table 1). However, in the no job-relevant information condition, she found that females were rated lower than males on all dependent measures.

Of even greater interest to the present study, she found that females were rated lowest in the low job-relevant information condition (Heilman, 1984). Additionally, she developed composite managerial-attribution adjective ratings from scores on five bi-polar adjective pairs; ambitious - unambitious, emotional - rational, decisive - indecisive, tough - soft, and independent - dependent. Furthermore, she found that these composite managerial-attribution adjective ratings appeared to account for the significant differences in the decision rating scores (Heilman, 1984).

In other words, she found that when decision rating scores were adjusted to remove the composite adjective rating score variance, the main effect for applicant sex was no longer significant. Heilman (1984) stated that the lower the composite managerial

Table 1

Dependent Measure Means from Heilman's (1984) Study.

	Job-relevant Information Condition		
	No	Low	High
Variable			
INTERVIEW			
Male	6.17	6.69	6.85
Female	4.77 *	3.42 **	6.31
SUCCESS			
Male	5.83	6.62	6.62
Female	4.85	3.92 **	6.31
POTENTIAL			
Male	5.67	6.31	6.08
Female	4.62	3.77 **	5.77
MANAGERIAL TRAITS			
Male	35.67	36.77	37.15
Female	24.62 **	18.69 **	34.00

Note.   INTERVIEW = Move to the interview stage.

SUCCESS = Likelihood of job success.

POTENTIAL = Potential for advancement.

MANAGERIAL TRAITS = composite scores.

* $p \leq .05$.

** $p \leq .01$.

-attribution adjective rating score, the more stereotypically feminine the characterization.

When clearly predictive (highly job relevant) information was available, the interviewer tended to believe he/she "knows" the individual better and relied less on group stereotypes (Heilman, 1984). On the other hand, when clearly predictive job relevant information was not available, less relevant information tended to invoke powerful feminine biased stereotypes (Heilman, 1984). Interestingly, the power of these stereotypes was greatly reduced when no job relevant information was available. She concluded that these findings support the idea that gender-related stereotyping plays a critical role in moderating the effects of applicants' sex on preliminary personnel decisions (Heilman, 1984).

The present study investigated the moderating effects of moral development and dogmatism upon an interviewer's saliency of applicant sex and job-relevant information in a situation similar to that used in the 1984 Heilman study. It was proposed that an interviewer's attribution style which produces higher composite managerial-attribution adjective ratings (does not use inappropriate sex-based

stereotypes) will also produce higher moral development principled levels and lower dogmatism levels. On the other hand, an interviewer's attribution style which produces lower composite managerial-attribution adjective ratings (uses inappropriate sex-based stereotypes) will also produce lower moral development principled levels and higher dogmatism levels. In this study, hypotheses were based on the 1984 Heilman study, which found no significant differences between the ratings made by male and female subjects. Therefore, the following hypotheses were proposed:

>Hypothesis 1. There will be a three-way interaction (level of job-relevant information X applicant sex X level of moral development) for the following decisions:
>
>A. The decision to move to the interviewing process.
>
>B. Judgments about likelihood of success.
>
>C. Judgments about potential for advancement.
>
>More specifically, subjects with higher levels of moral development will rely less on irrelevant stereotypical information, thereby eliminating the salience of applicant sex while producing a significant effect for the different

levels of job-relevant information. In other
words, male and female applicants will not be
rated significantly different in the same level of
information condition, and all applicants will
receive significantly better ratings in the high
job-relevant information condition than in the low
and no job-relevant information conditions.

On the other hand, subjects with lower moral
development will rely more on irrelevant
stereotypical information, thereby producing an
effect for applicant sex and an interaction
between applicant sex and the level of job-
relevant information. Male and female applicants
will not be rated significantly different in the
high job-relevant information condition. However,
ratings of male applicants will be significantly
better than female applicants in the low and no
job-relevant information conditions.

Hypothesis 2. There will be a three-way
interaction (level of job-relevant information X
applicant sex X level of dogmatism) for the
following decisions:

A.   The decision to move to the interviewing
     process.

B.   Judgments about likelihood of success.

C.   Judgments about potential for advancement.

More specifically, subjects with lower dogmatism will rely less on irrelevant stereotypical information, thereby eliminating the salience of applicant sex while producing a significant effect for the different levels of job-relevant information. In other words, male and female applicants will not be rated significantly different in the same level of information condition, and all applicants will receive significantly better ratings in the high job-relevant information condition than in the low and no job-relevant information conditions.

On the other hand, subjects with higher dogmatism will rely more on irrelevant stereotypical information, thereby producing an effect of applicant sex and an interaction between applicant sex and the level of job-relevant information. Male and female applicants will not be rated significantly different in the high job-relevant information condition. However, ratings of male applicants will be significantly better

than female applicants in the low and no job-relevant information conditions.

Hypothesis 3. There will be a three-way interaction (level of job-relevant information X applicant sex X level of moral development) for the composite manager-attribution adjective ratings. The interaction will be similar to the interaction discussed in Hypothesis 1.

Hypothesis 4. There will be a three-way interaction (level of job-relevant information X applicant sex X level of dogmatism) for the composite manager-attribution adjective ratings. The interaction will be similar to the interaction discussed in Hypothesis 2.

Method

Subjects

Sixty male and female subjects were recruited for the pilot study, and two hundred forty male and female subjects were recruited for the experimental study. These subjects were recruited from introductory psychology students at the University of Nebraska at Omaha with rosters (posted in the Psychology Department) soliciting voluntary participation. The investigator complied with all university rules about

treatment of human subjects. Participating subjects received the appropriate amount of extra credit toward his/her psychology course grade. Each testing session required approximately one and one-half hours.

Subjects were blocked by sex and randomly assigned to treatment groups. Treatment conditions were randomly repeated during each session, and sessions were randomly conducted at different times of day and days of the week. The investigator tested an average of four subjects during a session.

All subjects were provided a general debriefing at the end of each test session, and questions regarding the experiment were answered then. An in-depth debriefing including specific findings was provided by mail to all participants requesting additional information.

Design

Pilot study. A pilot study of thirty male and thirty female subjects was conducted to determine the feasibility of incorporating both moral development and dogmatism as moderating variables into an extension of the factorial design used in the original Heilman (1984) study. To maximize statistical power in the pilot study, job-relevant information conditions were

limited to the two conditions Heilman (1984) found most informative; the female applicant low and high information conditions. A 2 X 2 X 2 factorial design was used for the pilot study. Independent variables consisted of two categories of each variable; subject sex (male and female), job-relevant information (high and low), and experimental condition administered before the moderator variables (yes or no). To control for possible moderating variable order effects, the dogmatism instrument was administered before the moral development instrument to half of the subjects while the other half received the moral development instrument first.

The pilot study provided useful information for the design and administration of the main study. Statistics were calculated with the assistance of a statistical programs package for the social sciences (SPSSX) computer program. An analysis of variance (ANOVA) produced no significant interactions between the pilot study independent variables and moral development or dogmatism scores indicating that the administration order of the moderating instruments and the experimental treatment condition was not critical. However, an ANOVA main effect for subject sex X

dogmatism score, $F(1,59) = 10.38$, $p = .0022$, and dogmatism median scores of 236.50 for males and 218.60 for females indicated it was advisable to use separate medians on this moderating variable. Normative data on the dogmatism measure are limited, and only one comparable study was located. In that study of college students, neither the medians nor the difference of means between males and females were reported; the overalll mean was ($M = 219.10$, $N = 137$) (Robinson & Shaver, 1974)

A negative correlation between scores on the moral development and dogmatism moderator variables in the pilot study indicated that a factorial 2 X 2 median split was beyond the scope of the present study. The original intent of the present study was to include both moderator scores split at the medians, e.g., moral development (high, low) and dogmatism (high, low) with the original Heilman (1984) 2 X 2 X 3 factorial design; subject sex (male, female), applicant sex (male, female), and job-relevant information (high, low, no). However, the moral development and dogmatism scores correlated moderately negative ($r = -.43$, $p = .0007$) in the pilot study. A negative correlation of this magnitude made achievement of equal cell size in a

moral development x dogmatism (2 x 2) factorial matrix
improbable without testing and rejecting many subjects.
Therefore, a separate factorial design was required for
each of the moderating variables in the main study.

Dogmatism was selected as the primary moderating
variable, and subjects were blocked on this variable.
This decision was based on score variability, subject
mortality, and ease of scoring the instrument during
the testing session.

In the pilot study, dogmatism score descriptive
statistics for n = 30 subjects were: male; median =
236.50, M = 245.05, SD = 33.81, and female; median =
219.50, M = 218.60, SD = 38.55. Whereas, moral
development score descriptive statistics for the same
subjects were: male; median = 30.80, M = 29.99, SD =
7.95, and female; median = 31.65, M = 33.34, SD =
12.02.

Furthermore, the moral development measure
produced a subject mortality of 26.67 percent. In
other words, sixteen out of the sixty subjects in the
pilot study did not complete the moral development
instrument within subject reliability standards
outlined by it's author (Rest, 1986a). An instrument
with a subject score mortality rate of this magnitude

was determined to be unsuitable as the primary
moderator variable for the main study. With this
mortality rate, it would require the testing of
approximately 330 subjects to obtain a subject pool of
240 subjects for the main study.

Additionally, this investigator was not able to
score the moral development measure in a timely manner
during pilot testing sessions. Scoring of each
subject's responses took a minimum of fifteen minutes,
whereas, scoring of the dogmatism measure took less
than five minutes. Timely scoring of the main
moderating measure and subsequent assignment to an
experimental treatment condition based on the median
split was vital to conducting the main study in single
sessions. Otherwise, the main study would require two
sessions per subject thereby substantially increasing
the likelihood of an unacceptable subject mortality
rate as a result of subjects not returning for the
second critical session (experimental treatment).

Finally, data collected from pilot subjects were
not incorporated into the main study. An
administrative error was made in the managerial
adjective pairs given to all the subjects in the pilot
study. In the bi-polar adjective pair "Rational -

Emotional", "Rational" was inadvertently replaced with "Unemotional". The discrepancy was discovered after all pilot data were collected. Heilman (1984) found a high internal consistency (coefficient alpha = .78) for the five adjective pair scores. In this pilot study, a moderately high coefficient alpha (.59) was found for trait ratings given to a manager (ideal) for whom the subject would like to work. This ideal managerial traits rating was presented twice; in the demographics section of the experimental packet (before the experimental treatment) and again in the post-test questionnaire (See Appendix A or Appendix E). The discrepant adjective pair, Emotional - Unemotional, item-total correlation was .04 while the next lowest item-total correlation was .33 for the Tough - Soft adjective pair. It was concluded that the low item-total correlation for the discrepant adjective pair was sufficiently different from the other item-scale correlations to warrant concern of dependent variable contamination. Therefore the pilot data were excluded from the main study on that basis.

Main study. Twelve experimental conditions were organized in a 2 X 2 X 3 factorial design. Independent variables consisted of two categories of subject sex

(male and female), applicant sex (male and female), and three levels of job-relevant information (high, low, and no) as investigated by Heilman (1984). Additionally, two moderator variables were investigated: moral development and dogmatism. A median split on the moral development measure was used to establish two levels of moral development. Also, a median split on the dogmatism measure was utilized to establish two levels of dogmatism.

Four nine-point scales used by Heilman (1984) were used in this study to measure the dependent variables. These measures consisted of three preliminary employment decisions and one composite, manager attribution, adjective rating score utilized by Heilman (1984).

Preliminary employment decision measures were: (a) the recommendation to move to the interviewing stage; (b) the likelihood of job success; and (c) the potential for advancement. The composite adjective rating score was developed from the ratings on the following bi-polar adjective rating scales: (a) ambitious - unambitious, (b) emotional - rational, (c) decisive - indecisive, (d) tough - soft, (e) independent - dependent.

The investigator attempted to achieve a cell size of ten subjects across the independent variable conditions and dogmatism median split.

Moderator Variables

Defining Issues Test. Moral development was operationally defined by the Rest Defining Issues Test (P score)(Rest, 1986a)(Questionnaire Number 1). The long form of this instrument consists of six social-moral narrative problems. After reading the problem, the subject selected the "best" of three possible solutions to that problem. Each problem was then followed by 12 statements. The subject then identified and rated the degree of importance each statement had in the solution of the narrative problem. This importance rating was made by checking one of five boxes labeled; No, Little, Some, Much, or Great. The subject then selected in descending order the four statements most important to the solution of the problem.

Each statement was developed to identify a particular level of moral development (Rest, 1986a). A problem by statement matrix was used to determine the moral development levels that the four most important statements portray. A weighted score was then assigned

to each of these four development levels. Scores of 4, 3, 2 and 1 were assigned to the "most", "second-most", "third-most" and "fourth-most" important moral development levels respectively. Scores for the six problems were summed for each moral development level.

The P score was developed by summing stages 5 and 6 raw score totals and dividing by 0.6 (Rest, 1986a). This score (P) was developed to represent the percentage of principled level responses a subject made to the moral problems presented in the DIT instrument.

Other forms of scoring (D, 2, 3, 4, 5a, 5b, 6) as well as the short form of the DIT (three story) were considered and rejected due to lower reliability or lower relevance. Davison and Robbins (1978) reported a long form P score test-retest reliability of .82 for a college student population.

Dogmatism Scale. Dogmatism was operationally defined in this study by Rokeach's (1960) Dogmatism (Form D) measuring instrument (Questionnaire Number Two). This form consists of 66 items on a 6-point Likert-type, agree-disagree scale numerically anchored -3 to +3. As no items required reverse scoring, a positive scale (1 to 7) was obtained by adding 4 to each score, where 1 was the lowest level and 7 was the

highest level of dogmatism measured by this instrument
(Rokeach, 1960, p. 88).

With a reliability of .91 for a similar college
student population, Form D was utilized in the present
study. Other forms (A, B, C, E) of this scale were
considered and rejected on the basis of lower
reliability (Robinson & Shaver, 1973).

Experimental packet. The experimental packet
consisted of five sections; demographics (See Appendix
A), moderator variables (See Appendix B), work packet
(experimental treatment)(See Appendix C), dependent
variables (See Appendix D), and posttest (See Appendix
E).
The demographics section contained
(Informed Consent Form and Demographics Survey):

I.   An informed consent form.

II.   A control number in place of the subject's
      name and telephone number (items 1 and 2).

III. Questions to obtain information about age,
      gender, work experience, management and
      interviewing experience (items 3 to 8).

IV.   Five bi-polar adjective, ideal managerial
      attribute scales (items 9 to 13).

The moderator variables section contained:

I.   A Dogmatism Form D Instrument and score

      sheet.

II.   A Defining Issues Test (Long Form).

The work section contained:

I.   A job description for the position.

II.   A completed application for an entry level

      management position in an insurance company.

III. In the high and low job-relevant information

      conditions, the packet included a college

      major/minor summary sheet. This was omitted

      in the no information condition.

The dependent variable section contained (Work Packet

Survey):

I.   Three preliminary decision items (items 1

      to 3).

II.   Five bipolar adjective, managerial attribute

      scales (items 4 to 8).

The post work section contained (Post Work

Questionnaire):

I.   Questions to identify the subject's

      perceptions about the applicant's work

      experience and college degree (items 1

      and 2)

II. Questions about the experimental

manipulations (items 3 to 7).

III. Five bi-polar adjective, ideal managerial

attribute scales (items 8 to 12).

Experimental Manipulations

Applicant gender. As reported in the 1984 Heilman

study, the gender manipulation was made salient by

circling the applicant's name at the top of the job

application form. Also as reported, the applicant's

name was either John or Joan Stevens.

Information type. Manipulation of job-relevant

information was accomplished through the attachment of

a summary statement to the application in the high and

low conditions. This summary statement was omitted in

the no information condition.

As reported in the 1984 Heilman study, the summary

statement in the high job-relevance information

condition read:

Joan (John) Stevens has an excellent college

record. Her (his) overall grade point average is

3.7, and she (he) has particularly excelled in her

(his) major course of study, Business, and her

(his) minor, Economics. Her (his) grade point

average in each of these was a 4.0.

Except for a major in Biology and a minor in Political Science, an identical summary statement was used in the low job-relevance information condition.

These high and low job-relevance major/minor combinations were pre-tested on 25 subjects (MBA graduate students) in the 1984 Heilman study; however, descriptive statistics were not included in the publication of the study. The Business, Economics combination was viewed as significantly more relevant to a career in management than the Biology, Political Science combination. Furthermore, the two major/minor combinations did not significantly differ in perception of difficulty or gender (e.g., predominately male or female).

Manipulation checks. Manipulation checks were accomplished in a post-test questionnaire (See Appendix E). The salience of the applicant's gender was evaluated with Item 6. Management career relevance of the two major/minor combinations, and perceptions of difficulty were evaluated using nine point Likert-type scales (Items 3 to 5).

Procedure

Subjects were run in groups ranging in size from one to 15 individuals. The investigator greeted and

put the subjects at ease as they arrived at the testing site. After the group was seated, the subjects were questioned to verify their use of English as a primary language, and their naivety of the experimental manipulations used in this study. Following the main study protocol, subjects were informed that they were participating in a laboratory study of information processing in an employment interviewing situation, and the investigator read the consent form aloud to the group, thereby outlining the study.

Informed consent forms (Appendix A) were distributed, signed, and collected. At this point the investigator emphasized confidentiality of data, and the necessity of honest written expression of opinion during this study. Because the pilot study indicated no significant order effects, subjects were administered the demographics survey first, followed by the Dogmatism Form D instrument. Then the demographics survey, Dogmatism Form D instrument, and Form D response sheet were returned to the investigator; at that point the moral development (DIT long form) instrument was given to the subject.

While the subject was completing the moral development instrument, the investigator scored the

dogmatism instrument and randomly assigned the subject
to an experimental condition blocked on subject gender
and dogmatism median split. Upon return of the DIT
instrument, the experimental packet was administered
and the post-test questionnaire was completed and
collected. Finally, the subjects were debriefed, and
their questions answered.

Results

Manipulation Checks

Applicant's gender. The subject's perception of
the applicant's gender was assessed with Item 6. in the
post-work questionnaire (see Appendix E). Six of the
244 subjects (2.5 percent) responded with the incorrect
applicant's gender. A cursory review of the dependent
variable data collected from the six subjects appeared
normal for the group of assignment; therefore, there
was no compelling reason to move or destroy the data.
With a 97.5 percent correct applicant gender
identification rate, this manipulation appeared
appropriate for the present population.

Information. The perceived relevance of the two
college degree major-minor combinations to the entry
level management position was assessed with items 4 and
5 in the post-work questionnaire (see Appendix E). A

t-test was used to evaluate these item responses. A BA
major in business and a minor in economics (item 4)($\underline{M}$ =
6.430, $\underline{SD}$ = 2.018) was significantly more relevant
($\underline{t}$(1, 243) 16.686, $\underline{p}$ = .0000) than a BA major in
biology and a minor in political science (item 5) ($\underline{M}$ =
3.311, $\underline{SD}$ = 1.873). This directly corresponds to the
high and low job-relevant information conditions
presented in this study. Therefore, it appears that
the information manipulation was appropriate for this
population.

Major/minor difficulty. The perceived equity of
difficulty for the two BA major/minor combinations was
assessed by item 3 of the post-work questionnaire (See
Appendix E). While 66 subjects responded that the two
BA major/minor combinations were not equally difficult
to complete, 178 subjects responded that the two
combinations were equally difficult to complete. A
majority of the subjects (63%) were in agreement that
the two major/minor combinations were equally
difficult, therefore the manipulation was considered
weak but appropriate for the present population. This
manipulation check was used by Heilman (1984) to
identify a subject pool bias against one of the
major/minor combinations which might decrease the

effectiveness of the job-relevant information manipulation, however she made no mention concerning the removal of subjects for whom the manipulations were not effective. Therefore, subjects were not removed from the present study for manipulation check reasons.

<u>Main Study Analysis</u>

<u>Descriptive statistics</u>. Demographic data were collected from the main study subjects (See Appendix A). Item 1 (Name:) contained an investigator assigned control number to allow tracking of a subject's experimental materials. Item 2 (Telephone:) data were not collected on this item. Item 3 (Age:) data were: males, $\underline{M}$ = 23.79, $\underline{SD}$ = 5.78, Range = 19 - 45; females, $\underline{M}$ = 26.05, $\underline{SD}$ = 7.89, Range = 19 - 55. Item 4 (Sex:) data were: males, 121; females, 123. Categorical data ("yes/no") data were collected for the following questions:

Item 5. "Have you ever worked (at least 6 months) at 20 or more hours a week?"

Item 6. "Have you ever supervised or managed other employees?"

Item 7. "Have you ever interviewed for a job?"

Item 8. "Have you ever interviewed prospective employees?"

Table 2

Descriptive Statistics for the Demographics Survey.

Subject gender		Male	Female
Item 5.			
Responded:	"No"	2 (1.65%)	7 (5.69%)
	"Yes"	119 (98.35%)	116 (94.31%)
Item 6.			
Responded:	"No"	35 (28.93%)	55 (44.72%)
	"Yes"	86 (71.07%)	68 (55.28%)
Item 7.			
Responded:	"No"	2 (1.65%)	1 (0.81%)
	"Yes"	121 (98.65%)	122 (99.19)
Item 8.			
Responded:	"No"	87 (71.90%)	91 (73.98%)
	"Yes"	34 (28.10%)	32 (26.02%)

Descriptive statistics for these item (5 - 8) are presented in Table 2. Descriptive statistics for the bi-polar adjective ideal managerial attributes composite score (Items 9 - 13) were: male subjects, M = 35.37, SD = 4.38; females subjects, M = 35.63, SD = 5.09.

Post-work Questionnaire data were collected to assess task perceptions and provide manipulation checks. Again, categorical data ("yes/no") data were collected for the following questions:

Item 1.   "The applicant had worked part-time while in college."

Item 2.   "The applicant had an undergraduate degree (BA)."

Item 3.   "A Bachelor of Arts degree with a major in biology and a minor in political science is as difficult to complete as a BA with a major in business and a minor in economics."

Item 6.   "The applicant I reviewed was:"

Item 7.   "If I worked for an insurance company, I would want to work for a manager who is:"

Table 3

Descriptive Statistics for the Post-Work Questionnaire.

Subject gender		Male	Female
Item 1.			
Responded:	"No"	8 (6.16%)	7 (5.69%)
	"Yes"	113 (93.39%)	116 (94.31%)
Item 2.			
Responded:	"No"	22 (18.18%)	15 (12.20%)
	"Yes"	99 (81.82%)	108 (87.80%)
Item 3.			
Responded:	"No"	30 (24.79%	36 (29.27%)
	"Yes"	91 (75.21%	87 (70.73%)
Item 6.			
Responded:	"Male"	63 (52.07%)	59 (47.97%)
	"Female"	58 (47.93%)	64 (52.03%)
Item 7.			
Responded:	"Male"	22 (18.18%)	10 (8.13%)
	"Female"	7 (5.79%)	4 (3.25%)
	"Either gender"	92 (76.03%)	109 (88.62)

Descriptive statistics for these items (1 - 3, 6 - 7) are presented in Table 3. Whereas these statistics for Item 4 ("The relevance (relationship between) a BA major in business and a minor in economics to the job I reviewed is:") statistics were: male subjects, M = 6.67, SD = 1.89; female subjects, M = 6.18, SD = 2.12. Item 5 ("The relevance of a BA major in biology and a minor in political science to the job I reviewed is:") statistics were: male subjects, M = 3.30, SD = 1.90; female subjects, M = 3.32, SD = 1.85. Descriptive statistics for the bi-polar adjective ideal managerial attributes composite score (Items 8 - 12) were: males, M = 35.51, SD = 4.90; females, M = 36.15, SD = 9.99.

As the main moderating variables in the main study, dogmatism descriptive statistics started from the baseline of the pilot study and were recalculated at approximately 60 subject intervals (e.g., 60, 120, 180, 240) with the new medians used for the subgroup assignment of the next group of subjects. As the medians changed and instrument scores were verified, subjects were reassigned to the correct subject condition. These recalculations and assignment adjustments were made to improve cell size equity and thereby improve test power.

Final descriptive statistics for the Dogmatism

Form D were: male subjects; n = 121, median = 248.00, M

= 248.82, SD = 42.19, and female subjects; n = 123,

median = 236.00, M = 233.42, SD = 40.57, Whereas, DIT

long form P score descriptive statistics for the same

subjects were: male; median = 31.70, M = 31.80, SD =

12.51, female; median = 30.00, M = 32.75, SD = 12.42.

Furthermore, DIT P score subject mortality was 25

males or 20.66 percent and 19 females or 15.44 percent.

Thus, 44 out of the 244 subjects in this study did not

complete the DIT instrument within subject reliability

standards outlined by Rest (1986a).

Dependent measure descriptive statistics were

calculated for both factorial designs in this study.

First, the calculations were made with the primary

factorial design. These are the independent variables

and the main moderating variable (subject gender (S) X

applicant gender (A) X information level (I) X

dogmatism score median split (D)). In the second

factorial design, the moderating variable of DIT P

score median split (P) was used. Descriptive

statistics for each of the 24 subgroups of the SAID and

SAIP factorial designs are presented in Tables 4 - 7

and Tables 8 - 11 respectively. Data outliers greatly

affect data skewness and kurtosis (Stevens,1986).

Table 4

Descriptive Statistics for Interview Recommendation: SAID

Factorial Design

Condition		Applicant Gender					
		Male			Female		
		Information Level					
		No	Low	High	No	Low	High
Low Dogmatism							
Male Subject	M	6.90	7.70	8.10	7.70	7.40	8.00
	SD	2.13	1.49	0.88	0.82	1.08	1.05
	n	(10)	(10)	(10)	(10)	(10)	(10)
Female Subject	M	6.40	6.30	7.36	6.60	7.90	7.80
	SD	2.41	1.16	1.50	1.96	0.99	1.75
	n	(10)	(10)	(11)	(10)	(10)	(10)
High Dogmatism							
Male Subject	M	7.80	8.00	7.90	7.20	7.50	7.27
	SD	1.03	1.05	0.99	1.99	1.84	1.42
	n	(10)	(10)	(10)	(10)	(10)	(11)
Female Subject	M	5.42	7.30	7.60	7.10	4.70	7.20
	SD	2.47	1.16	1.27	2.03	1.95	1.93
	n	(12)	(10)	(10)	(10)	(10)	(10)

Table 5

Descriptive Statistics for Probability of Success: SAID Factorial
Design

Condition		Applicant Gender					
		Male			Female		
		Information Level					
		No	Low	High	No	Low	High
Low Dogmatism							
Male Subject	M	6.00	7.40	7.40	6.50	6.30	7.30
	SD	1.41	1.71	0.97	1.08	1.42	1.06
	n	(10)	(10)	(10)	(10)	(10)	(10)
Female Subject	M	6.00	6.40	7.18	5.90	7.40	6.80
	SD	1.76	1.17	1.33	1.66	1.35	1.23
	n	(10)	(10)	(11)	(10)	(10)	(10)
High Dogmatism							
Male Subject	M	6.70	7.60	7.90	6.60	6.60	6.64
	SD	1.34	0.84	0.84	1.71	2.17	1.57
	n	(10)	(10)	(10)	(10)	(10)	(11)
Female Subject	M	5.25	7.30	7.20	6.30	5.30	6.70
	SD	1.77	1.16	0.92	1.64	1.95	1.57
	n	(12)	(10)	(10)	(10)	(10)	(10)

Table 6

Descriptive Statistics for Potential for Advancement: SAID

Factorial Design

		Applicant Gender					
		Male			Female		
		Information Level					
Condition		No	Low	High	No	Low	High
Low Dogmatism							
Male Subject	M	5.90	6.90	7.30	6.50	6.20	7.20
	SD	1.66	1.85	0.68	1.18	1.32	0.79
	n	(10)	(10)	(10)	(10)	(10)	(10)
Female Subject	M	5.90	6.20	7.46	5.70	7.20	6.30
	SD	1.73	1.23	1.37	1.34	1.03	1.49
	n	(10)	(10)	(11)	(10)	(10)	(10)
High Dogmatism							
Male Subject	M	6.80	7.50	7.50	6.60	6.50	6.36
	SD	1.03	0.97	0.85	1.43	1.51	1.36
	n	(10)	(10)	(10)	(10)	(10)	(11)
Female Subject	M	5.75	7.00	7.60	6.60	4.70	6.40
	SD	2.05	1.34	1.27	1.51	1.85	1.43
	n	(12)	(10)	(10)	(10)	(10)	(10)

Table 7

<u>Descriptive Statistics for Composite Managerial Attribute Score:</u>

<u>SAID Factorial Design</u>

		Applicant Gender					
		Male			Female		
		Information Level					
Condition		No	Low	High	No	Low	High
Low Dogmatism							
Male Subject	<u>M</u>	31.40	32.10	35.30	34.00	30.30	31.60
	<u>SD</u>	2.99	1.85	4.27	5.21	4.76	3.27
	<u>n</u>	(10)	(10)	(10)	(10)	(10)	(10)
Female Subject	<u>M</u>	30.90	30.80	35.36	32.00	34.80	32.00
	<u>SD</u>	6.24	4.08	4.27	5.62	6.03	3.06
	<u>n</u>	(10)	(10)	(11)	(10)	(10)	(10)
High Dogmatism							
Male Subject	<u>M</u>	33.80	34.50	35.30	32.20	35.30	31.27
	<u>SD</u>	3.80	5.72	2.63	5.05	5.40	5.66
	<u>n</u>	(10)	(10)	(10)	(10)	(10)	(11)
Female Subject	<u>M</u>	26.58	32.60	35.60	29.90	28.20	32.70
	<u>SD</u>	8.25	5.19	5.74	7.40	4.73	4.74
	<u>n</u>	(12)	(10)	(10)	(10)	(10)	(10)

Table 8

Descriptive Statistics for Interview Recommendation: SAIP

Factorial Design

		Applicant Gender					
		Male			Female		
		Information Level					
Condition		No	Low	High	No	Low	High
Low Moral Development							
Male Subject	M	7.34	7.91	8.00	7.50	7.80	7.50
	SD	1.63	1.38	0.82	2.26	0.84	1.51
	n	(6)	(11)	(10)	(7)	(5)	(8)
Female Subject	M	5.50	7.13	7.00	7.29	7.00	7.71
	SD	2.51	0.84	1.49	1.60	2.00	1.60
	n	(7)	(8)	(10)	(7)	(10)	(7)
High Moral Development							
Male Subject	M	7.36	7.57	8.14	7.43	7.50	7.63
	SD	2.01	1.27	1.07	1.27	1.44	1.41
	n	(11)	(7)	(7)	(7)	(10)	(8)
Female Subject	M	5.70	7.00	8.33	7.33	5.56	7.72
	SD	2.36	1.53	0.50	1.32	2.46	1.62
	n	(10)	(7)	(9)	(9)	(9)	(11)

Table 9

Descriptive Statistics for Probability of Success: SAIP Factorial
Design

		Applicant Gender					
		Male			Female		
		Information Level					
Condition		No	Low	High	No	Low	High
Low Moral Development							
Male Subject	M	7.34	7.36	7.30	6.00	7.20	7.13
	SD	1.21	1.50	0.82	1.80	1.48	1.25
	n	(6)	(11)	(10)	(7)	(5)	(8)
Female Subject	M	5.14	7.00	7.10	6.43	6.90	6.57
	SD	1.57	1.07	1.20	1.62	1.66	1.62
	n	(7)	(8)	(10)	(7)	(10)	(7)
High Moral Development							
Male Subject	M	5.90	7.57	7.29	6.29	6.40	7.63
	SD	1.38	1.27	0.95	1.34	1.90	1.19
	n	(11)	(7)	(7)	(7)	(10)	(8)
Female Subject	M	5.30	6.86	7.02	6.44	5.78	7.00
	SD	2.00	1.57	1.14	1.51	2.28	1.27
	n	(10)	(7)	(9)	(9)	(9)	(11)

Table 10

Descriptive Statistics for Potential for Advancement: SAIP

Factorial Design

		Applicant Gender					
		Male			Female		
		Information Level					
Condition		No	Low	High	No	Low	High
Low Moral Development							
Male Subject	M	7.17	7.18	7.30	6.50	6.80	6.50
	SD	1.17	1.66	0.95	1.38	1.10	1.31
	n	(6)	(11)	(10)	(7)	(5)	(8)
Female Subject	M	6.14	6.75	7.10	6.29	6.50	6.57
	SD	2.12	1.17	1.14	1.50	1.51	1.62
	n	(7)	(8)	(10)	(7)	(10)	(7)
High Moral Development							
Male Subject	M	5.82	7.14	7.57	6.43	6.40	7.13
	SD	1.54	1.46	0.54	1.27	1.65	0.84
	n	(11)	(7)	(7)	(7)	(10)	(8)
Female Subject	M	5.75	6.86	8.11	6.22	5.56	6.55
	SD	2.06	1.57	1.05	1.20	2.30	1.07
	n	(10)	(7)	(9)	(9)	(9)	(11)

Table 11

Descriptive Statistics for Composite Managerial Attribute Score:
SAIP Factorial Design

		Applicant Gender					
		Male			Female		
		Information Level					
Condition		No	Low	High	No	Low	High
Low Moral Development							
Male Subject	M	34.34	34.36	34.40	33.34	34.80	32.13
	SD	4.08	6.12	3.31	6.02	4.81	3.64
	n	(6)	(11)	(10)	(7)	(5)	(8)
Female Subject	M	28.71	33.75	34.90	30.14	32.50	32.43
	SD	6.65	4.95	4.45	8.40	8.06	4.39
	n	(7)	(8)	(10)	(7)	(10)	(7)
High Moral Development							
Male Subject	M	31.82	31.71	36.71	30.28	32.30	30.50
	SD	3.40	7.99	4.15	4.54	7.12	3.70
	n	(11)	(7)	(7)	(7)	(10)	(8)
Female Subject	M	28.80	30.57	37.44	33.67	30.22	33.00
	SD	8.08	4.58	3.58	5.03	4.15	3.72
	n	(10)	(7)	(9)	(9)	(9)	(11)

Outliers are defined as data points that split off or are very different from the rest of the data (Stevens, 1986). Several methods for calculating outliers were considered for use in this study. Mahalanobis Distance and SPSSX Box-Plots were selected as appropriate. Both procedures indicated that numerous outliers exist in both factorial designs. For example in the SAID factorial design, SPSSX Box-Plots identified 41 outliers or a 16.80 percent outlier rate across the four dependent variables. No apparent outlier pattern could be identified (e.g., a subject or group with outlier scores on all variables).

With outliers removed, the group size ratio would increase on all dependent variables. As the most severe case in the primary factorial design (SAID), the "interview" variable would contain 7 subjects in the smallest group and 12 subjects in the largest group (ratio = 1:1.7). Meanwhile, as the most severe case in the SAIP factorial design the POTENTIAL variable would contain 3 subjects in the smallest group and 11 subjects in the largest group (ratio = 1:3.7). These ratios, especially the latter, greatly increase the likelihood of Category I type error (Stevens, 1986). With no apparent pattern to the high number of outliers

and an increased threat of Category I error, outlier removal was rejected as a method of distribution correction. Attention is now directed to statistical assumptions and other methods of managing skewness and kurtosis.

Statistical assumptions. This study attempted to replicate the 1984 Heilman study and added two possible moderating variables. Heilman used a multivariate analysis of variance (MANOVA) followed by an univariate analysis of variance (ANOVA) on significant main effects and interactions (1984). This procedure is often used to control for Type I error (Stevens, 1986; Huberty & Morris, 1989). However, there is concern about the widespread and sometimes inappropriate use of this procedure (Huberty & Morris, 1989). Stevens (1986) listed the assumptions in MANOVA:

1. The observations on the dependent variables follow a multivariate normal distribution in each group.

2. The population covariance matrices for the dependent variables in each group are equal.

3. The observations are independent.

Multivariate distributions are checked for normality, before testing the homogeneity of covariance

matrices assumption using, the Box's M Test (Stevens, 1986). However, he cautioned that the Box test is very sensitive to distribution non-normality. Therefore, skewness and kurtosis coeffients should be evaluated in studies where group size is less than 20 subjects.

In a review of several studies, Stevens found that skewness deviations from multivariate normality had only a small effect on type I error unless kurtosis was present (1986). This review also found that power dropped to .55 with kurtosis present in 3 groups. Furthermore, he stated that platykurtosis has a substantial effect on power for a small group size even in the more robust univariate ANOVA (Stevens, 1986).

A review of the 24 groups used in the present study found skewness and/or platykurtosis in at least 19 of the 24 subgroups on all four dependent variables. Stevens (1986) indicated that when platykurtosis occurs on two variables in two or more groups, data transformations should be applied to normalize the distributions.

A review was conducted of appropriate data transformations listed by Stevens' (1986). Based on that review and the overall frequency distributions of dependent variable data obtain in this study, three

potential data transformations were selected for consideration; one arcsin and two logarithmic. All three transformation attempts were unsuccessful at normalizing the data distributions.

The raw data range for the three pre-interview rating variables was 1 - 9, and 5 - 45 for the managerial attribution composite variable. Therefore, the arcsin transformation was inappropriate as the raw data did not fall between the +1 and -1 boundaries. Two problems exist with the logarithmic transformations. First a raw data score of 1 produced calculation errors with both logarithmic transformation formulas. Additionally, a check of the descriptive statistics for the better of the two transformations still produced platykurtosis in at least 14 of the 24 groups. At this point data transformation was rejected as a viable means of correcting homogeneity of variance. Stevens (1986) indicated that testing at a more conservative alpha level (e.g., .01 instead of .05) is an appropriate approach to Category I error control when data transformations are not performed. He also stated that equity of group size is of concern: "Severely unequal group sizes can produce sizable

distortions in type I error rates even for very mild heterogeneity" (Stevens, 1986 p. 218).

Stevens (1986) indicated that group size ratios of less than 1:1.5 have little impact on type I error. In this study, that would equate to a 10 subject group compared to a 15 subject group. The size of the groups in the primary factorial design (SAID) are; 21 groups of 10 subjects, 2 groups of 11 subjects, and 1 group of 12 subjects. Therefore, the maximum group size ratio of 1:1.2 found in this design should not substantially effect category I error.

However, in the other factorial design (SAIP) group size differs much more dramatically; 1 group of 5 subjects, 2 groups of 6 subjects, 7 groups of 7 subjects, 3 groups of 8 subjects, 3 groups of 9 subjects, 3 groups of 10 subjects, and 3 groups of 11 subjects. With a maximum group size ratio of 1:2.2, additional concern about category I error in this design is warranted. The problem was created because 44 subjects failed to meet Rest's reliability standard.

Multivariate tests for the homogeneity of matrices assumption was tested by Box's M for both factorial designs (SAID and SAIP). For the SAID design, Box's M = 381.58 (F(230,21386) = 1.37, p = .000). While for

the SAIP design, Box's M = 361.95 ($\underline{F}$(230,9981) = 1.20,

$\underline{p}$ = .023). As anticipated, multivariate homogeneity is

not tenable. To compensate for the high degree of

platykurtosis and unequal group size in both factorial

designs, a conservative alpha level of .01 was set as

the level of acceptable significance for effects and

interactions (Stevens, 1986).

   MANOVA tests of significance. As the most

powerful test, Hotellings' T^2 was used to determine

which multivariate main effects and interactions were

significant at the .01 alpha level (Stevens,1986). In

the primary factorial design (SAID), the only

interaction to approach significance was Applicant

gender by Information. However, two main effects were

found to be significant at this level (Table 12).

Overall, the Hotellings' T^2 was significant for:

Subject gender ((S = 1, M = 1, N = 107.5) Value =

.07378, $\underline{F}$ = 4.002, $\underline{p}$ = .004); and Information ((S = 2,

M = .5, N = 107.5) Value = .10087, $\underline{F}$ = 2.723, $\underline{p}$ =

.006). This finding was not completely anticipated as

Heilman (1984) found no main effect for Subject gender,

significant main effects for Applicant gender and

Information level and a significant interaction between

Applicant gender and Information level.

Table 12

Multivariate Test of Significance: S A I D Factorial Design

Variable	Value[a]	Exact $\underline{F}$	Ho. $\underline{DF}$	Error $\underline{DF}$
Main Effects				
S	.07378	4.00237 *	4	217
A	.04064	2.20465	4	217
I	.10087	2.72339 *	4	432
D	.01766	0.95791	4	217
Two Way Interactions				
SA	.01086	0.58929	4	217
SI	.03625	0.97864	8	432
SD	.02415	1.31006	4	217
AI	.08742	2.36047	8	432
AD	.02740	1.48630	4	217
ID	.04766	1.28675	8	432
Three Way Interactions				
SAI	.01940	0.52369	8	432
SAD	.00501	0.27155	4	217
SID	.02987	0.80648	8	432
AID	.03512	0.94830	8	432
Four Way Interaction				
SAID	.06584	1.77765	8	432

Note. [a] = Hotellings' T^2 (S = 1, M = 1, N = 107.5)

I = (S = 2, M = 0.5, N = 107.5)

S = Subject gender   A = Applicant gender

I = Information level D = Form D median split

* $\underline{p}$ < .01

Table 13

Multivariate Test of Significance: S A I P Factorial
Design

Variable	Value[a]	Exact F	Ho. DF	Error DF
Main Effects				
S	.05563	2.40591	4	173
A	.06182	2.67372	4	173
I	.13689	2.94305 *	8	344
P	.00988	0.42729	4	173
Two Way Interactions				
SA	.03843	1.66203	4	173
SI	.02669	0.57373	8	344
SP	.01962	0.84839	4	173
AI	.08776	1.88681	8	344
AP	.01333	0.57672	4	173
IP	.07231	1.55477	8	344
Three Way Interactions				
SAI	.05660	1.21697	8	344
SAP	.02412	1.04332	4	173
SIP	.02792	0.60033	8	344
AIP	.04605	0.99004	8	344
Four Way Interaction				
SAIP	.05687	1.22262	8	344

Note. [a] = Hotellings' T^2 (S = 1, M = 1, N = 85.5)

   I = (S = 2, M = 0.5, N = 85.5)

   S = Subject gender   A = Applicant gender

   I = Information level P = DIT P median split

 * p < .01

However, in the secondary factorial design (SAIP) none of the interactions and only one of the multivariate main effects were significant at the .01 alpha level (Table 13). Hotellings' T^2 was significant for Information level ((S = 2, M = 0.5, N = 85.5) Value = .13689, F = 2.943, p = .003). Therefore, the significant effects in both factorial designs will be the focus of univariate study.

ANOVA tests of significance. As in the Heilman (1984) study, a univariate analysis of variance followed the multivariate analysis of variance on significant effects found in the MANOVA. Again, significance was set at the .01 alpha level.

In the SAID factorial design, the dependent variable INTERVIEW produced two significant main effects; Subject gender (F(1,220), 16.197, p = .000, $\omega2$ = .030), and Information level (F(2,220), 5.104, p = .007, ω^2 = .016)(Table 14). The unexpected main effect for Subject gender was a result of the male subjects tendency to give significantly more favorable ratings (n = 121, M = 7.62, SD = 1.37) than female subjects (n = 123, M = 6.79, SD = 1.95). The main effect for Information was a product of significant difference in responses in the three experimental treatment conditions. As expected, no job-relevant information

Table 14

ANOVA: INTERVIEW by S A I D

Source of Variation	Sum of Squares	DF	Mean Square	F	
Main Effects	73.524	5	14.705	5.724	*
S (Subject	41.608	1	41.608	16.197	*
A (Applicant)	0.035	1	0.035	0.014	
I (Information)	26.221	2	13.111	5.104	*
D (Dogmatism)	4.943	1	4.943	1.924	
2-Way Interactions	39.463	9	4.385	1.707	
SA	2.436	1	2.436	0.948	
SI	7.608	2	3.804	1.481	
SD	3.862	1	3.862	1.504	
AI	10.870	2	5.435	2.116	
AD	13.168	1	13.168	5.126	
ID	1.667	2	0.834	0.325	
3-Way Interactions	23.066	7	3.295	1.283	
SAI	2.413	2	1.206	0.470	
SAD	0.772	1	0.772	0.301	
SID	6.329	2	3.165	1.232	
AID	13.560	2	6.780	2.639	
4-Way Interaction	29.963	2	14.981	5.832	
SAID	29.963	2	14.981	5.832	
Explained	166.016	23	7.218	2.810	*
Residual	565.144	220	2.569		
Total	731.160	243	3.009		

Note.   * p < .01

produced the least favorable ratings ($\underline{n}$ = 82, $\underline{M}$ = 6.85, $\underline{SD}$ = 2.01), followed by more favorable ratings in the low job-relevant information condition ($\underline{n}$ = 80, $\underline{M}$ = 7.10, $\underline{SD}$ = 1.68), and the most positive ratings were given in the high job-relevant information condition ($\underline{n}$ = 82, $\underline{M}$ = 7.65, $\underline{SD}$ = 1.37).

A post-hoc Newman-Keuls test indicated that the no job-relevant information condition mean was not significantly lower than the low job-relevant information condition mean, but it was significantly lower than the high job-relevant information condition mean ($\underline{p}$ < .01). The low job-relevant information mean was not significantly lower than the high job-relevant information condition at the .01 alpha level.

On the dependent variable SUCCESS one main effect was significant; Information level ($\underline{F}$(2,220), 9.003, $\underline{p}$ = .000, ω^2 = .032)(Table 15). As expected again, no job-relevant information produced the least favorable ratings ($\underline{n}$ = 82, $\underline{M}$ = 6.13, $\underline{SD}$ = 1.59), followed by more favorable ratings in the low job-relevant information condition ($\underline{n}$ = 80, $\underline{M}$ = 6.79, $\underline{SD}$ = 1.64), and the most positive ratings were given in the high job-relevant information condition ($\underline{n}$ = 82, $\underline{M}$ = 7.07, $\underline{SD}$ = 1.20).

Table 15

ANOVA: SUCCESS by S A I D

Source of Variation	Sum of Squares	DF	Mean Square	F	
Main Effects	53.022	5	10.604	5.061	*
S (Subject)	9.771	1	9.771	4.664	
A (Applicant)	4.883	1	4.883	2.331	
I (Information)	37.726	2	18.863	9.003	*
D (Dogmatism)	0.617	1	0.617	0.295	
2-Way Interactions	23.975	9	2.664	1.271	
SA	1.264	1	1.264	0.603	
SI	1.636	2	0.818	0.390	
SD	2.314	1	2.314	1.104	
AI	13.756	2	6.878	3.283	
AD	3.965	1	3.965	1.893	
ID	1.022	2	0.511	0.244	
3-Way Interactions	12.445	7	1.778	0.849	
SAI	0.793	2	0.397	0.189	
SAD	0.234	1	0.234	0.112	
SID	3.646	2	1.823	0.870	
AID	7.811	2	3.905	1.864	
4-Way Interaction	16.069	2	8.034	3.835	
SAID	16.069	2	8.034	3.835	
Explained	105.511	23	4.587	2.190	*
Residual	460.932	220	2.095		
Total	566.443	243	2.331		

Note.   * p < .01

A post-hoc Newman-Keuls test indicated that the no job-relevant information condition mean was significantly lower than the low job-relevant information condition mean (p < .01), and it was significantly lower than the high job-relevant information condition mean (p < .01). The low job-relevant information mean was significantly lower than the high job-relevant information condition (p < .01).

Also, there was a significant effect for Information level on dependent variable POTENTIAL; Information level (F(2,220), 6.480, p = .002, ω^2 = .022)(Table 16). Again as expected, no job-relevant information produced the least favorable ratings (n = 82, M = 6.21, SD = 1.53), followed by more favorable ratings in the low job-relevant information condition (n = 80, M = 6.55, SD = 1.56), and the most positive ratings were given in the high job-relevant information condition (n = 82, M = 6.99, SD = 1.25).

A post-hoc Newman-Keuls test indicated that the no job-relevant information condition mean was not significantly lower than the low job-relevant information condition mean, but it was significantly lower than the high job-relevant information condition mean (p < .01). The low job-relevant information mean

Table 16

<u>ANOVA: POTENTIAL by S A I D</u>

Source of Variation	Sum of Squares	DF	Mean Square	F	
Main Effects	44.454	5	8.891	4.580	*
S (Subject)	8.395	1	8.395	4.325	
A (Applicant)	11.218	1	11.218	5.779	
I (Information)	25.156	2	12.578	6.480	*
D (Dogmatism)	0.053	1	0.053	0.027	
2-Way Interactions	29.135	9	3.237	1.668	
SA	0.000	1	0.000	0.000	
SI	1.003	2	0.501	0.258	
SD	1.764	1	1.764	0.909	
AI	15.484	2	7.742	3.989	
AD	6.630	1	6.630	3.416	
ID	4.438	2	2.219	1.143	
3-Way Interactions	16.805	7	2.401	1.237	
SAI	1.633	2	0.816	0.421	
SAD	0.039	1	0.039	0.020	
SID	6.265	2	3.132	1.614	
AID	8.952	2	4.476	2.306	
4-Way Interaction	15.944	2	7.972	4.107	
SAID	15.944	2	7.972	4.107	
Explained	106.338	23	4.623	2.382	*
Residual	427.023	220	1.941		
Total	533.361	243	2.195		

Note.   * p < .01

was not significantly lower than the high job-relevant information condition.

There were no significant main effects or interactions on the dependent variable MANAGERIAL TRAITS.

A similar main effect pattern occurred in the SAIP factorial design. However only one main effect was significant on the dependent variable INTERVIEW; Information level ($\underline{F}$(2,176), 4.854, $\underline{p}$ = .009, ω^2 = .020)(Table 17).

The main effect for Information was a product of significant difference in responses in the three experimental treatment conditions. As expected, no job-relevant information produced the least favorable ratings ($\underline{n}$ = 63, $\underline{M}$ = 6.89, $\underline{SD}$ = 1.99), followed by more favorable ratings in the low job-relevant information condition ($\underline{n}$ = 67, $\underline{M}$ = 7.16, $\underline{SD}$ = 1.68), and the most positive ratings were given in the high job-relevant information condition ($\underline{n}$ = 70, $\underline{M}$ = 7.74, $\underline{SD}$ = 1.30).

A post-hoc Newman-Keuls test indicated that the no job-relevant information condition mean was not significantly lower than the low job-relevant information condition mean, but it was significantly lower than the high job-relevant information condition mean ($\underline{p}$ < .01). The low job-relevant information mean

Table 17

ANOVA: INTERVIEW by S A I P

Source of Variation	Sum of Squares	DF	Mean Square	F
Main Effects	50.885	5	10.177	3.846 *
S (Subject)	25.275	1	25.275	9.552
A (Applicant)	0.218	1	0.218	0.082
I (Information)	25.687	2	12.843	4.854*
P (DIT P)	0.032	1	0.032	0.012
2-Way Interactions	41.694	9	4.633	1.751
SA	2.672	1	2.672	1.010
SI	8.478	2	4.239	1.602
SP	0.005	1	0.005	0.002
AI	18.471	2	9.235	3.490
AP	3.333	1	3.333	1.260
IP	7.665	2	3.832	1.448
3-Way Interactions	17.101	7	2.443	0.923
SAI	11.190	2	5.595	2.114
SAP	2.701	1	2.701	1.021
SIP	2.112	2	1.056	0.399
AIP	0.729	2	0.364	0.138
4-Way Interaction	0.940	2	0.470	0.178
SAIP	0.940	2	0.470	0.178
Explained	110.621	23	4.810	1.818
Residual	465.699	176	2.646	
Total	576.320	199	2.896	

Note.   * P < .01

was not significantly lower than the high job-relevant information condition at the .01 alpha level.

Information level produced a significant main effect on the dependent variable SUCCESS; Information level ($F(2,176)$, 8.801, p = .000, ω^2 = .040)(Table 18). The main effect for Information was a product of significant difference in responses in the three experimental treatment conditions. As expected, no job-relevant information produced the least favorable ratings (n = 63, M = 6.05, SD = 1.62), followed by more favorable ratings in the low job-relevant information condition (n = 67, M = 6.85, SD = 1.66), and the most positive ratings were given in the high job-relevant information condition (n = 70, M = 7.10, SD = 1.13).

Again, the post-hoc Newman-Keuls test indicated that the no job-relevant information condition mean was significantly lower than the low job-relevant information condition mean (p < .01), and it was significantly lower than the high job-relevant information condition mean (p < .01). The low job-relevant information mean was significantly lower than the high job-relevant information condition (p < .01).

Table 18

ANOVA: SUCCESS by S A I P

Source of Variation	Sum of Squares	DF	Mean Square	F	
Main Effects	49.191	5	9.838	4.530	*
S (Subject)	4.221	1	4.221	1.944	
A (Applicant)	2.529	1	2.529	1.164	
I (Information)	38.227	2	19.113	8.801	*
P (DIT P)	2.217	1	2.217	1.021	
2-Way Interactions	22.394	9	2.488	1.146	
SA	2.311	1	2.311	1.064	
SI	2.821	2	1.410	0.649	
SP	1.020	1	1.020	0.469	
AI	11.652	2	5.826	2.683	
AP	0.758	1	0.758	0.349	
IP	2.880	2	1.440	0.663	
3-Way Interactions	16.590	7	2.370	1.091	
SAI	7.109	2	3.554	1.637	
SAP	0.601	1	0.601	0.277	
SIP	2.979	2	1.489	0.686	
AIP	5.772	2	2.886	1.329	
4-Way Interaction	2.750	2	1.375	0.633	
SAIP	2.750	2	1.375	0.633	
Explained	90.925	23	3.953	1.820	
Residual	382.230	176	2.172		
Total	473.155	199	2.378		

Note.   * $\underline{P} < .01$

Information level also produced a main effect on the dependent variable POTENTIAL ($\underline{F}$(2,176), 7.276, $\underline{p}$ < .001, ω^2 = .032)(Table 19). As expected, no job-relevant information produced the least favorable ratings ($\underline{n}$ = 63, $\underline{M}$ = 6.14, $\underline{SD}$ = 1.58), followed by more favorable ratings in the low job-relevant information condition ($\underline{n}$ = 67, $\underline{M}$ = 6.63, $\underline{SD}$ = 1.62), and the most positive ratings were given in the high job-relevant information condition ($\underline{n}$ = 70, $\underline{M}$ = 7.11, $\underline{SD}$ = 1.19).

The post-hoc Newman-Keuls test indicated that the no job-relevant information condition mean was not significantly lower than the low job-relevant information condition mean, but it was significantly lower than the high job-relevant information condition mean ($\underline{p}$ < .01). Furthermore, the low job-relevant information mean was not significantly lower than the high job-relevant information condition.

Again, as found in the SAID factorial design, there were no significant main effects or interactions on the MANAGERIAL TRAITS variable in this factorial design.

Table 19

ANOVA: POTENTIAL by S A I P

Source of Variation	Sum of Squares	DF	Mean Square	F	
Main Effects	45.955	5	9.191	4.325	*
S (Subject)	4.003	1	4.003	1.884	
A (Applicant)	8.005	1	8.005	3.767	
I (Information)	30.926	2	15.463	7.270	*
P (DIT P)	1.477	1	1.477	0.695	
2-Way Interactions	26.238	9	2.915	1.372	
SA	0.099	1	0.099	0.047	
SI	1.822	2	0.911	0.429	
SP	0.007	1	0.007	0.003	
AI	14.318	2	7.159	3.369	
AP	0.039	1	0.039	0.018	
IP	9.766	2	4.883	2.298	
3-Way Interactions	11.235	7	1.605	0.755	
SAI	2.433	2	1.216	0.572	
SAP	2.131	1	2.131	1.003	
SIP	0.385	2	0.193	0.091	
AIP	6.426	2	3.213	1.512	
4-Way Interaction	0.349	2	0.174	0.082	
SAIP	0.349	2	0.174	0.082	
Explained	83.777	23	3.642	1.714	
Residual	374.018	176	2.125		
Total	457.795	199	2.300		

Note.   * $P < .01$

The Omega squares obtained in both factorial designs demonstrated that even statistically significant main effects did not account for five percent of the total variance, and indicates that the majority of the variance was not accounted for by the dependent or independent variables in the present study.

Hypothesis analysis. The four hypotheses proposed in the present study were based on the findings of Heilman (1984). She found a significant effect for Applicant gender, an effect for Information level and a significant interaction between the two independent variables (Heilman, 1984)(Table 1). Furthermore, she found no significant effect for Subject gender.

The results in the Heilman study are significantly different from the results of the present study. In this study, the SAID and SAIP MANOVAs indicated significant differences were present for Subject gender (not applicant gender) and Information level, but no significant interactions were present at the .01 alpha level. All of the hypotheses proposed in the present study were three-way interactions based upon the assumption of an interaction between Applicant gender and Information level found in the Heilman study (1984)

and either a dogmatism median split interaction (AID) or a moral development DIT P median split interaction (AIP).

As none of these interactions were significant, this investigation failed to support hypotheses 1 and 2 for the following decisions:

A.   The decision to move the applicant to the interviewing process.

B.   Judgments about the applicant's likelihood of success.

C.   Judgments about the applicant's potential for advancement.

Hypotheses 1 and 2 decisions A, B, and C were tested by the dependent variables INTERVIEW, SUCCESS and POTENTIAL respectively.

This investigation also failed to support hypotheses 3 and 4 as there were no significant interactions concerning composite manager-attribution adjective ratings tested by the dependent variable MANAGERIAL TRAITS.

Neither the SAID nor the SAIP factorial design produced significant effects or interactions for the proposed moderator variables of dogmatism or moral development. Therefore, it is concluded these

constructs were not effective attribution style moderators within the constraints presented by the present study. However, interpretation of the present study required discussion of several issues.

Even the significant main effects for Subject gender and Information level account for so little variance as to be of negligible importance.

Discussion

Internal Validity

The present study used a factorial design to improve control of extraneous variables thereby improving internal validity (Campbell & Stanley, 1963). History, maturation, instrumentation, statistical regression, and selection-maturation pose little threat to internal validity.

Experimental mortality did occur in the SAIP factorial design. Overall, only one subject did not complete the work packet survey (experimental treatment) or postwork questionnaire and was not included in the study. In the SAIP factorial design 44 subjects failed to meet Rest's reliability criteria and were removed from the design (1986a).

As previously reported, testing order effects were evaluated in the pilot study and were not significant.

Analysis of test order effects was not attempted in the
main study as it already consisted of 244 subjects and
24 subgroups. With an average of 10 subjects per
subgroup, 2 moderating variables (dogmatism and moral
development), and a treatment condition (Information
level) only 3 subjects would be in each test order
effect condition; therefore, test power would be
insufficient to be stable.

One threat to internal validity was considered to
be substantial in the present study. In the pilot and
main study, all subjects rated managerial traits for a
manager they would like to work for before and after
completion of the work packet survey. These ratings
took place in the demographics and postwork surveys and
were designed to identify the subject's ideal manager
from the bi-polar managerial adjective pairs used in
the Heilman study (1984). However, Heilman (1984) did
not report collection of ideal managerial trait data,
only data from the treatment conditions. In a pretest-
posttest context, these ideal manager trait composite
scores provide some evidence of perceptual change
within the testing environment.

A correlation between pretest composite scores and
posttest composite scores should have been high if the

traits were highly salient to the subjects. However in the main study, the overall correlation was .674, ($\underline{N}$ = 240), $\underline{p}$ = .000 in the SAID factorial design, and the overall correlation was .695, ($\underline{N}$ = 200), $\underline{p}$ = .000 in the SAIP factorial design. An analysis at the SAID subgroup level found correlations ranging from .95 to .23, and 9 of the 24 groups did not produce significant correlations at the .05 alpha level.

Insignificant correlations did not appear to be systematic in nature in the SAID factorial design, and it's not clear why the correlations were not higher. It is also not possible to tell whether pre-testing may have affected ratings during the experimental session because the subjects were only exposed to a pretest-posttest condition. Pretest only and posttest only conditions would have provided additional information. These conditions were considered and rejected as substantially increasing the already large factorial designs.

An alternative explanation may be that some of the subjects did not have a strong perception of ideal managerial traits. As previously reported, many of the subjects had limited or no management experience. Approximately 73 percent had no experience as an

interviewer, while approximately 37 percent had no management experience at all.

Heilman (1984) made no reference to work or management experience in her subject pool; however, she did state that all subjects were masters of business administration (MBA) students. Therefore, one substantial difference between the two subject pools was the degree of management knowledge if not actual management experience.

External validity

The present study proposed to investigate preliminary employment decisions for an entry level management position in a replication of the original Heilman study (1984), and to extend the generalizibility of this line of research. As previously stated, one obvious difference between the studies was the subject pool. The subjects in the present study were undergraduate introductory psychology students, while the 1984 Heilman study subjects were MBA students. Undergraduate students were chosen as subjects in the present study for two reasons. First, 240 undergraduate students were available, while large numbers of MBA students were not available. Secondly, the use of undergraduate

psychology students presented an opportunity to extend the original Heilman study's external validity. The present investigator's objective was to replicate the original study with a less restrictive population, thereby improving generalizability; and also to improve insight into the interviewers' attribution style by examining interactions between the dependent measures and moderator variables to explain rating differences. Unfortunately, power of the statistical tests to accomplish those two objectives was very questionable.

Statistical test power. Stevens (1986) stated that power of a statistical test, "is the probability of rejecting the null hypothesis when it is false" (p 5). In other words, "Power is the probability of making a correct decision, or saying the groups differ when in fact they do." (Stevens, 1986, p. 5). To be more specific, power has three components. The alpha level and sample size are set by the investigator, while the effect size or treatment differences depend upon population differences (Stevens, 1986).

He concluded that when the group size is less than 20, one should test at a more liberal alpha level (perhaps .10 or .15) to improve power and Type II error control (Stevens, 1986). The use of a more liberal

alpha level to compensate for a small group size presented a serious dilemma in the present study. As previously stated, there was reason to believe that platykurtosis greatly reduced the actual test power and inflated the actual alpha level in the present study, thereby increasing the likelihood of committing a Type I error. To correct for platykurtosis, a more restrictive alpha of .01 was chosen (Stevens, 1986). The present investigator chose to err on the conservative side.

However, there is evidence that even a very homogeneous population requires a larger group size to provide adequate test power for the number of dependent variables and effect sizes found in the present study. Heilman (1986) found no effect for subject gender and therefore, pooled subjects to achieve a subgroup size of 26. In the present study, the averaged SD for dependent variables INTERVIEW, SUCCESS, and POTENTIAL is 1.583. Utilizing information and formulas presented by McCance (1989), some effect size, group size, and test of significance power requirements can be determined for simple t-tests. In order to reliably detect a 16.66 percent difference in group means (a mean score difference of 1.5 on any of the three

dependent variables) and with a $\underline{SD}$ of 1.5 on these variables, 18, 22, or 28 subjects would provide a test power level of 80, 90, or 95 percent respectively for a t-test. To reduce the detectable difference to 1.0 mean score difference in the present study, 26, 34, or 42 subjects would be required to provide a power level of 80, 90, or 95 percent respectively for a t-test. Kraemer and Thiemann (1987) presented formulas and tables for more sophisticated statistical procedures including a balanced ANOVA. They stated, "The researcher may consider the pairwise means comparisons of specific interest, one at a time, and use either the two-sample or matched-pair t-test method (as appropriate) to compute the necessary sample size required per cell." (Kraemer & Thiemann, 1987, p. 49). The total number of subjects is determined by multiplying the number of subjects per cell by the number of cells in the design. They presented evidence that for a three factors design and a .05 alpha one-tailed test with 90 percent power, an investigator would require 73 subjects per cell to reliably detect a one-half scale difference. In the present study that equates to a mean difference of 4.5 on 9 point scales used for the dependent variables. They conclude the

following "facts of life" (Kraemer & Thiemann, 1987, p. 28):

> If one proposed to go to trial with a sample size of 20 or fewer subjects, one must be willing to take a high risk of failure, or be operating in an area in which the critical effect size is large indeed.
>
> To achieve 99% power for a critical effect size of 0.01 (as most students initially specify), a researcher must be prepared to recruit and process more than 150,000 subjects. The acid test of whether an effect size of 0.01 is, in fact, "important to society" is whether society is prepared to fund a study requiring 150,000 subjects. Specification of the critical effect size and the required power, we repeat, must be realistic, not idealistic.

Future Research

Future research should use larger sample sizes. The Kraemer and Thiemann (1987) arguments raise serious concern about the adequacy of sample size, power, and meaningful effect size for both the present study and the original 1984 Heilman study.

Furthermore, Huberty and Morris (1989) raise concern about the appropriateness of the widespread use of a MANOVA followed by ANOVAs to control for Type I error: We consider to be a myth the idea that one is controlling Type I error probability by following a significant MANOVA test with multiple ANOVA tests, each conducted using conventional significance levels. Furthermore, the research questions addressed by a MANOVA and by multiple ANOVAS are different; the results of one analysis may have little or no direct substantive bearing on the results of the other. (p. 307).

Basically, they concluded that the MANOVA and the ANOVA are designed to answer different research questions, and that: "The MANOVA-ANOVAs approach is seldom, if ever, appropriate." (Huberty & Morris, 1989, p. 302). They concluded that one deficiency of a multiple ANOVA investigation is that interrelationships among the dependent variables is completely ignored.

Heilman (1984) made no argument for conceptual independence of the dependent variables used in her study and subsequently in the present study. The degree of correlation between the dependent variables

used in the present study (.564 - .802, $\underline{DF}$(2,242) $\underline{p}$ = .000) suggest that fewer dependent variables could be used in future research if an underlying construct is not of interest to the investigator.

The primary dependent variable in the present study was INTERVIEW. If one is not given an equal opportunity to move to the next phase of the selection process, the interview phase, a selection procedure may be in legal jeopardy.

A comparison of the INTERVIEW subgroup means in the present study to the means in the 1984 Heilman study provide some support of the present study's hypotheses. In the present study, the SAID factorial design's MANOVA four-way interaction approached significance ($\underline{p}$ = .079), while the INTERVIEW ANOVA four-way interaction was significant ($\underline{p}$ = .003). Had it not been for low power and the need for a conservative alpha level, several predictions may have been supported. To summarize the larger differences, in all conditions male subjects did not rate female applicants drastically different than male applicants across the dogmatism median-split condition; and the high job-relevant information condition produced higher INTERVIEW scores than in the no and low information

conditions indicating that the experimental treatment was effective.

Likewise, female subjects in both dogmatism conditions rated male and female applicants in the high job-relevant information conditions higher on the INTERVIEW variable than in the no and low information conditions. However, female subjects in the high dogmatism condition rated female applicants substantially lower (less likely to be interviewed)($\underline{M}$ = 4.70, $\underline{SD}$ = 1.96) than male applicants in the low job-relevant Information condition ($\underline{M}$ = 7.30, $\underline{SD}$ = 1.16). Furthermore, female subjects in the low dogmatism condition rated female applicants in the low job-relevant information condition ($\underline{M}$ = 7.90, $\underline{SD}$ = .99) with more equity indicating that future research using the dogmatism construct may provide some insight into the disparate ratings as this rating difference was predicted under hypothesis 2A.

Interestingly, in the present study, female subjects in the high dogmatism condition rated male applicants in the no job-relevant information condition ($\underline{M}$ = 5.42, $\underline{SD}$ = 2.47) lower than female applicants in this condition ($\underline{M}$ = 7.10, $\underline{SD}$ = 2.02) indicating that the closedness of ones belief system may interact with

levels of job-relevant information in a more complex
manner than the present investigator proposed. Moral
development may play a role also; however, a lack of
statistical power in the present study made subgroup
mean comparisons between the two studies extremely
speculative.

In conclusion, the present study provided some
evidence that future research may be warranted into
moderating effects of dogmatism upon an interviewer's
saliency of applicant gender and information level
during preliminary employment decision making. In any
case, future research into this area should utilize a
substantially larger cell size.

One approach could be to reduce the scope of the
investigation to one dependent variable (perhaps
INTERVIEW) and utilize an ANOVA. However, a more
appropriate approach would be seek a, "parsimonious
interpretation of a system of outcome variables"
(Huberty & Morris, 1989, p. 304).

One could reasonably argue that all the dependent
variables used in both the Heilman (1984) and present
study are conceptually important to the preliminary
employment selection process and that there may have
been an underlying construct. If an underlying

construct was to be investigatd, a MANOVA and linear discriminate analysis would be the appropriate statistical procedure (Huberty & Morris, 1989).

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Appendix A

Appendix A

 University of
Nebraska
at Omaha

College of Arts and Sciences
Department of Psychology
Omaha, Nebraska 68182-0274
(402) 554-2592

CONSENT FORM

INFORMATION PROCESSING IN THE EMPLOYMENT INTERVIEW

INVITATION TO PARTICIPATE
You are invited to participate in a laboratory study of information processing in the employment interview.

BASIS FOR SUBJECT SELECTION
You have been selected for participation because you: are 19 years of age or older, have voluntarily reported to the study site, and have indicated that English is your primary language.

PURPOSE OF THE STUDY
The purpose of this study is to investigate some influences upon information processing of an interviewer in a preliminary employment situation.

EXPLANATION OF PROCEDURES
As a participant in this study, you will: (a) complete a pre-test packet consisting of a demographic survey and two questionnaires asking your opinions about several social issues, and (b) an experimental work packet consisting of written information about a hypothetical interviewing situation, a questionnaire about decisions you have reached, and a survey of your perceptions of the interviewing situation.

POTENTIAL RISKS AND DISCOMFORTS
No significant risks are involved in this study.

POTENTIAL BENEFITS
The benefits of participation are simply those of having an opportunity to see how a research project of this type is conducted and to learn something about an area of current research interest in psychology. When appropriate, extra class credit will be given at the rate of one point per 30 minutes of study participation.

ASSURANCE OF CONFIDENTIALITY
Information obtained in this study that could be identified with you will be kept confidential. If information obtained in this study is published in scientific journals or at scientific meetings, your identity will remain confidential.

WITHDRAWAL FROM THE STUDY
Participation is voluntary. Your decision whether or not to participate will not affect your present or future relationship at the University of Nebraska at Omaha. If you decide to participate, you are free to withdraw your consent and discontinue participation at any time.

Subject's initials _____

Appendix A

OFFER TO ANSWER QUESTIONS
If you have any questions, please do not hesitate to ask and they will be answered at this time. If you think of any additional questions later, please feel free to contact the investigator listed at the end of this consent form.

If you have questions concerning your rights as a research subject, you may contact the University of Nebraska Institutional Review Board (IRB), telephone (402) 559-6463.

YOU ARE VOLUNTARILY MAKING A DECISION WHETHER OR NOT TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE CERTIFIES THAT YOU HAVE DECIDED TO PARTICIPATE HAVING READ AND UNDERSTOOD THE INFORMATION PRESENTED. YOUR SIGNATURE ALSO CERTIFIES THAT HAVE HAD AN ADEQUATE OPPORTUNITY TO DISCUSS THIS STUDY WITH THE INVESTIGATOR AND YOU HAVE HAD ALL YOUR QUESTIONS ANSWERED TO YOUR SATISFACTION. YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.

_____   _____
      SIGNATURE OF SUBJECT   DATE

IN MY JUDGEMENT THE SUBJECT IS VOLUNTARILY AND KNOWINGLY GIVING INFORMED CONSENT AND POSSESSES THE LEGAL CAPACITY TO GIVE INFORMED CONSENT TO PARTICIPATE IN THIS RESEARCH STUDY.

_____   _____
    SIGNATURE OF INVESTIGATOR   DATE

INVESTIGATOR: DAY   EVENING

Konney J. Larwood   (402)-559-6478   (402)-551-6263

Appendix A

INFORMATION PROCESSING IN THE EMPLOYMENT INTERVIEW

DEMOGRAPHICS AND OPINIONS ABOUT SOCIAL PROBLEMS SURVEY

Please provide the following information.

1.   NAME: _____

2.   TELEPHONE: _____

3.   SEX: Male _____   Female _____

4.   AGE: _____ years old.

5.   Have you ever worked (at least 6 months) at 20 or more hours a week?
No _____   Yes _____

6.   Have you ever supervised or managed other employees?
Yes _____   No _____

7.   Have you ever been interviewed for a job?
No _____   Yes _____

8.   Have you interviewed prospective employees?
No _____   Yes _____

Circle the number that best represents the preferred amount of each set of the following traits. Circle only one number for each pair of words. Example: A circled 4 means that Ambitious is a little more desirable than Unambitious.

I would like to work for a manager who has these traits:

9.   Ambitious 1 2 3 4 5 6 7 8 9 Unambitious

10. Emotional 1 2 3 4 5 6 7 8 9 Unemotional

11. Decisive 1 2 3 4 5 6 7 8 9 Indecisive

12. Tough 1 2 3 4 5 6 7 8 9 Soft

13. Independent 1 2 3 4 5 6 7 8 9 Dependent

Please turn to the next page, read and follow the instructions.

Appendix B

Appendix B

Questionnaire Number 1, Page 1

Instructions

A.   Check your "participant number" in the lower right hand corner of your questionnaire number two answer sheet. If the number is not correct, notify the experimenter.

B.   To be of value, the responses to these questions must reflect your opinion. Do not confer with your neighbors. Read each statement carefully, make your decision, then blacken one circle on your answer sheet. Be sure to always use "-3" for "strongly disagree", and "+3" for "strongly agree".

C.   When you have finished this questionnaire, follow the instructions provided by the experimenter.

1.   The United States and Russia have just about nothing in common.

2.   Communism and Catholicism have nothing in common.

3.   The principles I have come to Believe ln are quite different from those believed in by most people.

4.   In a heated discussion people have a way of bringing up irrelevant issues rather than sticking to the main issue.

5.   The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.

6.   Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

7.   While the use of force is wrong by and large, it is sometimes the only way possible to advance a noble ideal.

8.   Even though I have a lot of faith in the intelligence and wisdom of the common man I must say that the masses behave stupidly at times.

9.   It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.

DO NOT WRITE ON THIS TEST BOOKLET

Questionnaire Number 1, Page 2

10. There are certain "isms" that are really the same even though those who believe in these "isms" try to tell you they are different.

11. Man on his own is a helpless and miserable creature.

12. Fundamentally, the world we live in is a pretty lonesome place.

13. Most people just don't give a "damn" for others.

14. I'd like it if I could find someone who would tell me how to solve my personal problems.

15. It is only natural for a person to be rather fearful of the future.

16. There is so much to be done and so little time to do it in.

17. Once I get wound up in a heated discussion I just can't stop.

18. In a discussion I often find it necessary to repeat my- self several times to make sure I am being understood.

19. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what others are saying.

20. In a discussion I sometimes interrupt others too much in my eagerness to put across my own point of view.

21. It is better to be a dead hero than a live coward.

22. My hardest battles are with myself.

23. At times I think I am no good at all.

24. I am afraid of people who want to find out what I'm really like for fear they'll be disappointed in me.

DO NOT WRITE ON THIS TEST BOOKLET

25. While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, or Beethoven, or Shakespeare.

26. The main thing in life is for a person to want to do something important.

27. If given the chance I would do something of great benefit to the world.

28. If I had to choose between happiness and greatness, I'd choose greatness.

29. It's all too true that people just won't practice what they preach.

30. Most people are failures and it is the system which is responsible for this.

31. I have often felt that strangers were looking at me critically.

32. It is only natural for a person to have a guilty conscience.

33. People say insulting and vulgar things about me.

34. I am sure I am being talked about.

35. In the history of mankind, there have probably been just a handful of really great thinkers.

36. There are a number of people I have come to hate because of the things they stand for.

37. A man who does not believe in some great cause has not really lived.

38. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

39. Of all the different philosophies,which exist in this world there is only one which is correct.

DO NOT WRITE ON THIS TEST BOOKLET

40. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.

41. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.

42. When it comes to differences of opinion in religion we must be careful not to compromise with those who believe differently from the way we do.

43. In times like these, a person must be pretty selfish if he considers primarily his own happiness.

44. To compromise with our opponents is to be guilty of appeasement.

45. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.

46. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.

47. A group which tolerates too many differences of opinion among its own members cannot exist for long.

48. There are two kinds of people in this world: those who are for the truth and those who are against the truth.

49. My blood boils whenever a person stubbornly refuses to admit he's wrong.

50. A person who thinks primarily of his own happiness is beneath contempt.

51. Most of the ideas which get printed nowadays aren't worth the paper they are printed on,

52. I sometimes have a tendency to be too critical of the ideas of others.

53. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

54. It is often desirable to reserve judgement about what's going on until one has had a chance to hear the opinions of those one respects.

55. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.

56. There's no use wasting your money on newspapers which you know in advance are just plain propaganda.

57. Young people should not have too easy access to books which are likely to confuse them.

58. The present is all too often full of unhappiness. It is only the future that counts.

59. It is by returning to our glorious and forgotten past that real social progress can be achieved.

60. To achieve the happiness of mankind in the future it is sometimes necessary to put up with injustices in the present.

61. If a man is to accomplish his mission in life it is sometimes necessary to gamble "all or nothing at all".

62. Unfortunately a good many people with whom I have discussed important social and moral problems don't really understand what's going on.

63. Most people just don't know what's good for them.

64. There is nothing new under the sun.

65. To one who really takes the trouble to understand the world he lives in, it's an easy matter to predict future events.

66. It is sometimes necessary to resort to force to advance an ideal one strongly believes in.

PLEASE CHECK TO BE SURE THAT YOU HAVE ANSWERED ALL QUESTIONS

Answer Sheet for Questionnaire Number 1.

	STRONGLY AGREE				DO NOT AGREE				STRONGLY AGREE				DO NOT AGREE				STRONGLY AGREE				DO NOT AGREE	
	+3	+2	+1	-1	-2	-3		+3	+2	+1	-1	-2	-3		+3	+2	+1	-1	-2	-3
1.	0	0	0	0	0	0	23.	0	0	0	0	0	0	45.	0	0	0	0	0	0
2.	0	0	0	0	0	0	24.	0	0	0	0	0	0	46.	0	0	0	0	0	0
3.	0	0	0	0	0	0	25.	0	0	0	0	0	0	47.	0	0	0	0	0	0
4.	0	0	0	0	0	0	26.	0	0	0	0	0	0	48.	0	0	0	0	0	0
5.	0	0	0	0	0	0	27.	0	0	0	0	0	0	49.	0	0	0	0	0	0
6.	0	0	0	0	0	0	28.	0	0	0	0	0	0	50.	0	0	0	0	0	0
7.	0	0	0	0	0	0	29.	0	0	0	0	0	0	51.	0	0	0	0	0	0
8.	0	0	0	0	0	0	30.	0	0	0	0	0	0	52.	0	0	0	0	0	0
9.	0	0	0	0	0	0	31.	0	0	0	0	0	0	53.	0	0	0	0	0	0
10.	0	0	0	0	0	0	32.	0	0	0	0	0	0	54.	0	0	0	0	0	0
11.	0	0	0	0	0	0	33.	0	0	0	0	0	0	55.	0	0	0	0	0	0
12.	0	0	0	0	0	0	34.	0	0	0	0	0	0	56.	0	0	0	0	0	0
13.	0	0	0	0	0	0	35.	0	0	0	0	0	0	57.	0	0	0	0	0	0
14.	0	0	0	0	0	0	36.	0	0	0	0	0	0	58.	0	0	0	0	0	0
15.	0	0	0	0	0	0	37.	0	0	0	0	0	0	59.	0	0	0	0	0	0
16.	0	0	0	0	0	0	38.	0	0	0	0	0	0	60.	0	0	0	0	0	0
17.	0	0	0	0	0	0	39.	0	0	0	0	0	0	61.	0	0	0	0	0	0
18.	0	0	0	0	0	0	40.	0	0	0	0	0	0	62.	0	0	0	0	0	0
19.	0	0	0	0	0	0	41.	0	0	0	0	0	0	63.	0	0	0	0	0	0
20.	0	0	0	0	0	0	42.	0	0	0	0	0	0	64.	0	0	0	0	0	0
21.	0	0	0	0	0	0	43.	0	0	0	0	0	0	65.	0	0	0	0	0	0
22.	0	0	0	0	0	0	44.	0	0	0	0	0	0	66.	0	0	0	0	0	0

BE SURE THAT YOU HAVE BLACKENED YOUR ANSWERS COMPLETELY AND THAT
YOU HAVE ANSWERED EACH QUESTION.

Participant Number _____ .

Appendix B

OPINIONS ABOUT SOCIAL PROBLEMS

This questionnaire is aimed at understanding how people think about social problems.* Different people often have different opinions about questions of right and wrong. There are no "right" answers in the way that there are right answers to math problems. We would like you to tell us what you think about several problem stories.

In this questionnaire you will be asked to give your opinions about several stories. Here is a story as an example.

Frank Jones has been thinking about buying a car. He is married, has two small children and earns an average income. The car he buys will be his family's only car. It will be used mostly to get to work and drive around town, but sometimes for vacation trips also. In trying to decide what car to buy, Frank Jones realized that there were a lot of questions to consider. Below there is a list of some of these questions.

If you were Frank Jones, how important would each of these questions be in deciding what car to buy?

Instructions for Part A: (Sample Question)

On the left hand side check one of the spaces by each statement of a consideration. (For instance, if you think that statement #1 is not important in making a decision about buying a car, check the space on the right.)
IMPORTANCE:

Great	Much	Some	Little	No	
				X	1. Whether the car dealer was in the same block as where Frank lives. (Note that in this sample, the person taking the questionnaire did not think this was important in making a decision.)
X					2. Would a <u>used</u> car be more economical in the long run than a <u>new</u> car. (Note that a check was put in the far left space to indicate the opinion that this is an important issue in making a decision about buying a car.)
		X			3. Whether the color was green, Frank's favorite color.
				X	4. Whether the cubic inch displacement was at least 200. (Note that if you are unsure about what "cubic inch displacement" means, then mark it "no importance.")
X					5. Would a large, roomy car be better than a compact car.
				X	6. Whether the front connibilies were differential. (Note that if a statement sounds like gibberish or nonsense to you, mark it "no importance.")

Instructions for Part B: (Sample Question)

From the list of questions above, select the most important one of the whole group. Put the number of the most important question on the top line below. Do likewise for your 2nd, 3rd, and 4th most important choices. (Note that the top choices in this case will come from the statements that were checked on the far left-hand side-statements #2 and #5 were thought to be very important. In deciding what is the <u>most</u> important, a person would re-read #2 and #5, and then pick one of them as the <u>most</u> important, then put the other one as "second most important," and so on.)

Most important__5__   Second most important__2__
Third most important__3__   Fourth most important__1__

HEINZ AND THE DRUG

In Europe a woman was near death from a special kind of cancer. There was one drug that doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost to make. He paid $200 for the radium and charged $2,000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about $1,000, which is half of what it cost. He told the druggist that his wife was dying, and asked him to sell it cheaper or let him pay later. But the druggist said, "No, I discovered the drug and I'm going to make money from it." So Heinz got desperate and began to think about breaking into the man's store to steal the drug for his wife.

Should Heinz steal the drug? (Check one)

_____Should steal it   _____Can't decide   _____Should not steal it

IMPORTANCE:

Great **Much** Some Little No

					1. Whether a community's laws are going to be upheld.
					2. Isn't it only natural for a loving husband to care so much for his wife that he'd steal?
					3. Is Heinz willing to risk getting shot as a burglar or going to jail for the chance that stealing the drug might help?
					4. Whether Heinz is a professional wrestler, or has considerable influence with professional wrestlers.
					5. Whether Heinz is stealing for himself or doing this solely to help someone else.
					6. Whether the druggist's rights to his invention have to be respected.
					7. Whether the essence of living is more encompassing than the termination of dying, socially and individually.
					8. What values are going to be the basis for governing how people act towards each other.
					9. Whether the druggist is going to be allowed to hide behind a worthless law which only protects the rich anyhow.
					10. Whether the law in this case is getting the way of the most basic claim of any member of society.
					11. Whether the druggist deserves to be robbed for being so greedy and cruel.
					12. Would stealing in such a case bring about more total good for the whole society or not.

From the list of questions above, select the four most important:

Most important_____   Second most important_____
Third most important_____   Fourth most important_____

STUDENT TAKE-OVER

At Harvard University a group of students, called the Students for a Democratic Society (SDS), believe that the University should not have a army ROTC program. SDS students are against the war in Viet Nam, and the army training program helps send men to fight in Viet Nam. The SDS students demanded that Harvard students could not get army training as part of their regular course work and not get credit for it towards their degrees.

Agreeing with the SDS students, the Harvard professors voted to end the ROTC program as a university course. But the President of the University stated that he wanted to keep the army program on campus as a course. The SDS students felt that the President was not going to pay attention to the faculty vote or to their demands.

So, one day last April, two hundred SDS students walked into the university's administration building, and told everyone else to get out. They said they were doing this to force Harvard to get rid of the army training program as a course.

Should the students have taken over the administration building? (Check one)

_____Yes, they should take it over   _____Can't decide   _____No, they shouldn't take it over

IMPORTANCE:

Great Much Some Little No

					1. Are the students doing this to really help other people or are they doing it just for kicks?
					2. Do the students have any right to take over property that doesn't belong to them?
					3. Do the students realize that they might be arrested and fined, and even expelled from school?
					4. Would taking over the building in the long run benefit more people to a greater extent?
					5. Whether the president stayed within the limits of his authority in ignoring the faculty vote.
					6. Will the takeover anger the public and give all students a bad name?
					7. Is taking over a building consistent with principles of justice?
					8. Would allowing one student take-over encourage many other student take-over?
					9. Did the president bring this misunderstanding on himself by being so unreasonable and uncooperative.
					10. Whether running the university ought to be in the hands of a few administrators or in the hands of all the people.
					11. Are the students following principles which they believe are above the law?
					12. Whether or not university decisions ought to be respected by students.

From the list of questions above, select the four most important:

Most important_____   Second most important_____

Third most important_____   Fourth most important_____

ESCAPED PRISONER

A man had been sentenced to prison for 10 years. After one year, however, he escaped from prison, moved to a new area of the country, and took on the name of Thompson. For 8 years he worked hard, and gradually he saved enough money to buy his own business. He was fair to his customer, gave his employees top wages, and gave most of his own profits to charity. Then one day, Mrs. Jones, an old neighbor, recognized him as the man who had escaped from prison 8 years before, and whom the police had been looking for.

Should Mrs. Jones report Mr. Thompson to the police and send him back to prison?
(Check one)

_____Should report him   _____Can't decide   _____Should not report him

IMPORTANCE:

Great	Much	Some	Little	No	
					1. Hasn't Mr. Thompson been good enough for such a long time to prove he isn't a bad person?
					2. Every time someone escapes punishment for a crime, doesn't that just encourage more crime?
					3. Wouldn't we be better off without prisons and the oppression of our legal systems?
					4. Has Mr. Thompson really paid his debt to society?
					5. Would society be failing what Mr. Thompson should fairly expect?
					6. What benefits would prisons be apart from society, especially for a charitable man?
					7. How could anyone be so cruel and heartless as to send Mr. Thompson to prison?
					8. Would it be fair to all the prisoners who had to serve out their full sentences if Mr. Thompson was let off?
					9. Was Mrs. Jones a good friend of Mr. Thompson?
					10. Wouldn't it be a citizen's duty to report an escaped criminal, regardless of the circumstances?
					11. How would the will of the people and the public best be served?
					12. Would going to prison do any good for Mr. Thompson or protect anybody?

From the list of questions above, select the four most important:

Most important_____   Second most important_____
Third most important_____   Fourth most important_____

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THE DOCTOR'S DILEMMA

A lady was dying of cancer which could not be cured and she had only about six months to live. She was in terrible pain, but she was so weak that a good dose of pain-killer like morphine would make her die sooner. She was delirious and almost crazy with pain, and in her calm periods, she would ask the doctor to give her enough morphine to kill her. She said she couldn't stand the pain and that she was going to die in a few months anyway.

What should the doctor do? (Check one)

_____He should give the lady an overdose   _____Can't decide   _____Should not give the
      that would make her die   overdose

IMPORTANCE:

Great   Much   Some   Little   No

Great	Much	Some	Little	No		
					1.	Whether the woman's family is in favor of giving her the overdose or not.
					2.	Is the doctor obligated by the same laws as everyone else if giving her an overdose would be the same as killing her.
					3.	Whether people would be much better off without society regimenting their lives and even their deaths.
					4.	Whether the doctor could make it appear like an accident.
					5.	Does the state have the right to force continued existence on those who don't want to live.
					6.	What is the value of death prior to society's perspective on personal values.
					7.	Whether the doctor has sympathy for the woman's suffering or cares more about what society might think.
					8.	Is helping to end another;s life ever a responsible act of cooperation.
					9.	Whether only God should decide when a person's life should end.
					10.	What values the doctor has set for himself in his own personal code of behavior.
					11.	Can society afford to let everybody end their lives when they want to.
					12.	Can society allow suicides or mercy killing and still protect the lives of individuals who want to live.

From the list of questions above, select the four most important:

Most important_____   Second most important_____
Third most important_____   Fourth most important_____

WEBSTER

Mr. Webster was the owner and manager of a gas station. He wanted to hire another mechanic to help him, but good mechanics were hard to find. The only person he found who seemed to be a good mechanic was Mr. Lee, but he was Chinese. While Mr. Webster himself didn't have anything against Orientals, he was afraid to hire Mr. Lee because many of his customers didn't like Orientals. His customers might take their business elsewhere if Mr. Lee was working in the gas station.

When Mr. Lee asked Mr. Webster if he could have the job, Mr. Webster said that he had already hired somebody else. But Mr. Webster really had not hired anybody, because he could not find anybody who was a good mechanic besides Mr. Lee.

What should Mr. Webster have done? (Check one)

_____Should have hired Mr. Lee   _____Can't decide   _____Should not have hired him

IMPORTANCE:

Great	Much	Some	Little	No	
					1. Does the owner of a business have the right to make his own business decisions or not?
					2. Whether there is a law that forbids racial discrimination in hiring for jobs.
					3. Whether Mr. Webster is prejudiced against orientals himself or whether he means nothing personal in refusing the job.
					4. Whether hiring a good mechanic or paying attention to his customers' wishes would be best for his business.
					5. What individual differences ought to be relevant in deciding how society's role are filled?
					6. Whether the greedy and competitive capitalistic system ought to be completely abandoned.
					7. Do a majority of people in Mr. Webster's society feel like his customers or are a majority against prejudice?
					8. Whether hiring capable men like Mr. Lee would use talents that would otherwise be lost to society.
					9. Would refusing the job to Mr. Lee be consistent with Mr. Webster's own moral beliefs?
					10. Could Mr. Webster be so hard-hearted as to refuse the job, knowing how much it means to Mr. Lee?
					11. Whether the Christian commandment to love your fellow man applies in this case.
					12. If someone's in need, shouldn't he be helped regardless of what you get back from him?

From the list of questions above, select the four most important:

Most important_____   Second most important_____
Third most important_____   Fourth most important_____

NEWSPAPER

Fred, a senior in high school, wanted to publish a mimeographed newspaper for students so that he could express many of his opinions. He wanted to speak out against the war in Viet Nam and to speak out against some of the school's rules, like the rule forbidding boys to wear long hair.

When Fred started his newspaper, he asked his principal for permission. The principal said it would be all right if before every publication Fred would turn in all his articles for the principal's approval. Fred agreed and turned in several articles for approval. The principal approved all of them and Fred published two issues of the paper in the next two weeks.

But the principal had not expected that Fred's newspaper would receive so much attention. Students were so excited by the paper that they began to organize protests against the hair regulation and other school rules. Angry parents objected to Fred's Opinions. They phoned the principal telling him that the newspaper was unpatriotic and should not be published. As a result of the rising excitement, the principal ordered Fred to stop publishing. He gave as a reason that Fred's activities were disruptive to the operation of the school.

Should the principal stop the newspaper? (Check one)

_____Should stop it   _____Can't decide   _____Should not stop it

IMPORTANCE:

Great	Much	Some	Little	No	
					1. Is the principal more responsible to students or to the parents?
					2. Did the principal give his word that the newspaper could be published for a long time, or did he just promise to approve the newspaper one issue at a time.
					3. Would the students start protesting even more if the principal stopped the newspaper?
					4. When the welfare of the school is threatened, does the principle have the right to give orders to students?
					5. Does the principal have the freedom of speech to say "no" in this case?
					6. If the principal stopped the newspaper would he be prevented full discussion of important problems?
					7. Whether the principal's order would make Fred lose faith in the principal.
					8. Whether Fred was really loyal to his school and patriotic to his country.
					9. What effect would stopping the paper have on the student's education in critical thinking and judgments?
					10. Whether Fred was in any way violating the rights of others in publishing his own opinions.
					11. Whether the principal should be influenced by some angry parents when it is the principal that knows best what is going on in the school.
					12. Whether Fred was using the newspaper to stir up hatred and discontent.

From the list of questions above, select the four most important:

Most important_____   Second most important_____

Third most important_____   Fourth most important_____

Appendix B

CENTER for the study of
ETHICAL DEVELOPMENT
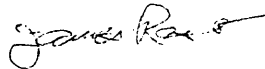
University of Minnesota

01-01-1989

Konney Larwood
U of Nebraska
2324 N 63 St
Omaha, NE   68104

Dear Ms. Larwood:

I grant you permission to use the Defining Issues Test in your study. If you are making copies of the test items, please include the copyright information on each copy (e.g., Copyright, James Rest, 1979, All rights reserved.

Best wishes for your study. Please send me a copy of your results.

Sincerely,

James Rest
Professor
Educational Psychology

Appendix C

Appendix C

WORK PACKET
INTERVIEWING SITUATION

Please pretend you are in the following situation.
You work in the local personnel department of the Accidental Life and Causality Insurance, Inc., a large mid-western based firm. You are very successful in your job and you have worked for this firm for several years.

Part of your job is to determine the potential fit (or agreement) between job applicants and jobs that are to be filled.

Normally, you would be given the task of initially evaluating all the candidates for a job opening; however, a co-worker (on vacation for another week) evaluated the other applicants for this position and forwarded the forms to the appropriate personnel for action. This application was misplaced and needs to be evaluated.

To accomplish this task, you evaluate the applicant's qualifications and experiences (as presented on employment applications and other documents) and compare these to the knowledge, skills, and abilities needed for the job (as defined in the job description).

After reviewing the job description, application and supporting documents (if any are attached), you are asked to make judgments about: (a) the need to call the applicant in for an interview (to assess communication skills, etc.), (b) the likelihood of success in the job, (c) potential for advancement, and (d) your perceptions of the applicant's managerial traits.

PLEASE TURN THE PAGE, REVIEW THE DOCUMENTS (Job Description, application, etc.) AND COMPLETE THE DECISIONS QUESTIONNAIRE. YOU MAY RETURN TO THESE PAGES TO MAKE YOUR DECISIONS.

WHEN YOU HAVE COMPLETED THE DECISIONS QUESTIONNAIRE, TURN THE PAGE AND COMPLETE THE POST WORK QUESTIONNAIRE.

DO NOT RETURN TO ANY OTHER PAGE WHILE COMPLETING THE POST WORK QUESTIONNAIRE

Appendix C

Position Number 47-010   DOT code 186.167-034

Starting Salary $18,500 per year.

Job Title:

    Assistant Manager, Branch Claims Office

Job Discription:

    Assists the manager with assigned duties as directed. Hires
and trains workers to process insurance claims. Reviews
activity reports to insure claim processing goals are met.
Advises the branch manager of potential operational
deficiencies and proposes corrective actions. Preforms
additional training as required by procedural and systems
updates. Prepares and submits activity reports.

Abilities Required:

    The ability to motivate subordinates, the ability to act
quickly and decisively, the ability to recognize managerial
problems and to act promptly to prevent their worsening, the
ability to communicate effectively both verbally and in
writing, and the ability to think clearly in stressful
situations.

Appendix C
ACCIDENTAL LIFE AND CAUSALITY
INSURANCE COMPANY, INC.

42nd and Donley Avenue
Omaha, Nebraska 68105-1083

APPLICATION FOR EMPLOYMENT

Current Information

Name   Stevens   Joan   P.

                 Last   First   Middle Initial

Present
Mailing   2207 N. 63rd. St.   Omaha   Ne.   68104
Address

             Street or RFD   City   State   Zip Code

Permanent
Mailing   Same as above.
Address

             Street or RFD   City   State   Zip Code

          402   551-3276   418-65-3357
Telephone _____ Social Security No. _____
        Area Code   Number

             X
Citizenship: U.S. ____ If not U.S., Visa Type ____ Date Granted _____ Immigrant No. ____

                            X
Are you at least 16 years of age? Yes ____ No ____

Employment Desired

             Assistant Manager, Branch Claims Office
Position applied for: _____

                       X
This application is for: Full time ____   Part time ____
           05   01   90
Date available for work ____ ____ ____
               Month   Day   Year

                               X
Have you ever applied to this company before: Yes ____ No ____ When _____

                            X
Have you ever worked for this company before? Yes ____ No ____ When _____

       Supervisor _____ Reason for leaving _____

Education

Elementary or   Kent High   Kent, Oh.
High School _____ _____
           Name of School   City & State

       Kent State University   Kent, Oh.
College _____ _____
      Name of School   City & State

     1   2   3   4   5   6   X
     7   8   9   10 11 12   Yes ___ No ___
     Circle highest   Graduate:
     grade completed   12-22-89

     1   2   3   4   5
     Circle highest   Date of graduation
     grade attended   or last attendance

Graduate   None
School _____ _____ _____ _____
     Name of School   City & State   Date of graduation   Degree(s)
                               or last attendance

Vocational   None
School _____ _____   Yes ___ No ___
     Name of School   City & State   Graduate:
                       Date of graduation
                       or last attendance

_____
   Certificate or Diploma in:

Employment

List your work experience, starting with your present or last place of employment.

Date Employed Month/year	Name and address of Employer	Full-time/ Part-time	Position(s) Held	Reason for Leaving
1. 02 90 From	Watts Telemarketing	Full-time	Inbound-coordinator	
Present To	3950 N93 Ave., Omaha, Ne.			
2. 08 86 From	Fred's Pizza	Part-time	Counter	Moved to Omaha.
12 89 To	2719 Western Kent, Oh.		Shift-leader	
3. 08 85 From	Redding Cafe	Part-time	Table-buss	Broke leg
06 86 To	1357 Redding, Kent, Oh.		Counter	playing tennis
4. 04 85 From	City of Kent	Part-time	Lifeguard	Summer job
07 85 To	City Bldg., Kent, Oh.			
5. From	None			
To				

May we contact your present employer at this time?   Yes___   No_X_

Applicant's Statement

I understand that any employment by this company will be on a 180 day probation basis. If employed by Accidental Life and Causality Insurance Company, Inc., I agree to abide by its rules and regulations. The above information is complete and true to the best of my knowledge. I understand that discovery of misrepresentation or omission of facts herein will be cause for immediate dismissal.

Jean P Stevens

Applicant's Signature
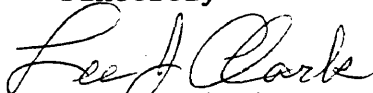
Appendix C

20 March, 1990

Accidental Life and Causality
Insurance Company, Inc.
Personnel Department
42nd and Donley Avenue
Omaha, Ne. 68105-1083

Office of the Registrar
Kent State University
Kent, Ohio 44242

Greetings,

This company recently received an application for employment by
Joan P. Stevens, SSN 418-65-3357. Request a brief summary
statement of Joan's academic performance be completed in the space
below. Thank you.

Sincerely

Lee J. Clark

Academic Summary Statement:

27 March, 1990

**Joan Stevens has an excellent college record. Her
overall grade point average is 3.7, and she has
particularly excelled in her major course of study,
business, and her minor, economics. Her grade point
average in each of these was a 4.0.**

Sincerely,

Pat Mettler, PhD.
Academic Advisor

Appendix D

Appendix D

INFORMATION PROCESSION IN THE EMPLOYMENT INTERVIEW
WORK PACKET SURVEY
DECISIONS QUESTIONNAIRE

Circle the number that best represents your decision or opinion
for each of the following decisions.

Example:
Need additional information.
Definitely need   Definitely no need
    1   2 ③ 4   5   6   7   8   9

A circled 3 indicates that you have decided additional
information is strongly desirable but not definitely needed.

Circle only one number for each of the following decisions about
the applicant you have reviewed.

1. This applicant should definitely:
be interviewed.   not be interviewed.
    1   2   3   4   5   6   7   8   9

2. This applicant is very:
likely to be successful.   unlikely to be successful.
    1   2   3   4   5   6   7   8   9

3. This applicant's potential for advancement is:
great.   very little.
    1   2   3   4   5   6   7   8   9

This applicant has these traits:

4.	Ambitious	1	2	3	4	5	6	7	8	9	Unambitious
5.	Emotional	1	2	3	4	5	6	7	8	9	Unemotional
6.	Decisive	1	2	3	4	5	6	7	8	9	Indecisive
7.	Tough	1	2	3	4	5	6	7	8	9	Soft
8.	Independent	1	2	3	4	5	6	7	8	9	Dependent

**WHEN YOU HAVE COMPLETED THIS QUESTIONNAIRE, TURN THE
PAGE AND COMPLETE THE POST WORK QUESTIONNAIRE.**

**DO NOT RETURN TO ANY OTHER PAGE WHILE COMPLETING THE
POST WORK QUESTIONNAIRE.**

Appendix E

Appendix E

INFORMATION PROCESSION IN THE EMPLOYMENT INTERVIEW
POST WORK QUESTIONNAIRE

Mark only one response or circle one number for each question.

1. The applicant had worked part-time while in college.
   Yes_____   No_____

2. The applicant had an undergraduate degree (BA).
   No_____   Yes_____

3. A Bachelor of Arts degree with a major in biology and a minor in political science is as difficult to complete as a BA with a major in business and a minor in economics.
   Yes_____   No_____

4. The relevance of (relationship between) a BA major in business and a minor in economics to the job I reviewed is:
   Low   1   2   3   4   5   6   7   8   9   High

5. The relevance of a BA major in biology and a minor in political science to the job I reviewed is:
   Low   1   2   3   4   5   6   7   8   9   High

6. The applicant I reviewed was: Male_____   Female_____

7. If I worked for an insurance company, I would want to work for a manager who is:
   Male_____   Female_____   Either gender_____

Circle the number that best represents the <u>preferred</u> amount of each set of the following traits. Circle only one number for each pair of words. **Example: A circled 4 would mean that Ambitious is a little more desirable than Unambitious.**

I would like to work for a manager who has these traits:

9. Ambitious   1   2   3   4   5   6   7   8   9   Unambitious

10. Emotional   1   2   3   4   5   6   7   8   9   Unemotional

11. Decisive   1   2   3   4   5   6   7   8   9   Indecisive

12. Tough   1   2   3   4   5   6   7   8   9   Soft

13. Independent 1   2   3   4   5   6   7   8   9   Dependent

When you have answered all questions, return all materials to the experimenter and wait to be debriefed...thank you.